

Dr. N.M.Suresh., Professor
Department of Anatomy

Sl. No.	Name of the Journal	Title of the paper	Pubmed Indexed YES/NO	Scopus Indexed YES/NO	International /National	Remarks
1	Dr. Suresh N.M	Suresh N M , Singh Gurucharan. Third Branchial Arch Fistula- A Case Study, Anatomica Karnataka. 2005; 29(1): 13-17	NO	NO	international	CiteFactor
2	Dr. Suresh N.M	Suresh N M , Jai Renukarya AR, Raghupathy. Identification Of Recurrent Laryngeal Nerve from Inferior Thyroid Artery During Surgical Approach To The Thyroid Gland. Anatomica Karnataka. 2006;2(2): 25-30	NO	NO	international	CiteFactor
3	Dr. Suresh N.M	Suresh N M , Bettigere GG. Hydrocephalus-A Case Study.Anatomica Karnataka. 2007;3(1): 39-44	NO	NO	international	CiteFactor
4	Dr. Suresh N.M	Suresh N M , Jai Renukarya A R, Raghupathy. Patterns Of Relationship Between Recurrent Laryngeal Nerve and Inferior Thyroid Artery. Anatomica Karnataka. 2008;3(2):47-53	NO	NO	international	CiteFactor
5	Dr. Suresh N.M	Suresh N M , Vijayalakshmi N, Dhananjaya B S, Krishna A T FAncecephaly – A Case Study. Anatomica Karnataka. 2009;3(3): 53-57	NO	NO	international	CiteFactor
6	Dr. Suresh N.M	Prakash BS,Padmalatha K,Ramesh BR, Suresh N M .Bicipital Plantaris Muscle.Anatomica Karnataka. 2009;3(3): 83-85	NO	NO	international	CiteFactor
7	Dr. Suresh N.M	Suresh N M , Dhananjaya BS, Omkar Murthy.Holoprosencephaly.Anatomica Karnataka. 2010;4(1): 73-75	NO	NO	international	CiteFactor
8	Dr. Suresh N.M	Suresh N M , Dhananjaya BS Neural Tube Defects. Anatomica Karnataka. 2011;5(1): 61-64	NO	NO	international	CiteFactor
9	Dr. Suresh N.M	Suresh N M , Anand Kumar TS, Veena Pai,Vinay Kumar.Ellis-Van Creveld Syndrome. Anatomica Karnataka.2012;6(2): 1-4	NO	NO	international	CiteFactor
10	Dr. Suresh N.M	Vandhana R, Suresh N M , Lakshmi Prabha, Veena Pai. Variation In Course and Branching Pattern Of Brachial Artery. Anatomica Karnataka. 2012;6(3): 42-48	NO	NO	international	CiteFactor
11	Dr. Suresh N.M	Geethanjali HT, Vinay Kumar K Asha KR, Suresh N M , Lakshmi Prabha R Estimation Of Length Of	NO	NO	international	CiteFactor

		Femur Based On The Measurements Of Its Distal Fragments. Medical Legal Update –An International Journal.2012;12(2):				
12	Dr. Suresh N.M	Suresh N M , Vinay Kumar K, Krishna AT, Suresh BS, Asha KR Lakshmi Prabha Subash. Sirenomelia. Anatomica Karnataka-An International Journal.2013;7(3): 56-58	NO	NO	international	CiteFactor
13	Dr. Suresh N.M	Shivaleela C, Vinay Kumar K, Krishna AT, Suresh N M . Gastroschisis: Recent Trends, Embryology . Maternal And Infant Risk Factors, International Journal Of Medical Research & Health Sciences. 2014;3(2): 480-484	NO	NO	international	CiteFactor
14	Dr. Suresh N.M	Suresh N M , Basavaraju K, Shivalingaiah M, Satyanarayana MT, Srinivas M, Rangaswamy KB. A Study of Psychological Profiles Of rural and Urban Children With Mild Mental Retardation. Anatomica Karnataka – An Internal Journal.2014;8(2): 37-41	NO	NO	international	CiteFactor
15	Dr. Suresh N.M	Nagashree MV, Gireesh, Lakshmiprabha Subhash, Suresh N M . The Study Of Hepatic Ducts And In Human Cadavers. Anatomica Karnataka – An Internal Journal.2014;8(2): 27-33	NO	NO	international	CiteFactor
16	Dr. Suresh N.M	Suresh N M , Srinivas H, Vinay Kumar K, Suresh BS, Dhanjaya.Incidence Of Congenital Club Foot In And Around Tumkur. Medico –Legal Update An International Journal.2015;15(1): 76-80	NO	NO	international	DOAJ peer reviewed journal
17	Dr. Suresh N.M	Vinay Kumar K, Suresh NM , Asha, Shivaleela, Lakshmi Prabha.Study Of Dermatoglyphic Patterns Of Digits In Patients With Primary Generalized Epilepsy. Medico –Legal Update An International Journal. 2015;15(1):	NO	NO	international	DOAJ peer reviewed journal
18	Dr. Suresh N.M	Vinay Kumar K, Asha, Bindurani MK, Kavyasgree AN, Suresh N M .Estimation Of Humeral Length From Proximal And Distal Fragments In South Indian Population Medico –Legal Update An International Journal. 2015;15(1):55-59	NO	NO	international	DOAJ peer reviewed journal

19	Dr. Suresh N.M	Suresh N M , Subramanya Katteppura N, Yathindra, Khizer Hussain Afroz. Incident Of Types Of Hypospadias In And Around Tumkur District. Karanataka, India: An Anatomical Classification. International Journal Of Research In Medical Sciences, 2018;6(4):1161-1164	NO	NO	international	DOAJ peer reviewed journal
20	Dr. Suresh N.M	Suresh N M , Subramanya Kattteppura, Khizer Hussain Afroz, Ramesh P, Apurva Bhaskar. Evaluation Of Incidence Of Cryptorchidism With Special Reference To Anatomical And Clinical Aspects. International Journal Of Contemporary Pediatrics. 2018;5(4):1388-1392	NO	NO	international	DOAJ peer reviewed journal
21	Dr. Suresh N.M	Suresh N.M. , Sunitha R, Aruna N, Nalini J.P. Morphometric Study of Femoral Neck-Shaft Angle in Kolar. Indian Journal of Anatomy. 2019;8(3): 226 - 232	NO	NO	National	Index Copernicus
22	Dr. Suresh N.M	Suma M.P, Jyothsnya, Suresh N M , SendilKumaran. Challenges In Implementation of the Competency Based Medical Education, National Journal of Research in Community Medicine. 2021Jan;10(1): 1 -4	NO	NO	National	Index Copernicus
23	Dr. Suresh N.M	Suma M.P. Suresh N.M. Comparison Two Teaching Methods Used For Teaching. Global J. for Research Analysis. 2021 Dec 12; 10(12): 1-3	No	No	International	Google Scholar, Indian Citation Index, Index Medicus, Cross Ref.

Dr. Suma M. P., Professor
Department of Anatomy

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Suma M.P.	Suma M.P. , Shradha Iddalgave, Nagesh Kuppast. Estimation of Stature from Hand Length. International Journal of Medical Toxicology & Legal Medicine. 2012 Jul-Dec;15(1&2): 815-822	No	Yes	International	Scopus Index Copernicus Google Scholar Iran Medex
2	Dr. Suma M.P.	Suma M.P. G.F. Mavishettar & Shradha Iddalgave Musculocutaneous Nerve & its Variations. International Journal of & Pharmacy. International Journal of & pharmacy. 2013, Sep 2(4): 53-64	No	No	International	Index copernicus
3	Dr. Suma M.P.	Nagesh Kuppast, Sharadha Iddalgave, Suma M.P. , Neeraj Gupta, Dileep Kumar R. Predictions of stature from Hand Length and Foot Length. J. of Forensic Identification. 2014 Jun 18;64(1):18 -26	No	Yes	International	Scopus Index
4	Dr. Suma M.P.	Suma M.P. , Vijay kumar, Priya Ranganath. An Anatomical Study of Superficial Palmar Arch. International Journal of Anatomy and Research. 2014, Dec 2(4): 735-739	No	No	International	Index Medicus for South East Asia
5	Dr. Suma M.P.	Suma M.P. , Sangeetha S , Usha V, Kalpana , Varsha S. A Study of Nutrient Foramina in the long bones of upper limb. Anatomica Karnataka. 2015;9(2)27-32	No	No	international	CiteFactor
6	Dr. Suma M.P.	Divyaprakash M, Suma M.P. , Jagadish H.R, Girish P.G. Branching Pattern of Sinoatrial and atrioventricular nodal arteries in patients undergoing cardiac catheterization in a tertiary care hospital. International Journal of Advances in Medicine. 2016;3(4):835-837	No	NO	international	peer-reviewed journal DOAJ
7	Dr. Suma M.P.	Showri R, Suma M.P. Study of Wormian Bones in Adult Human Skulls. Journal of Dental and Medical Sciences. 2016;15(12):54-60	No	No	international	Indian Citation Index
8	Dr. Suma M.P.	Banvath Anjaneya Babu Naik, Suma M. P , Vasu Deva	No	No	international	Index Medicus

		Reddy. Morphometric Study of Human Liver in Relation to Age and by Sex by Ultrasonography Method. International Journal of Anatomy and Research. 2017 ; 5(3): 4326 - 32				for South East Asia
9	Dr. Suma M.P.	Shradha Iddalgave, Suma M.P. Nagesdh Kuppest. Formulation of Regression Equation to Estimate Stature From Hand Length. Indian J. of Anatomy. 2017 Oct-Dec; 6(4): 444-446	No	No	National	Index Copernicus: IC Value 80.48 (2018), 58.13 (2016) CiteFactor, USA Science Library Index, Australia Scientific Indexing Services (SIS), USA Scientific World Index The International Committee of Medical Journal Editors (ICMJE)
10	Dr. Suma M.P.	Suma M.P. , Usha Veera, Sangeetha Srinivasan. The Study Nutrient Foramina in Human Clavicle. J.Evid. Based Med. Healthc. 2018 Jan 08; 5(2):107-109	No	No	National	1. Index Copernicus 2. WHO-HINARI 3. Google Scholar 4. BASE 5. J-Gate
11	Dr. Suma M.P.	Suma M P , B Anjaneya Babu Naik. Morphometric study of liver by Ultrasound method correlating Height, Weight and Body surface area. Indian J. of applied research. 2019 Jun;9(6):23-25	Yes	No	National	Google Scholar, Index Medicus, Pub med, Indian citation Index.
12	Dr. Suma M.P.	Suma M.P. , Jyothsnya, Suresh N M, Sendil Kumaran. Challenges in Implimentation of the competency Based Medical Education. National J. of Research in Community Medicine. 2021 Jan;10(1):1-4	No	No	National	peer-reviewed article. DOAJ
13	Dr. Suma M.P.	Suma M.P. , Suresh N.M. Comparison Two Teaching Methods Used For Teaching Anatomy for 1 st year MBBS Students. Global J. for Research Analysis. 2021 Dec 12;10(12):1-3	No	No	International	Google Scholar Indian Citation Index Index Medicus Cross Ref

Dr. Tejashwini V Basarigidad., Professor**Department of Physiology**

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1.	Dr. Tejashwini V Basarigidad	Tejaswini. V.Basarigidad , Saryu Sain, Spoorthi.B.S. Effect of exercise on intraocular pressure in Relation to body mass Index. Indian Journal of clinical Anatomy and Physiology.2015;2(1):51-55	NO	NO	International	Crossref Crossmark NISO
2.	Dr. Tejashwini V Basarigidad	Tejaswini. V.Basarigidad , Vineet Baljoshi, K.F. Kammar. A Comparative Study of Change in Platelet Count in Pregnancy and Puerperium. Indian Journal of Clinical Anatomy and Physiology. 2015;3 (1):108-110	NO	NO	International	Crossref Crossmark NISO
3.	Dr. Tejashwini V Basarigidad	Tejaswini Basarigidad , Ganashree C.P. Correlation between body mass index, waist hip ratio, blood sugar and blood pressure in young adults. Indian Journal of Clinical Anatomy and Physiology. 2021;8(1):42-45.	NO	NO	International	Crossref Crossmark
4.	Dr. Tejashwini V Basarigidad	Tejaswini Basarigidad , Ganashree C.P. The effect of smoking on the cardiovascular autonomic functions tests. Indian Journal of Clinical Anatomy and Physiology.2021;8(1): 69-73	No	NO	International	Crossref Crossmark
5.	Dr. Tejashwini V Basarigidad	Tejaswini Basarigidad , Ganashree C.P. Correlation between haematological profile and body mass index in adults. Indian Journal of Clinical Anatomy and Physiology. 2021;8(2):86-89	No	No	International	Crossref Crossmark
6.	Dr. Tejashwini V	Tejaswini Basarigidad , Ganashree C.P. Correlation between serum	No	No	International	Crossref Crossmark

	Basarigheid	lipidprofile and body mass index in young healthy medical students. Indian Journal of Clinical Anatomy and Physiology. 2021;8(2):106-109				
7.	Dr. Tejashwini V Basarigheid	Tejaswini Basarigheid , Ashok L. Bajentri, Vineet S. Baljoshi. Change in Erythrocyte sedimentation Rate (ESR) in Pregnancy and Puerperium in the same Woman. International journal of Physiology. 2014 ;2(1):	No	No	International	Crossref Crossmark
8.	Dr. Tejashwini V Basarigheid	Tejaswini V Basarigheid , Vineet S Baljoshi, K F Kammar. Changes in Blood Leucocyte Count in Different Trimesters of Pregnancy. International journal of Physiology. 2015;3(1)	NO	NO	International	Gnan Management Indian Journal of
9.	Dr. Tejashwini V Basarigheid	Tejaswini V Basarigheid , Spoorthi D.S., Saryu Saina. A Comparative Study of Variations in Hematological Profiles in Different Trimesters of Normal Pregnancy. International journal of Physiology. 2015;.3(2):	NO	NO	International	ACS Tweets
10.	Dr. Tejashwini V Basarigheid	Tejaswini V.B. Evaluation of Risk of Type 2 Diabetes Mellitus in Medical Students Using Indian Diabetes Risk Score (IDRS). International journal of Physiology. 2020;8(4):77-79	NO	NO	International	ACS Tweets

Dr. Shyma .P., Assoc. Professor
Department of Physiology.

Sl. No .	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Shyma .P	P.Shyma , G K Paul. Decreased total power of HRV with increased LF power in early part pregnancy predicts development of PIH in Indian Population. Biomedicine. 2008;28(2):	No	Yes	National	Excerpta Medica, Scopus, Google Scholar, Elsevier Indian Citation Index, Index Medicus,
2	Dr. Shyma .P	G K Paul, P Shyma . Spectral Analysis of Heart Rate Variability for Early Prediction of Pregnancy-Induced Hypertension 2009;31(4):330-341	No	Yes	International	Est Modus in Rebus
3	Dr. Shyma .P	G K Paul, P Shyma . Vagal Withdrawal and Sympathetic Overactivity Contribute to the Genesis of Early-Onset Pregnancy – Induced Hypertension. International Journal of Hypertension. 2011;2011(10;4061/2011/361417):	No	No	International	ResearchGate Hindawi
4	Dr. Shyma .P	Association of albumin-globulin ratio with sympathovagal imbalance in Pregnancy-induced hypertension. Indian Journal of Physiology and Pharmacology. 2011;55(2):128-138	No	Yes	National	EMBASE/Excerpt a Medica, Scimago Journal Ranking, SCOPUS

Dr. Neelkanth Kote,
Assistant Professor of Physiology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Neelkanth Kote,	NeelkanthKote , Shilpa Marigowda, Study on knowledge, Attitude and Practice of voluntary blood donation among the undergraduates of Raja Rajeswari Group of institutions (Medical. Dental and Engineering) Bangalore Karnataka. Journal of Medical Sciences and Clinical Research. 2017;5(3):18547-18552	No	No	International	Crossref
2	Dr. Neelkanth Kote,	NeelkanthKote , M D Ranganath. Transdermal Patch: A Comprehensive Overview of Newer Drug Delivery System in Modern Medical Science. Journal of Medical Sciences and Clinical Research. 2017;5(1): 15625-15629	No	No	International	Crossref
3	Dr. Neelkanth Kote,	NeelkanthKote , Poornima B. A Comparative Study of Glomerular Filtration Rate in Normal Healthy Controls and Type 2 Diabetes Mellitus Patients in South India. International Journal of Clinical and Experimental Physiology. 2017;4(3):15625-15629	No	No	International	Crossref

Dr. Nagarajappa K., Professor & HOD
Deaprtment of Biochemistry

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Nagarajappa K	Sushma B Jagannatha, Nagarajappa K , & Mallikarjuna C R. Serum Paraoxonase -1 Activity, Oxidative Stress & Lipid Profile in Patients with Chronic Liver Disease. International Journal of Pharmacy and Biological Sciences. 2013;3(1):01-06	No	Yes	National	SCImago Journal & Country Rank, (Elsevier B.V.).
2	Dr. Nagarajappa K	Sushma B Jagannatha, Nagarajappa K . A Study altered liver function tests and Electrolyte disturbances in patients with dengue infections. International Journal of Universal Pharmacy and Bio Sciences. 2013;2(3):11-16	No	No	International	Libraryikum Journals Directory General Science Index Digital Journal Index
3	Dr. Nagarajappa K	Sushma B Jagannatha, Nagarajappa K , & Mallikarjuna C R. Serum Ferritin A Noval Risk Factor for Diabetics. Innovative Research & Studies. 2013;2(5):	No	Yes	International	Google Scholar DRJI World cat Citefactor
4	Dr. Nagarajappa K	Sushma B Jagannatha, Nagarajappa K . & Shweta R. Hebbar. A Study of Thyroid Stimulating Hormone Serum Creatinine and Urine Acid Lev3els in Patients with Hypothyroidism. International Journal of Pure and Applied Biosciences. 2014;2(2):187-190	No	Yes	National	Scopus
5	Dr. Nagarajappa K	Sushma B Jagannatha, Nagarajappa K , Shrikant Chandrakar. A Study on Association of Thyroid Stimulating Hormone with BMI, Insulin Resistance and Lipid Profile in Women with Polycystic Ovarian Syndrome .International Journal of Medicine and			National	

		Pharmaceutical Research. 2014;2(2):585-590				
6	Dr. Nagarajappa K	Study of Serum Valcium, Magnesium and Phosphorous Levels in Patient with Thyroid Disorders. An International Research Journal of Pharmacy and Plant Science. 2014;2(2):	Yes	No	International 1	Goole scholar IPIndexing Academia.edu Earro Pub
7	Dr. Nagarajappa K	Study of Serum Insulin, Insulin Resistance, C- Peptide and Glycated Hemoglobin levels in patients with Type-2 Diabetes Mellitus. International Journal of Universal Pharmacy and Bio Sciences. 2016;5(4):1-13	No	No	International 1	Libraryikum Journals Directory. General Science Index. Digital Journal Index.

Dr. Vijayalakshmi P. Associate Professor
Deaprtment of Biochemistry

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Vijayalakshmi P	Vijayalakshmi P. , Usha SMR. Assessment of Serum Cystatin C and Creatinine in Monitoring Pre-eclampsia. J. of Clinical and Diagnostic Research. 2019 jun; 13(6):12-15	Yes	No	International	Index Copernicus ICV 2019: 129.24 DOAJ Google Scholar,
2	Dr. Vijayalakshmi P	Vijayalakshmi P. , Supriya. Altered Levels of Serum Adenosine Deaminase in Type 2 Diabetes Mellitus. National Journal of Laboratory Medicine. 2019 Apr; 8(3); 9-11	No	No	National	Index Copernicus (ICV 2019:=93.83), DOAJ- Directory of Open Access Journals, Google Scholar
3	Dr. Vijayalakshmi P	Manjula Halevoor Siddarajaiah, Vijayalakshmi P. Assessment of Relationship Between Hormones and Resistance in PCOS. International J. of Clinical Biochemistry and Research. 2019; 6(4): 584-589	No	No	National	Crossref Cross Mark iThenticate

4	Dr. Vijayalakshmi P	Victoria Kshetrimayum, Usha SMR, Vijayalakshmi P. A Study of hs-CRP and Lipid Profile in Hypothyroid Adults at Tertiary care Hospital. International J. of Clinical Biochemistry and Research. 2019; 6(3): 303-310	No	No	National	Crossref Cross Mark iThenticate
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Dr. Sujatha Professor & HOD
Department of Pharmacology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Sujatha	Chanda Kulkarni, S Sujatha , Pragya S. Khare, Vineetha Mathew, A S Mohammad, & Elizabeth Jayasheelan. An open Efficacy and safety, Pilot trial with Polyherbal All Day Moisturizing Cream In Patients With Dry and Scaly Skin. Journal Of Research Education Indian Medicine. 2011;17(1-2):53-56	No	No	National	Scopemed Crossref
2	Dr. Sujatha	Roopa B S M. Pharm, Sujatha S , Narayan M D, G R K Sharma, Rashmi J Rodrigues & Chanda Kulkarni. <i>Pattern of Adverse Drug Reactions To Anti-Epileptic Drugs: A Cross-Sectional One-Year Survey At a Tertiary Care Hospital.</i> Pharmacoeconomics and drug Safety. 2008;17(8):807-812	No	Yes	International	SCImago Journal & Country Rank
3	Dr. Sujatha	Sujatha S Narayan , Sharmila Jalgaonkar, S Shalini, Vijaya N Kulkarni. Probiotics: Current Trends in The Treatment of Diarrhoea. Hong Kong Medicine of Journal. 2010;16(3):213-218	No	Yes	International	SCImago Journal & Country Rank
4	Dr. Sujatha	Sujatha Sowmya Narayan , S Shahani. Newer Oral Hypoglycemic Agent in The Treatment of Diabetes Mellitus. Asian			National	

		Journal of Diabetology. 2012;22(8):				
5	Dr. Sujatha	Sujatha Sowmya Narayan , Rajeshwari K.A, Swathi Banerjee. Adverse Drug Reactions in The Department of dermatology At a Tertiary Care Hospital: A Prospective Study. International journal of Basic & Clinical Pharmacology. 2018;7(1):162-166	No	NO	National	peer-reviewed journal. IJBCP
6	Dr. Sujatha	Sujatha Sowmya Narayan , Swathi Banerjee. Monitoring of Adverse Drug Reactions in Medicine, Paediatric and Surgical Departments of A Tertiary Care Hospital: A prospective Observational Study. International journal of Basic & Clinical Pharmacology. 2018;7(4):778-782	NO	NO	National	peer-reviewed journal. IJBCP

Dr. Sapna Patil , Assoc. Professor
Department Pharmacology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Sapna Patil	Sapna Patil , P A Patil, S Javali, Ameeta Patil. & Heethal Jai Prakash. A Study on The Knowledge, Attitude and Practice Adverse drug reactions reporting among interns and clinical post-graduates in A tertiary Care Teaching Hospital. Journal of International Research In Medical and Pharmaceutical Sciences. 2016;10(3):152-162	No	No	International	publons

2	Dr. Sapna Patil	Sapna Patil , Azeen Mohiyuddin, T N Kumar. A Study of The pattern of Antibiotic Use in Major head and Neck Cancer Surgeries. International Journal of Pharmaceutical and Biomedical Research. 2010;1(2):65-68	NO	NO	National	Europub Google Scholar IJIF Sis Index
3	Dr. Sapna Patil	Sapna Patil , Azeen Mohiyuddin, T N Kumar. Comparison of The use of single and Combined Antibiotics For Head and Neck Onco-Surgeries: A Cost Effective Analysis. Journal Of Clinical and Diagnostic Research. 2011;5(4):769-771	Yes	NO	National	Jouranal Seek Database Google Scholar Embase Google
4	Dr. Sapna Patil	Sapna Patil , L Padma, Veena D R, P Shanmukananda. Drug Utilization Study of Antimicrobials In Post-Operative Wards in a Teaching Hospital. International Research Journal of Pharmaceutical and Applied sciences. 2012;2(5):56-59	NO	NO	National	Doag Crossref Google Scholar Microsoft Acedemic
5	Dr. Sapna Patil	Veena D R, Padma L, Sapna Patil . Drug Prescribing Pattern in Elderly Patients In a Teaching Hospital. International journal of Dental and Medical Sciences. 2012;1(5):39-41	No	NO	National	U Tem Ar xiv.org Get CITED Google Scholar
6	Dr. Sapna Patil	Sapna Patil . Denosumab-A New Therapeutic Option for osteoporosis World. Journal of Pharmacy and Pharmaceutical Sciences. 2015;4(12):858-873	No	NO	International	Publons Embase EBSCO Crossref

Dr. Naveen Kumar B.J, Professor and HOD
Department of Pathology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Naveen Kumar B.J	Jaya Maisnam, Naveen Kumar B J . Lichen Planus –A clinicalandhistopathological correlation. Tropical Journal of pathology and microbiology; 2018;4(5):408-414	No	No	International	Google Scholar Science Central CNKI Database OAJI
2	Dr. Naveen Kumar B.J	Jaya Maisnam, Naveen Kumar B J ,ZUBAIR HASAN. SPECTRUM OF LESIONS IN HYSTERECTOMY SPECIMENS- A ONE YEAR RETROSPECTIVE STUDY. Journal Of Evidence Based medicine and healthcare. 2018;5(36):2656-2660	No	No	National	1. Index Copernicus 2. WHO-HINARI 3. Google Scholar 4. BASE 5. J-Gate
3	Dr. Naveen Kumar B.J	P Arul, Smitha Shetty,Suresh Mesilamani,C Akshatha,& Naveen Kumar B J . Evaluation of Micronucleus in Exfoliated Buccal Epithelial Cells Using Liquid-based Cytology Preparation in Petrol Station Workers. Indian Journal of Medical and Paediatric. 2017;38(3):273-276	No	Yes	International	Scopus Citescore
4	Dr. Naveen Kumar B.J	Amrit Kaur Kaler, Naveen Kumar BJ . Angiolymphoid Hyperplasia with Eosinophilia Developing in a 9 Year Old Patient with History of Tuberculosis. International journal of innovative research in medical sciences (IJIRMS).2017;2(11):1502-1504	Yes	No	International	Google Scholar Crossref Pubmed Citefactor
5	Dr. Naveen Kumar B.J	Naveen Kumar B J . A Clinico-Morphological Study Of Glandular Hyperplasias Of Uterine Cervix. International Journal Of Research In Medical Sciences. 2016;4(1):231-237	No	No	National	Google Scholar Croffref ROAD Cite Seer

6	Dr. Naveen Kumar B.J	Naveen Kumar B J . A Morphological Spectrum Of Benign Lesions Of The Uterine Cervix at A Tertiary Care Hospital In Tamilnadu.Scholars ,journal OF Applied Medical Sciences (SJAMS). 2016;4(2A):343-348	No	No	International	Index Copernics
7	Dr. Naveen Kumar B.J	Naveen Kumar B J , Vamseedhar Annam. Clinico-Pathological Study of Non-Neoplastic Lesions of Uterine Cervix with their Histopathological Categorization. International Journal Of Science and Research. 2015;4(2):2094-2098	No	No	International	Crossref Citefactor Index Science Gate Index Scite Index
8	Dr. Naveen Kumar B.J	Naveen Kumar B J . Ospe (Objective Structured Practical Examination) in Pathology – the Way Ahead. Indian Journal of Applied Research. 2015;5(11):132-133	Yes	No	International	Cosmos Crossref Pubmed Google Scholar Research Gate
9	Dr. Naveen Kumar B.J	NAVEEN KUMAR Bhagavathula Jaya. Cervicitis:,How Often Is It Non-Specific. Journal of Clinical and Diagnostic Research. 2015;9(3):11-12	Yes	No	International	Embase Google Pubmed Google Scholar
10	Dr. Naveen Kumar B.J	Naveen Kumar B J . Scrotal Porocarcinoma- An Incidental Finding In Filarial Scrotum. International.journal Biological and Medical research. 2014;5(2):4107-4108	No	No	International	DOAJ Scirus ProQuest Google Scholar Osun.org
11	Dr. Naveen Kumar B.J	Naveen Kumar BJ , Barman P, Chowdhury N, Bora M. Primary renal lymphoma: An unusual presentation of non-Hodgkin's lymphoma. Indian Journal of Cancer.2014;51(3):370-371	Yes	No	National	Pub med Indian Cancer Society
12	Dr. Naveen Kumar B.J	Lavanya Krishnagopal, Naveen kumar Bagavathula Jayakumar , Sudarshan Chougulae. Primary Mesenteric gastrointestinal stromal tumour presenting as acute abdomen: a case report. Journal of clinical and	Yes	No	International	Pub Med Google Google Scholar Embras

		diagnostic research. 2012;6(5):884-885				
13	Dr. Naveen Kumar B.J	Naveen Kumar B. J , Santosh K. V. Amyloid tumor of thyroid, Amyloid goiter: a case report with a stress on importance of preoperative diagnosis. Thyroid Research and Practice.2012;9(2):58-59	No	No	National	Publons
14	Dr. Naveen Kumar B.J	K. V. Santosh, Sujata Raychaudhuri, H. Subramanya, B. J. Naveen Kumar . Cytology of hyalinising trabecular adenoma-like variant of medullary thyroid carcinoma. Journal of Cancer Research and Therapeutics. 2011;7,(2):189-191	No	Yes	National	DOAJ Scopus CNKI Google Scholer

Dr. Divya Lakshmi, Associate Professor

Department of Pathology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Divya Lakshmi	Kumaran C, Divya lakshmi L.Mast Cells In Appendicitis: A Study. Journal Of Evidence Based Medicine and Health Care. 2015;2(34):5165-5169	No	No	National	Index Copernicus WHO-HINARI Google Scholar BASE J-Gate
2	Dr. Divya Lakshmi	Kumaran C, Lakshmi Narayan and Divya Lakshmi .Primary Mucinous Adenocarcinoma Of Appendix A Rare Case Report. British Biomedical Bulletin. 2015;3(3):412-415			International	
3	Dr. Divya Lakshmi	Divya Lakshmi , Sweta Sinha,Shameem Shariff. Tuberculous Intestine Presenting As Giant Colonic Diverticulum. Scholars Journal Of Applied Medical Sciences (SJAMS). 2015;3(1F):455-459	No	NO	International	Crossref Publons Google Scholar
4	Dr. Divya Lakshmi	Divya Lakshmi ,Dr Amrit Kaur Kaler,Dr Rashmi V. Fibroadenoma In Ectopic Breast Tissue: A Series	No	NO	National	Crossref Worldcat J-Gate

		Of 3 Cases. Indian Journal Of Research. 2018;7(4):69-71				
5	Dr. Divya Lakshmi	Kumari Jyothi Vibhute, Divya Lakshmi . Histopathological Apectrum of Upper Gastrointestinal Endoscopic Biopsies: A Study Of 150 Cases. Indian Journal Of Pathology: research and Practice. 2019;8(1):32-42	No	NO	National	Index copernicus
6	Dr. Divya Lakshmi,	Kumari Jyothi Vibhute, Divya Lakshmi . Mucin Histochemistry Of Endocervix In Health and Disease. National Journal Of Laboratory Medicine. 2019;8(2):16-20	No	No	International	Index Copernicus DOAJ Google Scholar

Dr. Kumari Jyothi, Vibhute
Department of Pathology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Kumari Jyothi	Kumari Jyothi Vibhute , Zeenath Begam, Syeda Iarheea. Clinicopathological Correlation of Thyroid Cytology with Thyroid Function Test: A Study of 100 Cases. Indian Journal of Pathology: Research and Practice. 2017;6(4):843-849	No	No	National	MDPI Susy Sci Profiles Pre Printers
2	Dr. Kumari Jyothi	Kumari Jyothi Vibhute , Divya Lakshmi. Title of the: Histopathological Spectrum of Upper Gastrointestinal Endoscopic Biopsies: A Study of 150 Cases. Indian	No	No	National	MDPI Susy Sci Profiles Pre Printers

		Journal of Pathology: Research and Practice. 2019;Vol.8(1):32-41				
3	Dr. Kumari Jyothi, Vibhute	Kumari Jyothi Vibhute , Divya Lakshmi. Mucin Histochemistry of Endocervix in Health and Disease. National Journal Laboratory Medicine. 2019;8(2):16-20	No	No	National	Index Copernics

Dr. Jaya Maisnam, Assistant Professor
Department of Pathology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Jaya Maisnam	Jaya Maisnam , Naveen Kumar B.J. Lichen Planus - ``A Clinical and Histopathological Correlation. Tropical Journal of Pathology & Microbiology. 2018;4(5):408-414	No	No	National	Croffres World cat Scilit
2	Dr. Jaya Maisnam	Jaya Maisnam , Naveen Kumar B. J, Zubair Hasan. Spectrum Of Lesions In Hysterectomy Specimens- A One Year Retrospective Study. Journal Of Evidence Based Medicine and Health Care. 2018;5(36):2656-2660	No	No	National	1. Index Copernicus 2. WHO-HINARI 3. Google Scholar 4. BASE 5. J-Gate

**Dr. Rajini M, Professor & HOD,
Department of Microbiology.**

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Rajini M	Prasad S R, M Rajini . Suppurative lesion due to Salmonella typhi. Letter to editor. Journal Of The Academy Of Clinical Microbiologists.2005;7(1):47-48	No	No	National	Index Copernicus
2	Dr. Rajini M	M Rajini , Prasad S R R Reddy, R V Bhat, K R Vimala. Postoperative infection of laparoscopic surgery wound due to Mycobacterium chelonae. Indian Journal of Medical Micro Biology. 2007;25(2):163-165	Yes	Yes	National	IndMED ProQuest Web of Science
3	Dr. Rajini M	M Rajini , Prasad S R Leptospirosis: An overview. The Journal Of The Academy Of Clinical Microbiologists. 2008;10():89-97	No	No	National	Index Copernicus
4	Dr. Rajini M	Sanjeev H, M Rajini , Prasad S R. Human Dirofilaria: An uncommon case of subcutaneous infection with Dirofilaria repens with a brief review of literature. Nitte University Journal of Health Science. 2011;1(3):60-62	No	Yes	International	Worldcat DOAJ
5	Dr. Rajini M	Krishnappa J, Ranganath B G, M Rajini . Clinico-Epidemiological profile of Leptospirosis among children in Kolar. Southern India. Journal of Clinical Biomedical Science. 2012;2(3):134-140	No	Yes	National	J-Indexed JCBS
6	Dr. Rajini M	Venigalla Sunita, M Rajini , Prasad S R. Chlamydia in reproductive tract infections: Scenario in Kolar region. International Journal of Biological and Medical Research .2012;3(1):1303-1306	No	Yes	International	1.Osuni.org 2.Google Scholar 3.Scirate.com
7	Dr. Rajini M	R Kalyani, S R Sheela, M Rajini . Cytological diagnosis of tuberculous	No	No	National	1.CNKI 2.Google Scholar,

		cervicitis: a case report with review of literature. Journal Of Cytology. 2012;29(1):86-89				3.TDNet,
8	Dr. Rajini M	R Deepthi, S R Sandeep, M Rajini . Cholera outbreak in a village in south India-Timely action saved lives. <i>J infect. & Public health</i> . 2013;6:35-40. Journal of Infection and Public Health. 2013;6():35-40	Yes	Yes	International	<ul style="list-style-type: none"> • ClinicalKey • DOAJ • Embase
9	Dr. Rajini M	Hosthota A, Gowda T M, Rajini M . Clinical profile and risk factors of dermatophytoses: A hospital based study. International Journal of Research in Dermatology. 2018;4(4):1-5	No	No	National	1.Crossref 2. Google Scholar 3.ICMJE
10	Dr. Rajini M	Dhanalakshmi A, Trupthi G M Rajini. Bacterial contamination of hands and anterior nares of health care professionals attending ICU at a tertiary care hospital in South India. International contemporary microbiology. 2018;4(2):38-42	No	No	National	Index Copernicus
11	Dr. Rajini M	Gowda T M, M Rajini, Hosthota. Microbiological profile of dermatophyte infections in a tertiary care hospital. International Journal of Innovative Research & Studies. 2018;7(1):67-70	No	Yes	National	1.Citefactor 2.Crossref 3. Google Scholar 4.Latindex

Dr. Dhanalakshmi A, Associate Professor
Department of Microbiology.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Dhanalakshmi A	Dhanalaxmi Aniyappanavar , Prasad S R, Tanveer K M, Rao S. Brucella infections in high riskpopulation and in patients hospitalized for fever: Aserological study at Kolar, Karnataka. Annals ofTropical Medicine and Public Health. 2013;6(5):549-553	Yes	Yes	International	Pubmad Central, Scopus, Google Scholar
2	Dr. Dhanalakshmi A	N Shruthi, A Dhanalakshmi , R Rajendran . Anti-cyclic citrullinated peptide antibodies: Clinical utility &their role as early prognostic markers in Erosive Rheumatoid arthritis. INTERNATIONAL JOURNAL OF Biomedical Research. 2015;6(6):391-394	No	No	International	Index Copernicus Crossref
3	Dr. Dhanalakshmi A	N Shruthi, A Dhanalakshmi , R Rajendran . Prevalence of Methicillin resistance in Staphylococcal blood isolates and correlation with Vancomycin MIC: A Study from tertiary care hospital.International Journal of Current Microbiology and Applied Sciences.2015;4(8): 716-722	No	No	National	Index Copernicus Crossref Google Scholar
4	Dr. Dhanalakshmi A	N Shruthi, A Dhanalakshmi , R Rajendran. Use of 16SRNA gene based sequencing for identification of Oligela urethralis that was misidentified as Francisella tularensis by automated system. JMM Case Report. 2015;2(10):1-3	Yes	Yes	International	Pubmad Central, Scopus, Crossref ROAD
5	Dr. Dhanalakshmi A	A Dhanalakshmi , G Trupti, M Rajini. Bacterial contamination of hands and anterior nares of health care professionals attending ICU at a tertiary care hospital in South India. International Journal of Contemporary Microbiology. 2018;4(2):38-42	No	No	National	Index Copernicus

6	Dr. Dhanalakshmi A	B M Uma, A Dhanalakshmi .Multidrug Resistant Bacteria Creeping into a Newly set up Teaching Hospital- Time to Intervene. International journal of Microbiology Research. 2019;11(5):1565-68	No	No	International	Index Copernicus
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Dr. B. Sreekanth, Associate Professor
Department of Microbiology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopes Indexed Yes / No	International / National	Remarks
1	Dr. B. Sreekanth	Sreekanth B. Evaluation of Blood Smears, Quantitative Buffy Coat and Rapid Diagnostic Tests in the Diagnosis of Malaria. Journal of Bacteriology & Parasitology. 2011;2(8):1-3	No	No	International	Index Copernicus
2	Dr. B. Sreekanth	Sreekanth B. The Rate of Tuberculosis Infection in HIV Positive Patients in Relation to CD4 Count. Journal of Evolution of Medical and Dental Sciences. 2013;2(21):3919-22	No	No	International	Index Copernicus
3	Dr. B. Sreekanth	Sreekanth B. Detection of Inducible Clindamycin Resistance in Staphylococcus Aureus Isolates. Journal of Applied Research. 2014;4(6):442-443	No	No	National	Index Copernicus
4	Dr. B. Sreekanth	Sreekanth B. Antibiotic of Pseudomonas Aeruginosa Strains Isolated From Various Clinical Specimens DM WIMS Hospital Wayanad. Kerala, Journal of Evolution Medical and Dental Sciences. 2014;3(19):5090-92	No	No	International	Index Copernicus
5	Dr. B. Sreekanth	Sreekanth B. Hepatitis B and C in Health Care Workers: Prevalence, Relation to Vaccination and Occupation Factors. Journal of Evolution Medical and Dental Sciences. 2014;3(15):3919-3922	No	No	International	Index Copernicus
6	Dr. B. Sreekanth	Sreekanth B. Detection Extended Spectrum B-Lactamases (ESBLs) in Clinical Isolates. International Journal of Medical Science and Public Health. 2014;3(9):1132-1132	No	No	International	Index Copernicus

Dr. Abirami P.,
Assistant Professor of Microbiology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Abirami P.	Abirami Pragaspathy , Meera Meundi and Shreeshma P. <i>Candida</i> biofilm: A study on characterisation, speciation and a comparative analysis of the effects of antifungal drugs on biofilm producers and non-biofilm producers. International Journal of Applied Research 2016; 2(6): 405-407	No	No	International	RJIACTOR Scribd ORCID Google Scholar Road
2	Dr. Abirami P.	E Subbalakshmi, P Abirami , Vidhya Subramanian, Sumitha A and H Kalavathy Victor. Awareness of Hand Hygiene in Hospital Set-up for Infection Control: Knowledge-based Questionnaire for Health Care Workers in a Teaching Hospital. <i>Biomedical & Pharmacology Journal</i> . 2020; 13 (4): 1773-1779	No	Yes	International	Scopus CNCKI Scholar Google Scholar Road Academic Key Scilit

Dr. Dinesh Rao, HOD & Professor
Department of Forensic Medicine

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Dinesh Rao	Dinesh S Rao , Yadhukul. Sudden and Unexpected Natural Deaths-A Four Year Autopsy Review. JPAFMAT 2008;8 (2):20-24	No	No	National	Citefactor
2	Dr. Dinesh Rao	Rao Dinesh , Mukerjee S. A Study of pattern of Injuries in Road Traffic Collisions: Journal of Punjab Academy of Forensic Medicine and Toxicology 2010;10(1):14-16	No	Yes	National	Scopus Elsevier. B V Google Page Rank
3	Dr. Dinesh Rao	Rao Dinesh , Pathak P.R., Chormunge V Accidental hanging - A case report. Journal of Forensic Medicine and Toxicology. 2004;21(2):26-27	No	Yes	National	Scopus Elsevier. B V Google Page Rank
4	Dr. Dinesh Rao	A Study of disseminated intravascular coagulation in routine autopsies. Indian Journal of Forensic Medicine & Toxicology. 2009; 3(2):	No	Yes	National	Scopus Elsevier. B V Google Page Rank
5	Dr. Dinesh Rao	Rao Dinesh, Pathak P R, Chormunge V. A study of Pattern on Non Fatal Injuries due to Assault. Journal of Forensic Medicine and Toxicology. 2004; 21(2):26-27	No	Yes	National	Scopus Elsevier. B V Google Page Rank
6	Dr. Dinesh Rao	An Autopsy Study of 68 cases of Murder Suicides. International Journal of Forensic Sciences & Pathology. (IJFP)2014;2,(302):	No	Yes	International	Scopus EOI
7	Dr. Dinesh Rao	Dinesh Rao . Sudden Death and Right Atrila Myxoma. Journal of International Academy of Forensic Science & Pathology. 2017;5(2):1-5	No	No	International	Index copernicus
8	Dr. Dinesh Rao	Dinesh Rao . Giant Cell Myocarditis – A Case Report. Journal of International Academy of Forensic Science & Pathology. 2016;4 (4):1-6	No	No	International	Index copernicus
9	Dr. Dinesh	An Autopsy Evaluation of Complete Decapitation	No	Yes	International	Scopus

	Rao	Injuries. Int. J. Forensic Sciences Pathol. 104; 3(4): 99-104				EOi
10	Dr. Dinesh Rao	Cause of Sudden Cardiac Deaths on Autopsy Findings; a Four- Year Report.Emergency journal.2014;2(1):12-17	Yes	Yes	International	PubMed/Medline Web of Science Scopus
11	Dr. Dinesh Rao	Homicide by Electrocution – A. Case Report Emergency Journal. 2014; 2(1): 12-17			International	
12	Dr. Dinesh Rao	Rao Dinesh. A study of Stab Wounds in Sexual Homicides. Int. J. Forensic Sciences Pathol. 2(9):1-7	No	Yes	International	Scopus EOi
13	Dr. Dinesh Rao	Rao Dinesh, Subbhaiah S, Kadam S. Rape Cases - A Forensic Evaluation of Victims. J. of International Academy of Forensic Science and Pathology. 2016: 4(4): 1- 7			International	
14	Dr. Dinesh Rao	A Study of cause of Death due to Suicide Hanging - 264 cases. Egyptian Journal of Forensic Sciences 2015;	No	Yes	International	DOAJ Scopus Google Scholar CNKI Naver
15	Dr. Dinesh Rao	A Study of cause of Death due to Suicide Hanging - 264 cases. Journal of International academy of Forensic Science and Pathology (JIAFP).2015; 1(1):	No	Yes	International	Scopus EOi
16	Dr. Dinesh Rao	Dinesh Rao. A Study of medical prescription notes in india. Journal of International Academy of Forensic Science & Pathology.2015;1(1):1-7	No	Yes	International	DOAJ Scopus Google Scholar CNKI Naver
17	Dr. Dinesh Rao	Effects of Human Decomposition on Test Fired Bullet. Journal of International Academy of Forensic Sciences & Pathology (JIAFP). 2015;1(1):	No	Yes	International	Scopus EOi
18	Dr. Dinesh Rao	Dinesh Rao. An Autopsy Study of Suicides due to Gunshots wounds. Journal of International Academy of Forensic Science & Pathology. 2015;1(1):1-7	No	Yes	International	DOAJ Scopus Google Scholar CNKI Naver

19	Dr. Dinesh Rao	An Autopsy Study of 74 Cases I of Cut Throat Injuries. International Journal of Forensic Sciences & Pathology. 2014;2(402)	No	Yes	International	Scopus EOi
20	Dr. Dinesh Rao	Dinesh Rao. An autopsy study of suicidal hanging. IP International Journal of Forensic Medicine and Toxicological Sciences. 2021;6(3):1–5	No	No	National	Index Copernicus Google Scholar ROAD CrossRef
21	Dr. Dinesh Rao	Dinesh Rao. An autopsy study of suicidal hanging, An autopsy study of 64 homicidal crushing injuries to head (Bludgeon Injury. 2021; 4(3): 62-66			National	
22	Dr. Dinesh Rao	Dinesh Rao. An autopsy study of 328 cases of fatal motor cycle accidents. Chinese Journal of Medical Research.	No	No	National	Semantic Scholar (USA) Google Scholar
		21; 4(1): 9-14				

Dr. Kiran GT, Associate & Professor
Department of Forensic Medicine

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Kiran GT	K. Subba Reddy , G. T. Kiran , Rama Manohara Reddy .Estimation of Age Eruption Of Second Permanent Molars Among School Children in Kuppam. Andhra Pradesh.Indian Journal of Forensic Medicine & Toxicology.2014;8(1):227-230	No	No	National	Forensic Science Toxicology DNA Fingerprinting Sexual Medicine
2	Dr. Kiran GT	Kiran G T , Ashutosh B Potdar , Rama Manohara Reddy , G Shrikanthan , Rajesh D R Relationship between Gender and 2D:4D Ratio in South Indian Medical Students. Medico-	No	Yes	National	Scopus Google Page Rank SCImago

		legal Update. 2014;14(2):35-38				
3	Dr. Kiran GT	Reddy, D. Rama Manohara; Kiran G. T Overview Of Legal Importances of Medical Recording. Medico- legal Update. 2016; 16(1):133-137.	No	Yes	National	Scopus Google Page Rank SCImago
4	Dr. Kiran GT	Kiran GT , Parvind Kumar Singh , Rama Manohara Reddy D , Himaja S ,Surekha Y Associate between 2D:4D and Academic Performance in Forensic Medicine among Second Professional MBBS Students. Medico- legal Update. 2016;16(2): 16-18	No	Yes	National	Scopus Google Page Rank SCImago
5	Dr. Kiran GT (Same as above)	Kiran GT , Parvind Kumar Singh, Rama Manohara Reddy D, Himaja S, Surekha Y. Association between 2D:4D and Academic Performance in Forensic Medicine among Second Professional MBBS Students. Medico- legal Update. 2016;16(2): 16-18	No	Yes	National	Scopus Google Page Rank SCImago
6	Dr. Kiran GT	Reddy, Rama Manohara; Kiran, G. T. Fracture of Upper Cervical Vertebrae Need Not Cause Death:A Case Report. Indian Journal of Forensic Medicine & Toxicology. 2016;10(1):80-82	No	No	National	Forensic Science Toxicology DNA Fingerprinting Sexual Medicine
7	Dr. Kiran GT	Parvind Kumar Singh, Kiran GT , Rama Manohara Reddy D. Gender Derermination from Directional Asymmetry of Digital Length and digit (2d:4D)among Medical Student Belonging to southern Parts of India. Indian Journal of Forensic Medicine & Toxicology. 2016;10(2):152-154	No	No	National	Forensic Science Toxicology DNA Fingerprinting Sexual Medicine
8	Dr. Kiran GT	Kiran GT , Gurudatta S Pawar, Rama Manohara Reddy D. Comparison of Point Versus Blackboard in Teaching Informed Consent to Second MBBS Students. Journal of Karnataka Medico Legal	No	NO	National	Index copernicus

		Society. 2019;28(2):47-49				
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Dr. Lalita D Hiremath, Professor and HOD

Department: Community Medicine

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Lalita D Hiremath	Lalitha D Hiremath , Manjula R, KalpanaKulkarni, Ashalatha Mallapur. A Study of Cytological Abnormalities of Pap Smear and its Risk Factors Among Married Women of Reproductive Age in Urban Area – Bagalkot.Medica Innovatica.2012;1(1):	No	No	National	Index copernicus
2	Dr. Lalita D Hiremath	Maternal Factors Associated With Birth Weight of The Baby – A Hospital Based Case Series Study at H.S.K Hospital S.N Medical College Baglkt. Presm:. Journal of Community Health.2007;9(1):	No	No	International	AGRICOLA BFI List CNKI CNPIEC Dimensions
3	Dr. Lalita D Hiremath	Nidhi Sharma, Lalita D. Hiremath, Sudeepa D., Kiran Kumar H.V. Impact of educational intervention on the knowledge of bio medical waste management among health care workers in a tertiary care hospital at Bagalkote city. Journal Of Evolution of Medical And Dental Science. 2014;3(19):4755-4760	No	No	International	CNKI Index Copernicus EBSCO Databases
4	Dr. Lalita D Hiremath	Santosh K Yatnatti, L.D.Hiremath , Manjula R, Ashok S Dorle. A study on factors responsible for utilization of antenatal maternal health services under NRHM, in rural field practice area of S. N. Medical college Bagalkot. Medica Innovatica. 2015;4(1):1-6	No	No	National	Index copernicus
5	Dr. Lalita D Hiremath	Vetri Selvan T, Lalitha D. Hiremath , CH Ghattargi, Jambaiah B.A cross sectional study on eating	No	No	National	Index copernicus

		disorders among college students in Bagalkot city, Medica Innovatica. 2015;4(1):1-8				
6	Dr. Lalita D Hiremath	Prevalence of Anemia among Women in Community Health Center, Bagalkot. Indian Journal of Clinical Practice.2010;21(3)	No	No	National	KCG MOHAN Foundation MOHAN USA Doctor Guru Med wonders
7	Dr. Lalita D Hiremath	Ashok dolre, Manjula R, Basavaraj mannapur, lalita D Hiremath , Chandrashekar Ghattargi. Knowledge and Attitude towards Infant and Young children Child Feeding (IYCF) practices among Anganawadi Workers in Rural Field Practice Area of Kaladgi, Bagalkot, Medica Innoviatica. 2012;1(2):12-14	No	No	National	Index copernicus
8	Dr. Lalita D Hiremath	Dorle A S, Basavaraj Mannapur, Hiremath L D , C H Ghattargi, Umesh R, Manjula R, Kulkarni K R and Gundappa . The Knowledge and Perception About Lymphatic Filariasis in one of the Endemic Talukas of Rural North Karnataka. Journal Of Clinic and Diagnostic Research.2011;5(1):101-103	Yes	No	National	Pubmed Google scholar Embase EBSCOho Google
9	Dr. Lalita D Hiremath	A Prospective Study of Assement of Blood Loss and Hemoglobine Changes During Emergency Lower Segment Caesarean Section.National Journal of Medical Science. 2012;1(1):	No	No	National	Index Copernicus EBSCO ASI DRJI
10	Dr. Lalita D Hiremath	Evaluation of Compliance of Mass Drug Administration and its Determinants for Elimination of Lymphatic Filariasis in Endemic Areas of Rural North Karnataka. Indian Journal of Public Health Research and Development. 2012;3(4):	No	Yes	International	Scopus SCImago Google Page Rank SJR
11	Dr. Lalita D Hiremath	Awareness regarding puberty changes in secondary school children of Bagalkot, Karnataka"- A cross sectional study. Journal of Clinical and Diagnostic Research. 2010;4():	Yes	No	National	Pubmed Google scholar Embase EBSCOho Google

12	Dr. Lalita D Hiremath	MANNAPUR B, DORLE AS, HIREMATH L D , GHATTARGI CH, RAMADURG U, KULKARNI KR. A study of Psychological stress in undergraduate Medical students at S N medical college, Bagalkot, Karnataka. Journal of Clinical and Diagnostic Research. 2010;4()2869-2874	Yes	No	National	Pubmed Google scholar Embase EBSCOho Google
13	Dr. Lalita D Hiremath	Lalita D Hiremath , DA Hiremath. Study of various factors of associated with utilization of health services for gynecology morbidity among married women in field practice area of community health centre, Rajapur (Gulbarga), Medica Innovatica. 2014;3(2):54-58	No	No	National	Index copernicus
14	Dr. Lalita D Hiremath	A Profile of Tobacco Consumption Among Females aged more than 15 years in Rural Field Area of RHTC, Kaladagi, Medica Innovatica. 2012;1(10):	No	No	National	Index copernicus
15	Dr. Lalita D Hiremath	K. R. Kulkarni, L. D. Hiremath , B. S. Mannapur, C. H. Ghattargi, A. A. Mallapur. Role of Mass Media in Utilization of Family Planning A cross sectional study at field practice area of urban health centre, Bagalkot. Bombay Hospital Journal. 2011;53():349-357	No	No	National	Doctor guru Medwonders
16	Dr. Lalita D Hiremath	Lalita D. Hiremath . Utilization of Health Services for Gynaecological Morbidity among Married Women. Bombay Hospital Journal. 2011;53(2):184-188	No	No	National	Doctor guru Medwonders
17	Dr. Lalita D Hiremath	Lalita D. Hiremath , D A. Hiremath , Manjula R, Kulkarni KR, Santosh K Yatnatti, CH Ghattargi. Study of Socio Demographic and Microbiological Profile of Inflammatory Pap smear of Married Women in Urban Field Practice Area Bagalkot- a Cross-sectional Study. Medica Innovatic. 2013;2(2):51-55	No	No	National	Index copernicus
18	Dr. Lalita D Hiremath	Ashalata A. Mallapur, Lalita Hiremath , Kalpana Kulkarni. Obstetrical and Neonatal Outcome of Pregnancy among the Normal and High Risk Women, Bombay Hospital Journal. 2011;53(3):618-621	No	No	National	Doctor guru Medwonders
19	Dr. Lalita D Hiremath	Jambaiah B, Basavaraj S. Mannapur, Ashok S. Dorle, Lalitha D. Hiremath , Vetri Selvan T. Study of knowledge, attitude and practice of tobacco	No	No	National	Index copernicus

		consumption among 1st year medical students of S. Nijalingappa medical college in Bagalkot city. Medica Innovatica. 2015;4(1):1-8				
20	Dr. Lalita D Hiremath	A cross sectional study of gynecological morbidity among married women in field practice area of community health centre Gulbarga. Journal Of Indian Medical Association. 2013;3(4):			National	
21	Dr. Lalita D Hiremath	B.S.Mannapur, A. S. Dorle, C H.Ghattargi, K. R. Kulkarni, U Y.Ramdurg, L. D. Hiremath , SumaN. Impact of Educational intervention on knowledge and attitude of Biomedical waste management among health care personnel working in a tertiary care hospital of Bengaluru city, Karnataka, India. International Journal of Community Medicine and Public Health. 2017;14(12):5067-5082	No	No	National	J-Gate CrossRef Google scholar
22	Dr. Lalita D Hiremath	Hemalatha Umashankar, Sudeepa D., Lalith D. Hiremath , Ratnesh, Nidhi Sharma. Challenges faced in utilization of social security facilities among elderly in a rural area of Bangalore. International Journal of Community Medicine and Public Health. 2018;5(12):5271-5275	No	No	National	J-Gate CrossRef Google scholar

Dr. Sudeepa D, Professor
Department of Community Medicine

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Sudeepa D	Sudeepa D , Suwarna Madhukumar, Vaishali Gaikwad. A Study Of The Profile Of Hysterectomy Acceptors in Rural Bangalore. Indian Journal Of Public Health Research & Development. 2013;4(4): 285-288	No	Yes	National	Scopus Google page Rank
2	Dr. Sudeepa D	Sudeepa.D , Vaishali Gaikwad, Suwarna Madhukumar. A Study Of Hospital Acquired	No	Yes	National	Scopus Google page Rank

		Infections In ICU of a Tertiary Care Hospital In Bangalore.Indian Journal Of Public Health Research & Development. 2013;4(4):29-33				
3	Dr. Sudeepa D	Sudeepa Dhanpan , Pavithra M B, Prutvish S. A Study On Physical Activity And Obesity Amongst secondary School Children, Research And Review: Journal Of Medical and Health Sciences.2014;3(2):112	No	No	Iterational	Earopub Index Index Copernicus Journal Seek Academic Search
4	Dr. Sudeepa D	Sudeepa , pruthvish. A study On High Blood Pressure Reading Amongst Secondary School Children. International Journal Of Basic And Applied Sciences. 2013;3(2):151-156	No	No	International	ProQuest World cat Journal TOCs CAS Google Scholar
5	Dr. Sudeepa D	Sudeepa D , Suwarna Madhukumar, Vaishali Gaikwad. A study on Postnatal Depression Of Women in Rural Bangalore. International Journal Of Health Sciences and Research. 2013;3(1):1-6	No	No	National	Croossref Google Scholar Google search AGORA
6	Dr. Sudeepa D	Sudeepa D , Vaishali Gaikwad, Suwarna Madhukumar. A study on Metabolic Syndrome Among Diabetic Patients In a Tertiary Care Hospital. International Journal Of Health Sciences and Research. 2013;3(6):22-27	No	No	National	Croossref Google Scholar Google search AGORA
7	Dr. Sudeepa D	Suwarna Madhukumar Vaishali , Gaikwad, Sudeepa . An Epidemiological study Of Hypertension And Its Risk Factors In Rural Population Of Bangalore Rural districts. Al Ameen Journal Of Medical Science. 2012;5(3):246-270	No	No	National	Index Copernicus
8	Dr. Sudeepa D	Suwarna Madhukumar, Sudeepa D , Vaishali Gaikwad. Study About Awareness and Practices About, Carbonated Drinks among School Students in An International School Bangalore. Indina Journal Of Public Health Research And Devlopment.2013;4(4):218-221	No	Yes	National	Scopus Google page Rank
9	Dr. Sudeepa D	Dietary Beliefs Among Caregivers During Common Childhood Illness IN Bangalore Rural Population, Research And Review: Journal Of Medical and Health Sciences.2014;3(1):	No	No	International	DOAJ Index Copernicus ASI Gate Plus
10	Dr. Sudeepa D	Vaishali Gaikwad, Sudeepa D , Suwarna Madhukumar. A Study on Career Prefrences and	No	No	International	Google Scholar DOAJ

		Attitude Towards the Rural Health services among the Graduating interns of a Medical college in Bangalore Rural. International Journal Of Biological and Medical Research.2012;3(2):1577-1580				PROQUEST osun.org Research Gate
11	Dr. Sudeepa D	A Study Of Unwanted Pregnancy and Knowledge Of Emergency Contraception In Currently Pregnant Women In Bangalore Rural. Association For Prevention and Control OF Rabies in India(APCRI).2008;10(1):	No	No	National	Index Copernicus

Dr. Shivarama Krishna, Professor
Department of Community Medicine

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Shivarama Krishna	Shivaramakrishna HR , Priya Gangadharan, Lakshmi Murali. Prevalence and Risk Factors for Diabetics Mellitus among Tuberculosis Patients – A Study in Tamil Nadu. Indian Journal of Public Health Research and Development. 2016;7(4):258-261	No	Yes	National	Scopus Google page Rank
2	Dr. Shivarama Krishna	Shivaramakrishna HR , A Frederick, A Shazia, L Murali,S Satyanarayana, S A Nair.Isoniazid Preventive treatment in children in two districts of South India: does practice follow policy. The International Journal of Tuberculosis and Lung Diseases. 2014;8(8):919-924	No	Yes	National	Scopus Google Scholar
3	Dr. Shivarama Krishna	H.R. Shivaramakrishna , A.V.Deepa , M. Sarithareddy. Nutritional Status of Adolescent Gils in Rural Area of Kolar District- A Cross – Sectional Study. Al Ameen Journal of Medical Science. 2011;4(3):243-246	No	No	National	Index Copernicus
4	Dr. Shivarama Krishna	H.R.Shivaramakrishna , A.S Wantamutte, H.N Sangolli, M.D Mallapur.	No	No	National	Index Copernicus

		Risk factors of Coronary Heart Disease among Bank Employees of Belgaum City – Cross – Sectional Study. Al Ameen Journal of Medical Science. 2010;3(2):152-159				
5	Dr. Shivarama Krishna	Interdermal Vaccination dedicated Anti Rabies Clinic Experience at Mandy Institute of Medical Sciences, Mandya, and Karnataka State. APCRI Journal.2008;10(1):	No	No	National	Index Copernicus

Dr. Anil Sood., Assoc. Professor
Department Community Medicine.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Anil Sood	Anil Sood , Nupur Sood, Nidhi Sharma, Harjot Kaur, Jasmeet Singh. An Epidemiological Study Analyzing Presentation and Oncological Outcome of Primary. Malignant Tumors of Femur in Mohan Dai Oswal Cancer Hospital, Ludhiana, Punjab. Indian Journal of Public Health Research and Development. 2015;6(3):220-225	No	Yes	National	Scopus Google page Rank
2	Dr. Anil Sood	Anil Sood , Amit K Chopra, Tejbir Singh, S S Deepti, Sanjeev Mahajan. An Epidemiological Study Analyzing Social-Economic Problems and Effect on Life Among Adults Osteoarthritic Patients in a Rural Area of Amritsar. Indian Journal of Public Health Research and Development. 2015;6(3):220-225	No	Yes	National	Scopus Google page Rank

Dr. Tejaswi CN., Professor
Department of Gen. Medicine

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed	Scopus Indexed	International /	Remarks
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			Yes / No	Yes / No	National	
1	Dr. Tejaswi CN	Kanavi Roopa Shekharappa, C N Tejaswi , Savita S. Patil, B M Lakshmikanth. Microteaching revisited! A tool for improving undergraduate student seminars. The International Journal of Tuberculosis and Lung Diseases. 2020;64(1):1-7	No	Yes	National	Scopus Scimago Rankimg Index Copernicus Scilit
2	Dr. Tejaswi CN	Sathish Rai. V, C N Tejaswi , & Amulya. Correlation of HBA 1c In Association With Different Complications of Diabetes. International Journal of General Medicine and Pharmacy. 2019;8(2):1-6	No	No	International	Academia, Index Copernicus, SSRN, Mendeley, Research Bible, Internet Archive,
3	Dr. Tejaswi CN	C N Tejaswi , Kanavi Roopa Shekharappa, B M Lakshmikanth, Smileevivian, G Venkatesh. A Study on Clinical Spectrum of Scorpion Sting In a Teaching Hospital in Bengaluru Region. International journal of Emergency Medicine. 2019;5(3):193 - 200	Yes	Yes	International	PubMed PubMed Central SCImago Scopus Summon by Serial Solutions
4	Dr. Tejaswi CN	A study on the Prevalence of Depression in diabetes Patients and the Determinants of Depression among patients with diabetes related symptoms and complications. International Journal of Physiology. 2018;6(3):	No	No	National	ICV SJIF IB Factor CNKI Scholar
5	Dr. Tejaswi CN	C N Tejaswi , Kanavi Roopa Shekharappa, B M Lakshmikanth, Smileevivian, G Vedavathi K.A Study on Epidemiology Causes and Prognosis of Acute Renal Failure In Indian Population. Journal of Evolution Medical & Dental Sciences. 2016;5(73):5388-5393	No	No	National	Index Copernicus
6	Dr. Tejaswi CN	C N Tejaswi , Kanavi Roopa Shekharappa. Savita S Patil. A Study of Clinical Manifestations of dengue cases in a tertiary care hospital, Bangalore Karnataka. International Journal of Medical Science and Public Health. 2016;5(12):2503-2507	No	No	National	Google Scholar Scopemed Urlich,s GFMER SafetyLit Index Medicus for

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7	Dr. Tejaswi CN	C N Tejaswi , Kanavi Roopa Shekharappa. Study of 25-hydroxy vitamin D levels in type 2 Diabetes mellitus patients. International journal of Mediac & Health Sciences.2016;5(3):128-130	No	No	National	EuroPub Index Index Copernicus Journal Seek (Genamics) Academic Search Chemical Abstract Services(USA)
8	Dr. Tejaswi CN	Dr Ravkeerthy.M, Dr Tejaswi Nataraj. A Comparative of Cardiovascular Parameters In Obese and Non-Individuals. International Journal of Scientific and Research Publications. 2015;5(5):3150-3153	No	No	International	IJSRP Google Scholar

Dr. Ramesh K.N. Professor
Department of Gen.Medicine.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Ramesh K.N	Ramesh Kallahalli Narayanaswamy , Wilma Delphine Silvia Chickballapuir Rayappa, Pankaja Ramesh. Evaluation of Dyslipidaemia among different age groups in urban south Indians. Journal Evaluation Medical and Dental Sciences.2020;9(40):2684-98	No	No	National	EBSCO Databases Academic OneFile Index Copernicus Google Scholar
2	Dr. Ramesh K.N	Ramesh KN , Rashmi HN, Dr. Vinay, Dr Padmaja Ramesh.CURB-65 Score in Indian patients. Scholars journal of applied medicinessciences(SJAMS). 2017;5(3D):955-959	No	No	International	Crossref Research Gate Journal Seek Google Scholar
3	Dr. Ramesh K.N	Ambannaghowda Durgad, R B Parakh, M Dhananjaya, K N Ramesh .Awareness of Diabêtes Mellitus and Complication among patients at Tertiary Care Hospita. International	Yes	No	National	PubMed World Cat National Library of Medicine

		Journal of Scientific Study. 2016;4(1):117-119				Index Medicus
4	Dr. Ramesh K.N	Medha Y Rao, Tejas Suresh Rao, Ramesh Kallahalli Narayanaswamy .Study Hypothalamo Pituitary Adrenal Axis In frail Elderly Subjects.Journal of The Association of Physicians of India. 2012;60():31-34	No	Yes	National	Index Copernicus Google Scholar Scopus
5	Dr. Ramesh K.N	Ramesh Kallahalli Narayanaswamy,Bhaktavaththalam Naraganti, Sreenivasa Rao Sudulagunta, Monica Kumbhat, Mahesh Babu Sodalagunta, Keshava Cghandra Theajaswi, Raj Deepak, Asif Hussan Mohammed, Sony p Sunny, Amulya Vishwewar, Mikita Suvarna, Rashmi Nanjappa. Diabetes Mellitus- Comparative study of Drugs, Comorbidities, Hbalc and Lipid profile. Scholar Journal Of Applied Medical sciences. 2017;5(2A):319-332	No	No	International	Research Gate Google Scholar Index Copernicus

Dr. Suma D., Associate Professor
Department of Gen. Medicine

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Suma D	Suma Dasaraju , Seema Hegde Subraya . Knowledge of Blood Transfusion Among the Nursing Staff in a Tertiary Medical College, Bangalore. Journal of Evidence Based Medicine and Health Care.2017;4(67):1001-4018	No	No	National	Index copernicus
2	Dr. Suma D	Suma Dasaraju . Hematological Profile of Snake Bite Patients in a Tertiary Care Hospital. Indian Journal of Basic and Applied Medical Research.2017;6(3):597-603	No	No	National	CrossRef, National Science Library, Index Copernicus

Dr. Prakash Gundagatti, Professor

Department of Gen.Medicine.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Prakash Gundagatti	Prakash Gundagatti , Atul Kumar Pandey, Sareetha A V, Pramod G R. Thyroid dysfunction in type 2 DM patients with microvascular complications. International journal of Advanced Research in Medicine. 2020;2(2):133-135	No	No	National	Google Scholar Crossref Scilit J Access Index Copernicus ResearchBib
2	Dr. Prakash Gundagatti	Prakash Gundagatti , Atul Kumar Pandey, Sareetha A V, Pramod G R. Study of serum magnesium level in patients of newly diagnosed type-2 diabetes mellitus and effect on glycemic control. International Journal of Advanced Research in Medicine. 2020;2(1):79-81	No	No	National	Google Scholar Crossref Scilit J Access Index Copernicus ResearchBib
3	Dr. Prakash Gundagatti	Prakash Gundagatti , Atul Kumar Pandey, Sareetha A V, Pramod G R. Correlates of thyroid disorder in type DM patients. International Journal of Advanced Research in Medicine. 2021;3(1):476-479	No	No	National	Google Scholar Crossref Scilit J Access Index Copernicus ResearchBib
4	Dr. Prakash Gundagatti	Prakash Gundagatti , Atul Kumar Pandey, Sareetha A V, Pramod G R. A Study on spectrum of thyroid dysfunction in type 2 DM. International Journal of Advanced Research in Medicine. 2021;3(1):473-475	No	No	National	Google Scholar Crossref Scilit J Access Index Copernicus ResearchBib

Dr. Majeti Srinivasa Rao, Assistant Professor

Department of Pediatrics.

Sl.	Faculty Name	Publication in Vancouver Referencing style	Pubmed	Scopus	International /	Remarks
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No.			Indexed Yes / No	Indexed Yes / No	National	
1.	Dr. Majeti Srinivasa Rao	Majeti Srinivasa Rao , A Vasundhara. Rothumund Thomson Syndrome- A rare case report. Indian Journal of Applied Research. 2013;3(11):387-389	Yes	No	International	Google Scholar Pubmed Crossref Publons Doj
2.	Dr. Majeti Srinivasa Rao	Majeti Srinivasa Rao , Manas Ranjan Sahoo. Unilateral Open Lip Scizencephaly – A Rare case report. Journal of Evolution of Medical and Dental Sciences. 2013;2(42):8123-25	No	No	International	Google Scholar BIREME Virtual Health Library J-Gate Indian Science Abstracts Journal Seek Databas
3.	Dr. Majeti Srinivasa Rao	Hema Prakash Kumari, Majeti Srinivasa Rao . A Case Study on Subcutaneous Zygomycosis with ulcer. International Journal of Current Microbiology and Applied Science. 2013;2(10):448-451	No	No	National	Google Scholar Crossref Indian Sciences Green Pilot
4.	Dr. Majeti Srinivasa Rao	C V Prathyusha, Majeti Srinivasa Rao . Clinico Hematological Profile and outcome of dengue fever in Children. International Journal of Current Microbiology and Applied Science. 2013;2(10):338-346	No	No	National	Google Scholar Crossref Indian Sciences Green Pilot
5.	Dr. Majeti Srinivasa Rao	Dr Manas Ranjan Sahoo, Majeti Srinivasa Rao . Unusual Presentation of cyclic Vomiting Syndrom. Journal of Evolution of Medical and Dental Sciences. 2013;2(48):9280-82	No	No	International	Google Scholar BIREME Virtual Health Library J-Gate Indian Science Abstracts Journal Seek Databas
6.	Dr. Majeti Srinivasa Rao	Dr Manas Ranjan Sahoo, Dr. Majeti Srinivasa Rao . Purulent Meningitis as an unusual presentation of	Yes	No	International	Google Scholar Pubmed

	Rao	Saph.aureus Endocarditis in a 10yr old child – A case report. Indian Journal of Applied Research.2013;3(12):405-407				Crossref Publons Dojf
7.	Dr. Majeti Srinivasa Rao	Dr P Nanda Kishore, Dr Manas Ranjan Sahoo, D Majeti Srinivasa Rao .Profile of Risk Factors And Out come of Hypoglycemia in Newborns Admitted in the neonatal unit of a tertiary Care Hospital, ASRAM, West Godavari District. Journal of Evolution of Medical and Dental Sciences. 2014;3(18):5048-56	No	No	International	Google Scholar BIREME Virtual Health Library J-Gate Indian Science Abstracts Journal Seek Databas
8.	Dr. Majeti Srinivasa Rao	A Vasundhara, Majeti Srinivasa Rao .A Rrare Case of Congenital Amniotic Band Syndrome, Indian Journal of Applied Research. 2015;5(5):19-20	Yes	No	International	Google Scholar Pubmed Crossref Publons Dojf
9.	Dr. Majeti Srinivasa Rao	Manas Ranjan Sahoo, Majeti Srinivasa Rao . Evalution of National innunization schedule in and around eluru. Indian Journal of Scientific research.2015;4(9):51-55	No	No	National	Cite Factor Indian Journals Refesk Scope Data Base
10	Dr. Majeti Srinivasa Rao	Lakshmi Chaitanya Varma Pusapati, Majeti Srinivasa Rao . Clinical of Profile of Hemophili in Children in a tertiaty care centre in Andhra Pradesh, india. Indian Journal of Applied Research. 2015;5(10):124-126	Yes	No	International	Google Scholar Pubmed Crossref Publons Dojf
11	Dr. Majeti Srinivasa Rao	Dr Manas Ranjan Sahoo, Majeti Srinivasa Rao .A study of Clinical profile and outcome of intra ventricular hemorrhage in neonates admitted to neonatal intensive care unit of a tertiary care hospital eluru Andhra Pradesh india. International journal of contempory pediatrics. 2016;3(2):373-380	No	No	National	J-Gate Google Scholar CrossRef Directory of Science JournalTOCs ResearchBib

Dr. Mallikarjuna H. B.,
Professor Department of Pediatrics.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Mallikarjuna H. B.	P Mallikarjuna Swamy H B Mallikarjkuna C C Shantala, S Prasanth, P P Maiya & Chitralekha Dindekar. Wolman's Disease, Clinical Brief. Indian Journal of Paediatrics. 1997;64():561-565	No	No	National	BIOSIS CAB Abstracts CLOCKSS CNKI CNPIEC
2.	Dr. Mallikarjuna H. B.	Manjunath Babu, Mallikarjuna Honnali Bannajji , Pradeep Gejjegenahalli Channabasappa Maralusiddappa, Manjunath Mallikarjuna Nagalli, Karunakara Beechalli Puttaiah, Somashekar Ankanahalli Ramu. Growth Pattern of Exclusively Breastfed Low Birth Weight Infants. Prinatology. 2015;16(1):	No	No	International	Lancet New England Journal Of Medicine
3.	Dr. Mallikarjuna H. B.	Mallikarjuna Honnali Bannajji , Karunakara Beechallio Puttaiah, Shruti Paul. Familial Occurrence of Kawasaki Disease in an Indian Family. JPMS. 2012;2(4):1-3	No	No	International	Biblioteca Virtual, Spain HINARI, WHO, Geneva DOAJ
4.	Dr. Mallikarjuna H. B.	Somashekar A R, H Paramesh, Mallikarjuna A H , Madan K. Effect of Pranayama on Adolescent Asthma – A one year Prospective Study. Karnataka Paediatric Journal. 2010;24(1):	No	No	National	Google Scholar, CrossRef, ReadCube, National Science Library

Dr. Sujay Kumar Earan,
Department of Pediatrics.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Sujay Kumar Earan	Bharath Kumar, thirunavukkarasu, Sujay Kumar Earan .Prevailing Pattern Of Feeding Practices and Malnutrition Among Infant and Young Children. International Journal Of Contemporary Pediatrics. 2019;6(3):966-971	No	No	International	Journal Index J-Gate Google Scholar CrossRef JournalTOC
2	Dr. Sujay Kumar Earan	Sujay Kumar Earan , Revathi Krishnakumar, Sivaraman Sangili, Arul Kumaran Aruna Girinathan, Duvvuru Preethika Reddy, Uma Maheshwari.How Safe Are Our Children In Our Own Homes? Accidental Ingestion In Children: A 6 Year Retrospective Study From A Tertiary Care Centre. International Journal Of Contemporary Pediatrics. 2019;6(2):1-5	No	No	International	Journal Index J-Gate Google Scholar CrossRef JournalTOC
3	Dr. Sujay Kumar Earan	Sujay Kumar Earan , Lakshminarayan Dhandapani, ArulkumarnArunaGirinathan, Shilpa Kantamneni. Clinical Spectrum and Epidemiological Profile Of Patients Admitted To Pediatric Intensive Care Unit At A Tertiary Care Centre In South India. International Journal Of Scientific Study. 2016;4(3):187-189	Yes	No	National	PubMed World Cat Google Scholar

Dr. Saroja.B.G., Associate Professor
Department of TB & CHEST

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr.Saroja.B.G.	Saroja .B.G. Evaluation of Various Factors Influencing Sputum Smear Positivity In Newly Disgnosed cases of Pulmonary Tuberculosis In Tertiary Care Center of Bengaluru. IP Indian Journal of Immunology and Respiratory Medicine. 2018;3(3):150-152	No	No	National	Crossref Crossmark Clockss
2	Dr.Saroja.B.G.	Saroja.B.G. Comparison of PSI Scoring System With Curb-65 as an Marker of Severity In Community Acquired Pneumonia. Indian Journal of Emergency Medicine. 2018;4(3):165-168	Yes	Yes	National	PubMed/Medline Embase Elsevier BIOBASE Scopus
3	Dr.Saroja.B.G.	Saroja.B.G. A Prospective Study on Clinical Pattern of Hospital Acquired Pneumonia. (SAS) Scholars Academic and Scientific. 2021;7I(1):4-8	No	No	International,	Google Scholar Index Copernicus Chemical Abstract Service(CAS) NCBI-NLM Catalog World Cat
4	Dr.Saroja.B.G.	Saroja.B.G. Clinico Demographic Profile Fo Bronchiectasis A Cross Sectional Study. IP Indian Journal of Immunology and Respiratory Medicine. 2021;6(2):111-116	No	No	National	Crossref Niso Crossmark

Dr.Sandeep H.S., Associate Professor
Department of TB & CHEST

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes /	International / National	Remarks
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1	Dr.Sandeep H.S.	Sandeepa H. S. , Narendra U, Gajanan S. Gaude, Supriya Sandeepa. Complications and Residual Pleural Thickening After Intrapleural Instillation of Streptokinase With Pigtail Catheter Drainage of Tuberculous Pleural Effusion. International journal of Advances In Medicine. 2020;7(1):1-5	<u>No</u>	No	National	ScopeMed Journal Index J-Gate Google Scholar CrossRef
2	Dr.Sandeep H.S.	Sandeepa H. S. , Narendra U., Gajanan S. Gaude, Supriya Sandeepa. Efficacy of Intrapleural Instillation of streptokinase With Pigtail Catheter Drainage in The Treatment of tuberculosis Pleural Effusion. International journal of Advances In Medicine. 2019;6(6):1695 -1699	<u>No</u>	No	National	ScopeMed Journal Index J-Gate Google Scholar CrossRef

Dr. Manjunathswamy Professor & HOD
Department of Dermatology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Manjunathswamy	B. M. Vyshak, Bhavana R. Doshi, B. S. Manjunathswamy. 1-Year Hospital Based Observational study of Trichoscopy Findings and Disease Activity in Alopecia. Indian Dermatology Online Journal. 2020;20(20):965-969	Yes	No	National	DOAJ, Emerging Sources Citation Index, PubMed Central, Web of Science
2	Dr. Manjunathswamy	Bhavana Doshi, Vijaya Sajjan, B. S. Manjunathswamy , Anisha P. Bindag. Cross-Sectional Study on Assessing Quality of Life of Patients Diagnosed With Superficial Dermotophytosis In South –West India. Indian Journal of Health Sciences & Biomedical Research KLEU. 2020;13(2):160-164	No	No	National	Primo Central, Google Scholar, Hinari, Infotrieve,

3	Dr. Manjunathswamy	Shradda Kololgi, Vijaya Veeranna Sajjan, Bhavana Ravindra Doshi, Manjunathswamy BS , Vikranth Ghatnatti. Prevalence of Metabolic Syndrome Among Psoriatic Patients Attending A Tertiary Care Hospital in western. Journal of Pakistan Association of Dermatologists. 2020;30(2):235-241	No	Yes	International	Google PageRank SCIImago SCIImago Scopus
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Dr. Abhineetha Hosathota, Associate Professor
Department of Dermatology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Abhineetha Hosathota	Swapna Bondade, Abhineetha Hosthota , Karthik K. N, Raghul Raj. Intimate Partner Violence Anxiety, and Depression in Women with Sexually Transmitted Infections –A Hospital Based Case Control Study. Journal of Psychosexual Health. 2021;3(1):1-8	No	No	National	Google Scholar Indian Citation Index (ICI) J-Gate
2	Dr. Abhineetha Hosathota	Bindushree R, Abhineetha Hosthota . A Study of Clinical Profile and Quality of Life in Patients with Scabies. Intenrational Journal of Research in Dermatology. 2021;7(4):508-512	No	No	National	Index Copernicus CrossRef LOCKSS Google Scholar ICMJE
3	Dr. Abhineetha Hosathota	Autoimplantation – An Immunological Treatment For Multiple Warts Serbian. Journal of Dermatology and Venereology. 2020;12(4):	No	Yes	International	Hinari Infotrieve National Science Library ProQuest SCOPUS
4	Dr. Abhineetha Hosathota	Stressful life events and psychiatric comorbidity in acne – a case control study. Asia Pacific Psychiatry. 2019;11(1):	No	Yes	International	indicator Google PageRank Scopus

5	Dr. Abhineetha Hosathota	Abhineetha Hosthota , Trupthi Gowda, Rajini Manikonda. Clinical Profile and risk factor of dermatophytoses: a Hospital based study. International Journal of Research in Dermatology. 2018;4(4):508-513	No	No	National	Index Copernicus CrossRef LOCKSS Google Scholar ICMJE
6	Dr. Abhineetha Hosathota	Koregol Savita, Anand Ranagol, Abhineetha Hosthota , Rajasvi V. Pujar, Arati C. Koregol5Dermaroller as an inexpensive and excellent therapeutic modality in the treatment of acne scars along with subcision and punch floatation. Indian Journal of Clinical and Experimental Dermatology. 2018;4(4):319-323	No	No	National	Index Copernicus, Google Scholar, Indian Science Abstracts, National Science Library, J- gate, ROAD,
7	Dr. Abhineetha Hosathota	Trupthi Gowda, Rajini Manikonda, Abhineetha Hosthota . Microbiological Profile of Dermatophyte infections in a tertiary care hospital. Journal of evaluation Medical and Dental Sciences. 2018;7(1):67-70	No	No	National	Index Copernicus EBSCO Databases CAB Abstracts and Global Health Databases Global Index Medicus Index Medicus for South-East Asia Region Academic OneFile
8	Dr. Abhineetha Hosathota	Abhineetha Hosthota , Renu Kothottil, Seema Hegde Subraya. Scleredema adultorum of Buschke in a child confirmed by special stains. Our Dermatolgy Online. 2018;9(1):103-104	No	No	International	INDEX COPERNICUS DOAJ Crossref, Geneva
9	Dr. Abhineetha Hosathota	Scrotodynia: Diagnostic and Therapeutic Challenge. SKINmed. 2018;14(3):	No	Yes	International	Google PageRank Scopus
10	Dr. Abhineetha Hosathota	Abhineetha Hosathota , Swapna Bondada, Renu K, Swati Braroo. The Association of acne vulgaris with smoking in men: a Hospital based study. International Journal of Research in Dermatology. 2017;3(2):196-201	No	No	National	Index Copernicus CrossRef LOCKSS Google Scholar ICMJE

11	Dr. Abhineetha Hosathota	Abhineetha Hosathota , Swapna Bondada, Vinay Basavaraja. Impact of acne vulgaris on quality of life and self – esteem. Cutis. 2016;98(0):121-124			International	
12	Dr. Abhineetha Hosathota	Abhineetha Hosthot , Swapna Bondade, Divya Monnappa, Vinay Basavaraja. Penodynina and Depression. Our Dermatolgy Online. 2016;07(2):240-241	No	No	International	INDEX COPERNICUS DOAJ Crossref, Geneva
13	Dr. Abhineetha Hosathota	Venkataram Mysur, B Anitha, Abhineetha Hosathota . Successful Treatment of Laser Induced Hypopigmentation with Narrowband Ultraviolet B Targeted Phototherapy. Journal of Cutaneous and Aesthetic Surgery.2013;6(2):117-119	Yes	Yes	National	DOAJ Indian Science Abstracts IndMed PubMed Central SCOPUS

Dr. Bindushree R, Assistant Professor
Department of Dermatology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Bindushree R	Bindushree R, Abhineetha Hosthota . A Study of Clinical Profile and quality of life in patients with scabies. International Journal of Research in Dermatology. 2021;7(4):508-512	No	No	National	pernicus CrossRef LOCKSS Google Scholar ICMJE J-Gate
2	Dr. Bindushree R	Hosthota Abhineetha, Bindushree R , Koregol Savita. Autoimplantation – An Immunological Treatment For Multiple Warts, Serbian Journal of Dermatology and Venereology. 2020;12(4):135-136			International	
3	Dr. Bindushree	Identification and Speciation of Malassezia	No	No	National	Google Scholar

	R	Isolated from Tinea Versicolor Cases in a Tertiary Care Hospital in Karnataka, International Journal of Contemporary Microbiology. 2019;5(2):				CNKI Scholar Cite Factor
4	Dr. Bindushree R	Bindushree R , BN Raghavendra, TS Rajashekhar, Prasad KNV. A clinico-aetiological study of diaper area dermatoses in children, International Journal of Research in Dermatology. 2018;4(2):157-158	No	No	National	pernicious CrossRef LOCKSS Google Scholar ICMJE J-Gate

Dr. Swapna Bondade, Associate Professor & HOD
Department of Psychiatry

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Swapna Bondade	Rupa Iyengar, Swapna Bondade , Raghul Ra .A cross sectional hospital-based study of intimate Partner violence and psychiatric comorbidity in pregnancy. Archives of Psychiatry and Psychotherapy. 2020;4():12-21	No	Yes	International	CrossRef/DOI Cochrane Library SCOPUS ERIH PLUS
2	Dr. Swapna Bondade	Malini Govinadan, Fiaz Ahmed Sattar, Kiran Kumar K, Swapna B , Venugopal V P. Quality of life in Bipolar affective disorder: Relationship with demographic and clinical variables. Telangana journal of Psychiatry. 2020;6(1):47-57	No	No	Zonal journal	Google Scholar Hinari Infotrieve Netherlands ISSN centre ProQuests
3	Dr. Swapna Bondade	Rupa Iyengar, Swapna Bondade , Raghul Ra. A cross sectional hospital-based study of intimate partner violence and psychiatric comorbidity in pregnancy. Archives of Psychiatry and Psychotherapy. 2020;12-21	No	Yes	International	CrossRef/DOI Cochrane Library SCOPUS ERIH PLUS

4	Dr. Swapna Bondade	Swapna Bondade , Supriya, H. S. Seema and B. K. Shivakumar. Mean platelet volume in anxiety disorder: a case-control study. Open Journal of Psychiatry & Allied Sciences. 2019;10(2):1-8	No	No	National	NLM catalog UGC-CARE List Crossref ResearchGate
5	Dr. Swapna Bondade	Swapna Bondade , Abhineetha Hosthota, Vinay Basavaraju. Stressful life events and psychiatric comorbidity in acne—a case control study. Asia-Pacific Psychiatry. 2018;11(1):1-7	No	Yes	International	Google PageRank Scopus SCImago
6	Dr. Swapna Bondade	Swapna Bondade , Rupa S. Iyengar, B. K. Shivakumar, K. N. Karthik. Intimate partner violence and psychiatric comorbidity in infertile women - A cross-sectional hospital based study. Indian J Psychological Medicine. 2018;40(6):540-546	No	Yes	International	Google PageRank Scopus SCImago

Dr. Kartik Kashyap, Assistant Professor
Department of Psychiatry

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Kartik Kashyap	Kartik Kashyap , Ravish Thunga, Arun K Rao, N P Balamurali. Trends of Utilization of Government Disability Benefits Among Chronic Mentally ill. Indian Journal of Psychiatry. 2012;54(1):54-58	No	No	National	Google Scholar Hinari Infotrieve National Science Library
2	Dr. Kartik Kashyap	Kartik Kashyap , Ravish Thunga. Prevalence, Nature and Severity of Psychiatric Morbidity Among Suicide Attempts. International Journal of Psychology. 2018;6(2):34-38	No	Yes	International	<ul style="list-style-type: none"> Scopus Social Sciences Citation Index Sociological Abstracts

Dr. Shashikala. V
Professor and HOD of : Gen. Surgery

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Shashikala. V	V Shashikala , Pavithra Umashankar, K A Hussain Arish, S P Kiran, M Sahana. Evaluation of Factors Predicting Fatal Outcome In Acute Pancreatitis. IJSS Journal of Surgery. 2020;6(1):4-6	No	No	International	Google Scholar Index Medicus (IMSEAR) Advanced Science Index
2	Dr. Shashikala. V	Shashikala V , Alister J. Victor and Sonia Rani P B. Right Iliac Fossa Mass: A Prospective Study. International Journal of Biomedical and Advance Research. 2016;7(8):388-392	No	No	International	Google Google Scholar Index Copernicus NLM Catalog (NCBI)
3	Dr. Shashikala. V	Shashikala V , Sonia Rani P B, Alister J Victor. Clinicopathological Study of Begin Breast Diseases. International Journal of Biomedical and Advance Research. 2016;7(9):1-2	No	No	International	Google Google Scholar Index Copernicus NLM Catalog (NCBI)
4	Dr. Shashikala. V	Shashikala V , Harsha Hegde and Alister J Victor. Comparative Study of Tzanakis Score VS Alvarado Score In The Effective Diagnosis of Acute Appendicitis. International Journal of Biomedical and Advance Research. 2016;7(9):418-420	No	No	International	Google Google Scholar Index Copernicus NLM Catalog (NCBI)
5	Dr. Shashikala. V	Shashikala V , Alister J Victor and Sonia Rani P B. A Clinico-Pathological Study of Thyroiditis. International Journal of Biomedical and Advance Research. 2016;7(10):515-517	No	No	International	Google Google Scholar Index Copernicus NLM Catalog (NCBI)

Dr. Chinnaiah. K, Assistant Professor

Department of : Gen. Surgery

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Chinnaiah. K	Chinnaiah. K , Sharath C T. Sequential Organ Failure Assessment Scoring In Assessing The Incidence And Severity Of Organ Dysfunction In Sepsis. New India	No	No	National	BFI List CAB Abstracts

		Journal Of Surgery. 2017;8(3):410-414				CLOCKSS CNKI CNPIEC
2	Dr. Chinnaiah. K	Chinnaiah. K , Sharath C T. Management And Outcomes Of Sepsis Cases In A Hospital. New India Journal Of Surgery. 2017;8(3):426-429	No	No	National	BFI List CAB Abstracts CLOCKSS CNKI CNPIEC
3	Dr. Chinnaiah. K	Chinnaiah. K , Dr Tejus V Nagireddy, A Clinical Study of Benign Breast diseases. International Journal of Surgery Science.2020;4(1):287-290	No	No	International	Index Copernicus, Crossref Google Scholar ResearchBib Scilit
4	Dr. Chinnaiah. K	Chinnaiah. K , Dr Tejus V Nagireddy, Management of benign Breast Disease At a Tertiary Care Hospital. International journal of Surgery Science. 2020;4(1):283-286	No	No	International	Index Copernicus, Crossref Google Scholar ResearchBib Scilit

Dr. Narasimhaiah K. Assoc. Professor
Department of Gen.Surgery.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Narasimhaiah K.	Narasimhaiah Krishnappa , Asif Khan, Saraswathi Sakranaik. Role of dilatation of intramural ureter in patients with lower urinary tract symptom (LUTS) in UVJ and pre UVJ calculus: an observational study. International Surgery Journal. 2018;5(1):205-208	No	No	International	Journal Index Google Scholar J-Gate Directory of Science ResearchBib

2	Dr. Narasimhaiah K.	Narasimhaiah Krishnappa , Asif Khan, Saraswathi Sakranaik. An analysis of injury patterns of abdominal trauma in patients attending surgical emergency department of rural hospital, Karnataka, India. International Surgery Journal.2017;4(11):3736-3739	No	No	International	Journal Index Google Scholar J-Gate Directory of Science ResearchBib
3.	Dr. Narasimhaiah K.	Dr. Narasimhaiah K , Tejus V Nagi Reddy and Dr. Archana BH. A Clinical study of benign breast diseases at a tertiary care hospital. International Journal of Surgery Science. 2021;5(4):130-133	No	No	International	Index Copernicus, Crossref, Google Scholar ResearchBib Scilit
4.	Dr. Narasimhaiah K.	Dr. Narasimhaiah K , Dr. Tejus V Nagi Reddy and Dr. Archana BH. Benign breast diseases: Correlation of clinical findings with those of FNAC, ultrasound and histopathology. International Journal of Surgery Science. 2021;5(4):134-136	No	No	International	Index Copernicus, Crossref, Google Scholar ResearchBib Scilit

Dr. Jose V.Fransico Menezes, Associate Professor
Department of Gen. Surgery

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Jose V.Fransico Menezes	Menezes Francisco jose V , V,sreenidhi G M ,vani satya k Clinical utility of Diabetic Ulcer Severity Score in Surgical Practice, International surgery Journal. 2019;6(7):2469-2474	No	No	International	Google Scholar J-Gate Directory of Science ResearchBib ICMJE
2	Dr. Jose V.Fransico Menezes	Menezes Francisco jose V , V,sreenidhi G M ,vani satya k,Clinical Utility of diabetic Ulcer Severity Score in Surgical Practice, International surgery Journal. 2019;6(7)2469-2474	No	No	International	Google Scholar J-Gate Directory of Science ResearchBib ICMJE
3	Dr. Jose V.Fransico Menezes	Correspondence Author,The effect of Cholecystetomy On The lipid Profile of Patients with Gallstone Disease: A Prospective Study,International surgeryJournal.2019;6(11):4122-4116.	No	No	International	Google Scholar J-Gate Directory of Science ResearchBib ICMJE

4	Dr. Jose V.Fransico Menezes	Dr Girish H.R, Dr Jose V. Francisco , Dr B Revanth Kumar. incidence of Adenocarcinoma Prostate and Correlation With S.PSA and Digital Rectal Examination and Bone Scintigraphy in Our Hospital, Journal of Medical Science and Clinical Research. 2017;5(10): 29322-29324	No	No	International	Index Copernicus
5	Dr. Jose V.Fransico Menezes	B L Ravikumar , jose V, Francisco Menezes Cervical RIB- Upper Limb Ischemia, Journal of Evolution of Medical and Dental sciences. 2014;3(7):1732-1738	No	No	International	CNKI Index Copernicus Google Scholar
6	Dr. Jose V.Fransico Menezes	B L Ravikumar , Satishkumar Menezes Francisco jose V,jain Ayush Our Experience in The Management of Varicose Veins Of The Lower Limb, Journal of Evolution of Medical and Dental sciences. 2014;3(16):4137	No	No	International	CNKI Index Copernicus Google Scholar
7	Dr. Jose V.Fransico Menezes	The Efficacy of New Scoring System to Predict Burst Abdomen, International Journal of Scientific Research. 2020;9(3):	No	No	International	Crossref Google Scholar Worldcat

Dr. Deepak K.L. Assistant Professor
Department of Gen. Surgery

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Deepak K.L.	Raja Sabapathy S, K.L Gowda Deepak , Ranade AB, Venkatramani Hari, Sabastin J Sandeep. Functional outcome of extensor carpiradials longus transfer for finger flexion in Posttraumatic flexor muscle loss. Journal of hand Surgery. 2005;30(2):1-2	No	Yes	National	Scopus

Dr. Chandrashekara Reddy
Department of Gen.Surgery.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes /	International / National	Remarks
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1	Dr. Chandrashekara Reddy	Chandrashekara Reddy , Kulkarni AV. Clinical Profile of Patients With Hashimotos Thyroiditis, International Journal of surgery Science. 2020;4(1):470-472	No	No	International	Google Scholar Crossref Scilit Index Copernicus J Access
2	Dr. Chandrashekara Reddy	Kulkarni AV, Chandrashekara Reddy . A Study on Thyroid Profile among cases of Hashimotos Thy, International Journal of surgery Science.2020;4(2):250-252	No	No	International	Google Scholar Crossref Scilit Index Copernicus J Access

Dr. Siddalingeshwar H., Associate Professor
Department of Orthopedics

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Siddalingeshwar H.	Kumar Hiranya, Vithoba Honnur Siddalingeshwar , Shukla Manoj Kumar. Functional outcome of management of infected non union of humerus by limb reconstruction system (LRS), International Journal of Ortopaedics Sciences.2017;3(1):33-39	No	No	International	. Crossref Scilit Index Copernicus J Access
2	Dr. Siddalingeshwar H.	Kumar Hiranya, Vithoba Honnur Siddalingeshwar , Shukla Manoj Kumar, Etikala Nerugunti Srikanth. Results of limb reconstruction system in failed osteosynthesis of long bones, International Journal of Research in Orthopaedics.2017;3(2):287-292	No	No	National	CrossRef LOCKSS Google Scholar
3	Dr. Siddalingeshwar H.	Vithoba Honnur Siddalingeshwar , Tauheed Mohammed, Shahid Mohammed. Surgical Outcome Of Intra –Articular Fractures of Distal End of Radius Managed by External Fixator –Our Experience,	No	No	International	. Crossref Scilit Index Copernicus J Access

		International Journal of Orthopaedics Sciences.2021;7(2):272-274				
4	Dr. Siddalingeshwar H.	Vithoba Honnur Siddalingeshwar , Tauheed Mohammed, Shahid Mohammed. Results of Locking Compression Plate In Closed Diaphyseal Forearm Fractures In Adults, International Journal of Orthopaedics Sciences. 2021;7(2):275-288	No	No	International	. Crossref Scilit Index Copernicus J Access

Dr. Mohammed Tauheed, Associate Professor

Department of Orthopedics

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Mohammed Tauheed	Shashi Kumar Yalagach, Mohammed Tauheed , Ayyappan V.Nair, Yon Sik Yoo, Mruthyunjaya. Anteroinferior Plating Of Displaced Middle Third Fracture Of Clavicle. Journal of Evidence Based Medicine and Health Care. 2016;3(37):1811-1814	No	No	National	Index Copernicus WHO-HINARI Google Scholar BASE J-Gate
2	Dr. Mohammed Tauheed	Shashi Kumar Yalagach, Mohammed Tauheed , Vivek Purusothaman, Anwar Shareef Kunnath K. To Evaluate the Surgical Outcome Of Non-Union Clavicle Using Plate and Slivers Of Autologous Iliac Crest Corticocancellous Bone Graft. Journal of Evidence Based Medicine and Health Care. 2016;3(25):1121-1125	No	No	National	Index Copernicus WHO-HINARI Google Scholar BASE J-Gate
3	Dr. Mohammed Tauheed	Mohammed Tauheed ,Dr Mohammed Shahid, Dr Srinivas Pandurangiah,Dr Channa basava Patil. Surgical Management Of Fracture Neck Of Femur Using CCS in Patients Aged More than 50 Years. International Journal of Orthopedics Sciences. Year;Vol():1-10	Yes	Yes	International	Scopus Science Citation Index Expanded Current Contents - Clinical Medicine PubMed/Medline
4	Dr. Mohammed Tauheed	Mohammed Tauheed ,Dr Mohammed Shahid, Dr Channa basava Patil. To Evaluate the Accuracy of the Femoral Tunnel Length Measurements For ACL Reconstruction Using the Endo button Indicator Selection Device from Outside the Knee Joint and the Transportal endobutton Depth Probe. International Journal of	Yes	Yes	International	Scopus Science Citation Index Expanded Current Contents - Clinical

		Orthopedics Sciences. Year;Vol():1-6				Medicine PubMed/Medline
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Dr. Akshay T.M., Associate Professor
Department of Orthopaedics.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Akshay T.M	Tegginamath Akshay , Patil Channabasava. Clinical, Magnetic Resonance Imaging and Arthroscopic Findings In Diagnosis Of Meniscal Tears: A Prospective Study, International Journal of Research In Orthopedics. 2019;5(5):792-795	No	No	National	CrossRef LOCKSS Google Scholar
2	Dr. Akshay T.M	Akshay TM , Naganagoudar IH. A Clinical Study on Intra- Operative and Delayed Complication In Surgical Management Following Peri-Trochanteric Fracture Of Femur Using Proximal Femoral Nail, Medica Innovatica. 2015;4(2):29-34	No	No	National	Index Copernicus DOAJ Gogles Scholar Cosmos Foundation

Dr. Sudhir M. Naik, Professor and HOD
Department of, ENT

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. Sudhir M. Naik	Sudhir M Naik , BL Yatish Kumar, S Ravishankara, T Shashikumar,R Navya, P Sathya. Kikuchi's Disease: A Rare Clinical Entity Of Cervical Lymphdenopathy With Review Of Literature. Otorhinolaryngology Clinics: An International Journal. 2016;8(3):101-105	No	No	National	Crossref Citefactor Scite
2	Otorhinolaryngology	Modified Sistrunk Procedure: A Novel Method	1 st Author		National	

	Clinics: An International Journal	Of Hyoid Resection Using skin Punches In Subhyoid Thyroglossal Cysts.				
3	The Antiseptic	Vagal Schwannomas: intracapsular Dissection Enucleation Preferred over Segmental In Total Resection For Functional Preservation of The Nerve			National	
4	The Antiseptic	Regional Block Anesthesia An Alternative To General Anesthesia in Reduction Of nasal Bone Fractures.			National	
5	The Antiseptic	Advantages Of Concomitant Regional Anesthesia in Elective Endonasal Surgeries Under General Anesthesia	2 nd Author		National	
6	The Antiseptic	The Paramedian Forehead Flap: Workhorse In Reconstruction On External Nose	1 st Author		National	
7	The Antiseptic	Transoral Transtonsillar Styloidectomy: A Minimally Invasive Technique For Stylohyoid Syndrome	2 nd Author		National	
8	Oman Medical Journal	Tonsillo-Styloidectomy For Eagle's Syndrome: A Review Of 15 Cases in KVG Medical College Sullia	1 st Author		National	
9	Dr. Sudhir M. Naik	Sherry J , Pooja N , Deekshith RM , Ravishankar B , Sudhir M Naik , Pooja N , Shashikumar T , R Karumbiah , Shankarnarayan Bhat. Percutaneous Tracheostomy: A Review Of 2 Cases. Otolaryngology Online Journal.2015;5(2):1	No	No	International	Road Base Google Scholar
10	The Antiseptic	An Unusual Case Of Invasive Nasal Cavity Candidiasis.	1 st Author		National	
11	Dr. Sudhir M. Naik	Sudhir M Naik , Sarika Sudhir Naik. A Study Of External Nasal Splints Used In Nasal Bone Fractures and Rhinoplasties. Clinical Rhinology: An International Journal.2011;4(1):9-14	No	No	National	Google Scholar Worldcat DRJI
12	Dr. Sudhir M. Naik	Sarika S Naik, Sudhir M Naik . Hypotensive Anesthesia With Propofol Infusion Pump: A Boon for Endoscopic Sinus and Nasal Polyps Surgery. Clinical Rhinology: An International	No	No	National	Google Scholar Worldcat DRJI

		Journal.2011;4(1):5-8				
13	Dr. Sudhir M. Naik	Sudhir M Naik , Sarika Sudhir Naik. Nasal Septal Abscess: A Retrospective Study Of 20 Cases In KVG Medical College and Hospital, Sullia. Clinical Rhinology: An International Journal.2010;3(3):135-140	No	No	National	Google Scholar Worldcat DRJI
14	Indian Journal Of Clinical Practice	Scalpel Cautery Adentotonsillectomy Done In a Case Of Crouzon's Syndrome	1 st Author		National	
15	Indian Journal Otolaryngology Head Neck Surgery	Endonasal DCR with Silicon Tube Stents: A Better Management For Acute Lacrimal Abscesses	1 st Author		National	
16	Asian Journal Of ear Nose And Throat	Seven Unique Cases Of Elongated Styloid Process in rural Town Of Sullia	1 st Author		International	
17	Dr. Sudhir M. Naik	Sudhir Naik , Sarika S Naik. An Overview Of 22 ThyroglossalCysts Managed in KVG Medical College. International Journal of Head and Neck Surgery. 2011;2(1):5-9	No	No	National	Proquest Googlescholar Index copernicus
18	Clinical Rhinology: An International Journal	Four Cases Of Ossifying Fibromas: A Rural Medical College Hospital Experience	1 st Author		National	
19	The Antiseptic	A Case Of Large Concha Bullosa With Fungus Ball Of The Maxillary Sinus	1 st Author		National	
20	Rajiv Gandhi University Health Science Journal Medical Sciences	Percutaneous Tracheostomy: 2 Unique Cases Of Stridor Managed in KVG Medical College Hospital	1 st Author		National	
21	Pakistan Journal Of Otolaryngology	Comparitive Study Of Prolene Wire Stents & Silicon Tube Stents Used In 150 Cases Of Endonasal Dacryoysto-Rhinostomies	1 st Author		International	
22	Pakistan Journal Of Otolaryngology	Locally Invasive nasal Candidiasis: An Unusual Case Reported in KVG Medical College Sullia	1 st Author		International	
23	The Antiseptic	A rare Case Of Ectopic Salivary Tissue Seen In Tonsillar Fossa During Tonsillo-Styloidectomy	1 st Author		National	
24	The Antiseptic	A comparative study Of Endoscopic Endonasal Dacryocystorhinostomy With And Without Prolene Stenting	1 st Author		National	
25	The Antiseptic	7 Unique Case Of Elongated styloid Process In	1 st Author		National	

		Rural Town Of Sullia				
26	Dr. Sudhir M. Naik	Sudhir Naik , Sarika S Naik, S Ravishankara, Mohan K Appaji, MK Goutham, Nonthombam Pinky Devi, Annapurna S Mushannavar. Advantage Of Tonsillectomy Done Under Local Anesthesia Compared to General Anesthesia In Adults. International Journal Of Head And Neck Surgery. 2013; 4 (1):13-18.	No	No	National	Pro Quest J-Gate Google Scholar
27	Dr. Sudhir M. Naik	Sudhir M Naik, S Ravishankara, Mohan K Appaji, MK Goutham, Nonthombam Pinky Devi Annapurna S Mushannavar, Sarika S Naik Acute Accident Formic Acid Poisoning: A Common Problem Reported In Rubber Plantations In Sullia. International Journal Of Head And Neck Surgery. 2012;3(2):101-105	No	No	National	Pro Quest J-Gate Google Scholar
28	Dr. Sudhir M. Naik	Sudhir M Naik , Annapurna S Mushannavar, S Ravishankara, Mohan K Appaji, MK Goutham Nonthombam Pinky Devi, Sarika S Naik. Endonasal Dacryocystorhinostomy Done With and Without Silicon Tube Stents: A Comparative Case Series Analysis Study. International Journal Of Head And Neck Surgery.2012;3(3):147-153	No	No	National	Pro Quest J-Gate Google Scholar
29	Dr. Sudhir M. Naik	Sudhir M Naik , Mohan K Appaji, S Ravishankara, MK Goutham, Nonthombam Pinky Devi Annapurna S Mushannavar, Sarika S Naik Comparative Study Of Intralesional Triamcinolone Acetonide and Hyaluronidase vs Placental Extract In 60 Cases of Oral Submucous Fibrosis. International Journal Of Head And Neck Surgery.2012;3(2):59-65	No	No	National	Pro Quest J-Gate Google Scholar
30	Intrenational Journal Of Cancer Prevention	A Study Of 63 Cases Of Mouth Neoplasms in Arecanut Growing Belt Of Sullia	1 st Author		International	
31	Dr. Sudhir M. Naik	Sudhir M Naik , Sarika S Naik . Acute Dacryocystitis With Abscess: Endonasal Dacryocystorhinostomy The Primary Treatment Of Choice. Clinical Rhinology: An International Journal.2012;5(3):107-113	No	No	National	Pro Quest J-Gate Google Scholar

32	Dr. Sudhir M. Naik	Sudhir M Naik , Ravishankar S , Deekshith R M, Sherry J, Pooja N, Shashikumar T, Shankarnarayan Bhat ,Navya R , Aishwarya K C. Management Of Fungal Sinusitis: A Retrospective Study In Medical College Hospital. Otolaryngology Online Journal.2015;5(3):1-9	No	No	International	Google Scholar Publons
33	Dr. Sudhir M. Naik	Ravishankar B, Sudhir M Naik , Aishwarya K C ,Navya R, Aneesh Sharma, Shankarnarayan. Bhat Complete Branchial Fistulas Managed By Combined Transcervical, Transoral Approach In a Medical College Hospital. Otolaryngology Online Journal. 2015;5(2):1-11	No	No	International	Google Scholar Publons
34	Otolaryngology Online Journal	Acute Formic Acid Poisoning: A case Series Analysis With Current Management Protocols and Review Of Literature	3 rd Author		International	
35	Dr. Sudhir M. Naik	Sudhir M Naik , Ravishankar B Shashikumar T, Deekshith T , Sherry C , Pooja N , Sathya P .Teflon Nasal Splints In Nasal Surgeries: Advantages Over Conventional Nasal Packing. Otolaryngology Online Journal.2014;4(4):1-15	No	No	International	Google Scholar Publons
36		Comparison of Local Infiltration Of Ropivacaine, Bupivacaine, Topical Application Of Sucralfate In The Tonsillar Fossa On Post-Tonsillectomy Pain.			International	
37	Dr. Sudhir M. Naik	Goutham M K ,Ravishankara S, Sudhir M Naik , Sathya P, Mohan Appaji Shankar, Narayanan Bhat Ravi, Karumbiah Rudresh Hirmath . Paediatric Refractory Rhinosinusitis Secondary To Hypertrophied. Adenoids: Management and Review Of Literature. Otolaryngology Online Journal.2014;4(3):1-8	No	No	International	Google Scholar Publons
38	Dr. Sudhir M. Naik	Sudhir M Naik , Gautham MK ,Ravishankara S ,Sathya P ,Mohan Appaji Shankarnarayan Bhat Ravi Karumbiah Rudresh Hiremath. Modified Young's Procedure: A Forgotten Procedure In Rhinology. Otolaryngology Online Journal.2014;4(3):1-8	No	No	International	Google Scholar Publons
39	Indian Journal	Xeroderma pigmentosum: Clinicopathological	3 rd Author		National	

	Surgery Oncology	Review Of The Multiple Oculocutaneous Malignancies and Complications				
40	Otorhinolaryngology Clinics	Seven Unique Cases Of Chondroid Syringomas Reported In KVG Medical College and Hospital	1 st Author		International	
41	International Journal Of Head and Neck Surgery	Sublingual schwannoma: A Rare Clinical entity Reported in A Hypothyroid Female	1 st Author		National	
42	International Journal Of Head and Neck Surgery	A Case Of Plummer-Vinson Syndrome Esophageal Web Dysphagia Treated By Dilatation With Cuffed Endotracheal Tube	1 st Author		National	
43	Dr. Sudhir M. Naik	Sudhir M Naik , Ravishankara S, Mohan Appaji, Goutham MK, N Pinky Devi, Sarika S Naik Inanimate Foreign Bodies in The nasal Cavity : A Challenge in Pediatric Rhinology. Otolaryngology Online Journal.2015;5(3):1-10	No	No	International	Google Scholar Publons
44	Otolaryngology Online Journal	Post-Thyroidectomy Hematoma: A Rare But Potentially Fatal Complication	1 st Author		International	
45	Dr. Sudhir M. Naik	Sudhir M Naik , Ravishankara S, Mohan Appaji, Goutham MK, N Pinky Devi, Sarika S Naik. Congenital Accessory Tongue: A Rare Case Of Non Syndromic Tongue Anomaly. Otolaryngology Online Journal.2015;5(1):1-10	No	No	International	Google Scholar Publons
46	Dr. Sudhir M. Naik	Sudhir M Naik , Mahesh kalloli, Rajshekar Halkud , Purshottam Chavan, Sidappa KT, Sunil KC, Jagdish S Sarvadyna. Post Viral Unilateral Isolated Hypoglossal Nerve Palsy With Cervical Lymphadenitis: A Case Report.Otolaryngology online Journal.2014;4(4):1-9	No	No	International	Google Scholar Publons
47	Dr. Sudhir M. Naik	Sudhir M Naik , Mohan Appaji, Ravishankar S, Goutham MK, Annapurna SM, N Pinky Devi, Sarika S Naik. Anterior Nasal packing In nasal Surgeries and Epistaxis: Advantages Of Nasal Tampon Over Conventional Framycetin ribbon Packs. Otolaryngology Online Journal.2014;4(1):1-18	No	No	International	Google Scholar Publons
48	Dr. Sudhir M.	Sudhir M Naik , Ravishankara S, Mohan Appaji,	No	No	International	Google

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49	Dr. Sudhir M. Naik	Sudhir M Naik , Ravishankara S, Mohan Appaji, Goutham MK, N Pinky Devi, Sarika S Naik. Interval Tonsillectomy: 27 Cases Of Peritonsillar Abscesses Managed In Medical College Hospital. Otolaryngology Online Journal. 2013;3(4):1-13	No	No	International	Google Scholar Publns
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51	Indian Journal Of Plastic Surgery	Anatomic and Mechanical Considerations In Restoring Volume Of The Face With Use Of Hyaluronic Acid Fillers With A Novel Layered Technique	4 th Author		International	
52	Dr. Sudhir M. Naik	Vishal Rao, Sudhir M Naik , MK Goutham, Mohan Appaji, Shankarnarayan Bhat, Rudresh Hiremat Navya Rangnath, Ravi Shankar S B. Asymptomatic Occipital Area Infarction Following Carotid Body Paraganglioma Excision. International Journal of Head and Neck Surgery.2014;5(3):148-151	No	No	National	Google Scholar Index Copernicus j-Gate Pro-Quest
53	World Journal of Endocrine Surgery	Ectopic Thyroid Tissue in The Thyroglossal Cyst Duct: Rare Clinical Entity With Review of Literature	1 st author		National	
54	International Journal Of Phonosurgery and laryngology	Crushed Muscle Tissue Graft: A Efficient Repair Technique For Intraoperative Chylous Fistulas	1 st Author		National	
55	Dr. Sudhir M. Naik	Sudhir M Naik , Akshay Kudpaje, Sumit Gupta, A Nanjundappa, Rajshekar Halkud, V Prashanth, Siddharth Biswas. Acinic Cell Carcinoma of The Minor Salivary Glands Of the Tongue: A case Study With	No	No	National	Google Scholar Index Copernicus j-Gate

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56	Dr. Sudhir M. Naik	Rajashekar Halkud, Ashok M Shenoy, KC Sunil, M Samskruthi, Jagdish sarvadyna, Siddharth Biswas purshottam chavan, KT Siddappa, akshay shivappa, Sudhir M Naik Blocked Voice Prosthesis: A Common Complication Reducing The Prosthesis Longevity. International Journal of Head and Neck Surgery. 2014;5(2):66-71	No	No	Ntaional	Google Scholar Index Copernicus j-Gate Pro-Quest
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58	Indian Journal Of Otolaryngology Head Neck Surgery	Laryngeal paraganglioma: A Rare Clinical Entity Managed By Supraselective Embolization and Lateral Pharygotomy	1 st Author		National	
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60	Otolaryngology Online Journal	Non Recurrent Laryngeal Nerve with right Aberrant Subclavian artery In Recurrent Case Of Papillary Carcinoma Of Thyroid : An Interesting Clinical Entity	1 st Author		International	
61	Otolaryngology Online Journal	Human Otocariasis: a Common Outbreak In Rubber Growing Belt Of Karnataka	1 st Author		International	
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63	Clinical Rhinology An International Journal	Sinonasal Teratocarcinosarcoma: A Rare Clinical Entity Managed by Medial Maxillectomy and Adjuvant Chemoradiation	1 st Author		International	
64	International Journal of Head and Neck Surgery	Malignant Myoepithelial Carcinoma Expleomorphic Adenoma of the Hard Palate: An Aggressive Tumor with Diagnostic Dilemma	Corresponding		National	
65	Journal of Postgraduate medicine Educationa and Research	Carcinoma Expleomorphic Adenoma of the Submandibular Gland	1 st Author		International	

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67	International Journal Of Head and neck Surgery	Advanced case of Invasive Basal Cell Carcinoma with Extensive Ocular Myiasis	1 st Author		National	
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70	World Journal of Endocrine Surgery	Restrospective Right Subclavian Artery with Nonrecurrent Laryngeal Nerve: Unique Variation of Surgical Importance	7 th Author		National	
71	International Journal of Phonosurgery and Laryngology	Supraglottic Laryngeal Paraganglioma: A Rare Clinical Entity Managed by Lateral Pharyngotomy Approach	1 st Author		National	
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73	International Journal of Phonosurgery and Laryngology	Untreated Cleft Palate a Unique Surgical Contraindication in Carcinoma of the Pyriform Fossa	1 st Author		National	
74	International Journal of Phonosurgery and Laryngology	Pediatric Laryngeal Malignancies: Current Management Protocols and Review of Literature	1 st Author		National	
75	International Journal of Head and Neck Surgery	Importance of Preserving Parathyroids in Surgery for Hemiagenesis of Thyroid: Analysis with Review of Literature	1 st Author		National	
76	RGUHS Journal Med Sciences	A review of Complications in 577 cases of Endoscopic Endonasal Surgeries done in KVG Medical College	1 st Author		National	

76	RGUHS Journal Med Sciences	Comparative study of tonsillectomy done under local and general anaesthesia in KVG Medical college, Sullia	1 st Author		National	
77	RGUHS Journal Med Sciences	Giant Rhinolith: A rare clinical entity of the Nasal Cavity	1 st Author		National	

Dr.Smitha Chandra, Associate Professor
Department of ENT

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr.Smitha Chandra	Smitha Chandra B. C , Kiran B, Stanly John, Chethan Kumar. Comparison of Partial of the inferior turbinectomy and submucosal diathermy for hypertrophied inferior turbinate in allergic rhinitis patientes. Journal of Evolution of Medical and Dental Science.2015;4(54):9457-9467	No	No	National	Google Scholar J-Gate Index Copernicus
2	Dr.Smitha Chandra	Smithachandra , George Sebastian. Duration of mobile phone usage and its measurable audiological effect. Medplus International Journal of ENT. 2018;5(1):04-10	No	No	International	Crossref Worldcat Index Copernicus
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Dr.Kshirasagar Ajay., Professor
Department of Ophthalmology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
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4	Dr.Kshirasagar Ajay	Ajay K, Poka Avinash and Narayan M. Impact of Accreditation on Documentation and Staff Perception In The Ophthalmology Department of an Indian Medical College. Indian Journal Of Ophthalmology. 2020;20(20)1-11	No	Yes	National	Google Scholar Hinari Infotrieve Scopus

Dr.P. Saraswathi Devi, Professor and HOD
Department of Anaesthesiology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr.P. Saraswathi Devi	Rachel C. Koshy, Deborah Rhodes, Saraswathi Devi , S. A. Grossman.Cancer Pain Management In Developing Countries: A Mosaic of Complex Issues Resulting in Inadequate Analgesia. Supportive Care In Cancer. 1998;6(5):430-437			National	
2	Dr.P. Saraswathi Devi	A.Thirumoorthy,. P. Saraswati Devi ,.K.Thennarusu. Social Support Among the Caregivers of Persons Living with Cancer. International Journal of Humanities and Social Science Invention. 2016;5(1) :45-52	No	No	International	Google Scholar Proquest J Gate
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Dr.Narasimha Reddy B, Professor
Department of Anaesthesiology

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
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3	Dr.Narasimha Reddy B	Narasimha Reddy B , Shyamala, R Shivaraman. Intraoperative Midazolam Induced Myoclonus- A Case Report. International Journal of Contemporary Surgery.2014;2(1):15-17	No	No	National	Index Copernicus
4	Dr.Narasimha Reddy B	Intra Operative Difficulty in Ventilation: A Case Report. Research and Reviews: Journal of Medical and Health Sciences. 2014;3(2):	No	No	National	Google Scholar J gate plus Index Copernicus
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Dr. Narayanswamy, Associate Professor
Department of Anesthesiology.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
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Dr. S Naveen, Associate. Professor
Department of Anesthesiology.

Sl. No.	Faculty Name	Publication in Vancouver Referencing style	Pubmed Indexed Yes / No	Scopus Indexed Yes / No	International / National	Remarks
1	Dr. S Naveen	Singh Rajesh Kumar, Sharma Pradeep Brijkishor, Naveen S , Agrawal H.S. Evaluation of Adductor Canal Block for Post Op Analgesia After Arthroscopic ACL Reconstruction Under Spinal Anaesthesia. European Journal of Biomedical and Pharmaceutical Sciences.2018;5(1):557-562	No	No	International	Google Scholar Index Copernicus CiteFactor
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Dr. Apoorva Gupta, Associate Professor
Department of Anesthesiology

Sl. No.	Faculty Name	Publication in Vancouver Referencing	Pubmed Index Yes /No	Scopes Index	International / National	Remarks
1	Dr. Apoorva Gupta	Alka Chhabra, Apoorva Gupta , Shashank Gupta, Kunal Chauhan, Sunanda Gupta. I- Gel for Day Care Diagnostic Laparoscopic Gynecological Surgery: A Comparison of Two Regimes of IV Propofol with Dexmedetomidine or Butorphanol. J. of Obstetric Anaesthesia and Critical Care. 2019 Jan; 9(1): 18-23	No	No	National	DOAJ, Emerging Sources Citation Index, Indian Science Abstracts, IndMed, Web of Science
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Dr. Suresh P., Professor
Department of Radio-Diagnosis

Sl. No.	Faculty Name	Publication in Vancouver Referencing	Pubmed Index Yes /No	Scopes Index	International / National	Remarks
1	Dr. Suresh P	Suresh P. A Study Of Imaging Signs Of Thoracic Lesions and Comparison Of Imaging Diagnosis By Computed Tomography (CT) With Final Diagnosis Based On Histopathology /Cytology. Journal of Evidence Based Medicine and Healthcare. 2017 June 15; 4(48): 2925 - 2930	No	No	National	Indexed in DOAJ Index Copernicus (ICV 2015 – 78.84) Google Scholar
2	Dr. Suresh P	Suresh P. A Study of Yield Of CT-Guided Interventions (Core Needle Biopsy and Fine Needle Aspiration Cytology) In Thoracic Lesions and The Complications Faced During The Interventions. Journal Evidence Based Medicine and Healthcare. 2017 Jul 15; 4(49): 3002 - 3007	No	No	National	Indexed in DOAJ Index Copernicus (ICV 2015 – 78.84) Google Scholar
3	Dr. Suresh P	Suresh P. A Study To Diagnose Ligament Injuries of Talo-Crural Joint By Plain X-Rays. International Journal of Science and Research.2017 Aug; 6 (8): 1535 - 1537	No	No	International	Mendeley Index Scite_Index Science Gate Index, CrossRef Index
4	Dr. Suresh P	Suresh P. A Study of hemodynamics and complications when radiographic contrast media are used. International Journal of Radiology and Diagnostic Imaging. 2020 Jan; 3 (1): 207-209	No	No	International	1. Google Scholar 2. Crossref 3. Scilit 4. Index Copernicus 5. J Access
5	Dr. Suresh P	Suresh P. Role of Ultrasonography in acute abdominal conditions. International Journal of Radiology. 2020 ;13(2): 75-79	No	No	International	

Dr.Purushothama Raju N.
Department of Radiodiagnosis

Sl. No.	Faculty Name	Publication in Vancouver Referencing	Pubmed Indexed Yes / No	Scopes Indexed	National / International	Remarks
1	Dr.Purushothama Raju N.	Yash Kumar Achantani, Purushothama Raju.N , Ramesh Kumar R. Variants of Coeliac Trunk, Hepatic Artery and Renal Arteries in Puducherry Population. International Journal of Anatomy Radiology and Surgery. 2018 Jan1; 7(1): 38-43	No	No	National	Index Copernicus (ICV 2019: 97.24) DOAJ- Directory of Open Access Journals Google Scholar
2	Dr.Purushothama Raju N.	Purushothama Raju N , Sharana Basappa. A Comparative Study of Conventional and Magnetic Resonance Hysterosalpingography in Assessing Tubal Patency At A Tertiary Care Center. Medpulse International Journal of Radiology. 2019 Dec; 12(3):104 -107	No	No	National	Indexing Portico (Digital Preservation) Crossref(DOI) WorldCat Dimensions Index Copernicus Scilit

Third Branchial Arch Fistula-a case study

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Abstract : Congenital fistulas of the neck are branchial in origin and of these second arch fistulas is by far the most common, 3rd and 4th arch fistula being very rare. Here a case of fistula studied in co-ordination with plastic surgery department, a patient aged about 18 years, normal male. The patient was having mucous discharge in the neck since birth. On examination revealed a 3mm diameter opening seen 1 inch distal to the center of Sterno-cleidomastoid muscle along the anterior border on the right side. To confirm as branchial fistula Fistulo-gram was done, which revealed a communication with the oral cavity. Thus surgery was undertaken and fistulous tract was excised.

Key Words: Third branchial arch fistula, Branchial fistula, Congenital anomalies.

Introduction

We know the branchial arches developing in the neck having pouch and cleft. The fate of this ends up in formation of smooth neck. Any errors during this process of development may form branchial cysts, sinus or fistula. We have taken up a study on fistula to see the course of the fistula in the neck which is variable in relation to carotid arteries, depending upon from which pouch it is derived.

Hence it is a critical point for surgeons during surgical procedures because it is in relation to vagus nerve & carotid vessels.

Materials & methods

On routine clinical examination at OPD an 18-year male patient came with history of

Anatomica Karnataka

mucous discharge in the neck since birth. It increased on taking food.

On examination revealed a 3mm opening seen 1 inch distal to the center of anterior border of Sterno-cleidomastoid on right side. There was mucous discharge through the opening. On palpation it was not associated with pain or swelling.



Identification of Recurrent Laryngeal Nerve from Inferior Thyroid Artery during Surgical approach to the Thyroid Gland

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Abstract: A study in the variation in the relation between recurrent laryngeal nerve & inferior thyroid artery were made in 100 specimens of cadavers by dissection (both left & right sides). On the right, the nerve was found more commonly intermingled with branches of inferior thyroid artery & it was found to be more anterior to the Tracheo-Oesophageal groove, which is by far the most important factor responsible for endangering the nerve during thyroid surgery. While on the left, the nerve was found to be posterior to the artery & its usual position of the nerve was in the Tracheo-Oesophageal groove.

Key words: Recurrent laryngeal nerve, inferior thyroid artery, paralysis of the vocal cords.

Introduction

Paralysis of the vocal cords must be regarded as one of the dreadful complications of surgery of the Thyroid gland. Injuries to one or both of the recurrent laryngeal nerves may result, in a high percentage of cases, due to inadequate exposure or homeostasis is ignored or the surgeon confuses competent surgery with fast surgery.

Although many Anatomists have investigated the relationship between the recurrent laryngeal nerve & inferior thyroid artery, the subject still remains a fascinating one, due to the persistence of the variations in the relation between the above structures.

An attempt has been made to study the variation & record the incidence in them, as it occurs in this part of the state. Thus the

Hydrocephalus - A case study

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ABSTRACT :

A 25 year female came with a history of 7 months amenorrhea and she was diagnosed as a primigravida with 28 weeks of gestation. On ultra-sound examination she was diagnosed to have a Hydrocephalic fetus with severe polyhydramnios. There was no history of consanguineous marriage.

Labour was induced with cerviprime gel and 5 litres of amniotic fluid was drained. After craniotomy a female fetus of 1.25 kgs was delivered.

Hydrocephalus is one of the most frequently seen problems in pediatric neurological practice. It is also known as "water on the brain". The rest will be discussed during scientific session.

Key words: Hydrocephalus

INTRODUCTION

It is one of the most frequently seen problems in pediatric neurosurgical practice. It is also known as "water on the brain." Hydrocephalus is excessive accumulation of cerebrospinal fluid within the cranium which can lead to injury or even death if not treated.

The CSF is produced by the choroid plexus continuously within the

ventricles, approximately 0.5 ml per minute. This fluid circulates through the ventricles and around the brain and spinal cord. It is reabsorbed over the surface of the brain into the large veins.

Average volume of CSF is 125 ml. Normal CSF pressure in infants is 40-50 mm of water, in children 40-100 mm of water and older age is 150 mm of water (15 mm of mercury).

Patterns of relationship between recurrent laryngeal nerve and inferior thyroid artery.

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ABSTRACT

In a study involving 100 specimens in cadavers by dissection (both left & right sides), the variations in the relation of Recurrent Laryngeal Nerve to inferior thyroid artery were studied. Six patterns were noticed. This spectrum of variation calls for serious thought for the surgeons during surgical procedures involving the thyroid gland.

Key words: Recurrent laryngeal nerve, inferior thyroid artery

Introduction :

In spite of importance of the anatomical relationship of the Recurrent Laryngeal Nerve to inferior thyroid artery, in the surgery of thyroid gland, only papers containing a sizable collection of the data in the pattern of relationship between Recurrent Laryngeal Nerve & inferior thyroid artery has been located. Most text books & literatures state merely that the Recurrent Laryngeal Nerve may pass either superficial, deep or between the branches of inferior thyroid artery.

It is the purpose of this paper to present the observations made during the dissection of 100 recurrent laryngeal nerves (50 cadavers) on both right & left sides.

Material & methods :

50 neck specimens which consisted of larynx, pharynx, esophagus, trachea with the left & right recurrent laryngeal nerves, inferior thyroid artery, thyro-cervical trunk & subclavian artery were collected from the cadavers during dissection and from post mortem.

The relationship between the nerve & artery were traced & observed for their variation & relations.

After fixing and drying the specimens, the artery was painted red for main trunk, green for superior division & its glandular branches and White for inferior division & its glandular branches. The nerve was painted yellow in color.

ANENCEPHALY - A CASE STUDY

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Dr. Vijayalakshmi N. Asst. Prof. of OBG.

Dr. Dhananjaya B.S., Asso. Prof. of OBG.

Dr. A.T. Krishna, Prof of Radiodiagnosis.

Sri Siddhārtha Medical College, Agalakote, B.H. Road, Tumkur, Karnataka

ABSTRACT

A 25 year old female came with a history of 5 months amenorrhea and she was diagnosed as a multigravida with 20 weeks of gestation. On ultra sound examination she was diagnosed to have an anencephalic fetus with spinal defect and gross kyphosis.

She is presently gravid two, para zero and abortion one. Para one was aborted spontaneously. There was a history of consanguineous marriage. She was also a known epileptic, who is on treatment since 7 years. Her brother was also an epileptic.

Labour was induced under all aseptic precautions, using microprostal (prostaglandin). All the products of conception which included a female fetus weighing about 500gms, along with placenta and membranes were expelled in toto.

Anencephaly is a rare problem encountered in neurological practice. It is a neural tube defect that occurs when the cephalic end of the neural tube fails to close between the 23rd to 26th day of pregnancy resulting in the absence of a major portion of the brain, skull & scalp.

KEY WORDS

-Anencephaly, spinal defect or spina bifida.

INTRODUCTION

Anencephaly (Acephaly, Acrania, Iniencephaly) is one of the most severe forms of a neural tube defect. The word anencephaly means "without an encephalon", the encephalon being the set of nervous center contained in the brain.

Anencephaly is a defect in the closure of the neural tube during fetal development. It occurs when the cephalic or head end of the neural tube fails to close resulting in the absence of a major portion of the brain, vault of the cranium, meninges and scalp. The infant is nevertheless usually born with part of its cerebral trunk or brainstem.

Almost 75% of babies with anencephaly born at term survive their birth. The life expectancy of those who survive is only a few hours or days. Infants with this disorder cannot live for long because the brain is open and infection sets in rapidly. The anencephalic brain is also disorganized on a cellular level.

Approximately 20% of affected infants have additional congenital anomalies. There are many false diagnoses for anencephaly, as it is not a common diagnosis. It is often confused with exencephaly or microcephaly.

BICIPITAL PLANTARIS MUSCLE

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* Sri Siddhartha Medical College, Tumkur

ABSTRACT

Muscular variations are frequently encountered during dissection, plantaris muscle with two heads arising from lateral condyle of femur represents an atavistic type of variation. Clinically it plays a key role in tendon transplants, repair of ligaments & excellent graft, tendon replacement in hand & atrio-ventricular valve repair. Its variation are involved in rotational knee ligament injuries & Patellofemoral pain syndrome.

KEY WORDS

Muscular Variations, bicipital plantaris, patello-femoral syndrome.

INTRODUCTION

Muscular Variations are grouped into three categories, a) Progressive - represented by tendency of some muscles to become increasingly complex. b) Retrogressive - related to degenerative changes with loss of function & c) Atavistic - muscular elements lost due to evolution make an abrupt appearance. (W E Le Gross Clark 1980).

Plantaris muscle is of interest both from anatomical, phylogenetic & surgical importance (Edward H Daseler 1943). Topographical

anatomy in relation to surgery for its superficial position & resemblance to nerve should be kept in mind (Rana K 2006)

MATERIAL & METHOD

During the routine dissection of cadavers allotted for 1 MBBS students of Dr. B.R. Ambedkar Medical College for dissection, plantaris muscle taking origin from lateral condyle of femur was seen in an adult male cadaver on the left side.

OBSERVATION

The plantaris muscle arises from lateral condyle of femur forms two tendinous slips inclosing tibial nerve. Superficial slip becomes continuous with lateral head of Gastrocnemus muscle & deep belly form a thin separate long tendon & inserted to calcaneum.

DISCUSSION

Plantaris muscle - which is feeble flexor of knee & plantar flexor of ankle joint. In digitigrade animals, plantaris passes into plantar aponeurosis, (G J Romanes 1981). With the acquisition of erect posture in man muscle became vestige & is represented by secondary attachment to calcaneus (Cruveihier 1834).

Holoprosencephaly

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ABSTRACT

Holoprosencephaly is a rare form congenital anomaly was observed in our labor ward. Holoprosencephaly also called as Cyclops is characterized by the failure of the embryonic prosencephalon to properly divide the orbits of eye into two cavities. Typically the nose is either missing or replaced with a non-functioning nose in the form of a proboscis. Such a proboscis generally appears above the central eye and is characteristic of a cyclopes called rhinencephaly or rhinocephaly.

KEYWORDS

Holoprosencephaly, Cyclopes, Congenital abnormality, Synophthalmia proboscis, Rhinencephaly, Rhinocephaly.

INTRODUCTION

Holoprosencephaly or Cyclops is a rare heterogenous group of cranial malformations resulting from failure or incomplete cleavage of the embryonic forebrain or prosencephalon between the sixth and eight menstrual weeks (1). The more complete the failure to divide, the worst the resulting of anomalies of brain, skull and face.

Cyclops characterized by the failure of the embryonic prosencephalon to properly divide

the orbits of eye into two cavities. Typically the nose is either missing or replaced with a non-functioning nose in the form of a proboscis. Such a proboscis generally appears above the central eye. It occurs in 1:16,000 live births (2).

CASE REPORT

A 30 year old gravida 3 para 2 living 2 with 36 weeks of gestation came to our labour room with breech presentation with polyhydramnios. Labor was induced and she delivered a still born female bay by weighing 2.5 kgs with hydrocephalus, one eye and the nose projecting above the eye.



(Photograph 1 - Showing baby with hydrocephalus, one eye (cyclop) and proboscis).

Neural Tube Defects

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ABSTRACT

This study was carried out to identify the number of neural tube defects (NTD) at Sri Siddhartha Hospital, Tumkur, Karnataka from 2004 to 2009. Out of 4125 deliveries a total of 13 babies were born with neural tube defects, with overall frequency of 3.15/1000 births.

The most common defect was Anencephaly 30.7%, Spina-bifida 23.7%, Hydrocephalus 23.7%, Sacrococcygeal teratoma 15.38% & Meningocele was 7.69%. The number of neural tube defects was observed more in male babies when compared with female babies.

Neural tube defects were more predominant in low birth weight, still born & in un-booked mothers. NTD was significantly higher among babies born to parents of consanguineous marriage. Associated congenital defects were observed in 3 cases. This study was compared with other workers.

KEYWORDS

Neural tube defects, Anencephaly, Hydrocephalus, Spin bifida, Meningocele, Sacrococcygeal teratoma.

INTRODUCTION

Neural tube defects are most common of the central nervous system malformations. The burden of disease is very high in low socio-economic countries like India. The incidence of NTD's is 0.5 – 11/1000 births in different parts of India^{1,2}. Previous studies reported.

Higher incidence from Northern part of India 3.9 – 10 /1000^{3,4}, compared to other parts 0.5-

2.64/1000 with an exception from Davengere Karnataka; and 5.7/1000 in Pondicherry⁵. The present study was aimed to study the frequency of NTD's in Tumkur, Karnataka.

Study Materials

This study included all births from April 2004 to March 2009. All babies with NTD were enrolled for evaluation during this period. The information collected were age of mother, parity, antenatal care, family history, paternal consanguinity, drug ingestion and infection during antenatal period.

Other details included were mode of deliveries, birth weight, sex and gestational age of the babies.

The type of neural tube defect, and associated malformations were looked for. Further a comparison was made regarding the trend of NTD during current period with previous data from other workers.

Results

There were 4125 births during the study period. A total of 13 babies were born with NTD's with a frequency of 3.15/1000 births. The male: female ratio was 1.16: 1.

Among the total cases 11 (84.6%) were still born. Prematurity was noted among 11 babies with NTD's.

84.6% were low birth weight babies. Of the preterm babies 1 was very low birth weight (<1.5 Kgs).

In the present study the Anencephaly was most common type of NTD of 30.7%. This was followed by Spina bifida & Hydrocephalus 23.7% each. Sacrococcygeal teratoma

Ellis-van Creveld Syndrome

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ABSTRACT

A young boy aged 6 years was brought to OPD with history of growth retardation. On examination he measured 3 feet in height, with single palmar crease, bilateral polydactyly of hand, with no nails, lumbar lordosis, undescended testis on left side, normal intelligence. On investigation his CVS normal. Normal karyotype (46, XY). He was diagnosed as Ellis-van Creveld syndrome. This is a rare inherited disorder which effects bone growth that results in very short stature.

KEY WORDS Ellis-van Creveld syndrome, Chondroectodermal dysplasia; EVC syndrome, rare inherited disorder affecting bone growth.

INTRODUCTION

Ellis-van Creveld syndrome is a rare genetic disorder that affects bone growth. Also called as EVC syndrome or Chondroectodermal dysplasia.¹

Ellis-van Creveld is passed down through families (inherited). It is caused by defects in one of two Ellis van Creveld syndrome genes (EVC and EVC2) that are next to each other.²

The severity of the disease varies from person to person. It is fairly rare in the general population. In 1940, Ellis and van Creveld (Ellis and van Creveld, 1940) formally described the syndrome that would bear their names, although they termed it chondroectodermal dysplasia.³

CASE REPORT

A young boy aged 6 years was brought to OPD with history of growth retardation. On examination: - triangular face, short stature & normal intelligence. Vision & hearing were normal.

Height 93 cms.

Upper segment- 54 cms.

Lower segment- 39 cms.

Arm span- 83 cms.

Weight- 13.5 kgs.

Head circumference- 46 cms (1 year- 45 cms, 2 year-

48 cms). Low set ears.

Mouth- Medial cleft of upper lip. Tented upper lip with lip cushions on both sides of upper lip. Multiple frenulae noticed.

Dental anomalies- Upper jaw: - broad central incisors.

Lower jaw: - lower central incisors missing.

Hands - Hypo plastic nails. Post axial polydactyly seen in both hands. Contractures of the terminal phalanges (Thumb, index finger & extra finger do not bend). Absence of transverse creases of fingers. Single palmar crease both hands.

Trunk - Small scapulae, small nipples, Spinal dimple seen. Lumbar lordosis, Bilateral Undescended testis.

Lower Limb - Lower limbs unequal in size. Bilateral Flat foot, with overlapping 4th & 5th toes. Hypoplastic nails present. Broad knees with genu valgum. Broad medial malleolus.

X-ray findings -

Upper Limb - Polydactyly + ve bilaterally. Fusion of distal row of carpal bones seen (capitate & hamate).

Lower limb - Bilateral coxa vara +ve. Sessile sternochondroma in right tibia.

Ultra sound - Bilateral testis are normal in size and located in inguinal region. Impression - undescended testis. No other anomalies present.

CT scan of skull: - normal.

CVS - Normal 2 D- ECHO and Colour Doppler study.

Normal valves and chambers seen. Normal Left Ventricular function seen. No obvious shunt lesion.

Chromosomal analysis: Normal male karyotype- 46, XY.

Parents - 2^o Consanguinity (father married sister's daughter).

Other sibling - is a daughter who is normal.

Gene study report awaited.

Impression - Ellis-van creveld syndrome.

DISCUSSION

The upper & lower segment ratio (U/L) - Short limbed dwarf - abnormally high U/L ratio & arm span that is

Variation in Course and Branching Pattern of Brachial Artery

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ABSTRACT

BACKGROUND : The brachial artery is the main artery that supplies the superior extremity. It begins as the continuation of third part of axillary artery at the distal border of teres major muscle and terminates in the cubital fossa at the level of neck of radius into ulnar and radial arteries. The variation in course and branching pattern have been observed and studied by many authors. The knowledge of the variation in course and branching patterns of arteries of upper limb is important for clinicians.

AIM : With this background present study was undertaken to know the variation in course and branching pattern of brachial artery.

METHOD : The present study was conducted on 60 upper limb specimens belonging to the Department of Anatomy of Sree Siddhartha Medical College and hospital, Tumkur by dissection method.

RESULTS : 20 out of 60 specimens showed 8 varieties of variation. The most common variation being high origin of radial artery, other variations observed were high division of brachial artery, trifurcation, high origin of radial artery and superficial brachial artery.

CONCLUSION : The brachial artery shows 8 types variation in the present study such as trifurcation of brachial artery, high brachial artery & high origin of radial arteries. The variation can be explained in the light of embryological development. In addition, knowledge of such variation is important for carrying out surgical procedure in upper extremity.

KEY WORDS Brachial artery, radial artery, ulnar artery, high origin of radial artery, superficial brachial artery.

INTRODUCTION

The brachial artery is continuation of axillary artery begins at the distal border of tendon of teres major and ends about a centimeter distal to elbow joint, at the level of neck of the

radius by dividing into radial and ulnar arteries. At first it lies medial to the humerus, but gradually spirals anterior to it until it lies midway between humeral epicondyles. The artery runs superficial in its course in the arm and it is related to important nerves; median nerve, ulnar nerve and radial nerve. Brachial artery gives Profunda brachii artery, superior ulnar collateral, inferior ulnar collateral arteries and two terminal branches i.e. radial & ulnar arteries.¹ It is very common to find variations in branching pattern of brachial artery.

Arey (1957) is of the view that the anomalous blood vessels may be due to (i) the choice of unusual paths in the primitive vascular plexuses, (ii) the persistence of vessels normally obliterated, (iii) the disappearance of vessels normally retained (iv) incomplete development and (v) fusions and absorption of the parts usually distinct.²

The knowledge of these multiple variations is of immense significance for clinical diagnosis and surgical management of diseases of superior extremities. The superficial course of these variations is often mistaken for superficial veins thereby injecting certain drugs in these arteries which may result in disastrous condition like gangrene or loss of hand.³

It is important for surgeons and nephrologists to be aware of these arterial variations because using these anomalous arteries to establish arterio-venous access can be considered viable alternative route in some instances.⁴

MATERIALS AND METHODS

The present study was conducted on 60 upper limb specimens belonging to the department of Anatomy of Sree Siddhartha Medical College and hospital, Tumkur. Brachial artery was carefully dissected and branching pattern was studied under following headings.

A. Origin

B. Termination

MEDICO-LEGAL UPDATE

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Medico legal update is a quarterly peer reviewed journal. The journal has been assigned E-ISSN 0974-1283 (Electronic). The first issue of the journal was published in 1996.

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Editor

Australia

Australia

Published, Printed and Onwed by

Dr. R. K. Sharma

First Floor, Punjab National Bank

Main Dadri Road, Bhangel, Noida - 201 304, Uttar Pradesh

Printed at

Thomson Press (India)

B-315, Okhla Industrial Area Phase-I, New Delhi

Published at

First Floor, Punjab National Bank

Main Dadri Road, Bhangel, Noida - 201 304, Uttar Pradesh

Estimation of Length of Femur Based on the Measurements of its Distal Fragments

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ABSTRACT

The skeletal remains presented to forensic anthropologists are often fragmentary. The objective of this study is to assess the feasibility of estimation of the length of femur from the measurements of its distal fragments. Then the stature could be estimated either by using multiplication factors or with the application of regression equations.¹ A sample of 100 femora (50 male and 50 female) were obtained from Anatomy Department. Regression equations for the estimation of maximum femoral length have been calculated. The applicability of these equations to a forensic sample is addressed.

Key words: Human Identification, Distal Femoral Fragments, Femur Length Estimation.

INTRODUCTION

Bones, especially the long ones, played an important role right from the onset of medical revolution, in understanding the physiological, racial and ethnographic affinities besides providing the major forensic experts with the anatomical and compositional agenda.¹ The growing field of Anthropology is set for proper analysis of skeletal remains in determination of species, race, sex, age and stature of the individual as a part of identification which is the determination of an individuality of a person based on certain physical characteristics.²

Stature estimation is an important aspect in identification of an individual from available skeletal remains especially in medico legal conditions like deliberate mutilation of the dead bodies, mass disasters e.g., earthquakes, terrorist bomb attacks, aeroplane accidents etc. Many a times, the exhumed remains are in fragmentary state. Bones recovered in forensic situations may be mutilated by nature, sometimes even by animals. Thus, forensic investigators have an uphill task to analyse whatever

remains are found and draw inferences of medico legal importance.³

Among all individual long bones, femur is the strongest and longest bone.⁴ It is one of the most frequently recovered bones in forensic situations being a large, durable bone protected by large amount of soft tissue.⁵ It has been extensively studied and will provide best results due to its highest correlation with stature.⁶ It has been said that in calculating stature lower limb long bones give a closer estimate than those of upper limb.¹

In our study, anthropometric assessment of various fragments of distal end of femur is undertaken. An attempt is made to relate these measurements of the distal segments to its full length. After estimating the total length of long bone, suitable statural formulae can be applied to get a reasonably accurate stature. This can contribute in a substantial way to identify the deceased.

MATERIAL AND METHODS

The present study was done in Anatomy department of Sri Siddhartha Medical College, Tumkur, Karnataka. A total of 100 adult totally ossified dry femora were included in the study. These femora before sexing them were considered as 'unknown-sex'. Later the femora were grouped into male and female.

By using Osteometric board and Vernier callipers, following measurements were taken.

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ABSTRACT

Sirenomelia is a rare form congenital anomaly which was observed in our labour ward. This anomaly is associated with abnormal development of caudal region of the body with different degrees of fusion of the lower extremities and bears resemblance to "Mermaid" of Greek mythology. An early diagnosis with antenatal ultrasound helps to plan treatment.

KEY WORDS Mermaid, Monopodia, Sirenomelia, Symmelia, Symposia, Sympus and Uromelia.

INTRODUCTION

Sirenomelia is a rare lethal foetal anomaly. There is abnormal development of caudal region [KB Taori¹] of the body with different degrees of fusion of the lower extremities and bears resemblance to mermaid of Greek mythology. This deformity is also known as Symmelia, Symposia, Sympus, Uromelia and Monopodia. This can be accurately diagnosed in the late first trimester or early second trimester by ultra-sound examination.

Prevalence: It has a prevalence of 2-3 cases per lakh births. Female ratio is 3:1.

REPORT

A 27 year old primi-gravida delivered a 1.5 kgs dead foetus normally. There was history of first degree consanguineous marriage. No history of taking any medication or infection in the period of pregnancy. She was not a booked case.

Physical examination: showed indeterminate sex, complete absence of external genitalia and anal orifice. There was a completely fused non rotated lower limbs with

Internal findings: Normal liver. Agenesis of kidney / genitalia & Gastro intestinal tract abnormality. Imperforate anus.

Pathological findings:

Upper limb bones appear normal. Kypho-scoliosis

Kypho-scoliosis of thoraco-lumbar region present. Normal 12 pairs of ribs present.

Clavicle present on right side. The clavicle on left side is either missing or overlapped by mandible.

Pelvis: Agenesis of pubic bones. Ilium is grossly abnormal. There is absence of sacrum & lower lumbar vertebrae. Upper lumbar 1 & 2 abnormally shaped.

There is distal agenesis & shortening of lower limbs & fusion of soft tissue producing single limb appearance with caudal regression of sacral, lower lumbar and pubic bones.

One single femur proximally, distal three long bones, i.e. Two tibia & one fibula. Distally the foot shows two metatarsal & a distal phalange (great toe). Presence of solitary tarsal bone (talus / calcaneus). Proximally there is fusion of soft tissue. Distally there is a separation of great toe.

Radiological maturity: 26-28 weeks.

Due to cultural constraints the autopsy could not be done.

DISCUSSION

Sirenomelia has been classified [KB Taori¹] into three types:

- a) Simpus Apus: No feet, one tibia, one femur.
- b) Simpus Unipus: One foot, two femur, two tibia, two fibula.
- c) Simpus Dipus: Two feet and two fused legs (flipper like) this is called a mermaid.

The precise etiology of Sirenomelia is not well understood. Many theories have been proposed but none of these is considered conclusive.

The first case of Sirenomelia was reported in 1542. Duhamel² coined the term caudal regression syndrome in 1961 to describe the association of Sirenomelia with anorectal, genitourinary and vertebral anomalies. Later a distinction was made between Sirenomelia sequence and caudal regression syndrome in the belief that the



International Journal of Medical Research & Health Sciences

www.ijmrhs.com

Volume 3 Issue 2 (April - Jun)

Codon: IJMRS

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ISSN: 2319-5886

Received: 29th Jan 2014Revised: 28th Feb 2014Accepted: 12th Mar 2014

Case report

GASTROSCHISIS: RECENT TRENDS, EMBRYOLOGY, MATERNAL AND INFANT RISK FACTORS

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ABSTRACT

The term gastroschisis is derived from the Greek word *laproschisis*, meaning "bellycleft." It was used in the 19th and early 20th centuries by teratologists to designate all abdominal wall defects. Gastroschisis occurs in approximately 1 in 2,300 live births, and mortality for gastroschisis may approach 10 percent. Several maternal risk factors suspected to be associated with gastroschisis have been investigated, and there is a consistent association with young maternal age. The association of low birth weight also could be attributed to the fact that data demonstrate that the birth weights of babies with gastroschisis are significantly lower than those of the general population and are similar in different populations. Recently, Stevenson et al. proposed that gastroschisis is caused by the failure of the sac and yolk duct, as well as of the vitelline vessels, to initially incorporate to the allantois and later to the body stem. The specific role of the genetic component in the etiology of gastroschisis is unclear. Although there are reports of familial cases, gastroschisis occurs mostly as a sporadic event. It was observed that 4.7% of cases have at least one affected relative and the risk of recurrence is 3.5% among siblings. Definitive treatment is surgical. The timing and technique for surgical closure depends on the degree of intestinal inflammation, size of the defect and the newborn's general condition. In general, the prognosis is good with a survival $\geq 90\%$, but in developing countries the risk of death may be as high as 60%.

Keywords: Gastroschisis, Yolk duct, Vitelline vessels

INTRODUCTION

The term gastroschisis is derived from the Greek word *laproschisis*, meaning "bellycleft." It was used in the 19th and early 20th centuries by teratologists to designate all abdominal wall defects. The prevalence rate was 2.78 per 10,000 live births, and increased to 3.54 per 10,000 live births in 2011. Rates of gastroschisis are particularly high among younger mothers, including teen moms.

Gastroschisis is a congenital defect of the abdominal wall in which the baby's intestines, and sometimes other abdominal organs, protrude from the belly through a small hole. Gastroschisis occurs in approximately 1 in 2,300 live births¹, and mortality for gastroschisis may approach 10 percent. Rates of gastroschisis have been increasing in many developed and developing countries with no tenable explanation or specific known causes for this trend. In 1994, the In most cases gastroschisis is an isolated birth defect; however, it also can be associated with other defects, particularly those with possible vascular mechanisms of origin. Reported overall incidence of concurrent anomalies is 7 to 30 percent, which may include anencephaly, cleft lip and palate, ectopia cordis, atrial septal defect, diaphragmatic hernia, scoliosis, syndactyly and amniotic band syndrome. Although

A Study of Psychological Profiles of Rural and Urban Children with Mild Mental Retardation

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ABSTRACT

Objectives: To assess and compare psychological profiles in rural and urban children with mild mental retardation. 60 children in the age group of 10-12 years (30 rural and 30 urban) were included in this study. Intelligence, social maturity and personality dimensions were assessed by using "Stanford Binet-Kamat intelligence test" (SBKT), "Vineland social maturity scale" and "Junior Eysenck personality questionnaire". The difference in intelligence profile in rural and urban MMR children according to SBKT was significant with a 't' value of 4.33 and a p value of 0.05. The difference in social maturity among rural and urban MMR children was significant with a 't' value of 9.82 and a p value of 0.05 according to Vineland social maturity scale. The personality profile of rural and urban MMR children according to "Junior Eysenck Personality Questionnaire" was significant with a 't' value of 0.10 and 7.75 and also a p value <0.01 and <0.05 for neurotics and psychotics respectively.

KEY WORDS Intelligence, Social maturity, Personality-Neurotics and Psychotics.

INTRODUCTION

Mental retardation is a condition diagnosed before 18 years of age that includes below-average general intellectual function & lack of skills necessary for daily living. A family may suspect mental retardation if the child's motor, language and self-help skills do not seem to be developing or developing at a far slower rate than the child's peers. Failure to adapt (adjust to new situations) normally and grow intellectually may become apparent early in a child's life.

In case of mild mental retardation, these may not be recognizable until school age or later. The degree of impairment for mental retardation varies widely, from subnormality to borderline.

Adaptive Skill Implications: (everyday skills for functioning) These children may be clumsy, use simple language with

short sentences, have minimal organization skills and will need reminders about hygiene - washing hands, brushing teeth, life skills etc. Weak Confidence is often demonstrated by MID students. These students are easily frustrated and require opportunities to improve self-esteem. Lots of support will be needed to ensure they try new things and take risks in learning. Concrete to Abstract thought is often missing or significantly delayed. This includes the lacking ability to understand the difference between figurative and literal language.^{2,3,4,5}

"Psychological profiles" influence the human characteristics at various developmental stages of life. Psychological profiles differ in rural and urban MMR children. Intracranial haemorrhage before or after birth. Lack of oxygen to the brain before, during, or after birth severe head injury Unexplained (this largest category is for unexplained occurrences of mental retardation).^{6,7}

Incidence: about 1 - 3% of the total population.⁸

Causes: There are many causes of mental retardation but specific cause is identified in only 25% of cases.

Infections: TORCH Infection, Encephalitis, Meningitis, etc.

Chromosomal: Down syndrome, Cri du chat syndrome, fragile X syndrome, Angel man syndrome & Prader - Willi syndrome.⁹

Inherited metabolic disorders: Galactosemia, Phenylketonuria, Mucopolysaccharoidosis. **Toxic:** Intrauterine exposure to alcohol, cocaine & amphetamines.

Other causes: Perinatal trauma, perinatal hypoxia, malnutrition.

Symptoms: Developmental delay, learning disabilities, poor school performance. Changes to normal behaviours depend on the severity of the condition.

Prognosis: Depends upon opportunities, co morbid conditions & personal motivation.⁹

Lesions: 97% of mental retardation cases will have minor / nonspecific lesions like structural imperfection of the brain,

The Study of Hepatic Ducts and its Variations in Human Cadavers.

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ABSTRACT

Background: The right and left hepatic ducts emerge from the corresponding lobe of liver, joined near the right end of porta hepatis to form common hepatic duct. Anatomical variations of biliary tree occur with sufficient frequency to be of concern to the surgeons operating in this area. Identification of anatomical details is necessary for accurate detailing of biliary tree to avoid inadvertent damage to the biliary ductal system.

Methods: In the present study a total number of 50 adult human livers were studied from the dissected cadavers of the department of Anatomy of Sri Siddhartha Medical College Tumkur. The hepatic ducts were traced and associated variations were identified.

Results: The results were:

- ▶ The normal confluence of hepatic ducts was observed in 48 specimens.
- ▶ Triple confluence with right accessory hepatic duct was observed in 2 specimens.
- ▶ Extra hepatic union of hepatic ducts was observed in 34 (68%) specimens.
- ▶ Intra hepatic union of hepatic ducts was observed in 16 (32%) specimens.
- ▶ Accessory right hepatic duct was observed in 4 (4%) specimens.
- ▶ Small ducts of Luschka connecting the undersurface of the liver with the gall bladder were observed in 1 specimen (2%).
- ▶ Cholecystohepatic duct was observed in 1 specimen (2%).

Conclusion: The variations observed in the present study are important for the safe execution of any operative procedure, especially for cholecystectomy. Hence, it is important for biliary and minimally invasive surgeons to appreciate basic anatomical facts as they apply to the performance of surgeries as well as to understand from literature how anatomical distortions or variations can

contribute to complications.

KEY WORDS Hepatic ducts ; Accessory right hepatic duct; ducts of Luschka, cholecystohepatic duct;

Abbreviations used:

RHD : Right hepatic duct

LHD : Left hepatic duct

GB : Gall bladder

CHD : Common hepatic duct

ARHD : Accessory right hepatic duct

CCHD : Cholecystohepatic duct

CD : Cystic duct

CBD : Common bile duct.

INTRODUCTION

The biliary tract disease was recognized as early as 5th century B.C. by the Greek Anatomists.¹ Most of the patients with biliary pathology presents to surgeon with right upper quadrant abdominal pain. The knowledge of the variations of the hepatic biliary ducts is essential to diagnose the pathology and also they are important during surgeries like cholecystectomy, liver resection and transplantation.

The biliary tree consists of system of ducts which collect and deliver the bile from liver parenchyma to the second part of the duodenum. The hepatic ducts form most important part of extra hepatic biliary tree. The right and left hepatic ducts emerge from corresponding lobe of the liver near porta hepatis, right and left hepatic ducts join to form common hepatic duct.²

The anatomical variations of hepatic ducts such as absence of confluence, atrophy of the duct, absent hepatic duct, abnormal opening into the neck of the gall bladder and abnormal opening into cystic duct are noted. Persistent foetal connections are also described between liver and gall bladder or extra hepatic biliary system. These are pericholecystic anomalies, subvesical ducts of Luschka and cholecystohepatic ducts.^{1,3} Strictures of the extra

Incidence of Congenital Club Foot in and around Tumkur

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ABSTRACT

Congenital club foot is found in approximately 1 per 1000 live births & has even higher prevalence in still births. Males are twice as likely to be affected as females. Incidence of bilaterality is as high as 40-50 %. 37 children with clubfoot were examined, diagnosed & treated by Ponseti method at Sri Siddhartha Medical College, Tumkur. This study aims at valuating the effectiveness of correction of clubfoot by Ponseti method.

Keywords: Congenital Talipes Equinovarus, CTEV, Rocker Bottom Foot, Rocker Bottom Deformity, Foot Deformity, Clubfeet, Ponseti Method, Clubfoot Surgery

INTRODUCTION

Talipes equinovarus is the term most commonly used for club foot. Talipes is the generic term for any foot deformity that centres around the talus. Equinus implies that the foot is flexed in the plantar direction. Club foot is a complex foot deformity that is readily apparent at birth. All clubfeet are not of the same severity, although all have the basic components of adduction and inversion of the forefoot and midfoot, heel varus and fixed equinus. Soft tissue changes vary from mild to severe. The incidence of idiopathic clubfoot is estimated to be 1-2 per 1000 live births. It has a male predominance of 2:1 and an incidence of bilaterality estimated to be about 50%.¹

The Ponseti technique was described in the early 1960's, but it is only in the last decade that its benefits in the early treatment of clubfoot deformity have been highlighted.²

MATERIALS & METHOD

40 children age group ranging 1 day to 2 years with clubfoot were selected from Sri Siddhartha Medical College, Tumkur. Of which 32 male children with

clubfoot [10 bilateral, 13 right & 9 left] and 8 female children with clubfoot [5 bilateral, 1 right & 2 left] were used as study material. None of the parents suffered from clubfoot.

Clinical features

Table: 1

Primary deformities	EquinusVarusCavusForefoot adductionInternal tibial torsion
Secondary deformities	Foot size is decreased to 50%.Medial border is concave, lateral border is convex.Forefoot is plantar-flexed upon hindfoot.Skin is stretched over the dorsum of the foot.Callosities are present over the dorsum of the foot.Stumbling gait.Hypotrophic anterior tibial artery.Atrophy of muscles in anterior or posterior compartments of the leg
Late changes	Degeneration of joints.Fusion of joints.

Clinical Examination

Dorsiflexion Test: This is not possible in CTEV and this can be used as a screening test.³

Plumb line test: This helps to detect the tibial torsion. A line drawn from the centre of the patella to the tibial tubercle when extended down should cut the foot normally at the first or second inter-metatarsal space. In CTEV with medial rotation of the tibia it cuts the fourth or fifth inter-metatarsal space & vice versa in lateral rotation of the tibia.³

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Study of Dermatoglyphic Patterns of Digits in Patients with Primary Generalized Epilepsy

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ABSTRACT

The pattern of papillary ridges in human beings consists of three main types, loop, whorl, arches, although various combination if these, and minor pattern variations in orientation, distortion, ridge width and number. These three major patterns & many other minor factors are determined by multi factorial inheritance along Mendelian lines, although prenatal disturbance of metabolism also affects their inheritance, as a result these findings may form a useful diagnostic tool in certain circumstances.¹

The present research is to study these patterns in patients with primary generalized epilepsy.

Keywords: Epilepsy, Dermatoglyphics

INTRODUCTION

Dermatoglyphics, derived from Greek (derma - skin, glyphic - carve), is a branch of science which deals with the study of ridge patterns on fingertips, palms, soles, and toes. Glyphologics is a branch of genetics dealing with skin ridge systems. Fingerprints are constant and individualistic. Abnormalities in the epidermal ridges may result from genetic alterations occurring around the first trimester, during organogenic period, between 13th & 60th days after fertilization.² On this basis it has been opined that any epidermal ridge alterations in individuals prone to epilepsy may have a distinctive dermatoglyphic feature, which remain unchanged throughout life.³

Skin on the fingertips of palmar and plantar surfaces of humans is not smooth. It is grooved by ridges, which form a variety of configurations. Each individual's ridge configurations are unique and it has been utilized as a means of personal identification, especially by law enforcement officials. Handprints of an individual are unique and remain unchanged from womb to tomb. Inspection of skin ridges, therefore, promised to provide a simple and inexpensive means of determining whether a patient had a particular chromosomal defect. So knowledge of the types of deviations associated with various medical disorders can add appreciably to the diagnostic tests of the clinician. It is particularly of use in diseases with definite genetic background.⁴

The pattern of papillary ridges in human beings consists of three main types, loop, whorl, arches, although various combination if these, and minor pattern variations in orientation, distortion, ridge width and number. These three major patterns & many other minor factors are determined by multi factorial inheritance along Mendelian lines, although prenatal disturbance of metabolism also affects their inheritance, as a result these findings may form a useful diagnostic tool in certain circumstances.¹

The present research is to study of these patterns in patients with primary generalized epilepsy.⁵

MATERIAL AND METHOD

Sample size: Material for the study consists of 60 patients of primary generalized epileptics & 60 controls of same age & sex. The mean age was 5-40 yrs. 41 male & 19 female patients had family history of epilepsy. Patients with generalized tonic clonic seizure were taken into account.

Selection of patients

Patients with primary generalized seizure attending Medicine OPD of Sri Siddhartha Medical College also patients admitted in wards were the cases out of which 38 were males and 22 were female epileptics. The controls were mixed population but age & sex are matched. The controls were medical students,

Estimation of Humeral Length from its Proximal and Distal Fragments in South Indian Population

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ABSTRACT

The objective of the present study was to formulate reconstruction of total length of the humerus from its proximal and distal segments in South Indian population. For this purpose 200 (100 right and 100 left) adult fully ossified dry processed humeri were studied. The humeri were measured using the standard anthropometric techniques for total length, 7 proximal and 5 distal fragments (P1-P7 and D1-D5). The length of each fragment was compared with the total length of humerus. These were subjected to relevant statistical analysis for formulating means of bone length reconstruction. A high degree of correlation was found between length of each fragment and total length except for P5 in right humeri. Analysis of data reveals significant bilateral differences of 4 proximal (P1, P5, P6, P7) and 2 distal (D2, D5) measurements.

Keywords: Humeral Length, Proximal Fragments, Distal Fragments, Correlation, Regression Equation

INTRODUCTION

In a vast and thickly populated country like India, establishment of a deceased person assumes great medico legal importance. Anatomists and forensic experts have been consulted frequently regarding identification of skeletal remains found under suspicious circumstances and are asked to pronounce an opinion which may form an important evidence in the court of law.¹

Bones especially long ones played an important role right from the onset of medical revolution, in understanding the physiological, racial and ethnographic affinities besides providing the major forensic experts with the anatomical and compositional data.²

Bone fragments, often with ends destroyed, are brought for forensic case works. In both Archeological and forensic practice, fragments of long bones [because

of injury, mutilation, destruction, or postmortem gnawing by wild animals] are often presented as the only available source to establish identity.³

Such broken bones could not attract the attention of investigating official at the initial stage but subsequently scientists developed technique to use the broken fragments of the bones to reconstruct respective bone length, which could eventually be used to reconstruct the stature.⁴

Few studies have presented regression equations for stature estimation from fragments of the humerus. Because these equations are population specific, it was the aim of this study to derive regression equations for estimation of maximum length of humerus from measurements of its proximal and distal fragments.

This will help to solve medico legal problems giving due consideration to regional factors.

MATERIAL AND METHOD

Data for the present study comprises of 200 humeri (100 right and 100 left) of South Indian origin. Information about sex was not available considering that material belongs to the didactic collection of Anatomy department of Sri Siddhartha Medical College, Tumkur, Karnataka.

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Original Research Article

Incidence of types of hypospadias in and around Tumkur district, Karnataka, India: an anatomical classification

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Received: 22 February 2018

Accepted: 03 March 2018

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ABSTRACT

Background: Hypospadias is the second most common congenital anomaly in children. It is characterized by the abnormal ventral opening of the urethral meatus. Abnormal urethral opening may be located on the penile shaft, scrotum or perineum respectively. This article mainly deals with the embryology, etiology, anatomy and incidence of different types of hypospadias in Tumakuru rural district.

Methods: This study was interdepartmental and prospective, consisting of 80 cases conducted at department of pediatric surgery and Anatomy and the period of study was from April 2013 to March 2017. The hypospadias have been classified into 1) Proximal hypospadias 2) Midshaft hypospadias, 3) Distal Hypospadias according to the location of external urethral opening.

Results: Out of the 80 cases, distal hypospadias is the most common incidence followed by midshaft and proximal hypospadias.

Conclusions: The condition is repairable in the vast majority of cases, leaving a functional and normal looking penis. Early diagnosis and surgical intervention, hypospadias and chordee repair procedures are highly successful and can avoid the emotional distress.

Keywords: Abnormal Urethral opening, Congenital anomalies, Genital anomalies, Hypospadias, Penile anomalies

INTRODUCTION

Hypospadias is the second most congenital anomalies where the urinary opening is not usually located in the head of the penis. It occurs in approximately 1:250 to 1:300 live births.¹

Hypospadias is a disorder characterized by the abnormal ventral opening of the urethral meatus. Abnormal urethral opening may be located on the penile shaft, scrotum or perineum respectively. It may be associated with downward bending of the penis referred as chordee and also with foreskin being underdeveloped, leaving the undersurface of the glans penis uncovered.²

The above conditions lead to spraying while voiding urine and impaired sexual activity. The exact etiology of present study remains unclear.

The proposed hypothesis for etiology of hypospadias may be due to androgen metabolism abnormalities, androgen receptor defects, genetic defects and the theory of endodermal differentiation.²⁻⁸ By modern techniques and surgical intervention, this defect may be corrected.

This articles mainly deals with the embryology, etiology, anatomy and incidence of different types of hypospadias in Tumakuru rural district.

Original Research Article

Evaluation of incidence of cryptorchidism with special reference to anatomical and clinical aspects

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Received: 09 June 2018
Accepted: 18 June 2018

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ABSTRACT

Background: Cryptorchidism is simply defined as the absence of one or both testes from the scrotum. It is the most common birth defect of the male genitalia. The testis may be located intra-abdominal or inguinal. This article mainly deals with embryology, etiology, anatomy and incidence types of cryptorchidism in Tumakuru rural district.

Methods: This study was interdepartmental and prospective, consisting of 66 cases conducted at the Department of Pediatric Surgery and Anatomy and the period of study was from April 2013- March 2017. Cryptorchidism has been classified into 1) Intra-abdominal, 2) Inguinal, 3) Ectopic testis (perineum).

Results: Out of 66 cases, testis in inguinal canal is the most common incidence followed by the intra-abdominal and Ectopic testis. Least found was ectopic and torsion in the inguinal canal. Complications are torsion and vanishing testis.

Conclusions: This condition is repairable in a vast majority of cases. Early diagnosis and surgical intervention have to be carried out to correct this defect.

Keywords: Congenital anomalies, Cryptorchidism, Ectopic testis, genital anomalies, Testicular anomalies, Undescended testis

INTRODUCTION

Cryptorchidism represents the most common birth defect of the male genitalia and sexual differentiations. It is simply defined as the absence of one or both testes from the scrotum.¹ The prevalence of Cryptorchidism in premature boys is reported to be as high as 30% while in full-term newborns ranges between 1% and 3%.² Although infant born with descended testis, in 75% of cases in full term neonates and in 90% of preterm neonates; it may descend to scrotum later.³

Primordial germ cells which are destined to form the gonadal structure originates from yolk sac. They move

forwards to the gonadal ridge in coelomic epithelium by amoeboid movement in 4th or 6th week of pregnancy.

The presence of SRY gene in Y chromosome, primordial cells are differentiated into bipotential gonadal / ovarian cells during 4th or 6th week of gestation. Anti-Mullerian hormone secreted by sertoli cells causes regression of Mullerian structures.

Testosterone is secreted by Leydig cells by 10th week. This stimulates the wolffian duct to form epididymis, vas-deferens and seminal vesicles. Testosterone is converted into dihydrotestosterone by 5-alpha reductase, resulting in virilization of the external genital region.

Challenges in Implementation of the Competency Based Medical Education (CBME)

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Date of Submission : 02-02-2021
Date of Acceptance : 15-03-2020

Date of online Publication : 31-03-2021
Date of Print Publication : 31-03-2021

ABSTRACT

Introduction: Medical Education is under increasing pressure to more effectively prepare Physicians to meet the health needs of society. With its emphasis on individual, programmatic & Institutional outcomes, Competency Based Medical Education (CBME) has the potential to realign medical education with this societal expectation. Implementing CBME comes with significant challenges to create a conducive learning environment that supports competency-based progression by the Regulatory Authorities, to integrate medical education for appropriate delivery of Medical Care and to assess the expected outcome of training Institutions & health care systems thereby the performance can be measured. This study thereby assesses these challenges. **AIM:** To assess the challenges in implementation of the Competency Based Medical Education (CBME). **METHODS:** This qualitative study was assessed by Questionnaire method, the perceptions of the Pre & Para clinical faculties regarding the challenges in implementation of CBME were collected & analyzed by using descriptive statistics. This was compared with the curricular trends of traditional method. **RESULTS:** A total 25 faculties responded to the questionnaire. The parameters which enhances the learning in students were Foundation course (68%), AETCOM (48%), SDL(68%). In faculties there was increase pressure (68%) due to paradigm shift to CBME, despite sufficient time (60%) and reduced staff (36%) they were unable to complete the competencies & also the assessment pattern (48%) was not clearly defined. **CONCLUSION:** There must be a collaborative approach to overcome these challenges.
Key word: Competency, Curriculum, Medical Education, Learning Environment

Nat.J.Res.Com.Med. 2021; 10(1). © Community Medicine Faculties Association-2021

INTRODUCTION

Undergraduate medical education in India is undergoing a transition from traditional teaching and learning methods. The traditional medical education is structure and process-based system. The students are encouraged to acquire knowledge and assessment tools predominantly focuses to assess the knowledge acquired. CBME is an outcomes-based approach to the design, implementation, assessment, and evaluation of a medical education program using an organizing framework of competencies.¹ CBME aims to provides a learner centric platform for an Indian

medical graduate (IMG) to achieve competence in knowledge, attitude, communication, skills and ethics.^{2,3} Clinician, communicator, leader and member of the healthcare team, lifelong learner and professionalism are five core competencies that are identified in CBME in the Indian setup. Advantages of CBME are out come based learning, flexible time independent curriculum, formative and summative assessments with increased accountability of the IMG.^{3,4} In teacher cantered traditional method teaching and learning was mainly confined to

ORIGINAL RESEARCH ARTICLE

DOI: 10.26727/NJRCM.2021.10.1.001-004

Year: 2021 Vol: 10 Issue: 1. Jan.-Mar. Page: 001-004

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Morphometric Study of Femoral Neck-Shaft Angle in Kolar Population and Its Clinical Importance

Suresh NM¹, Sunitha R², Aruna N³, Nalini JP⁴

Abstract

Background: The Neck Shaft Angle axis of the shaft and axis of neck of femur. the angle is also named as caput collum diaphysis or cervico diaphyseal angle. Anthropometric skeletal measurements are used to show regional diversity between different populations or even within the same population. Moreover, skeletal measurements and shape of the bones can offer a guide to clinicians for determining the risk factors for fractures. **Aim:** The present study was undertaken to analyse femur neck shaft angle in kolar population. The standard commercially available marked prosthesis sometimes may not be the best fit to the Indian patients because of wide anatomic variation which leads to complications due to mismatch like aseptic loosening, improper load distribution and discomfort. **Set up:** Department of anatomy, Sambhram Institute of Medical Science and Research. **Study Design:** The present study is a cross-sectional observational study. **Materials and Methods:** The materials for the present study comprised of 100 (50 right side and 50 left side adult dry femora. Neck shaft angle was measured with help of goniometer in degrees. Mean and standard deviation were calculated. The student *t*-test was applied and side wise comparison was done by a two-tailed student *t*-test. A level of significance of 5 percent ($p < 0.05$) was used for all analysis. **Results:** No significant side difference is noted in Neck Shaft Angle in degree on comparing both sides. Range of Neck Shaft angle on right side is 120-138° Range of Neck Shaft angle on left side is 122-137°, *p*-value 0.21-not significant. Mean neck shaft angle of both the sides is 128.51° **Conclusion:** The values obtained were greater in western world than in present study, there is regional variation among different regions of India. This study will encourage the biomechanical engineers to design and manufacture implants with a correct morphometric data to suit our Indian population and for an improvised surgical outcome with prevention of complication.

Keywords: Kolar; femur; neck shaft angle; implants.

How to cite this article:

Suresh NM, Sunitha R, Aruna N, et al. Morphometric Study of Femoral Neck-Shaft Angle in Kolar Population and Its Clinical Importance. Indian J Anat. 2019;8(3):226-232.

Introduction

The femur is largest and strongest bone in human body. It consists of proximal end, shaft and distal end. The proximal end of femur has much attention. The knowledge of its anatomy is important in

the treatment of pathology conditions of hip and femur. The Neck-Shaft angle axis of the shaft and axis of neck of femur the angle is also named as Caput Collum Diaphysis or Cervico Diaphyseal angle (CCD).¹

The neck axis is the line drawn from centre of femoral head to centre of femoral neck at the narrowest part of the neck. The shaft axis is the line drawn from the middle of femoral condyles to middle of the greater trochanter, this corresponds to "Ideal Axis" by Billing and long axis by Norman.^{2,3}

There are metric differences in skeletal components among different population and these

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Received 20.05.2019 | Accepted 20.06.2019

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ESTIMATION OF STATURE FROM HAND LENGTH

Suma M. P., Shradha Iddalgave, Nagesh Kuppast

Abstract

Many a times Forensic Experts are asked to identify the person from dismembered part of the body and skeletal remains by the Investigating Officer. If the whole skeleton is available it becomes easy for identification, but the problem arises when only dismembered part of the body, few bones or single bone is available. In identification stature is primary characteristic along with age and sex. The present study is carried out in J. J. M. Medical College, Davangere, Karnataka. Total 100 students (50 males and 50 females) are randomly selected. The height of the students and length of both right and left Ulna of each student is measured by the same observer and with the same instrument. In this study we formulated the Regression Equation for estimation of stature from percutaneous length of right and left Ulna for males and females separately. Co-efficient correlation of height with percutaneous Ulna length is also calculated. The results of the present study indicate that the percutaneous length of ulna can be efficiently used for estimation of stature.

Keywords: Regression Equation, Stature Estimation, Hand Length.

Introduction

Assessment of body height from different parts of body by anthropometric study of skeleton is an area of interest to Anatomists, Forensic Experts and Anthropologists.

In ancient time physician and surgeon like Charaka and Sushruta were well acquainted with

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the relation of different parts of body and height. According to Charaka, the height of an average man should be 84 anguls, thigh - 21 anguls, leg - 19 anguls, forearm - 15 anguls and arm- 16 anguls¹.

Estimation of stature from incomplete skeletal and decomposing human remains is particularly important in personal identification. The relationship between specific body dimensions/ proportions can be used to solve crimes in the absence of complete evidence. For example, it has been proved that stature can be estimated from imprints of the hand, foot or footprints or from a shoe left at the scene of a crime². Similarly, the stature of a victim can be estimated when a part of body, such as a long bone, or hand, is all that remains³.

It is shown in earlier studies that various hand measurements tend to differ in various ethnic groups⁴. Consequently, the formulae designed to estimate stature from various anatomical dimensions in one population do not apply to another^{5,6}.

Furthermore, the need for the alternative formulae for the genders is also proved as rate of skeletal maturity in males and females vary during the course of development⁷.

And most studies have stressed that regression formula for stature estimation should be population specific. So there is a need to develop a separate regression formula for stature estimation from various parameters for a particular population.

So the present study "Estimation of Stature from Hand Length" is taken up.

Materials and Methods

The present study is carried out in J. J. M. Medical College, Davangere, Karnataka. Total

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"MUSCULOCUTANEOUS NERVE AND ITS VARIATIONS"

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ABSTRACT

The precise knowledge of the course, branching pattern and erstwhile variations of the musculocutaneous nerve and its possible communication with the median nerve is valuable in traumatology of the shoulder joint, exploring procedures, flap dissections, etc.,. The intrafascicular distance of each branch of the musculocutaneous nerve is important in microsurgical procedures to develop or refine a surgical methods required, so as to plan adequate treatment and to avoid iatrogenic injuries to the nerve in the neurosurgical department thereby increasing the clear perfection of surgical operative and practical approach. The present study aims to find out the origin, course, branching pattern of musculocutaneous nerve and connections of musculocutaneous nerve in the arm. The present study presented with dissection method. Total 40 upper limbs was procured from embalmed cadavers of J.J.M. Medical College, Davanagere during 2011-12. the detailed study history was obtained from the hospital records. Collected data was analyzed by using Minitab -6.50 version University analyses was employed to draw the significant inference. Matched frequency was used to find out the variations between different categorical and clinical variables. Total 87.5% cases musculocutaneous nerve was arising from the lateral cord, 12.5% cases musculocutaneous nerve was absent and the median nerve was showed different branches to the coracobrachialis, biceps brachii and brachialis. 7.5% cases were musculocutaneous; piercing coracobrachialis muscle and 92.5% cases was seen piercing the coracobrachialis muscle. The mean point of the nerve piercing coracobrachialis emergence was 6.55 cms. 87.5% cases expressed the branch to coracobrachialis and it was from musculocutaneous nerve, 2.5% from lateral cord and 10% variation from median nerve with mean point of origin of nerve to short head and long head of biceps were 11.54 cm and 15.44cms respectively. The mean point of the origin nerve to brachialis was 16.41cm. Communication between musculocutaneous nerve and median nerve was noted in 17.5% cases. The present study, quantified that intercommunication between musculocutaneous nerve and median nerve is 17.5%. The number of branches to biceps brachii as varied between 1-2 cms and the number of branches to brachialis is varied between 1-3cms.

KEYWORDS: Musculocutaneous Nerve, Coracobrachialis, Median Nerve

INTRODUCTION

The musculocutaneous nerve is the nerve of the anterior compartment of the arm and arises from the lateral cord of the brachial plexus opposite the lower border of the pectoralis minor muscle. Fibres are derived from fifth, sixth and seventh cervical nerves and mixed with peripheral nerve. Passes through the coracobrachialis muscle, emerges to pass between the biceps brachii and brachialis, supplying these three muscles. It continues as the lateral cutaneous nerve of the forearm at the lateral margin of the biceps brachii.

Rarely this kind of nerve may be affected by compression due to hypertrophy or entrapment between the bicep aponeurosis and brachialis fascia. The nerve has been showed frequent variations in its origin, composition of fibre bundle, course and branching pattern. The presence of anatomic variations in the peripheral nervous system often forms the basis of unexpected clinical signs and symptoms. Descriptions and pattern of nerve variations are useful in clinical and

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Prediction of Stature from Hand Length and Foot Length

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Dileep Kumar R.¹

Abstract: Identifying the remains of an unknown individual is an important part of forensic investigation, however, identification can become difficult when a complete body is not available. The present study was carried out to investigate the determination of an individual's stature using hand length and foot length. In this study, 100 students from the J. J. M. Medical College in Davangere, Karnataka, were randomly selected. The height of each student, the length of each hand (right and left), and the length of each foot (right and left) of each student were measured. These data were subjected to statistical analysis. Correlation coefficients were derived and regression equations were developed that led to the conclusion that hands and feet can be used in the population under study for the estimation of stature. In females, the hand length gave a better prediction of stature when compared to foot length.

Introduction

Identifying the remains of an unknown individual is an important part of forensic investigation. Identification can become difficult when a complete body is not available. The determination of stature, along with sex, age, and ethnicity, is an important part of the identification process [1].

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Received March 8, 2013; accepted June 18, 2013

AN ANATOMICAL STUDY OF SUPERFICIAL PALMAR ARCH

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ABSTRACT

Background: The study of superficial palmar arch and its variations has been reported rarely. The purpose of the study is to provide assessment of anatomical variations in the formation of superficial palmar arch in hand. A classic superficial palmar arch is formed by direct communication between the superficial branch of the ulnar artery and superficial branch of radial artery.

Materials and Methods: Twenty dissected upper limb specimens, out of which 16 males and 4 females aged between 18 – 75 years were obtained from Department of Anatomy, Bangalore Medical College and Research Institute, Bangalore. The vascular pattern of superficial palmar arch was recorded.

Results and Discussion: The complete and incomplete formation of the superficial palmar arch was found in 19 and 1 hands respectively. This indicates that the incidences of complete and incomplete formation of superficial palmar arch are 95% and 5% respectively. **Conclusion:** The findings suggest that the incomplete formation of superficial palmar arch will lead to ischemia or poor nourishment of intrinsic muscles of the hand.

KEYWORDS: Superficial Palmar Arch; Micro-Vascular Anatomy of Hand; Reconstructive Surgeries.

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Access this Article online

Quick Response code



DOI: 10.16965/ijar.2014.536

Web site: International Journal of Anatomy and Research
ISSN 2321-4287
www.ijmhr.org/ijar.htm

Received: 12 Nov 2014

Peer Review: 12 Nov 2014 Published (O): 31 Dec 2014

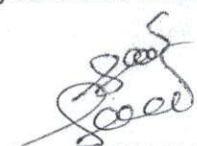
Accepted: 02 Dec 2014 Published (P): 31 Dec 2014

INTRODUCTION

Arterial supply to the man's hand is most important earning tool. It is derived from two anastomotic arches, superficial palmar arch and deep palmar arch formed by the anastomosis between main arteries of the hand that is radial and ulnar arteries and their branches in the palm. The SPA is a dominant vascular pattern of the palm. It is located just deep to palmar aponeurosis and superficial to digital branches of median nerve, long flexor tendons of the forearm and lumbricals of the hand. About two third of the SPA is formed by superficial branch of ulnar artery alone, remaining one third by superficial

palmar branch of either arteria princeps pollicis or the median artery [1]. Four digital arteries arise from the convexity of the arch and pass to the fingers. The most medial artery supplies the ulnar side of the little finger called proper digital artery and the remaining three common palmar digital arteries subdivides into two and supplies the contiguous sides of the little, ring, middle and index fingers respectively [2].

A detailed study of the functions of the hand is the basic requirement of all aspiring hand surgeons. This is an unfortunately a highly complex matter and though general guidelines can be given, continued clinical experience and


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A Study of Nutrient Foramina in the Long Bones of Upper Limb

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ABSTRACT

Introduction : Nutrient foramen is the opening in the shaft of a long bone through which nutrient artery enters the medullary cavity and helps in active growth of bone.

Aim : To analyse the number, location and direction of the nutrient foramen in the long bones of upper limb.

Materials & methods : 171 human dried long bones of upper limb were studied. The total length of the bone, the location, direction and number of nutrient foramen were analysed.

Results : The direction of all the nutrient foramen were away from the growing end. The data found in this study of nutrient foramen coincided with the studies done by previous workers.

Conclusion : The knowledge about the nutrient foramina is useful in various surgical procedures of long bones like bone grafting and microsurgical vascular procedures to preserve the circulation. This study will provide knowledge about the morphology and topography of nutrient foramen of long bones of upper limb.

KEY WORDS Long bones, Upper limb, Nutrient foramen, foraminal index.

INTRODUCTION

The nutrient arteries are the main source of blood supply to the long bones, supplemented by metaphyseal, epiphyseal and periosteal arteries. Diaphyseal nutrient arteries enter the shaft of long bone through the nutrient foramen. It is the principal source of blood supply in a long bone and is particularly important during its active growth period in the embryo and foetus as well as during the early phase of ossification¹. The horizontal nutrient canal gets slanted during growth due to the difference in the growing rate of both the sides of epiphysis. Hence the diaphyseal nutrient vessels move away from the dominant growing end of the bone. One or two main diaphyseal nutrient arteries enter the shaft obliquely through nutrient foramina. The site

of entry and angulation are constant². The knowledge about the nutrient foramina is useful in certain operative procedures to preserve the circulation. It is important that the arterial supply be preserved in free vascularised bone grafts, so that the osteocytes and osteoblasts survive³. In bone grafts, the nutrient blood supply is crucial and it should be preserved in order to promote fracture healing⁴. Currently the detailed study of blood supply to long bones is a determining factor for the success of new techniques for bone transplant and resection in orthopedics. The aim of this study was to record and analyse the location, direction and number of foramina in long bones of upper limb.

MATERIALS AND METHODS

We analysed 171 human dried, adult long bones of upper limb, which included 54 humeri, 55 radii, 59 ulni. The bones were obtained from the osteology section of the Department of Anatomy and Department of Forensic medicine, The Oxford Medical College Hospital and Research Center, Yadavanahalli, Bangalore. The right and left side bones were identified. The nutrient foramen were identified. The number of nutrient foramen, its location and its direction were analysed in each bone.

The results were tabulated and compared with previous studies.

OBSERVATIONS

In this study we found the direction of all the nutrient foramen were away from the growing end. The other results found were tabulated.

Humerus : Humerus showed 91% of single foramina, 6% double foramina, 4% absence of foramina.

80% of nutrient foramen were present on AMS, 9% on PS, 1.8% each on LB and ALS. 83% were on AS, 9.4% on AB, 1.8% on PMS and 5.6% on MB.


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Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-3933.ijam20162850>

Branching pattern of sinoatrial and atrioventricular nodal arteries in patients undergoing cardiac catheterization in a tertiary care hospital

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Received: 01 August 2016

Accepted: 04 August 2016

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ABSTRACT

Background: The (SA) sinoatrial node and (AV) atrioventricular nodal blood supply is highly variable and recording of the anatomic variants of the arterial blood supply to the SA node and AN node will help to overcome potential complications following ablation procedures or in valvular surgeries. The objectives were to study the blood supply of the conducting system and its relation with the coronary artery dominance and to find the origins of the major atrial arteries in patients undergoing coronary angiography.

Methods: The study included 300 consecutive patients (104 females, 196 males) admitted for diagnostic coronary angiography at PMSSY, superspeciality hospital, BMC and RI, Bangalore, India. The coronary angiography was done in a conventional manner without any specific views for atrial arteries. The origins of sinoatrial and atrioventricular nodal arteries and its relation with the arterial dominance were recorded.

Results: The RCA is dominant in 77.20%, LCX is dominant in 18.43% of patients and codominant in 4.37% of the patients. The SA nodal artery arises from the RCA in 57.20% of the patients, by the circumflex branch of the LCA in 40.14% and by both coronary arteries in 2.66% of patients. The AV nodal artery was also commonly arises from the RCA (78.22%) than by the Cx branch of the LCA (18.66%).

Conclusions: The data from our study may help the cardiac surgeons, cardiologists and electrophysiologists in their day today practice.

Keywords: Atrioventricular nodal artery, Circumflex artery, LCA, RCA, Sinoatrial nodal artery

INTRODUCTION

The arterial blood supply of the sinoatrial (SA) node and Atrioventricular (AV) node is very much variable and was the topic of anatomic, histologic, and radiologic research for many years. The recording of the anatomic variants of the arterial blood supply to the SA node and AN node will help to overcome potential complications following ablation procedures or in valvular surgeries.¹

Anterior atrial branches of the RCA are arranged in anterior, lateral and posterior groups to supply the corresponding surfaces of the right atrium one important atrial branch of the RCA is the SA nodal artery which is usually the second branch of the RCA and supplies the SA node in 55% of the cases, in the remaining 45%, the SA node is supplied by a branch of the Cx artery, in some cases it may originate from the trunk of left coronary or aorta or left bronchial artery or kugels artery.^{2,3}


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Study of Wormian Bones in Adult Human Skulls

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Abstract:

Introduction: Wormian bones or sutural bones are asymmetrical bones that usually occur along the sutures and also anatomical points on the skull where sutures meet

Methods: The study comprises of 132 human adult skulls. The, incidence, types, morphology and topography of sutural bones were observed and compared with the studies done by previous authors. The bones were obtained from the Department of Anatomy, TOMCH & RC, Bangalore.

Results: Wormian bones were found in Lambdoid suture (45.45%), Lambda (13.63%), Parietomastoid suture (8.33%), Coronal Suture (6.06%), Asterion (5.30%), Sagittal suture (4.54%), Occipitomastoid suture (2.27%), Parietosquamous (2.27%) and Pterion (1.51%). Three different shapes of WBs was witnessed; Quadrangular (52.70%), Irregular (37.83%), Triangular (9.45%). Two different types of edges of WBs was seen; Irregular (56.75%) and Serpigenous (43.24%).

Discussion: the knowledge of wormian bones is important to radiologists, orthopedicians and traumatologists as it can imitate fractures and lead to confusion and eventually differential diagnosis.

Keywords: Wormian bones, sutures, fractures, skull

I. Introduction

Wormian bones are solitary, irregular bones that appear along with regular centres of ossification of cranium. Even though they are unusual, they are not considered to be rare and are noteworthy. The first account of the sutural bones was made by Paracelsus. However, they were named 'Wormian bones' after Olaus Wormian who was a Professor of Anatomy at Copenhagen and also a Danish Physician & Antiquary, described them in a letter to his colleague Thomas Bartholin, who later termed these sutural bones as Wormian bones [1].

These asymmetrical bones are also called as sutural bones as they usually occur along the sutures. They are also given the name Supernumerary bones or ossicles. Wormian bones occur most frequently on the lambdoid suture [2]. They can also be present in anatomical landmarks on the skull like bregma, pterion, asterion or lambda.

Sutural bones are inherited as autosomal dominant traits. WBs are more prevalent in adults than in fetuses. When present in children, they attribute for some diseases and play a role in the primary diagnosis of congenital brittle bone disease called Osteogenesis Imperfecta [1].

A fourfold increased incidence of sutural bones are seen in mentally retarded group than the remaining population [3].

It is said that the number of wormian bones increases as the capacity of the skull increases and this increase in WBs is not associated with the cause of the enlargement of skull. Hence these WBs are formed as an adaptation to enlargement of the cranium [4].

This study aims at reporting the incidence, location and morphology of Wormian bones as it can imitate fractures and lead to confusion to the radiologists and eventually differential diagnosis and hence it is important to surgeons and traumatologists to deal during emergencies.

II. Materials and methods

The present study was conducted in the Department of Anatomy, TOMCH & RC in 132 fully ossified adult skulls of unknown sex and age. A skull which exhibited no wormian bones is taken as control and the length of sagittal, coronal and lambdoid sutures were noted. Measuring tape, Sliding calipers, sutural thread and scale were used for measuring the length of the sutures.

All the skulls showing WBs were examined and the following parameters were taken into consideration:

- Incidence of Wormian bones
- Sites of Wormian bones found in the present study
- Incidence and different shapes of the WBs
- Incidence and types of edges of the WBs
- Length of coronal, sagittal and lambdoid suture.

MORPHOMETRIC STUDY OF HUMAN LIVER IN RELATION TO AGE & SEX BY ULTRASONOGRAPHY METHOD

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ABSTRACT

Introduction: The liver is the largest organ of human body occupying right hypochondrium, epigastrium and partially left hypochondrium. It is important in maintaining blood glucose and lipid levels which keep tissues of body alive and healthy. As the body grows from infancy to adult-hood, the liver rapidly increases in size. The maximum growth of liver reaches at around 18 years of age. The size of liver varies according to age, sex, and body weight.

Aim: To study dimensions of liver span in normal individual, Cranio - caudal dimensions of Right and Left lobes of Liver, and to compare the dimensions of liver in relation to sex & age.

Materials and Methods: 80 healthy subjects which include 38 males and 42 females ranging from 17 years to 60 years of age were taken for the study. The sonographic measurements of the liver were collected from real ultrasound images. In this study subjects demographic data such as age, gender, weight, height and had been collected using designed questionnaire. This data is recorded using weighing machine and stadiometer. The body surface area was calculated with the help of Mosteller's formula.

Results: The CCL of right lobe progressively increases as age advances and no increase of CCL is noticed in age groups of 41-60 years. CCL of right lobe is more dependable than the left lobe. As per the data, analysed regarding the liver span of both the genders of various age groups indicate that there is gradual increase of Liver Span as age advances. The parameter is marginally more in females than males.

Conclusion: Clinical measurement of liver by percussion and palpation can be inaccurate and unreliable. So, clinical evaluation by percussion and palpation is flawed for its inability to provide precise dimensions. Ultrasound is usually the method of choice for screening, diagnostic, prognostic purpose and follow-up after treatment.

KEY WORDS: Liver, Ultrasonography, Cranio Caudal Length.

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Access this Article online

Quick Response code



DOI: 10.16965/ijar.2017.322

Web site: International Journal of Anatomy and Research
ISSN 2321-4287
www.ijmhr.org/ijar.htm

Received: 01 Jul 2017
Peer Review: 07 Jul 2017
Revised: None

Accepted: 16 Aug 2017
Published (O): 30 Sep 2017
Published (P): 30 Sep 2017

INTRODUCTION

The liver is the largest organ of human body occupying right hypochondrium, epigastrium and partially left hypochondrium. It is divided into larger right lobe and smaller left lobe. The right

and left morphological lobes again divided into eight functional vascular segments. It performs a wide range of metabolic activities required for homeostasis, nutrition and immune defence [1]. It is important in maintaining blood glucose and

Formulation of Regression Equation to Estimate Stature from Hand Length

Shradha Iddalgave¹, Suma M.P.², Nagesh Kuppast³

Abstract

Many a times Forensic Experts are asked to identify the person from dismembered part of the body and skeletal remains by the Investigating Officer. If the whole skeleton is available it becomes easy for identification, but the problem arises when only dismembered part of the body, few bones or single bone is available. In identification stature is primary characteristic along with age and sex. The present study is carried out in J. J. M. Medical College, Davangere, Karnataka. Total 100 students (50 males and 50 females) are randomly selected. The height of the students and length of both right and left hand of each student is measured by the same observer and with the same instrument. In this study we formulated the Regression Equation for estimation of stature from right and left hand length for males and females separately. Co-efficient correlation of height with hand length is also calculated. The results of the present study indicate that the hand length can be efficiently used for estimation of stature.

Keywords: Stature Estimation, Hand Length, Regression Equation

Introduction

Assessment of body height from different parts of body by anthropometric study of skeleton is an area of interest to Anatomists, Forensic Experts and Anthropologists.

In ancient time physician and surgeon like Charaka and Sushruta were well acquainted with the relation of different parts of body and height. According to Charaka, the height of an average man should be 84 anguls, thigh - 21 anguls, leg - 19 anguls, forearm - 15 anguls and arm- 16 anguls [1].

Estimation of stature from incomplete skeletal and decomposing human remains is particularly

important in personal identification. The relationship between specific body dimensions/ proportions can be used to solve crimes in the absence of complete evidence. For example, it has been proved that stature can be estimated from imprints of the hand, foot or footprints or from a shoe left at the scene of a crime [2]. Similarly, the stature of a victim can be estimated when a part of body, such as a long bone, or hand, is all that remains [3].

It is shown in earlier studies that various hand measurements tend to differ in various ethnic groups [4]. Consequently, the formulae designed to estimate stature from various anatomical dimensions in one population do not apply to another [5,6].

Furthermore, the need for the alternative formulae for the genders is also proved as rate of skeletal maturity in males and females vary during the course of development [5].

And most studies have stressed that regression formula for stature estimation should be population specific. So there is a need to develop a separate regression formula for stature estimation from various parameters for a particular population.

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Received | 17.07.2017, Accepted | 12.08.2017

THE STUDY OF NUTRIENT FORAMINA IN HUMAN CLAVICLE

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ABSTRACT

BACKGROUND

The major blood supply to the long bones is through nutrient arteries, which enter the medullary cavity of bone through the nutrient foramina. Nutrient foramen is the opening present in the shaft of long bone. Blood vessels pass through this foramen and enter the medullary cavity of a bone for its nourishment and growth. The shaft of the clavicle usually presents one nutrient foramen for the passage of main nutrient artery. With respect to the blood supply to the clavicle, there could be nutrient artery to the primary centres of ossification and to the late secondary centre at the sternal end of the clavicle. The nutrient artery is derived from the suprascapular artery. Clavicular branch of acromiothoracic artery. Knowledge regarding the nutrient foramen is important for many surgical procedures. Vascularity of the bone is considered for the various options in the grafting. The endosteal and periosteal blood supply with good anastomosis is required for the ideal bone graft.

MATERIALS AND METHODS

The study comprises of 50 clavicles, out of which, 25 belong to right side and 25 left side. The bones were obtained from the osteology section of Department of Anatomy and Forensic Medicine, TOMCH and RC, Yadavanahalli, Bangalore. The number, location and direction of nutrient foramina were observed and compared with the studies done by previous workers.

RESULTS

Totally 62 nutrient foramina were observed in 50 bones. All are directed away from the growing end of the bone. 39 (56%) bones showed single foramina, 6 (24%) showed double foramina, 1 (8%) showed 3 foramina and 2 (8%) bones showed 4 foramina. 39 (79.5%) bones had the foramina on inferior surface and 21 (84%) were on posterior surface and 2 (4%) were on anterior surface.

CONCLUSION

In our study, all the bones obey the general rule that is the direction of nutrient foramina is away from the growing end. The data obtained are coinciding with the studies done by previous workers. Information about the nutrient foramina is of clinical importance especially in surgical procedures like microvascularised bone transplantation and bone graft.

KEYWORDS

Nutrient Foramina, Clavicle, Growing End.

HOW TO CITE THIS ARTICLE: Suma MP, Veera U, Srinivasan S. The study of nutrient foramina in human clavicle. J. Evid. Based Med. Healthc. 2018; 5(2), 107-109. DOI: 10.18410/jebmh/2018/24

BACKGROUND

Nutrient foramen is the opening present in the shaft of long bone. Blood vessels pass through this foramen and enter the medullary cavity of a bone for its nourishment and growth.¹ The shaft of the clavicle usually presents one nutrient foramen for the passage of main nutrient artery.² With respect to the blood supply to the clavicle, there could be nutrient artery to the primary centres of ossification and to the late secondary centre at the sternal end of the clavicle.³ The nutrient artery is derived from the suprascapular artery.^{3,4,5} Clavicular branch of

acromiothoracic artery.⁶ Knowledge regarding the nutrient foramen is important for many surgical procedures. Vascularity of the bone is considered for the various options in the grafting. The endosteal and periosteal blood supply with good anastomosis is required for the ideal bone graft.⁷

Aim of the Study- To study the number, direction and position of the nutrient foramina in human clavicle.

MATERIALS AND METHODS

The study included 50 dried human clavicle of unknown age and sex obtained from the Department of Anatomy and Forensic Medicine, TOMCH and RC, Yadavanahalli, Bangalore. The total length of the clavicle was measured. The clavicles were observed macroscopically for the number, direction and position of the nutrient foramen. The distance of the nutrient foramen from the sternal end was measured by using Vernier calipers. The foraminal index was calculated by using the Hughes formula, which states that $FI = (DNF/TL) \times 100$, where DNF=The distance from the proximal end of

Financial or Other, Competing Interest: None.

Submission 15-12-2017, Peer Review 22-12-2017,

Acceptance 01-01-2018, Published 02-01-2018.

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DOI: 10.18410/jebmh/2018/24



COMPARISON OF TWO TEACHING METHODS USED FOR TEACHING ANATOMY FOR 1ST YEAR MBBS STUDENTS.

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ABSTRACT

There are various methods of teaching for different students. Medical profession also needs a different and effective method of teaching and learning. Anatomy is a basic platform for learning all other clinical branches of Medicine. In our college we used to teach Gross Anatomy by lecture & cadaveric dissection. For lecture either chalk & board or PPT was used. The teacher has to act as a font of knowledge to build up overall development of a student. It is necessary to compare & analyse the different methods of teaching so that we can change to newer methods which will be beneficial to the students.

OBJECTIVES AND AIMS: To compare the two teaching methods, chalk & board and PPT, for teaching Anatomy for first year MBBS students.

METHODS: A group of 100 first year MBBS students (2020-21 batch) from TOMCH&RC were taken for the study. Students were divided into 2 groups of 50 each. Each group was taught by different methods of teaching. For group A chalk and board was used, for group B PPT was used for the same topic. At the end of each session students were assessed by MCQ pattern of questionnaire. Another topic was taken, this time group A was taught by PPT method and Group B was taught by chalk & board method. The marks obtained by them are compared and analyzed. Perception of the students were taken by the questionnaire through Google form and analyzed by taking percentage and represented graphically.

RESULTS: In this study, 70% of the students scored more from group A for topic 1, which was done in chalk & board method. Same group scored less for topic 2, which was done in PPT method. Group B also scored more in topic 2 which was done in chalk & board method. 84 % students preferred blackboard as the teaching method compared to power point presentation, while 16% preferred PPT.

CONCLUSION: Blackboard still remains the preferred teaching aid among the MBBS students. Power point presentation is helpful for the students to visualize 3D Pictures/ objects which can save the time. Combining these two methods will give the better results.

KEYWORDS : Medical Education, Chalk & Board, Power Point method, Teaching Method.

INTRODUCTION:

There are various methods of teaching for MBBS students. We have to follow different methods of teaching to increase the interest of students and also make them involve in learning the subjects effectively. All these years we use to follow traditional methods of teaching only. For first year MBBS students we used to teach Anatomy by lecture and Cadaveric dissection. For lecture either chalk and board or PPT was used. Good knowledge of Anatomy is like a strong foundation for the Medical Education. The teacher has to act as a font of knowledge to build up overall development of a student.

Anatomy is a basic platform for learning all other branches of Medicine. Because of large number of students in India, small group teaching which superior method is difficult. The lecture still remains the main method of teaching for large group. That's why it should be more effective. Previously duration of first year MBBS was 1½ years, but now it is reduced to 1 year. Within this duration we are supposed to complete the entire portion. We wanted to compare whether the traditional didactic lecture class is better or PPT method is good for the students.

OBJECTIVES / AIM OF THE STUDY:

Comparison of two teaching methods chalk & board and PPT, used for teaching Anatomy for first year MBBS students.

MATERIALS & METHODS:

A group of 100 first year MBBS students from The Oxford Medical College Hospital & Research Center were taken for the study. The students were briefed about the study and taken the consent. Students were divided into 2 groups of 50 each. Students were selected randomly. Each group was taught by different methods of teaching. For group A chalk and board was used in topic 1 and PPT method for topic 2. For group B, PPT was used for the topic 1 and Chalk & board method for Topic 2. At the end of each session students were assessed by MCQ pattern of questionnaire. The marks obtained by them were compared and analyzed.

Teaching-aids used in this study were

1. Chalk & board
2. Power Point presentation (PPT)

This Qualitative study was assessed by taking the perception of the students about the chalk and board & PPT method of teaching by questionnaire through Google form and analyzed by using percentages and represented graphically.

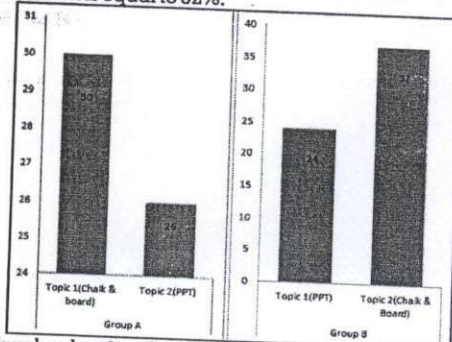
RESULTS:

Topic 1:

In chalk & board method (Group A) out of 50 students 35 of them scored marks between 20 and 30, which comprise of 70%. In PPT method (Group B) 24 out of 50 scored between 20 and 30, which is equal to 48%.

Topic 2:

In chalk & board method (Group B) out of 50 students 37 of them scored marks between 20 and 30, which comprise of 74%. In PPT method (Group A) 26 out of 50 scored between 20 and 30, which is equal to 52%.



The Graphs showing the performance of students in different methods of teaching

ORIGINAL RESEARCH ARTICLE

DOI: 10.26727/NJRCM.2021.10.1.001-004

Year: 2021 Vol: 10 Issue: 1. Jan.-Mar. Page: 001-004

Challenges in Implementation of the Competency Based Medical Education (CBME)

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Date of Submission : 02-02-2021
Date of Acceptance : 15-03-2020

Date of online Publication : 31-03-2021
Date of Print Publication : 31-03-2021

ABSTRACT

Introduction: Medical Education is under increasing pressure to more effectively prepare Physicians to meet the health needs of society. With its emphasis on individual, programmatic & Institutional outcomes, Competency Based Medical Education (CBME) has the potential to realign medical education with this societal expectation. Implementing CBME comes with significant challenges to create a conducive learning environment that supports competency-based progression by the Regulatory Authorities, to integrate medical education for appropriate delivery of Medical Care and to assess the expected outcome of training Institutions & health care systems thereby the performance can be measured. This study thereby assesses these challenges. **AIM:** To assess the challenges in implementation of the Competency Based Medical Education (CBME). **METHODS:** This qualitative study was assessed by Questionnaire method, the perceptions of the Pre & Para clinical faculties regarding the challenges in implementation of CBME were collected & analyzed by using descriptive statistics. This was compared with the curricular trends of traditional method. **RESULTS:** A total 25 faculties responded to the questionnaire. The parameters which enhances the learning in students were Foundation course (68%), AETCOM (48%), SDL(68%). In faculties there was increase pressure (68%) due to paradigm shift to CBME, despite sufficient time (60%) and reduced staff (36%) they were unable to complete the competencies & also the assessment pattern (48%) was not clearly defined. **CONCLUSION:** There must be a collaborative approach to overcome these challenges.

Key word: Competency, Curriculum, Medical Education, Learning Environment

Nat.J.Res.Com.Med. 2021; 10(1). © Community Medicine Faculties Association-2021

INTRODUCTION

Undergraduate medical education in India is undergoing a transition from traditional teaching and learning methods. The traditional medical education is structure and process-based system. The students are encouraged to acquire knowledge and assessment tools predominantly focuses to assess the knowledge acquired. CBME is an outcomes-based approach to the design, implementation, assessment, and evaluation of a medical education program using an organizing framework of competencies.¹ CBME aims to provides a learner centric platform for an Indian medical graduate (IMG) to achieve competence in knowledge, attitude, communication, skills and ethics.^{2,3} Clinician, communicator, leader and member of the healthcare team, lifelong learner and professionalism are five core competencies that are identified in CBME in the Indian setup. Advantages of CBME are out come based learning, flexible time independent curriculum, formative and summative assessments with increased accountability of the IMG.^{3,4} In teacher cantered traditional method teaching and learning was mainly confined to

EFFECT OF EXERCISE ON INTRAOCULAR PRESSURE IN RELATION TO BODY MASS INDEX

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ABSTRACT

Intraocular pressure varies throughout the night and day. The diurnal variation for normal eyes is between 3-6mmHg and the variation may increase in glaucomatous eyes. Hence, we wanted to investigate the effect of exercise on intraocular pressure changes in relation to Body Mass Index. The effect of exercise on intraocular pressure and blood pressure was evaluated in our clinical laboratory in 30 voluntary 1st year Medical Students of Basaveshwara Medical College, Chitradurga, after the institutional ethical clearance. Materials used in the study were Schizont tonometer, Measuring tape, Weighing Scale, Treadmill and Paracaine eye drops. After a resting period, the subject's height and weight were recorded. Paracaine eye drops were instilled in both the eyes and then intraocular pressure recorded using Schizont Tonometer after 2 min so that anaesthetics acts. Then they were asked to walk on Treadmill with average speed till they were exhausted, again intraocular pressure was noted as above with all aseptic precautions. The statistical analysis was done using students unpaired t- test using SPSS software. Results were expressed in terms of Mean and Standard deviation. P value was taken significant at 5 percent confidence level ($p < 0.05$).

Results: Intraocular pressure was measured according to BMI under two groups, first with group having BMI less than 22 and other in group having BMI more than 22. There was a significant decrease in intraocular pressure after exercise in group two with BMI more than 22. Gender wise comparison of intraocular pressure both before and after exercise did not reveal much significance. Blood pressure was also recorded both before and after exercise which did not reveal any significance in relation to BMI. From our study we conclude that exercise has significantly decreased the intraocular pressure and has a correlation with body mass index in young age group.

Keywords: Body mass index; Intraocular Pressure; Exercise.

INTRODUCTION

Intraocular pressure (IOP) is the fluid pressure inside the eye. Intraocular pressure is mainly determined by the coupling of the production of aqueous humor and the drainage of aqueous humor mainly through the trabecular meshwork located in the anterior chamber angle. Intraocular pressure measurement is also influenced by corneal thickness and rigidity¹. Ocular hypertension is defined by intraocular pressure being higher than normal, in the absence of optic nerve damage or visual field loss. Current consensus in Ophthalmology defines normal intraocular pressure as that between 10mmHg and 20mmHg². The average value of intraocular pressure is 15.5mmHg with fluctuations of about 2.75 mmHg. Hypotony, or ocular hypotony, is typically defined as intraocular pressure equal to or less than 5 mmHg. Such low intraocular pressure could indicate fluid

leakage and deflation of the eyeball³. Intraocular pressure varies throughout the night and day. The diurnal variation for normal eyes is between 3- 6mmHg and the variation may increase in glaucomatous eyes. Physical exercise produced a decreased intraocular pressure without significant change in facility of outflow or episcleral venous pressure. The diminution in intraocular pressure was associated with an increased serum osmolarity, but it was believed that this did not account completely for the change. The physiological changes in the eye during exercise are not fully understood. Some studies have demonstrated that physical activity has a beneficial effect in lowering intraocular pressure (IOP) after both isometric (static) ⁴⁻⁸ and dynamic ⁹⁻¹⁴ exercise. There are, however, few studies on IOP changes during exercise, and the results are inconsistent ¹⁵. Isometric exercise is known to cause a transient increase both in diastolic and

A COMPARATIVE STUDY OF CHANGE IN PLATELET COUNT IN PREGNANCY AND PUERPERIUM

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ABSTRACT:

Normal pregnancy involves many changes including alterations in hematologic parameters. One of the parameters changed involves platelets. In the present study, change in platelet count is studied during pregnancy and puerperium of the same woman. 30 pregnant women in the age group 20-30 years who were registered for ANC in BMC, Chitradurga were enrolled for the study. Platelet count was measured both during pregnancy and in puerperal period in all the women. Values were analyzed statistically using paired "t" test. Results showed that Platelet count was found to decrease during pregnancy compared to puerperium ($p < 0.0001$) which was statistically significant.

Conclusion: The decline in the platelet count during gestation is possibly caused by increased destruction or hemodilution. It may also be a consequence of physiological increase in fibrinolysis within the uteroplacental circulation in order to maintain the blood flow. There may be increased platelet consumption too, leading to a greater proportion of younger, larger platelets.

Keywords: Platelets, Pregnancy and Puerperium.

INTRODUCTION

Pregnancy is a process where the life of a fetus begins in the mother's womb and progresses up to the stage when it is safe to expose it to the outside world. During pregnancy, there is progressive anatomical, physiological and biochemical changes not only in the genital organs but also in all systems of the body. As the pregnancy progresses, various extra demands are imposed on the mother's body by the growing fetus, which are met by certain adaptations in all the organ systems of the body¹.

So, Normal pregnancy involves some alterations in hematologic parameters of mothers also. These include expansion in maternal blood volume, plasma volume and a decrease in hematocrit as well as an increase in the levels of some plasma proteins that alter the balance of coagulation and fibrinolysis².

Puerperium is that period following childbirth wherein the body tissues, specially the pelvic organs, revert back both anatomically and physiologically to the pre-pregnant state almost completely. These changes are mostly confined to the reproductive organs which is termed involution, with the exception of the mammary glands which show features of activity. A woman in such a stage is termed as a puerperal³.

Puerperium is a time of physiological interest because many of the changes effected over the nine months of pregnancy are reversed within a matter of hours or days. These changes may be complex, as appears to be the case with regard to the haematological indices that are commonly determined in obstetric practice⁴.

Pregnancy and puerperium also involves changes in platelets. Therefore the present study is undertaken to assess the changes in platelet count during pregnancy and puerperium.

AIMS AND OBJECTIVES

To estimate platelet count in third trimester of pregnancy and puerperium of the same woman as well as to compare the variations observed.

MATERIALS AND METHODS

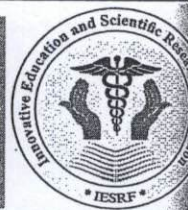
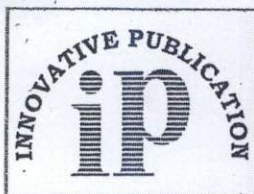
This study was conducted on 30 normal healthy pregnant women of age group of 20 - 30 years and who were recruited from antenatal clinic of BMC, Chitradurga. Procedure was explained and written informed consent was taken from pregnant women. This study was performed from March 2013 to March 2014 in the Physiology department, with lab assistance from department of pathology, BMC, Chitradurga. Ethical approval for this study was obtained from BMC, Chitradurga.

Source of Data:

Subject: The study group consisted of 30 pregnant females aged between 20-30 years and later followed up during puerperium from OBG OPD in BMC, Chitradurga.

Inclusion Criteria

1. Healthy pregnant women in the age groups 20-30 years.
2. No H/O of anemia, bleeding disorders.



Original Research Article

Correlation between body mass index, waist hip ratio, blood sugar and blood pressure in young adults

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ARTICLE INFO

Article history:

Received 17-03-2021

Accepted 22-03-2021

Available online 12-04-2021

Keywords:

Blood pressure

Body mass index

Obesity

Random blood sugar

Waist Hip ratio (WHR)

ABSTRACT

Background: Obesity is defined as excessive accumulation of fat in various tissues in the body which causes ill health in the body. The basic cause of obesity is imbalance between calories intake and calorie expenditure. There is increased intake of calorie rich foods and reduced physical activity due to urbanization all over the world.

Body mass index is simple formula to classify obesity in adults. It is defined as person's weight in kilogram divided by height in meter squares (m^2).

Obesity and elevated BMI are the major causes for development of chronic diseases like stroke, hypertension, Type 2 diabetes and other cardiovascular disorders.

BMI and waist hip ratio are the modifiable risk factors of type 2 diabetes and hypertension. This study was undertaken to assess the relationship between BMI, waist hip ratio, Random blood sugar and blood pressure.

Materials and Methods: This study comprises 45 males and 55 females (100 in total) young adults age between 18 to 30 years. The design for this study was cross-sectional survey. Ethical approval was taken from ethical committee of BMCH, Chitradurga. BMI, Blood pressure, Waist hip ratio and random blood sugar levels are measured from the subjects.

Result: A total of 100 subjects are examined. Among them 45 males and 55 females. The mean age of the subjects was 25 years. Among them, 30 were overweight and 17 were obese while 4 were underweight. The mean BMI was $26.72 \pm 3.45 \text{ Kg/m}^2$. The mean WHR was 0.92 ± 0.12 . Among the participants 63 had abnormally high WHR (>0.95 in males and >0.80 in females). Mean RBS was $95.43 \pm 19.54 \text{ mg/dl}$.

Both diastolic and systolic blood pressures increased significantly with increased BMI status and abnormally elevated WHR than in participants with normal WHR. RBS was also significantly higher in those with elevated WHR than in those with normal WHR.

Conclusion: Raised BMI and abnormally elevated waist hip ratio are positively correlated with random blood sugar levels and blood pressure in Young adults. Therefore young population all over world are at risk of developing chronic diseases like hypertension, type 2 diabetes, cancer, stroke and other cardiovascular diseases later in their life. Therefore BMI and waist hip ratio should be routinely checked and monitored in young population to prevent future development of chronic diseases; 2: There is need for promotion of healthy life style, regular exercise, healthy nutrition, stress free life in young population.

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1. Introduction

Obesity is defined as abnormal or excessive fat accumulation in the body that may impair health.

Body mass index is simple formula to classify obesity in adults. It is defined as person's weight in kilograms divided by height in meter squares.

Obesity is one of the major causes for development of chronic diseases like stroke, hypertension, Type 2 diabetes

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Original Research Article

The effect of smoking on the cardiovascular autonomic functions tests

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ARTICLE INFO

Article history:

Received 18-03-2021

Accepted 22-03-2021

Available online 12-04-2021

Keywords:

Cardiovascular autonomic function tests

Smokers

Non smokers

resting heart rate

Resting heart rate

ABSTRACT

Background: Tobacco smoking is one of the major causes of preventable morbidity and mortality all over world. Smoking affects the cardiovascular system by several mechanisms. The present study was planned to study the effect of smoking on the cardiovascular autonomic functions among smokers.

Materials and Methods: This study comprises 50 male subjects aged between 20 to 30 years, who included 25 smokers who formed cases and 25 non-smokers who formed the control groups were selected for this study. The design for this study is cross-sectional survey. The subjects were from patients who attended medicine OPD. Inclusion and exclusion criteria are followed in selecting participants. 1: Prior informed written consents were obtained from them after explaining to them, the procedure and the purpose of the study tests; 2. Ethical approval was taken from ethical committee of BMCH, Chitradurga.

The cardiovascular autonomic function tests were assessed by using a CANWIN AUTONOMIC ANALYSER which was available in the department.

Results: In our study, it was observed that there was significant difference between the mean values of the para-sympathetic function tests among the smokers and the non-smokers (i.e. $p < 0.01$). The Resting Heart Rate had significantly increased and the Expiration: Inspiration Ratio, the 30:15 Ratio (Response to standing) and the Valsalva Ratio had significantly decreased in the smokers as compared to those in the non-smokers.

In this study, it was observed that there was no significant difference between the mean values of the Postural hypotension test (i.e. $p > 0.05$) and that there was a highly significant difference between the mean values of the Sustained handgrip test in the smokers and the non-smokers (i.e. $p < 0.01$).

Conclusion: The Resting Heart Rate had significantly increased in case of smokers as compared to non-smokers due to increased sympathetic activity due to release of catecholamines. The Expiration: Inspiration Ratio, 30:15 Ratio (Response to standing) and the Valsalva Ratio had significantly decreased in the smokers as compared to those in the non-smokers due to derangement in parasympathetic activity.

In sustained handgrip test, rise in blood pressure is decreased in smokers as compared to non-smokers due to reduced sympathetic activity.

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1. Introduction

Tobacco smoking is one of the major causes of preventable morbidity and mortality all over world.¹

Cigarette smoking kills nearly 5 million people annually globally. The WHO estimated that tobacco smoking killed nearly 100 million people worldwide in the 20th century.

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Nearly about 17% smokers in the world live in India.² Presently, nearly 2200 people per day and 9 lakhs every year die in India due to tobacco related diseases. The Health department has stated that 40% of India's health problems are related to tobacco use. The health and lifestyle factors, together with the genetic makeup of an individual, determine the response to these changes.³ Heavy cigarette smoking is one of the major causes for the development of ischaemic heart disease and death in younger age group.



Original Research Article

Correlation between haematological profile and body mass index in adults

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ARTICLE INFO

Article history:

Received 24-03-2021

Accepted 23-04-2021

Available online 06-07-2021

Keywords:

Body mass index

PCV

Haemoglobin concentration

RBC

WBC

ABSTRACT

Background: Obesity is defined as excessive accumulation of fat in various tissues in the body which causes ill health in the body. The basic cause of obesity is imbalance between calories intake and calories expenditure. There is increased intake of calorie rich foods and reduced physical activity due to urbanization all over the world.

Body mass index is simple formula to classify obesity in adults. It is defined as person's weight in kilogram divided by height in meter squares (m^2).

Obesity and elevated BMI are the major causes for development of chronic diseases like stroke, hypertension, Type 2 diabetes and other cardiovascular disorders.

BMI is the modifiable risk factors of type 2 diabetes, hypertension, stroke and cardiovascular diseases. This study was undertaken to assess the relationship between BMI and haematological profile among young Indian population.

Materials and Methods: This study comprises 200 participants comprising 100 males and 100 females aged between 18 to 30 years. The design for this study was cross-sectional survey. Ethical approval was taken from ethical committee of BMCH, Chitradurga.

Collection of Blood Sample: Under aseptic precaution, 10 ml of venous blood sample collected from antecubital vein and then transferred to EDTA tube. Then haematological parameters like PCV, Haemoglobin concentration, RBC, WBC count was estimated using sysmex haematology analyser.

Subjects were grouped into underweight, normal, overweight and obese subjects. Statistical significance was determined by ANOVA. Scheffe post-hoc test was used to determine significance while Pearson correlation was used to determine relationship between the variables. Data was analysed using SPSS software and presented as mean \pm standard deviation. Values of $P \leq 0.05$ were considered significant.

Result: In our study, PCV is statistically increased in overweight and obese individuals as compared to other BMI groups in both males and females. Total leucocyte count was significantly higher in overweight and obese subjects when compared to normal subjects. We found no change in Haemoglobin concentration and RBC count in all BMI groups.

Conclusion: In our study we observed, leucocytosis and higher PCV in overweight and obese individual groups when compared to underweight and normal weight BMI groups. There is direct positive correlation between BMI and total leucocyte count. RBC count and haemoglobin concentration shows no statistical significance among all BMI groups.

There is need for promotion of a healthy life style, regular exercise, healthy nutrition, stress free life in young population.

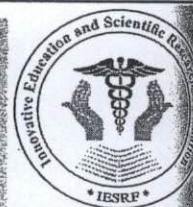
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1. Introduction

Obesity is defined as excessive accumulation of fat in various tissues in the body which causes ill health in the body. The basic cause of obesity is imbalance between

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Original Research Article

Correlation between serum lipid profile and body mass index in young healthy medical students

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ARTICLE INFO

Article history:

Received 23-04-2021

Accepted 01-06-2021

Available online 06-07-2021

Keywords:

Body mass index

Lipid profile

Healthy medical students

ABSTRACT

Background: Obesity is defined as increased accumulation of fat in various tissues in the body cause impairment in the body. The cause for obesity is imbalance between calories intake and calories expenditure. There is increased intake of calorie rich foods and reduced physical activity due to urbanization all over the world.

Body mass index is simple index to divide obesity among adults. It is defined as person's weight in kilograms divided by height in meter squares (m^2).

Obesity and elevated BMI are the major causes for development of chronic diseases like stroke, hypertension, malabsorption syndrome, Type 2 diabetes and other cardiovascular disorders.

BMI and obesity are the modifiable risk factors of type 2 diabetes, cardiovascular disorders and hypertension. This study was carried out to correlate the relationship between BMI and lipid profile among young healthy medical students.

Methods: This study comprises 45 males and 55 females (100 in total) young adults aged between 18 to 25 years. The design for this study was cross-sectional survey. Ethical approval was taken from ethical committee of BMCH, Chitradurga. BMI, lipid profile levels are measured from the subjects.

Results: A total of 100 participants were tested. Among them 45 males were males and 55 were females. The mean age of the subjects was 22 years. Among them, 30 were overweight and 17 were obese while, 13 were underweight. The mean BMI was $26.72 \pm 3.45 \text{ Kg/m}^2$.

Mean serum cholesterol in 100 students was $147.63 \pm 15 \text{ mg/dl}$, mean LDL-C was $85.23 \pm 14.8 \text{ mg/dl}$, mean HDL-C was $23.22 \pm 5.56 \text{ mg/dl}$ and mean triglycerides were $76.6 \pm 18.5 \text{ mg/dl}$. The mean BMI of students was $22.5 \text{ kg/m}^2 \pm 5.5$.

Conclusion: It was found in our study that prevalence of overweight is the major driving forces in the development of diabetes mellitus, hypertension, metabolic syndrome. Prevalence of obesity is significantly higher among young adults. This prevalence may be due to lack of awareness and unhealthy lifestyles. Health education and more preventive measures should decrease the prevalence of obesity and cardiac risk in our medical college by modifying their lifestyle.

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1. Introduction

Obesity is defined as an excess accumulation of fat in the body resulting in adverse effects on health of the individual.¹ Obesity is becoming a major health burden in developing countries like in India.¹ Almost about 50-70% of adult Indians are either overweight or obese

or have abdominal obesity. The increasing prevalence of obesity in India has a direct correlation with the increasing prevalence of obesity-related co-morbidities like hypertension, the metabolic syndrome, dyslipidemia, type 2 diabetes mellitus (T2DM), stroke and cardiovascular disease (CVD).¹

Obesity is now estimated to be the second leading cause of mortality and morbidity, causing an estimated 2.6 million deaths worldwide and 2.3% of the global burden of

disease.² There is a significant increase in the prevalence of disease, alteration in life expectancy.³

Lipids and the development of triglyceride-rich lipoproteins are risk factors for atherosclerosis. Acetylated LDL is taken up by the macrophage for the formation of foam cells. Chemotactic factors released by the macrophage adversely alter the HDL-C in comparison to the level of atherosclerosis. The level, small

Association has been reported between obesity and accepted as the major risk factor for adiposity and about the association between lipid profile among

2. Materials

This study conducted among young adults. In this study was taken from a group of students from ethical committee who are having Dyslipidemia. The study.

2.1. Data collection

The following subjects and

1. The weight of the subject. BMI was calculated as weight in kilograms divided by square of height in meters.

Table 1:

WHO classification
BMI < 18.5
BMI 18.5-24.9
BMI 25-29.9
BMI > 30

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Change in Erythrocyte Sedimentation Rate (ESR) in Pregnancy and Puerperium in the Same Woman

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ABSTRACT

Aims and Objective: Normal pregnancy involves many changes including alterations in hematologic parameters. Hematologic changes also involve change in Erythrocyte Sedimentation Rate (ESR) during pregnancy. Therefore in the present study, the change in erythrocyte sedimentation rate is studied in pregnancy and puerperium in the same woman.

Method: 30 pregnant women in the age group of 20 to 30 who are registered in KIMS, Hubli were enrolled for the study. Erythrocyte sedimentation rate (ESR) is measured in pregnancy and puerperium in the same women.

Results: Values were analyzed statistically using paired "t" test. Erythrocyte sedimentation rate is increased in pregnancy compared to puerperium ($p < 0.0001$) which is statistically highly significant.

Conclusion: The increased erythrocyte sedimentation rate in pregnancy is due to increased plasma fibrinogen level and hemodilution during pregnancy.

Keywords: Erythrocyte Sedimentation Rate, Pregnancy And Puerperium

INTRODUCTION

Pregnancy is a process whereby the life of a baby begins in the mother's womb and progresses up to the stage when it is safe to expose the baby to the outside world. During pregnancy there is progressive anatomical, physiological and biochemical changes not only confined to the genital organs but also to all systems of the body.¹

Normal pregnancy involves many changes in maternal physiology including alterations in hematologic parameters. These changes include expansion in maternal blood and plasma volumes and a decrease in hematocrit, as well as an increase in the levels of some plasma proteins that alters the balance of coagulation and fibrinolysis²

Puerperium is the period following childbirth during which the body tissues, specially the pelvic organs revert back approximately to the pre-pregnant state both anatomically and physiologically.³

The puerperium is a time of equal physiological interest because many of the changes effected over the

nine months of pregnancy are reversed in a matter of hours or days. These changes may be complex, as appears to be the case with regard to the haematological indices commonly determined in obstetric practice⁴.

Pregnancy and puerperium also involves changes in erythrocyte sedimentation rate (ESR). Therefore the present study is undertaken to assess the changes in erythrocyte sedimentation rate in pregnancy and puerperium in the same women.

AIMS AND OBJECTIVES

- To estimate erythrocyte sedimentation rate (ESR) in pregnancy and puerperium in the same woman.
- To compare the variations observed in erythrocyte sedimentation rate (ESR) in pregnancy and puerperium in the same woman.

MATERIALS AND METHOD

This study was conducted on 30 normal healthy pregnant women with age group of 20 to 30 years.

Changes in Blood Leucocyte Count in Different Trimesters of Pregnancy

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ABSTRACT

Aims and Objective: Normal pregnancy involves many changes including alterations in hematologic parameters. These hematologic changes include changes in total leucocyte count and differential leucocyte count during pregnancy. Therefore in the present study, the changes in total leucocyte count and differential leucocyte counts are studied in the pregnant women in different trimesters of pregnancy.

Materials and Method: 30 pregnant women in the age group of 20 to 30 were enrolled for the study. Total leukocyte count and differential leukocyte count were measured on samples of blood obtained from each consenting participant during each of the three trimesters. The results were analyzed using SPSS for windows (Version 11) and the data expressed as means \pm S.D. Means were compared using the student's paired *t*-test.

Results: Total leucocyte count and differential leucocyte count were compared with each other between trimesters and none of the values were found to be statistically significant. ($p > 0.05$)

Conclusion: The total leucocyte count rises progressively during pregnancy. The increased total leucocyte count in third trimester may be caused by the increased level of estrogen and cortisol hormone. The increase in leucocyte count is largely due to increase in circulating segmented neutrophils. In labor the leucocyte count is even more and count is highly correlated with labor progression as determined by cervical dilatation. One more cause may be reappearance of leucocytes previously shunted out of active circulation.

Key words: Total leucocyte count, Differential count, Pregnancy

INTRODUCTION

Pregnancy is process whereby the life of a baby begins in the mother's womb and progresses up to the stage when it is safe to expose the baby to the outside world. During pregnancy there is progressive anatomical, physiological and biochemical changes not only confined to the genital organs but also to all systems of the body. As the pregnancy progresses, various types of extra demands are imposed on the mother's body by the growing fetus, which are met with by certain adaptations in almost all the organ

systems of the body¹.

Normal pregnancy involves many changes in maternal physiology including alterations in hematologic parameters. These changes include expansion in maternal blood and plasma volume and a decrease in hematocrit, as well as an increase in the levels of some plasma proteins that alters the balance of coagulation and fibrinolysis².

First trimester includes first 12 weeks. Second trimester includes 13 to 28 weeks. Third trimester includes 29 to 40 weeks

Therefore the present study is undertaken to assess the changes in leucocyte count during different trimesters of pregnancy.

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A Comparative Study of Variations in Hematological Profiles in Different Trimesters of Normal Pregnancy

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ABSTRACT

Background: The haematological profile of an individual to a large extent reflects their general health and many studies have identified the haematological profile of the pregnant woman as one of the factors affecting pregnancy and its outcome. The study was aimed to determine the effect of pregnancy on haematological indices and compare the haematological indices at different trimesters of normal pregnancy

Objectives: To evaluate the values of some major hematological parameters at different trimesters of pregnancy.

Materials and Method: The research involved 30 healthy pregnant women as the study group and 10 non pregnant women as control. Age range of these women was 20-30 years. 3 millilitres of venous blood collected from the median cubital vein with minimum stasis were put into EDTA bottle. The blood was properly mixed and analyzed for packed cell volume (PCV), total white cell count, Differential count and Erythrocyte sedimentation rate (ESR).

Results: The result showed that study group exhibited statistically significant lower values of PCV, monocyte and lymphocyte while WBC, eosinophil and ESR were not significantly changed. There was no significant difference in all hematological parameters among the three trimesters.

Conclusion: Healthy pregnancy may have effect on hematological parameters. Therefore there is a need to monitor these parameters during pregnancy. We also find that stages of pregnancy have no influence on hematological parameters.

Keywords: Hematological Profiles, Trimesters, Pregnancy.

INTRODUCTION

The haematological profile of an individual to a large extent reflects their general health and many studies have identified the haematological profile of the pregnant woman as one of the factors affecting pregnancy and its outcome^[1] The most commonly referred to of the haematological indices are the indicators of haemoglobin concentration, and low haemoglobin (anaemia) is the most widely identified haematological abnormality and is associated with adverse pregnancy outcome^[2] Anaemia in women is variously defined with the two most common being either as a haemoglobin concentration less than 11.0 g/dl or <5th percentile of the distribution of haemoglobin

concentration or Haematocrit in a healthy reference population and is based on age, sex, and (among pregnant women) stage of pregnancy. According to the World Health Organisation, "anaemia is a common and serious problem in pregnancy" and needs to be addressed^[3].

The study was aimed to determine the effect of pregnancy on haematological indices and compare the haematological indices at different trimesters of normal pregnancy.

MATERIALS & METHOD

SUBJECT: Thirty pregnant women (10 in first

Evaluation of Risk of Type 2 Diabetes Mellitus in Medical Students Using Indian Diabetes Risk Score (IDRS)

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Abstract

Background: Diabetes as a non-communicable disease is significant public health problem all over the world. Type 2 Diabetes Mellitus (T2DM) is a disease that develops slowly and over time and only recently has it become evident that T2DM finds its presence even among the younger age groups. Therefore a cross sectional study has been conducted to evaluate and assess the risk for developing T2DM among undergraduate students using Indian Diabetes Risk Score (IDRS), a questionnaire that is simple, validated and has proven to be highly effective in previous studies.

Objectives: To evaluate the risk of developing diabetes among medical students using Indian Diabetes Risk score.

Method: The study included 100 MBBS students. Detailed history was taken which includes information regarding their age, family history of diabetes and exercise. Waist circumference was measured. Risk of diabetes was calculated using Indian Diabetes Risk Score.

Results: Risk of developing diabetes was high in 6%, moderate in 87.3% and low in 9.7% of students.

Conclusion: Risk of diabetes was present in more than 50% of medical students as assessed by Indian Diabetes Risk Score.

Keywords: Type 2 Diabetes mellitus, IDRS, Obesity, Physical activity, Family history.

Introduction

India leads the world with the highest number of diabetic patients earning the distinction of being termed the "diabetes capital of the world".^[1] It is estimated that the number of diabetic subjects will rise to 69.9 million from 42 million by the year 2025. We can expect diabetes to have a serious damaging impact on the longevity as well as the quality of life in India. The increasing modernization, sedentary lifestyle and unhealthy

dietary habits in rural and urban India has taken its toll on the health of the general public, especially the youth.^[2] Diabetes mellitus (DM) can be split primarily into two types: Type I or Insulin dependent diabetes mellitus (IDDM) and Type 2 or Non- insulin dependent diabetes mellitus (NIDDM). Type 2 DM (T2DM) is a non-incapable of producing enough insulin, characterized by abnormal glucose homeostasis. Its pathogenesis appears to involve complex interactions between genetic predisposition and environmental factors.^[3] T2DM occurs when impaired insulin resistance is accompanied by the failure to produce ample amount of β -cell insulin.^[4]

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Evidences suggest that premature detection of diabetes by suitable screening method, especially in subjects with elevated risk for diabetes will help to intercept or delay the vascular complications and thus reduce the clinical, social and economic burden of the

ASSOCIATION OF ALBUMIN-GLOBULIN RATIO WITH SYMPATHOVAGAL IMBALANCE IN PREGNANCY-INDUCED HYPERTENSION

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(Received on May 10, 2010)

Abstract : The early prediction of pregnancy-induced hypertension (PIH) is based on the demonstration of increased sympathetic activity in early part of pregnancy. However, the mechanisms that increase sympathetic activity in PIH have not yet been fully elucidated. Therefore, in the present study we have investigated the link of albumin-globulin ratio (AGR) to sympathovagal imbalance in PIH patients. Spectral analysis of HRV was performed in three groups of subjects (Group I: normal pregnant women; Group II: pregnant women with risk factors for PIH, but did not develop PIH; Group III: pregnant women with risk factors and developed PIH) and their biochemical parameters including AGR were recorded. It was observed that LF-HF ratio, the most sensitive indicator of sympathovagal balance was significantly high ($P < 0.01$) since early pregnancy in group III compared to other groups, which was considerably correlated with AGR in group III (PIH subjects). It was suggested that alteration in AGR could have direct contribution to the sympathovagal imbalance that plays a critical role in the genesis of PIH.

Key words : pregnancy-induced hypertension heart rate variability
spectral analysis of HRV LF-HF ratio
albumin-globulin ratio

INTRODUCTION

In developing countries of south-east Asia, pregnancy-induced hypertension (PIH) accounts for about 12% of maternal deaths, which is mainly due to its late diagnosis and

inadequate treatment (1, 2). The clinical and laboratory characteristics of hypertension induced by pregnancy are difficult to differentiate from those of hypertension present during but independent of pregnancy (3). PIH usually develops late in pregnancy

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Volume 31, 2009 - Issue 4


86 16

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Views CrossRef citations to date Altmetric

Original

Spectral Analysis of Heart Rate Variability for Early Prediction of Pregnancy-Induced Hypertension

G.K. Pal , P. Shyma, S. Habeebullah, P. Shyjus & Pravati Pal

Pages 330-341 | Published online: 19 Sep 2009

 Download citation  <https://doi.org/10.1080/10641960802621333>

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A Study on knowledge, Attitude and Practice of voluntary blood donation among the undergraduates of Raja Rajeswari Group of institutions (Medical, Dental and Engineering) Bangalore Karnataka

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ABSTRACT

Aim: The study aims to assess the level of knowledge, attitude and practice of voluntary blood donations among the undergraduate students of Raja Rajeswari group of the institution Bangalore.

Objective: To understand the various factors contributing to the knowledge, attitude and practice of voluntary blood donation among the undergraduate students of Raja Rajeswari group of the institution Bangalore.

Methods: A cross-sectional study was conducted among 300 undergraduate students of Raja Rajeswari Medical, Dental and ACS Engineering College Bangalore in the academic year of 2012-13. A standard set of multiple choice questions consisting 07 questions on knowledge, attitude and practice of voluntary blood donation was provided to the students with a time period of 3 minutes to answer all the questions. At the end, the results were expressed in percentage and analyzed.

Results: Overall knowledge of students on voluntary blood donation was average with very good attitude towards voluntary blood donation and The majority (88 %) of the students showed willingness to participate in voluntary blood donation on regular basis. 90.7 % of total study population opines that blood donation is a noble cause. About 10 % of the participants had previous experience of voluntary blood donation and 37 % of the blood donors had a bad experience during voluntary blood donation.

Keywords: Voluntary Blood Donation (VBD), undergraduate students, health education.

INTRODUCTION

Blood is the fluid of life. The requirement of blood and blood products in a country depends on the population, health care structure, prevalence of conditions requiring regular transfusions (hemophilia, thalassemia etc.), availability of surgical centers using modern sophisticated techniques and awareness among clinicians regarding judicious use of blood. However, the problem of scarcity of blood and blood components is observed in most of the blood banks all over the world. ⁽¹⁾

The rapid urbanization of the country, increased number of Road traffic accidents (RTA), violent activities and availability of advanced medical/surgical treatment modalities have increased the demand for blood and blood products more than the routine requirement off late. One more important factor adding to this is the fact that Indian women invariably being and the majority of them having iron deficiency anemia which demands blood transfusion prior to any surgical treatment in the country and in this regular need of

A Comparative Study of Glomerular Filtration Rate in Normal Healthy Controls and Type 2 Diabetes Mellitus Patients in South India

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Abstract

Background and Aim: Diabetes mellitus (DM) is one of the most common metabolic diseases, which is characterized by increased blood glucose levels. DM is the leading cause for chronic kidney disease (CKD) and end-stage renal disease. To estimate the glomerular filtration rate (GFR) of normal healthy controls and type II DM (T2DM) patients using Cockcroft–Gault (CG) formula and to compare the GFR values of normal subjects and T2DM patients (with respect to glycated hemoglobin [HbA1c]). **Methods:** The total sample size of the study was 60, among which 30 were healthy individuals (controls) and 30 were T2DM patients (subjects with both controlled and uncontrolled HbA1c). A detailed history was taken from the subjects and controls followed by a thorough clinical examination. Blood and urine samples were collected from all the subjects for the estimation of serum creatinine, HbA1c, and urine routine analysis. The GFR is calculated for all the study participants using CG formula, and the results were expressed in the form of graphs and charts. **Results:** The overall GFR value was well within the normal limits in controls than the subjects. In the present study, the values of GFR were 106.87 ± 8.29 and 100.03 ± 12.42 in normal healthy controls (Group A) and diabetic subjects (Group B), respectively. In this study, value of HbA1c in healthy control males and females was 6.74 ± 0.39 and 6.76 ± 1.04 , respectively. Similarly, the value of HbA1c in diabetic subject males and females was 7.32 ± 0.69 and 7.06 ± 1.45 , respectively. There was a significant positive correlation between GFR with the degree glycemic control in T2DM of the study population. **Conclusion:** The present study indicates that the degree of glycemic control in T2DM reflects the ongoing kidney damage by change in GFR of the kidney. The GFR of diabetic subjects is comparatively lower when compared with GFR of normal healthy controls. Our study also shows that there is a higher risk of developing CKD in diabetics with poor glycemic index than diabetics with good glycemic index.

Keywords: Chronic kidney disease, glomerular filtration rate, type 2 diabetes mellitus

Received: 05th June, 2017; Revised: 12th August, 2017; Accepted: 25th August, 2017

INTRODUCTION

Diabetes mellitus (DM) is one of the most common metabolic diseases characterized by increased blood glucose level either due to insufficiency/absence of insulin or due to decrease in the insulin sensitivity at cellular receptor level. Depending on the etiology, factors contributing to hyperglycemia may include reduced insulin secretion, insulin resistance, decreased peripheral glucose utilization, and increased glucose production.^[1]

The global prevalence of type 2 DM (T2DM) is increasing day by day and has reached epidemic proportions in many countries. The number of adults suffering from T2DM is estimated as 366 million in 2011, and it is expected that by 2030, the prevalence may increase to 552 million globally.^[2]

India has one of the largest numbers of diabetic subjects compared to total world diabetic population. At present, China tops the world among diabetes affected countries having a total of around 90 million T2DM patients and India follows China with a prevalence of 61.3 million. The number of diabetic subjects in India was 40.9 million in 2007, and now, it is expected to rise to 101.2 million by 2030.^[3]

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DOI:
10.4103/ijcep.ijcep_30_17

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How to cite this article: Kote N, Ranganath MD. A comparative study of glomerular filtration rate in normal healthy controls and type 2 diabetes mellitus patients in south India. *Int J Clin Exp Physiol* 2017;4:148-51.



Transdermal Patch: A Comprehensive Overview of Newer Drug Delivery System in Modern Medical Science

Page 1 Authors

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Abstract

Background: Oral route of drug administration has been the most common route of drug administration since the beginning of the therapeutic area in medical science. However this route of drug administration fails at bypassing the first pass metabolism of the drug in liver with poor bio availability. Oral route of drug administration also fails in uncooperative /unconscious semiconscious / pediatric subjects. Transdermal patch, a new drug delivery system through skin to the parenteral circulation has been the most recently discussed topic in pharmacology and medicine as it is a noninvasive route of drug administration, delivered in a sustained / pre fixed dosage with no / extremely less first pass metabolism and better bio availability. Most importantly it can be used in semiconscious / unconscious & pediatric subjects without affecting their hemodynamics. The transdermal patches have many beneficial factors however they also come with some major drawbacks like varieties of formulation, design and quality of adhesiveness. This articles provides an insight of transdermal patch in terms of its mechanism of action, advantages, disadvantages and future scope of it in the medical science.

Keywords: drug, transdermal patch, Bioavailability

Introduction

Man and the disease have been intimate to each other since the beginning of human evolution. As the lifestyle and habits changed from simple to complex the mankind has been witnessing many more number of diseases in various presentations; accordingly various molecules / drugs have been discovered with many attempts in delivering it in different routes. The oral route of drug administration is the most accepted among all with about two third of the medications products delivered through this route.

Poor absorption rate, rapid first pass metabolism in liver with significant low bio availability of the drug and prominent gastro intestinal adverse reactions makes oral route not a much recommended route of drug administration in current scenario.

Since the beginning of civilization human beings have applied a lot of substances on the skin as a cosmetic / therapeutic agent however it was in the 19th century skin (Transdermal route) became the preferred route of administration for the long term drug delivery ⁽¹⁾.

SERUM PARAOXONASE-1 ACTIVITY, OXIDATIVE STRESS & LIPID PROFILE IN PATIENTS WITH CHRONIC LIVER DISEASE

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ABSTRACT

Background/Aim: Chronic liver disease in the clinical context is a disease of the liver that involves a process of progressive destruction and regeneration of the liver parenchyma leading to fibrosis and cirrhosis. Oxidative stress influences the pathophysiological changes leading to chronic liver disease. Paraoxonase-1 (PON1) is an esterase, exclusively synthesized by the liver exerts a protective effect against oxidative stress. The present study has two objectives: to estimate and compare the standard liver function tests, lipid profile, serum basal PON1 activity & malondialdehyde (MDA) in chronic liver disease patients and healthy controls & to find the correlation between serum basal PON1 activity, MDA and standard LFTs. **Materials and Methods:** In this study we included 40 diagnosed cases of chronic liver disease and 40 healthy age and sex matched subjects from whom blood was drawn to measure paraoxonase-1 activity manually using spectrophotometer, malondialdehyde by thiobarbitric acid method. Liver function tests: bilirubin, total protein, albumin, alanine transaminase, alkaline phosphatase and lipid profile were measured using clinical chemistry auto analyzer. **Results and observations:** Serum paraoxonase-1 activity, total protein, albumin levels, high-density lipoproteins are decreased and malondialdehyde, bilirubin, alanine transaminase and alkaline phosphatase are increased in patients with chronic liver disease. **Conclusion:** Serum PON1 activity has decreased significantly & MDA levels were increased significantly in chronic liver disease. Determination of PON1 activity may serve as a useful marker to assess severity of chronic liver disease.

KEYWORDS

Chronic liver disease, high-density lipoprotein, malondialdehyde, paraoxonase-1

INTRODUCTION

Chronic liver diseases are slow, progressive diseases characterized by advancing hepatocellular necrosis, inflammation and fibrosis. WHO estimates that about 3% of the world's population has been infected with Hepatitis C Virus and more than 170 million chronic carriers who are at risk of developing liver cirrhosis and hepatocellular carcinoma. Oxidative stress and inflammation plays a fundamental role in the onset and development of liver diseases. Oxygen free radicals cause lipid

peroxidation leading to destruction of PUFA producing toxic metabolites such as malondialdehyde (MDA) which is commonly used as a marker of lipid peroxidation. The ubiquitous presence of antioxidant enzymes may represent an important defence mechanism in diminishing the burden of the pro-oxidant stimuli. Paraoxonase-1 (PON1) is an enzyme synthesized in liver and has lactonase and esterase activities towards lipid peroxides and circulates in plasma bound to high-density lipoproteins (HDL)¹.

INTERNATIONAL JOURNAL OF UNIVERSAL PHARMACY AND BIO SCIENCES

Pharmaceutical Sciences

Research Article.....!!!

Received: 23-04-2013; Accepted: 01-05-2013

STUDY OF ALTERED LIVER FUNCTION TESTS AND ELECTROLYTE DISTURBANCES IN PATIENTS WITH DENGUE INFECTIONS.

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KEYWORDS:

*Dengue, Alanine amino
transferase, Aspartate
amino transferase,
Sodium, Potassium.*

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ABSTRACT

Dengue infection is a mosquito-borne arboviral infection endemic in many countries along the tropical and subtropical belt, with more than 100 million cases and 24,000 deaths annually worldwide. The aim of our study is to evaluate liver function tests & electrolyte disturbances in patients with dengue infection and to correlate liver function tests with severity of dengue infection. In this study we included total of 80 clinically diagnosed and serologically confirmed age and sex matched dengue cases. After taking informed consent under aseptic precautions about 5ml of blood samples were drawn to measure Liver function tests were done by using fully automated chemistry analyzer and serum electrolytes [sodium, potassium, chloride] were measured by ion selective electrode method. Degree of liver damage was graded in these patients depending on ALT & AST measurements. Results & Observations of our study among the 80 serologically confirmed dengue cases 40% of the patients presented with increase in aminotransferase levels [grade B], 18% of the patients presented with increase in atleast one of the enzymes to more than three times its reference values [grade C] and 12.5% of the patients had progressed to acute hepatitis [grade D].



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH & STUDIES

Serum Ferritin A Novel Risk Factor For Diabetes?

ISSN 2319-9725

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Abstract: Two large epidemiological studies have recently reported a strong association between elevated serum ferritin concentration and increased risk for diabetes. Moreover, other studies have revealed the relationship among excess ferritin, coronary heart disease and insulin resistance and have therefore renewed interest in ferritin as a risk factor for diabetes. **Aims:** To study whether increased serum ferritin is a potential novel risk factor for diabetes. **Objectives:** a) to investigate and compare serum ferritin levels between healthy controls, diabetic and prediabetic subjects. b) To assess the relationship of increased serum ferritin with established risk factors for diabetes. **Materials and Methods:** Hospital based study carried out in 90 subjects in the age group of 25-65 years. The subjects were divided into three groups. Group 1:30 healthy controls, Group 2:30 subjects of diabetes on regular follow up & Group 3:30 subjects of Pre- diabetes (IFG and IGT) were included in the study. **Results and observations:** Mean serum ferritin levels were significantly higher in diabetes compared to healthy controls and prediabetes ($P < 0.01$). There was significant increase in ferritin levels in diabetes as compared with the duration of diabetes. A positive correlation was found between serum ferritin and BMI, triglyceride, cholesterol, fasting insulin, HbA1C.

Keywords: Diabetes, Pre-diabetes, Serum ferritin, Lipid profile, Fasting Insulin, HbA1C.

Study of Thyroid Stimulating Hormone, Serum Creatinine and Uric Acid Levels in Patients with Hypothyroidism

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ABSTRACT

Background: Hypothyroidism is the most common endocrine disorder especially in women. It is associated with increased risk for atherosclerosis and other complications. The frank development of hypothyroidism is associated with metabolic derangements including dyslipidemia- which is an etiopathologic factor for development of renal impairment. This study was to evaluate whether hypothyroidism is associated with impaired renal function by measuring serum uric acid and creatinine levels. *Aim of the study:* To estimate and compare serum creatinine and uric acid in healthy controls and hypothyroid patients. *Materials and Methods:* A cross sectional analytical study of 40 newly diagnosed and untreated cases of hypothyroidism and 40 healthy controls in the age group of 18 - 60 years were included in whom 5mL of fasting blood sample was drawn to estimate serum levels of T3, T4, TSH by Chemiluminiscence immuno assay. Uric acid, Creatinine and lipid profile parameters were measured using automated clinical chemistry analyzer according to manufacturer's protocol. *Results:* There was significant increase in the levels of serum creatinine and uric acid found in hypothyroid patients compare to healthy controls.

Key words: Hypothyroidism, Thyroid stimulating hormone, Creatinine and Uric acid.

INTRODUCTION

The thyroid gland produces two related hormones, thyroxin (T₄) and triiodothyronine (T₃). Acting through thyroid hormone receptors α and β , these hormones play a critical role in cell differentiation during development and help maintain thermogenic and metabolic homeostasis in the adult¹.

Thyroid hormones are necessary for growth and development of the kidney and for the maintenance of water and electrolyte homeostasis. On the other hand, kidney is involved in the metabolism and elimination of thyroid hormones. Moreover, the decline of kidney function is accompanied by changes in the synthesis, secretion, metabolism, and elimination of thyroid hormones. On the other hand, the different treatments used in the management of patients with kidney and thyroid diseases may be accompanied by changes or adverse events that affect thyroid and kidney function respectively². Hypothyroidism is a clinical syndrome caused by deficiency of thyroid hormones (below reference range) that causes a generalized slowing of metabolic process^{3,4}. Primary hypothyroidism is frequent syndrome, whose prevalence is 0.5–2.0% among women and around 0.2% among men. According to several authors, recently the number of patients with autoimmune diseases with hypothyroidism increased by 2.1%⁵.

Certain effects of the hypothyroid state on the kidney are well established. Physiological effects include changes in water and electrolyte metabolism and reliable alterations of renal hemodynamics, including decrements in renal blood flow, renal plasma flow, glomerular filtration rate (GFR), and single nephron GFR. The cause of the decreased renal plasma flow and GFR observed is believed to be principally due to the generalized hypodynamic state of the circulatory system in hypothyroidism^{6,7}.

Hypothyroidism is associated with many biochemical abnormalities including serum creatinine and uric acid levels. Creatinine is the cyclic anhydride of creatine that is produced as the final product of



A Study on Association of Thyroid Stimulating Hormone with BMI, Insulin Resistance and Lipid Profile in Women with Polycystic Ovarian Syndrome

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Received: 10 February 2014, Accepted: 1 April 2014, Published Online: 10 April 2014

Abstract

Polycystic ovary syndrome (PCOS) is one of the most common female metabolic endocrine disorder. It affects about 5-10% of women of reproductive age. It is thought to be one of the leading cause of female infertility. Women with PCOS demonstrate hormonal disturbances and serum lipid derangements. To determine and evaluate the association of thyroid stimulating hormone (TSH) with body mass index (BMI), insulin resistance (IR) and lipid profile parameters. To identify the cut-off value of TSH at which the association between TSH and IR exists. In this study we included 60 diagnosed cases of PCOD as per Rotterdam's criteria and 60 healthy age matched healthy controls from whom fasting blood sample was drawn to measure fasting insulin, free triiodothyronine (fT3), free thyroxine (fT4), thyroid stimulating hormone (TSH), follicle stimulating hormone (FSH), luteinizing hormone (LH) and prolactin levels by Chemiluminiscence immuno assay. Insulin resistance was calculated by employing homeostasis model assessment of insulin resistance (HOMA-IR). Lipid profile parameters (total cholesterol (TC), low density lipoproteins (LDL), high density lipoproteins (HDL) and triglycerides (TG)) were measured using automated clinical chemistry analyzer according to manufacturer's protocol. Women with high TSH (>2.5 mIU/L) levels were more insulin resistant as compared to women with low TSH (<2.5 mIU/L). A significant association between increased TSH and IR was found in women with PCOS and the association was independent of body mass index (BMI).

Keywords: Polycystic ovarian disease, Thyroid stimulating hormone, Free triiodothyronine, Free thyroxine & Insulin resistance.

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Manuscript ID: IJMPR2026



PAPER-QR CODE

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**INTERNATIONAL JOURNAL OF UNIVERSAL
PHARMACY AND BIO SCIENCES**

IMPACT FACTOR 2.96***

ICV 5.13***

RESEARCH ARTICLE!!!

Biological Sciences

**STUDY OF SERUM INSULIN, INSULIN RESISTANCE, C-PEPTIDE AND
GLYCATED HEMOGLOBIN LEVELS IN PATIENTS WITH TYPE 2
DIABETES MELLITUS**

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ABSTRACT**KEYWORDS:**

Type 2 Diabetes Mellitus,

Insulin, Insulin

Resistance, C-peptide &

Glycated haemoglobin.

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Background: Insulin resistance and abnormal insulin secretion are central to the development of Type 2 DM. Most studies support the view that insulin resistance precedes an insulin secretory defect, diabetes develops only when insulin secretion becomes inadequate. **Objectives:** to evaluate the levels of insulin, c-peptide & glycated haemoglobin in controls and type 2 diabetic subjects who are on oral anti diabetic medications and insulin and to assess the correlations if any, between fasting serum glucose, insulin, c-peptide & glycated haemoglobin. **Materials and Methods:** A total number of 100 subjects were studied, comprising of 50 controls and 50 type 2 diabetic subjects. Diabetic subjects were further divided depending upon treatment modalities. Serum levels of insulin and c-peptide were measured by Chemiluminescence Immunoassay and Glycated haemoglobin was measured by Nephelometry. Insulin Resistance was calculated by using HOMA-IR (Homeostatic Model of Assessment of Insulin Resistance) formula. The statistical analysis was carried out using student 't' test and Karl Pearson's coefficient of correlation. **Results:** Insulin, HOMA-IR & glycated haemoglobin levels were found to be significantly increased ($p < 0.01$) in type 2 diabetic subjects compared to controls. C-peptide level was found to be increased in type 2 diabetic subjects as compared to controls and the increase was not statistically significant. There was highly significant ($P < 0.01$) positive correlations existed between fasting serum glucose and HbA1c. **Discussion & Conclusion:** Insulin resistance and decreased insulin levels play an importance role in the progression of asymptomatic to symptomatic Diabetes Mellitus. It is quite evident from our study that insulin resistance is higher in type 2 diabetic subjects, in these subjects lifestyle and dietary modification should be emphasized, in order to prevent hyperinsulinemia which leads to atherosclerosis related complications. Measurement of glycated hemoglobin serves as a simple and rapid procedure to assess glycemic control.

Assessment of Serum Cystatin C and Creatinine in Monitoring Pre-eclampsia

P VIJAYALAKSHMI, SMR USHA

ABSTRACT

Introduction: Pre-eclampsia is one of the common pregnancy related hypertensive disorders often accompanied with proteinuria with or without oedema. It is associated with risk of preterm labour, Intrauterine Growth Restriction (IUGR), perinatal and maternal mortality. The development of pre-eclampsia is believed to be multifactorial; however the exact aetiopathogenesis of pre-eclampsia remains debatable. The development of early predictive markers for timely prediction/detection, orderly management and prevention of the disorder can improve overall outcome.

Aim: To determine the diagnostic efficacy of serum cystatin C as a biomarker of renal health in pre-eclampsia and to compare it with conventional renal parameter creatinine.

Materials and Methods: This case-control study was conducted in the Department of Biochemistry, Raja Rajeswari Medical College and Hospital, Bengaluru, Karnataka, India. The study group included 50 pre-eclamptic women aged 18-35 years and 50 age-matched healthy pregnant women. Serum cystatin C was estimated by immunoturbidimetry method and serum creatinine by Isotope Dilution Mass Spectrometry (IDMS) traceable Jaffe's kinetic method. The data were analysed using unpaired Student's t-test, $p < 0.05$ was considered statistically significant. Analysis of variance (ANOVA) was used to compare Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP),

cystatin C and creatinine between groups. Pearson's correlation coefficient analysis was used to determine the correlation between study parameters. Receiver Operating Characteristic (ROC) curve was used to assess the diagnostic efficacy of study parameters.

Results: In the present study, a significant increase in serum cystatin C levels in pre-eclampsia ($p < 0.001$), compared to creatinine ($p = 0.126$) was observed. ANOVA analysis in mild, severe pre-eclampsia cases and controls showed a significant difference in the level of cystatin C between the groups ($p < 0.001$), whereas no statistically significant difference was observed in the level of creatinine ($p = 0.06$). A positive correlation was observed between SBP (r-value 0.47; $p < 0.001$) and DBP (r-value 0.42; $p < 0.01$) with cystatin C. Creatinine showed a weak positive correlation with SBP (r-value 0.17; $p = 0.23$) and DBP (r-value 0.10; $p = 0.48$). ROC curve analysis revealed that in pre-eclampsia cases, cystatin C exhibited better diagnostic efficacy than creatinine.

Conclusion: In the present study, the diagnostic role of cystatin C in pre-eclampsia was evaluated. The study findings indicate that cystatin C has a better predictive value than currently used creatinine for diagnosing renal damage, even in its early stages. Therefore, cystatin C holds potential for identification of pregnant women at risk of developing renal complications of pre-eclampsia.

Keywords: Glomerular endotheliosis, Kidney, Pregnancy, Renal marker

INTRODUCTION

Pre-Eclampsia (PE) is a pregnancy-specific hypertensive disorder that manifests after 20 weeks of gestation and is clinically identified by early onset of proteinuria and often oedema [1,2]. Although, it is the most frequently encountered medical complication during pregnancy, associated with high maternal mortality and morbidity, yet it lacks a reliable early means of diagnosis or prediction [3,4].

Proteinuria and hypertension in pre-eclampsia dominate the clinical condition since the chief organ involved is the kidney. Altered renal function is seen due to glomerular endotheliosis which is an essential component of pathophysiology of the disorder [5]. A sensitive Glomerular Filtration Rate (GFR) marker is needed to reflect the degree of glomerular endotheliosis and in turn pre-eclamptic status [6]. Measurement of serum creatinine is simple but up to 50% of GFR can be lost before significant elevation of serum creatinine can be observed and its accuracy is also hampered by assay interference and factors like age, gender and muscle mass [7]. The estimation of GFR by clearance test or radionuclide based techniques, though reliable but are expensive and time-consuming which makes them unfavourable for routine monitoring. Therefore, development of a simple, accurate endogenous marker to estimate GFR is the need of the hour. Previous studies document the role of serum cystatin C as an endogenous renal indicator of early renal

function decline and sensitive marker of degree of endotheliosis [8,9].

Cystatin C is a non-glycosylated, Low Molecular Weight (LMW) (13.3 kD) protein that is reabsorbed and catabolised by the proximal convoluted tubules. Serum cystatin-C is reported to be independent of muscle mass, diet, sex and age above 1 year [10,11]. Serum cystatin C increases considerably in patients with renal failure, like other LMW plasma proteins and even minute decline in GFR can significantly increase serum cystatin C levels [12]. Pre-eclampsia is characterised by a decrease in GFR and altered renal handling of cysteine protease inhibitors [9,13]. The renal structural changes allow the assessment of the pathogenesis of PE and remains central to its diagnosis and management.

However, the problem arises when renal impairment has to be diagnosed at an early stage or in a low-risk population. The transition between normal and seriously complicated pregnancy is gradual, renal dysfunction in PE remains undetermined and a delayed diagnosis often can lead to progressive renal failure and vascular disorders. Thus a sensitive means of detection of this multi-organ system disorder transition is essential for adequate screening and routine check-up to impend complications and improve maternal and foetal health [14].

Altered Levels of Serum Adenosine Deaminase in Type 2 Diabetes Mellitus

P VIJAYALAKSHMI¹, SUPRIYA²

ABSTRACT

Introduction: Diabetes Mellitus (DM) is one of the leading not causes of increased morbidity and mortality in developing countries. Adenosine Deaminase (ADA) enzyme in purine metabolism catalyses the irreversible deamination of adenosine to inosine. Literature suggests that adenosine mimics the action of insulin and ADA reduces the adenosine levels, thus alters the intracellular glucose uptake. However, the role of ADA in Type 2 Diabetes Mellitus (T2DM) remains inconclusive.

Aim: To measure serum ADA levels in T2DM patients and analyse its correlation with the glycaemic status.

Materials and Methods: The case-control study included 54 clinically diagnosed T2DM subjects (aged 30-70 years) on oral hypoglycaemic treatment and 50 sex and age-matched apparently healthy individuals as controls. Serum Adenosine Deaminase (ADA), Fasting Blood Glucose (FBG), HbA1c, Lipid profile, {Total Cholesterol (TC), Triglyceride (TG), High Density Lipoprotein (HDL)} along with anthropometric indices for BMI

were measured. Descriptive statistical analysis was done using unpaired Students' t-test. Pearson correlation was used to analyse the correlation among various parameters. The p-value <0.05 was considered to be statistically significant.

Results: In our study, FBG, HbA1c, ADA, TC, TG were significantly increased in T2DM subjects as compared to control group (p-value <0.0001), Triglyceride (p-value <0.001). In contrast, HDL-C levels were significantly reduced (p-value <0.0001) in T2DM subjects compared to control group. BMI of the T2DM subjects was significantly higher (p-value <0.01) than control. A positive correlation between ADA and HbA1c (r-value 0.64; p-value <0.0001), and ADA and FBS (r value 0.48; p-value <0.001) was observed. However, no correlation was found between ADA and BMI (r value 0.01; p-value 0.09).

Conclusion: From the current study we propose that serum ADA can be used as a biomarker for predicting the glycaemic status of T2DM patient. It can also be used for assessment of dyslipidemia associated with diabetes.

Keywords: Dyslipidemia, Glycated haemoglobin, Hyperglycaemia, Insulin resistance

INTRODUCTION

Diabetes Mellitus (DM) is the most common heterogeneous disease prevailing world wide [1,2]. A chronic hyperglycaemia condition associated with disturbance in metabolism is characterised by decreased insulin secretion, insulin resistance or both [3]. In 2011, prevalence of diabetes was 366 million, which is predicted to increase to 552 million by 2030 [4]. Diabetes is emerging as a potential burden on developing country like India which needs to be tackled appropriately. One of the major risk factors for diabetes is obesity; however despite low number of overweight and obese individuals, India has an increased prevalence of diabetes indicating that diabetes may occur at a much lower BMI in Indians as compared to developed countries [5]. In all living systems, adenosine, an endogenous purine nucleoside act as a homeostatic regulator in skeletal muscle, pancreas and hepatic tissues via different pathways [6]. Adenosine mimics the action of insulin on glucose and lipid metabolism in adipose tissue and skeletal muscle. It also acts as an anti-lipolytic agent and reduces free fatty acid levels, and thereby increases insulin sensitivity in target tissues [7]. The level of expression of adenosine nucleoside transporters and adenosine receptors has been shown to be affected in DM [8].

ADA is a metalloenzyme that catalyses the irreversible deamination of adenosine and deoxyadenosine to inosine and deoxyinosine respectively [1]. ADA is widely distributed in human tissues and highest activity is seen in T-lymphocytes. Functioning as both cytosolic enzyme and ectoenzyme, it is an essential protein in regulation of intracellular and extracellular adenosine levels in tissue [6]. Along with genetic and environmental factors, an interplay of immunological disturbances in diabetes with improper T-lymphocyte function and defect in insulin secretion or production contributes to pathophysiology of diabetes [9,10]. As ADA inhibits adenosine it is considered to be an important

enzyme for modulating bioactivity of insulin and decreasing glucose uptake into cells [11-13]. ADA also leads to lipolysis that increases free fatty acid levels eventually leading to insulin resistance.

Poor glycaemic control in diabetes leads to long term glucotoxicity that results in micro and macro-vascular complications due to oxidative stress and further increases ADA levels [13].

In view of increasing burden of diabetes and association of adenosine with insulin this study was undertaken to evaluate the role of ADA in T2DM and to analyse its correlation with blood glucose level, glycaemic index and various biochemical parameters which may help in early detection of complication of diabetes.

MATERIALS AND METHODS

Study Population

This institution based case-control study was conducted over a period of three months (March 2018-May 2018) at The Oxford Medical College, Hospital and Research Centre, Bengaluru, Karnataka, India. A total of 54 T2DM patients and 50 age-matched normal healthy subjects attending OPD for regular health check-up were selected as per convenient sampling with CI-95%.

Inclusion Criteria

A 54 clinically diagnosed type 2 diabetic cases (aged 30-70 years) (both newly diagnosed and known cases) on oral hypoglycaemic drugs were taken as cases. Age and sex-matched, 50 subjects who attended medicine OPD for regular health check-up were recruited as controls. Pregnant women or individuals with acute/chronic liver or inflammatory disease, tuberculosis or renal disease, h/o hypertension were excluded from the study.



Original Research Article

Assessment of relationship between hormones and insulin resistance in PCOS

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ARTICLE INFO

Article history:

Received 13-10-2019

Accepted 17-10-2019

Available online 14-12-2019

Keywords:

Insulin resistance

Leutinsing hormone

Follicle stimulating hormone

Dyslipidemia

ABSTRACT

Introduction: Polycystic ovarian syndrome (PCOS) is the most common heterogenous disorder of reproductive age. Increased frequency of GnRH pulses from hypothalamus elevates LH levels this in turn causes increased androgen production. The chronic hyperandrogenic state have multiple long and short term complications which includes DM and CVD. Insulin resistance can be characterized as impaired action of insulin on glucose metabolism which increases risk of developing T2DM. Hyperandrogenism with hyperinsulinemia also leads to dyslipidemia.

Aim: To estimate LH/FSH ratio, testosterone in PCOS patients and to correlate its significance with the insulin resistance.

Materials and Methods: This case-control study was conducted on clinically, diagnosed 50 PCOS patients, aged 15 to 35 years were included as cases. Age-matched 50 apparently healthy women were included as controls. Serum leutinsing hormone(LH), Follicle stimulating hormone(FSH), testosterone, serum insulin were analysed by chemiluminescence immunoassay(CLIA) on Maglumi 1000. Mindray BS 300, fully automated analyser was used for estimation of Total cholesterol(TC), High density lipoprotein(HDL), Triglyceride(TG), Fasting Blood Glucose (FBG), Low density lipoprotein (LDL) was calculated using Friedewald's formula. Insulin resistance was assessed by HOMA IR. Descriptive statistics analysis was done using unpaired student's t-test. Chi-square/ Fisher Exact test has been used to find the significance of study parameters on categorical scale. Pearson's correlation coefficient was applied to analyse the correlation. p value <0.05 was considered statistically significant.

Results: In our study the LH /FSH ratio, HOMA IR and Testosterone was increased in cases compared to controls with p 0.01 and for testosterone p 0.001. In contrast HDL decreased in cases compared to controls (p<0.001). Triglyceride (p<0.01) was higher in cases compared to controls in our study. However LDL and Total cholesterol were not significantly increased in cases however we can find that LDL was still increased in cases. Average BMI was within the normal range (p=0.06). On correlation study FSH showed a negligible negative correlation with HOMA IR and mild negative correlation with BMI. LH showed a positive correlation with both HOMA IR(r 0.45,p<0.01) and BMI(r 0.61, p<0.01). Whereas testosterone showed no correlation. LH/FSH ratio was positively correlated with HOMA IR(r 0.42, p<0.01) and also BMI(r 0.53, p <0.001). TC(r 0.31, p 0.02) showed significant positive correlation whereas LDL(r 0.18,p 0.21), TG(r 0.16,p 0.26) though positive showed negligible correlation with HOMA IR. BMI showed a significant positive correlation with HOMA IR (r 0.43,p <0.01).

Conclusion: In our study we propose that in PCOS cases IR seems to underlie many clinical features of PCOS. It encompasses long term health problems like CVD, DM and increased exposure to estrogen can lead to endometrial carcinoma. It is need of the time to follow up the patient to early identify and prevent the consequences of this syndrome.

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1. Introduction

PCOS is the most common heterogenous endocrinological disorder of reproductive age and also the leading cause



Original Research Article

A study of hs-CRP and lipid profile in hypothyroid adults at tertiary care hospital

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ARTICLE INFO

Article history:

Received 28-04-2019

Accepted 31-05-2019

Available online 21-09-2019

Keywords:

hs-CRP

Thyroid stimulating hormones

Clinical hypothyroidism

Subclinical Hypothyroidism

ABSTRACT

Introduction: Thyroid disorders are one of the most prevalent endocrinopathies across the globe. As per the data of India Government, the prevalence of hypothyroidism is about 5.4%. Hypothyroidism is a common endocrine disorder encountered in clinical practice. Hypothyroidism (both clinical & subclinical) has been reported to be associated with inflammation, dyslipidemia which leads to CV risk. Hs-CRP is a marker of chronic subclinical inflammation and a predictor of CVD. The mechanism responsible for inflammatory process seen in hypothyroidism might be TSH induced produced production of TNF- α by a bone marrow cells.

Aims and Objectives: To analyse the thyroid profile, hs-CRP and lipid profile in newly detected hypothyroid adults in comparison to controls and also to compare the above parameters in subclinical and clinical hypothyroid cases.

Materials and Methods: A total of 164 subjects (82 hypothyroid cases and 82 euthyroid (controls), visiting General Medicine OPD, RRMCH, Bengaluru were consider for study. The subjects were selected based on thyroid profile-analysed by CLIA, hs-CRP by Immunoturbidimetric, Lipid profile was measured by spectrophotometric method. Statistical analysis was done using student's "t" test and Pearson's correlation.

Result and Discussion: The study subjects were age matched (mean age 35 years) with female predominance. TSH value significantly increased in cases ($p < 0.001$) however, FT3 & FT4 levels were within the reference range. Serum hs-CRP levels though significantly increased in cases ($p = 0.005$), were within the normal range. There was significant increase in LDL-c and TG ($p < 0.05$) and decrease in HDL-c ($p < 0.001$) in cases significantly. The mean values of serum cholesterol were found to be lower in cases. A positive correlation was found between TSH and hs-CRP ($r = 0.275$, $p < 0.001$), ANOVA test showed that the difference in the mean between TSH and hs-CRP was found to be statistically significant ($p < 0.001$).

Conclusion: Hypothyroidism (CH & SCH) is common among females and is associated with mild dyslipidemia and low-grade inflammation. Moreover subclinical hypothyroidism is more common than clinical hypothyroidism.

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1. Introduction

Thyroid dysfunction is one of the most prevalent endocrinopathies across the globe.¹ The prevalence of spontaneous hypothyroidism is 1-2% of all the thyroid disorders in the world.² In India thyroid disorders are the second most common glandular disorder of the

endocrine system and are increasing predominantly among women.³ Hypothyroidism is characterized by deficient thyroid hormone production which can be severe or moderate.⁴ Common etiologies of hypothyroidism are dietary deficiency of iodine and Hashimotos thyroiditis, an auto-immune disease.^{5,6} Hypothyroidism is known for its effects on different organs system, leading to hypometabolism. Thyroid gland regulates a wide array of metabolic parameters of carbohydrate and lipid metabolism

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AN OPEN LABEL EFFICACY AND SAFETY, PILOT TRIAL WITH POLYHERBAL ALL DAY MOISTURIZING CREAM IN PATIENTS WITH DRY AND SCALY SKIN

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Abstract: The aim of the study was to evaluate efficacy and safety of all day moisturizing, polyherbal cream in the treatment of photosensitive, dry and scaly skin. Cream formulation containing heterogenous herbal ingredients in various concentrations - *Prunus amygdalus*, *Saccharum spontaneum*, *Hedychium spicatum* and *Alpinia galanga*, reported to have - emollient, anti-infective, anti-oxidant and anti-allergic properties was tested for its skin moisturizing effects. Patients following assessment on clinical examination by the dermatologist and baseline value for moisture content of 50 or less recorded using Moist Sense instrument were considered for the study. The moisturizing efficacy was assessed during each visit on three occasions - day zero, also on day fifteen and day thirty on completion of treatment. Patients were assessed clinically by the dermatologist; subjectively using visual analogue scale (VAS) and objectively for the moisture content by Moist Sense instrument. Among twenty four patients who completed the study, > 50% improvement of skin hydration was seen on day 30 in 21/24 patients, following both subjective and objective assessment. The values for moisture content assessed with the instrument, showed significant improvement by Freedman's test [$P = 0.008$]. The present study with all day moisturizing cream containing heterogenous herbal ingredients for dry and scaly skin, in a limited number of patients showed beneficial effects. However, study in larger number of patients is necessary to confirm the above results.

Keywords: Photosensitive, Dry and scaly skin, Moisturizing cream, Polyherbal.

Introduction

Photosensitive dry and scaly skin, is a frequently encountered condition in dermatological practice particularly in tropical countries due to exposure to heat, light and dust including large number of pollutants in the air. Such reaction when severe may result in burning, itching, subsequently leading to a variety of complications involving frank lesions with infection and pigmentation.

Therefore, several topical formulations have been designed under the category of cosmeceutics to produce softening and soothing effects as well as to improve hydration. However, many of the marketed preparations contain synthetic chemicals which may prove allergic to the skin in some individuals. Hence, the attention is being increasingly focused on the natural products of plant origin to explore safer and cheaper options.

The present study was designed to evaluate beneficial effects of moisturizing cream containing heterogenous herbal ingredients viz. - *Saccharum spontaneum* (Wild sugar cane),¹ *Prunus amygdalus*

(Almond),² *Hedychium spicatum* (Spiked Ginger Lily)³ and *Alpinia galanga* (Java galangal),⁴ with bioactive ingredients well known to have emollient, anti-oxidant, anti-infective and anti-allergic properties, in patients with photosensitive, dry and scaly skin.

Material and Methods

Plant material and formulation preparation

The formula of All Day Moisturising Cream used in the present study was prepared by Himalaya Drug Company Pvt. Ltd., Bangalore, comprising of - Kasa (*Saccharum spontaneum*), Vatada (*Prunus amygdalus*), Gandhapalashi (*Hedychium spicatum*) and Malayavacha (*Alpinia galanga*) as per requirement of an Ayurvedic Proprietary Product as defined in the Drugs and Cosmetics Act, 1940.

Manufacturing process of moisturizing cream:

This involved two phases -

1. Water phase: In the main mixer, required quantity of purified water, chelating agent were stirred at 20 rpm. Thickener was slowly added under homogenizer without lumps and neutralizer at 70°C.

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Pattern of adverse drug reactions to anti-epileptic drugs: a cross-sectional one-year survey at a tertiary care hospital[†]

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SUMMARY

Purpose To investigate pattern and extent of adverse drug reactions (ADRs) associated with AEDs and to identify safer options for treatment of epilepsy.

Method Study was a retrospective, cross-sectional survey. Data from patients with epilepsy at the out-patient and in-patient of Neurology Department was collected in a specially designed proforma. Causality and severity of ADRs was categorized as per WHO guidelines.

Results Among 788 patients with epilepsy, 80 (10.27%) had ADRs. ADRs with AED monotherapy were 9.18% and with polytherapy were 11.56%. ADRs with conventional and newer AED monotherapy was 10.24% and 6.84%, respectively, and were maximum with phenytoin and clobazam (14.28% and 12.5%). ADRs were mild in 4.16%, moderate in 70.83% and severe in 25% patients. Causality was probable in 65.62%, possible in 13.54% and definite in 20.83%. Patients (15/80) were hospitalized due to ADRs. Age and gender distribution showed statistically significant difference in occurrence of ADRs ($p < 0.05$). Chi-square test for poly versus monotherapy and conventional versus newer AEDs did not show any significant difference.

Conclusions Study showed maximum ADRs with AED polytherapy with no significant difference in frequency and severity of ADRs between conventional versus newer AEDs. This finding needs further investigation in larger number of patients to identify safer treatment options for epilepsy. Copyright © 2008 John Wiley & Sons, Ltd.

KEY WORDS — adverse drug reaction; anti-epileptic drugs; monotherapy; polytherapy; safer treatment options

Received 19 November 2007; Accepted 20 November 2007

INTRODUCTION

Pharmaceutical therapies are regarded as one of the most cost-effective and least invasive interventions in the medical practice. The growing number of newly approved drugs for various illnesses, coupled with the complex treatment options, have contributed to the

increased risk of adverse drug reactions (ADRs)¹ with anti-epileptic drugs being no exception.

Therefore, comprehensive ADR surveillance programme is necessary to detect, evaluate and develop mechanisms to prevent ADRs and the associated morbidity, mortality and increased costs.² While effective pharmacological treatment of epilepsy is important, it is equally important to consider whether possible adverse events will outweigh benefits to patients.³

Prior to 1993, there were only six major drugs available; subsequently, ten new drugs have entered the worldwide market. These include—felbamate

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Yeast and moulds

Saccharomyces cerevisiae, *Aspergillus niger*, *Aspergillus oryzae*, *Candida pintolopesii*,
Saccharomyces boulardii^a

Probiotics: current trends in the treatment of diarrhoea

Sujatha S Narayan
Sharmila Jalgaonkar
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In recent years, research into and public interest in probiotics and probiotic foods have risen. Lactobacilli and bifidobacterium are the most commonly used probiotics while yoghurt and kefir are popular foods containing probiotics. Probiotics have been used to manage diarrhoea. Many things cause diarrhoea, including bacterial, viral and protozoal infections, radiation and antibiotic therapy. Different studies have found that probiotics may also enhance the immune response, reduce serum cholesterol, prevent colonic cancer, prevent dental caries, prevent ulcers due to *Helicobacter pylori*, maintain urogenital health, and ameliorate hepatic encephalopathy. Further studies are required to establish their role in these conditions.

Introduction

Increasing evidence indicates that the consumption of foods containing micro-organisms, ie probiotics, confers health benefits. Clinical trials have evaluated their use in the prevention and treatment of gastro-intestinal (GI) diseases caused by pathogenic micro-organisms or by disturbances in the normal micro-flora.¹ Probiotics are defined as "live micro-organisms that, when administered in adequate amounts, confer a health benefit on the host".² The ideal probiotic is one that remains viable in the intestine, adhering to the intestinal epithelium to confer a significant health benefit.³

In the early 20th century, Metchnikoff⁴ suggested that beneficial bacteria could be administered in order to replace harmful microbes with useful ones. The term probiotic, meaning 'for life', was first coined in the 1960s by Lilly and Stillwell.⁵ In recent years, there has been a rise in both research and interest in the probiotic food concept.⁶

Gut bacteria: the health-promoting flora

It has been estimated that 100 different species (with a total bacterial population between 10^{10} and 10^{12}) are present in the human intestinal tract. The composition of the GI tract flora varies between individuals and also within the same individual during life. The GI tract contains both 'friendly' and pathogenic bacteria that exist in a complex symbiosis. Various factors such as diet, climate, ageing, medication (particularly antibiotic consumption), illness, stress, and lifestyle can upset this balance leading to diarrhoea, mucosal inflammation, or other serious illnesses. Maintenance of an optimal gut flora balance requires that 'friendly' bacteria, such as the Gram-positive lactobacilli and bifidobacteria dominate (>85% of total bacteria), form a barrier to pathogenic bacteria. Probiotics are possibly the most natural and safe means of maintaining this balance.⁷ The organisms used in probiotics are shown in the Box.⁸

Key words

Bifidobacterium; *Clostridium difficile*;
Diarrhea; Lactobacillus; Probiotics

Hong Kong Med J 2010;16:213-8

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Box. Micro-organisms used in probiotics⁸

Bacteria

Bacilli

1. *Lactobacillus: acidophilus, sporogenes, plantarum, rhamnosus, delbrueckii, reuteri, fermentum, lactus, cellobiosus, brevis*
2. *Bifidobacterium: bifidum, infantis, longum, thermophilum, animalia*
3. *Propionibacterium*

Cocci

1. *Streptococcus: lactis, cremoris, salivarius, intermedius*
2. *Leuconostoc*
3. *Pediococcus*
4. *Enterococcus*
5. *Enterococcus faecium*

Yeast and moulds

Saccharomyces cerevisiae, Aspergillus niger, Aspergillus oryzae, Candida pintolopesii, Saccharomyces boulardii^a

ORIGINAL STUDY

Newer Oral Hypoglycemic Agents in the Treatment of Diabetes Mellitus

SUJATHA SOWMYANARAYAN, S SHAHANI **

ABSTRACT

Diabetes is a major health problem. The treatment modalities for type 2 diabetes mellitus include the oral hypoglycemic agents (OHA) and insulin. Presently, this review focuses on the OHAs which are the biguanides, the sulfonylureas, incretin mimetics, meglitinides, thiazolidinediones, α -glucosidase inhibitors, dipeptidyl peptidase IV inhibitors, the glucagon-like peptide-1 analogs, the amylin analog pramlintide and orlistat. The protein tyrosine phosphatase 1B inhibitors are being tried. Further research is ongoing in the area of treating type 2 diabetes, not only for OHA but, also for insulin.

Keywords: XXXXX

Diabetes is a major and growing public health problem throughout the world. It had an estimated worldwide prevalence in the year 2000 of 171 million people. This prevalence is expected to rise to 366 million people in the year 2030.¹ The prevalence of diabetes is higher in men.¹ Several epidemiological and clinical studies indicate a direct relationship between hyperglycemia and neuropathy, retinopathy, atherosclerosis and coronary artery disease.²

CLASSIFICATION OF DIABETES MELLITUS

Diabetes mellitus is classified as:

Type 1 Diabetes

Type 1 diabetes mellitus (T1DM) occurs due to selective immunologically-mediated destruction of the insulin-producing β -cells in the pancreatic islets of Langerhans. This results in insulin deficiency. T1DM is seen in genetically susceptible individuals and is a cellular-mediated process. It is probably a specific reaction to one or more β -cell proteins (autoantigens) although, it may be initiated by some environmental factor(s) leading to progressive impairment of β -cell function and reduction in β -cell mass. Autoantibodies

appear that are markers of the immune damage to β -cells.³

Idiopathic Diabetes

Some forms of type 1 diabetes do not have any known etiology. Some of these patients have permanent insulinopenia and are prone to ketoacidosis. They have no evidence of autoimmunity. Most of these patients are of African or Asian ancestry. Individuals with this form of diabetes suffer from episodic ketoacidosis. They have varying degrees of insulin deficiency between episodes. This form of diabetes is strongly inherited, lacks immunological evidence for β -cell autoimmunity, and is not human leukocyte antigen (HLA) associated. An absolute requirement for insulin replacement therapy in affected patients may come and go.⁴

Diabetes Mellitus of Type 2

In type 2 diabetes mellitus (T2DM) there is:

- Peripheral insulin resistance
- Impaired regulation of hepatic glucose production
- Declining β -cell function, eventually leading to β -cell failure.

OTHER SPECIFIC TYPES OF DIABETES

Genetic Defects of the β -cell

Several forms of diabetes are associated with monogenetic defects in β -cell function. These forms of diabetes are characterized by onset of hyperglycemia at an early age (generally before age 25 years). They are referred to as maturity-onset diabetes of the young (MODY).

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Adverse drug reactions in the department of dermatology at a tertiary care hospital: a prospective study

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Received: 13 November 2017
Accepted: 04 December 2017

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ABSTRACT

Background: To study cutaneous adverse drug reactions with regard to their clinical pattern, etiology, causality and severity.

Methods: It was a prospective study undertaken in a 300 bedded tertiary care hospital. Patients with cutaneous ADRs presenting in Dermatology OPD were studied. Causality and severity of the adverse drug reactions were analysed and other parameters such as gender wise distribution of the ADRs and types of ADR were studied.

Results: 35 cases of ADRs were enrolled for the study in the duration of Sept.2016 to May 2017. The majority of the patients were in the age group of 21-30 years (37.14%). The most common CADR were Acne vulgaris (22.86%), followed by Fixed Drug eruption (11.43%) and Tinea cruris (8.57%). The most common class of drugs causing ADRs were topical steroids (64%), followed by non-steroidal anti-inflammatory drugs (14.29%).

Conclusions: Female preponderance was seen. Topical steroids were the most offending drug followed by Diclofenac Sodium, the analgesic. Causality assessment showed a high score of Certain category. These variations may be explained by variations in drug usage patterns. The knowledge of the adverse drug reactions and the drugs causing them is essential for the clinician so that the choice of drug therapy can be made keeping these adverse drug reactions in mind.

Keywords: Adverse drug reactions, Causality, Clinical pattern, Drugs causing ADRs, Severity

INTRODUCTION

With the advent of newer drugs by the day it has become absolutely essential to monitor the adverse reactions due to these drugs. Adverse drug reactions are the leading cause of mortality and morbidity in health care and have a significant impact on health care resources.¹ Cutaneous drug are one of the most common types of adverse reactions to drug therapy. Almost any drug can cause a skin reaction. The WHO defines ADR as "Any reaction which is noxious and unintended and which occurs in man due to use of a drug for the prevention, treatment or diagnosis of disease".² An adverse cutaneous drug reaction

caused by a drug is any undesirable change in the structure or function of the skin, it's appendages or mucous membranes and it encompasses all adverse events related to drug eruption, regardless of etiology.³ Although many of the skin reactions are not serious, some are life-threatening, such as Angio-edema, Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis.⁴

Studies have found the overall incidence of adverse drug reactions in skin in developed countries as 1-3 % and in the developing countries it is higher between 2-5%.⁵ 5-10% of hospital admissions are due to drug related problems, in which 50% are avoidable.⁶ Adverse drug reactions constitute a significant economic burden for

Monitoring of adverse drug reactions in medicine, paediatric and surgical departments of a tertiary care hospital: a prospective observational study

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Received: 07 February 2018

Accepted: 07 March 2018

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ABSTRACT

Background: the aim of the study was to monitor all adverse drug reactions in the departments of Medicine, Paediatrics and Surgery in a Tertiary Care Hospital. **Methods:** It was a prospective study undertaken in a 300 bedded tertiary care hospital. Patients presenting with adverse drug reactions in Medicine, Paediatrics and Surgery Departments were studied. Causality and severity of the adverse drug reactions were analysed. Other parameters such as age wise and gender wise distribution of the ADRs, types of ADRs and drugs causing ADRs were studied.

Results: There were 33 cases of ADRs were enrolled for the study in the duration of Sept. 2016 to Aug. 2017. Female preponderance was seen. The largest number of ADRs were seen in the age group of 21-30 years (30.3%). The most common ADR was skin rash (30.3%) followed by periorbital edema (12%). There were two SAEs namely Anaphylaxis and Steven Johnson syndrome. The most offending class of drug was antibiotics (30.3%) followed by intravenous fluids (12.1%).

Conclusions: The maximum number of cases were reported from the Medicine Department which was 11 (33.33%). The highest number of ADRs fell in the probable category (63.6%). The number of cases of mild and moderate severity were equal (42.4%). The knowledge of these adverse drug reactions is necessary while prescribing drugs to patients as patient safety is absolutely essential. Also the healthcare provided by the institution will improve. This data has been collected with a view to establish an ADR monitoring centre at our hospital.

Keywords: Adverse drug reaction, Causality, Drugs causing, Severity

INTRODUCTION

Drugs are meant to relieve suffering but sometimes they themselves can cause adverse drug reactions ranging from minor inconvenience to serious organ dysfunction or even death. Their awareness to the medical world, public and official bodies was highlighted mainly after the Thalidomide disaster in 1961.¹ The WHO defines ADR as "Any reaction which is noxious and unintended, and which occurs in man due to use of a drug for the prevention, treatment or diagnosis of disease or for the modification of physiological function".²

WHO defines Pharmacovigilance as "The science and activities which are related to the detection, assessment, understanding and the prevention of adverse effects or any other drug related problems".³ ADRs are a common cause of morbidity and place a substantial burden on limited healthcare resources.⁴ Adverse drug reactions constitute a significant economic burden for hospitals. Hospital based adverse drug reaction monitoring and reporting programmes aim to identify and quantify the risks associated with the use of drugs provided in a hospital setting.⁴ A study conducted at four hospitals in South Africa showed that 2.9% and 16% of the mortality were



**A STUDY ON THE KNOWLEDGE, ATTITUDE AND
PRACTICE OF ADVERSE DRUG REACTION REPORTING
AMONG INTERNS AND CLINICAL POST-GRADUATES IN A
TERTIARY CARE TEACHING HOSPITAL**

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.

Received: 6th September 2016

Accepted: 28th November 2016

Published: 2nd December 2016

Original Research Article

ABSTRACT

Background: Adverse Drug Reactions (ADRs) are an important cause of morbidity and mortality worldwide. Spontaneous reporting of ADRs has played a major role in the detection of suspected, serious, and unusual ADRs previously undetected during the clinical trial phases. Proper monitoring and reporting of ADRs for the prevention and the management of ADRs is need of the hour.

Aims: The objective of the study was to assess the knowledge, attitude and practice of ADR reporting among interns and clinical post-graduates in a tertiary care teaching hospital.

Methodology: One hundred and fifty two interns and clinical post-graduates were included in the study. Participation in the study was voluntary and without any obligation. The study was rolled out after receiving the approval from the Institutional Ethics Committee. The previously validated questionnaire consisting of a total of 24 items was distributed to the health care professionals. The data was analysed using Chi square test, one way ANOVA and Karl Pearson's co-efficient of correlation tests with the help of SPSS software 20.0.

Results: Out of 152 participants, 48(31.6%) were year 1, 44(28.95%) were year 2 clinical post-graduate students; as compared to 60(39.47%) interns. Thirty two (21.1%) participants out of which 20 interns, 7(14.6%) year 1 and 5(11.4%) year 2 clinical postgraduates, had knowledge of the local peripheral monitoring centre. The difference was found to be statistically significant ($p < 0.05$). 88.2% of the total participants had never reported an ADR to the pharmacovigilance centre. There was no significant difference among the three groups of the participants, in terms of mean scores of knowledge, attitude and practice ($p > 0.05$), but there was a significant ($p < 0.05$) and positive co-relation between knowledge and practice ($r = 0.2110$) and attitude and practice ($r = 0.2415$).

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A study of the pattern of antibiotic use in major head and neck cancer surgeries

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Received 10 May 2010; Accepted 10 June 2010; Published 10 June 2010

ABSTRACT

The aim of the present study is to the rationale behind the use of antibiotic in major head and neck cancer surgeries and also the effectiveness of antibiotics in the prevention and treatment of post-operative infections. The antibiotic use was studied in patients undergoing head and neck cancer surgeries for a period of 1 ½ years. This study was planned to evaluate the pattern of antibiotic use for major head and neck cancer surgeries, both pre-operatively as well as post-operatively and to assess the outcome. The settings and design of this study was tertiary care teaching hospital, prospective and open study. A prospective study was conducted which included 50 patients undergoing major head and neck cancer surgery admitted to the department of ENT and Head and Neck. Relevant information on each patient was collected according to the proforma designed for the study. The antibiotics used pre-operatively and post-operatively were noted down and also any change in the antibiotic administration, with reasons for the change. The percentage of patients with wound infection and response to any particular antibiotic and also the duration of hospital stay were noted. Data were analyzed statistically using mean and standard deviation. The 70% of the patients were females and 36% of them were middle aged with no predisposition factors like fungation, radiation, tracheostomy and fistula. 78% of the patients had carcinoma of the oral cavity while 2% presented with carcinoma of the paranasal sinus, nose and thyroid. The combination of cefazolin and metronidazole was effective in treating post-operative wound infection in 39% of the patients. *Staphylococcus aureus*, *pseudomonas*, *anaerobes* and *klebsiella* were the organisms isolated from the wound. In conclusion, today's major head and neck onco-surgery with reconstructive procedures is generally safe owing to improvement in surgical skills and better antibiotic use.

Key words: Head and neck cancer surgeries, Wound infection, Antibiotic use.

1. INTRODUCTION

Head and neck cancer is a world wide public health problem. It is especially troubling in developing countries where most patients are diagnosed at advanced clinical stages and need more aggressive treatment, which is usually associated with complications and poor survival. A combined modality with pharmacotherapy, surgery and radiotherapy is usually employed for treatment since it gives better prognosis.

Wound infection following head and neck onco-surgery is an important cause of post-operative morbidity as the

upper aero digestive tract is an important source of contamination [1]. Definitive diagnosis of infection is made by the presence of purulent material draining from the wound. It can also be made from the number of bacteria per gram of wound tissue [2]. Quantitative cultures of tissue biopsies that reveal greater than 10^5 bacteria per gram of tissue suggest clinical infection [3].

Empirical therapy of infections is probably the most common reason for using a combination of antibiotics [4]. Knowledge of the type of infection, its microbiology and the spectrum of activity of the several potentially useful antimicrobial agents is essential for selection of a rational and effective regimen [5-7].

Successful antimicrobial prophylaxis requires antimicrobial activity against gm +ve, gm -ve and anaerobic activity. Also the usefulness of an antibiotic agent depends on

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Comparison of the Use of Single and Combined Antibiotics for Head and Neck Onco-Surgeries: A Cost effective Analysis

SAPNA PATIL, KUMAR T.N., AZEEM MOHIYUDDIN

ABSTRACT

Back ground and Objectives: The use of prophylactic antibiotics in surgical treatment is well-established. However, the duration and the dosage of the prophylaxis vary substantially among the surgeons. Therefore, we intended to explore the differences in the cost efficiency in single and combined antibiotics as the prophylaxis for the surgical treatment of major head and neck onco-surgeries.

Methods: 50 patients of either gender with head and neck cancer, who were to undergo major surgeries were chosen. The perioperative antibiotic prophylaxis and the antibiotics which were used to treat the post operative wound infections were noted. The data on the drug costs were obtained and the cost analysis was performed by comparing the costs which were incurred on using a single antibiotic and combined antibiotics as the prophylaxis. The wound infection controlled days, the time taken for wound healing and the duration of the hospital stay were followed up.

Results: 22 subjects were on single antibiotic therapy and 28 were on combination therapy. Among those who were on single

antibiotic therapy and combined therapy, 11 (50%) and 7 (25%) had post operative wound infections respectively. The Mean \pm SD of the cost which was incurred on using a single antibiotic as the prophylaxis was lesser than (803.15 ± 1104.56 rupees) that which was incurred on using combined antibiotics, i.e 1524.29 ± 1468.28 rupees. But, the total cost (for the prophylaxis and the post operatively used antibiotics) had no significant difference between the groups, which used a single antibiotic and combined antibiotic prophylaxis. Among the patients who developed post op infections either with the single antibiotic or with combined antibiotic use, the prophylaxis did not show a significant difference in the total cost which was incurred. Also, it did not make a significant difference in the means of the time which was taken for wound healing.

Interpretation and Conclusion: There is no significant difference in the total cost which was incurred on using either a single antibiotic or combined antibiotics as the prophylaxis, due to the increased post operative infections in patients who used a single antibiotic as the prophylaxis.

Key Words: Head neck onco-surgery, Antibiotics, Prophylaxis

INTRODUCTION

Patients undergoing head and neck oncological surgeries carry risk factors like blood loss, chemotherapy, tracheotomy, malignant tumour etc. which contribute to operative wound infections [1]. Also, there is an additional risk of being contaminated with the oropharyngeal secretions [2]. Therefore, antibiotic prophylaxis has been made mandatory for patients who undergo oncological head and neck surgery surgeries [3]. Perioperative antibiotic prophylaxis has significantly reduced the wound infection rates in head and neck surgical procedures [4]. It has been demonstrated that most of the head and neck onco-surgical infections are polymicrobial in nature [5]. Some studies have suggested that antibiotics for gram-negative organisms or broadspectrum antibiotics may be unnecessary [6]. Thus, an optimal antibiotic regimen is still a matter of debate. Therefore, this study intended to explore the differences in the use of single and combined antibiotics as perioperative prophylaxis for the surgical treatment of major head and neck onco-surgeries. Cefazolin, Ciprofloxacin, Cefprozil and Clindamycin were tried as single prophylactic antibiotics based on previous studies [7], [8]. Wound infections following head and neck onco-surgeries are an important cause of post-operative morbidity, thus indicating the need for an aggressive management and for increasing the cost which was incurred on the antibiotic usage [9]. Therefore, this study also intended to perform the cost analysis for antibiotic usage as the prophylaxis and for post operative wound infections.

MATERIALS AND METHODS

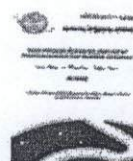
This follow-up study was under taken by the Department of Pharmacology, Sri Devaraj Urs Medical College, Kolar and the Department of ENT, Jalappa Hospital and Research Centre, Kolar. This study was conducted after obtaining the approval of the research and ethical committees. Fifty (50) patients of either gender with head and neck cancer, who were posted for surgery were chosen. Patients suffering from HIV or Hbs'Ag', those who were consuming antibiotics in the preceding week of the surgery and those who were consuming steroids were excluded from the study. Informed consent was taken from all the patients for the performance of the surgery. After obtaining a detailed history, a physical examination was conducted at the time of admission for all the patients. All the necessary investigations like a complete haemogram, blood sugar analysis, urine analysis, evaluation of serum electrolytes and ECG were conducted and a biopsy of the lesion was obtained. The pre-operative oral swabs for culturing and for studying the antibiotic sensitivity were tested before instituting the prophylactic antibiotics and the culture and the sensitivity of the wound discharge was tested before instituting the antibiotics for the post-operative wound infections. The surgeons were at a liberty of choosing the antibiotics in order to avoid observer bias. The appearance of fever, stitch abscess, wound dehiscence, purulent discharge, oedema and swelling were considered as the signs of post operative wound infections. The antibiotics which were used



International Research Journal of Pharmaceutical and Applied
Sciences (IRJPAS)

Available online at www.irjpas.com

Int. Res J Pharm. App Sci., 2012; 2(5):56-59



Research Article

DRUG UTILIZATION STUDY OF ANTIMICROBIALS IN POST-OPERATIVE WARDS IN A TEACHING HOSPITAL

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(Received: 20 September, 2012; Accepted: 03 October, 2012; Published: 29 October, 2012)

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Abstract: Drug utilization studies are a pre-requisite for the formulation of drug policies. Irrational use of medicines is widespread throughout the world, particularly the antimicrobials. Proper treatment of peri-operative, post-operative, nosocomial and other hospital acquired infections is essential. Hence to investigate the situation in surgical post-operative wards, the present study is undertaken. **Objectives:** The present study is designed to study the current trends in prescribing antimicrobials in the surgical post-operative wards of a tertiary care hospital. **Materials and Methods:** A descriptive prospective study will be conducted in the surgical post-operative wards of Dr. B. R. Ambedkar Medical College, Bangalore. This was done by collecting the prescriptions during the months between June 2012 and August 2012. Information with respect to the age and sex of the patients, performed surgery and the antimicrobials prescribed, was entered in a pre-formed proforma and analysed. **Results:-** A total of 81 prescriptions, belonging to surgical post-operative wards were analysed. The average number of drugs prescribed was 2.5 ± 3.02 . 40 patients were given 2 drug treatment. The most extensively prescribed drugs were the cephalosporins (46.85%), followed by metronidazole (34.96%). Maximum of the patients were hospitalized for 3-5 days. **Conclusion:-** There is scope for improving prescribing habits among the fraternity and minimizing incidence of resistance to antimicrobials.

Key words: Antimicrobials, drug utilization, post-operative

INTRODUCTION

Drug utilization studies are a pre-requisite for the formulation of drug policies. Irrational use of medicines is widespread throughout the world, particularly the antimicrobials. Drug utilization research was defined by WHO in 1997, as "the studies of marketing, distribution, prescription and use of drugs in a society, with special emphasis on the resulting medical, social and economic consequences."¹

Prescription order is an important transaction between the clinician and the patient. It is an order for a person at a particular time.² Prescribing behaviour of clinicians depends upon various sources. These are academic literature, professional colleagues, government regulations and commercial publicities.³

Antimicrobial agents deserve their place as one of the most powerful pillars of modern medical care.⁴ In India, the prevalence of use of antimicrobials varies from 24-67%.⁵ Antibiotics are one of the pillars of modern medical care and play a major role both in the prophylaxis and treatment of

infectious diseases.⁶ Patients in hospitals nowadays are older, more severely ill and immunocompromised, and are predisposed to contracting bacterial infections requiring frequent antimicrobial therapy.⁷ Inappropriate and indiscriminate use of antimicrobial agents can potentially have a number of problems including emergence of antimicrobial resistant bacteria.⁸

Proper treatment of peri-operative, post-operative, nosocomial and other hospital acquired infections is essential. Hence to investigate the situation in surgical post-operative wards, in our hospital, this study was undertaken.

MATERIALS AND METHODS

A descriptive, prospective study was conducted in the surgical post-operative wards of Dr. B. R. Ambedkar Medical College, Bangalore, between the months June 2012 and August 2012. The Institutional Ethics Committee's approval was obtained before starting the study. Prescriptions were collected for a period of 3 months and relevant

Drug prescribing pattern in elderly patients in a teaching hospital

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Abstract: *Objective:* The present study was undertaken to study prescribing pattern of various drugs in elderly patients & also to evaluate inappropriate prescribing with the help of Beers criteria. *Material & methods:* The study was conducted in Dr.B.R.Ambedkar Medical College & Hospital from June 2012 to August 2012. A total of 106 case records of inpatients >/65years in medicine wards were reviewed. Relevant information was recorded in a structured proforma & data was evaluated. *Results:* Most of the cases were from respiratory system (35.84%), followed by cardiovascular system (14.15%). The most commonly prescribed drugs were antimicrobials (16.94%). Polypharmacy was observed in 94(88.67%) patients. According to Beers criteria, 23(21.69%) patients were prescribed inappropriately & all these were drugs to be generally avoided in older adults. *Conclusion:* This study has shown the patterns of diseases prevalent in geriatric patients, drug use among them and also suggests that drugs to be avoided in elderly are among the most frequently inappropriately prescribed drugs. Prevalence of polypharmacy was high which is usually unavoidable in the elderly.

Keywords: Beers criteria, elderly, polypharmacy

I. Introduction

The elderly population is increasing rapidly worldwide. Interindividual differences in age related pharmacokinetic & pharmacodynamic changes as well as co-morbid conditions have to be considered while prescribing medicines in elderly population¹. Changes in the pharmacokinetic profiles of drugs occur in the elderly because of reduced body water, reduced renal and hepatic function and increased body fat. Multiple drug use & polypharmacy is highly prevalent in elderly exposing them to drug interactions & increased cost of therapy^{2,3}. Physiological aging & Alzheimer's disease also affects compliance. Hence this study was undertaken to identify the pattern of inappropriate use of medicines in this population which may help to prevent adverse drug reactions.

II. Objectives

- To study prescribing pattern of various drugs in elderly patients.
- To evaluate inappropriate prescribing with the help of Beers criteria.

III. Materials & Methods

A prospective observational study was undertaken for 3 months duration from June 2012 to August 2012 in Dr. B.R. Ambedkar Medical College & Hospital, Bangalore, India. The study protocol was approved by the Institutional Ethics Committee. 106 patients of geriatric age group (>/65 years) were included in the study. Data was obtained from Medical Records Section about the inpatients admitted to medicine wards. Data was collected in a structured proforma, which included patient's demographic details, inpatient registration number, diagnosis & complete prescription.

IV. Results

106 case records were analyzed during the study period. Most of the patients were in the age group of 65-70yrs (79.24%). The study population comprised of 55.66% males. Maximum of these cases were from respiratory system (35.84%), followed by cardiovascular system (14.15%) - Fig 1. COPD & complications due to hypertension were the most common reasons for hospital admission. Polypharmacy was observed in 88.67% cases. 5-8 drugs were prescribed for most patients (46.22%), followed by >8 drugs (42.45%) - Fig 2. Total number of FDCs prescribed was 79 (14.87%).

Antimicrobial drugs (16.94%) followed by GI protective agents (13.93%) & antihypertensives (9.98%) were the most commonly prescribed medications (TABLE 1).

Based on Beers criteria, 23 (21.69%) patients received potentially inappropriate prescription of at least one drug & all these belong to category A (TABLE 2). A total of 531 formulations were prescribed out of which 23(4.33%) were prescribed inappropriately.

**DENOSUMAB-A NEW THERAPEUTIC OPTION FOR
OSTEOPOROSIS*****Dr. Sapna Patil**

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Article Received on
02 Oct 2015,

Revised on 23 Oct 2015,
Accepted on 12 Nov 2015

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INTRODUCTION

Osteoporosis is a multifactorial progressive skeletal disorder characterized by reduced bone mass and deterioration of bone microarchitecture, predisposing it to increased fracture risk.^[1] The capacity of bone to resist mechanical forces and fractures depends not only on the quantity of bone tissue but also on its quality.^[2] Osteoporosis is called a "silent disease" because it progresses without symptoms until a fracture occurs. Because of larger skeletons and no period of rapid hormonal change osteoporosis progresses more slowly in men than in women.^[3] The fractures caused by osteoporosis have a great impact on public health, as they are often associated with increased morbidity, mortality and high economic cost. Thus, in the last two decades pharmacological and non-pharmacological treatment

(usually based on physical exercise) options have been largely developed to reduce the risk of fractures in osteoporotic patients.^[1]

At present there are many therapies available for the treatment of osteoporosis, but the existing therapies have certain issues including efficacy and long term safety issues. Estrogen role for the maintenance of bone integrity was recognized early on, but estrogen therapy has several non-skeletal adverse consequences including vascular events and breast carcinoma.^[4] Hormone replacement therapy was recommended to prevent osteoporosis. However, widespread use of parathyroid hormone (PTH) is limited because of its cost, the need for daily injections and prolonged use.^[5] Selective estrogen receptor modulators (SERMs) have many potential uses and are currently approved for postmenopausal women with or at risk for osteoporosis. The safety profile of these agents is thus of great interest. Both tamoxifen and

Lichen Planus – A clinical and histopathological correlation

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Abstract

Introduction: History and characteristic examination findings are often sufficient to diagnose cutaneous lichen planus. Although lichen planus has distinctive clinical features, the diagnosis may present a problem due to variations in clinical pattern. Skin biopsy may be useful to confirm the diagnosis and is often required in a typical presentation. In all cases, it is important to consider the possibility of the eruption being drug induced. Lichen planus is not an infectious disease. **Aim:** Main aim of this study was to correlate clinical features with histopathologic study in all clinically diagnosed and suspected cases of lichen planus and to know its clinical and histopathological variants and assess the clinical versus the pathological agreement in diagnosis. **Materials and methods:** A prospective cross-sectional study was conducted with clinico pathological examination of skin biopsy specimens in the Department of Pathology, Vydehi institute of medical sciences and research centre over a period of 2 years between 2010–2012. **Statistical analysis:** This study demonstrated no significant association between variants of LP and sex of the patient ($p > 0.05$) with $\chi^2 = 5.92$, $0.05 < p < 0.10$ using the probability level (α) and degree of freedom ($df=1$). **Results:** 60 cases of lichen planus were studied. 49 cases were confirmed on histological examination. 11 cases were diagnosed only on histology. Maximum number of cases occurred in the age group of 18 - 50 years. Males were affected more commonly than females. **Conclusion:** The possibility of this lesion to turn malignant justifies the importance of long term follow up for patients with such disease. Clinico pathological correlation is the key to confirm the diagnosis for further patient care and treatment.

Keywords: Lichen planus, Basal cell damage, Civatte bodies, Wickham's striae, Dermo epidermal junction

Introduction

The classical histological picture was first clearly described by Darier in 1909. Later Pinkus (1973) defined lichenoid tissue reactions as those exhibiting epidermal basal cell damage as the primary event which then initiates the cascade of changes which are seen and recognized in the fully developed LP histopathology. A viral etiology has always been an attractive theory, however numerous electron microscopic or virus isolation studies have failed to provide convincing proof that lichen planus is induced by a virus infection [1].

Lichen Planus is subacute or chronic dermatoses that may involve skin, mucous membrane, hair follicles and nails. Pruritic, Polygonal, Planar (flat topped), Purple Papules and Plaques are the six 'Ps' of lichen planus. The disease has a predilection for the flexor surface of the forearms, legs and glans penis. Eruption maybe localized or extensive and Koebner's phenomenon is commonly seen.

Lichen Planus is the prototype of lichenoid interface dermatitis in which the infiltrate comprises mainly lymphocytic population. Lichenoid interface dermatitis is one of the 2 major inflammatory patterns that primarily involve the epidermal basal zone, hence the use of the term interface. The other pattern is vacuolar interface dermatitis. These two patterns can be difficult to separate at times and both changes may be present in same lesion.

In most of these diseases, T lymphocytes infiltrate the basal layer of the epidermis and cause cytotoxic damage to or kill keratinocytes by the induction of a form of cell death known as apoptosis. Apoptotic keratinocytes become detached from their neighbors find their way into the papillary dermis – known as colloid, cystoids, or civatte bodies. The expression of Fas R/ FasL by the basal keratinocytes suggests that apoptosis is an important mode of cell death in LP [2]. The etiology of Lichen planus is unknown. Theories of infections including viral, bacterial, autoimmune, metabolic, psychosomatic and genetic causes have all had their

Manuscript received: 28th August 2018

Reviewed: 6th September 2018

Author Corrected: 14th September 2018

Accepted for Publication: 17th September 2018

SPECTRUM OF LESIONS IN HYSTERECTOMY SPECIMENS- A ONE YEAR RETROSPECTIVE

J. Evid. Based Med. Healthc.

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ABSTRACT

BACKGROUND

Hysterectomy is the most commonly performed gynaecological surgery throughout the world. The prevalence varies from country to country, region to region. This study was conducted to identify the most common pathologies in hysterectomy specimens and also to know the most common age group undergoing hysterectomies. In this study, the most common pathologies were atrophic endometrium in endometrium, leiomyoma in myometrium, chronic cervicitis in cervix, ovarian cysts in ovaries and salpingitis in fallopian tubes. The most common age group was 40-49 years followed by 50-59 years group. Type of hysterectomy performed most commonly in this study was trans abdominal hysterectomy (TAH). Abnormal uterine bleeding, fibroid and uterovaginal prolapse were the most common clinical indications of hysterectomy. The pathological examination confirmed the clinical diagnosis in majority of the cases. Hysterectomy still remains the widely used treatment modality in developed and developing countries.

MATERIALS AND METHODS

This is a retrospective study consisting of 160 cases of hysterectomy specimens received in the department of Pathology, Oxford Medical College and Hospital, Bangalore, Karnataka. Total duration of study was one year i.e. From January 2017 to December 2017. Gross features were examined in detail and multiple bits were taken from representative sites, processed and paraffin blocks were made. After thorough microscopic examination a histopathological diagnosis was given.

RESULTS

A total of 160 cases were studied. Most common age group underwent hysterectomy was 40-49 years group and least was done in age group 70-79 age group. The most common type of hysterectomy was total abdominal hysterectomy comprising of 57 cases (35.62%) followed by total abdominal hysterectomy with bilateral salpingo oophorectomy comprising of 48 cases (30%) followed by vaginal hysterectomy comprising of 36 cases (22.5%).

CONCLUSION

Hysterectomy is a very commonly performed gynaecological surgery with AUB with underlying pathology being the most important indication for surgery. Therefore, it is mandatory that all hysterectomy specimens be subject to histopathological examination even if it grossly appears to be normal.

KEYWORDS

Hysterectomy, Endometroid Cancer, Abnormal Uterine Bleeding, Endometriosis.

HOW TO CITE THIS ARTICLE: Maisnam J, Naveen Kumar BJ, Hassan Z. Spectrum of lesions in hysterectomy specimens - a one year retrospective study. J. Evid. Based Med. Healthc. 2018; 5(36), 2656-2660. DOI: 10.18410/jebmh/2018/545

BACKGROUND

Hysterectomy is the surgical removal of the uterus performed by a gynaecologist to remove all or part of uterus. It may also involve removal of the cervix ovaries, fallopian tubes and other surrounding structures. Hysterectomy may be total (removing the body, fundus and cervix of the uterus) or partial (removal of the uterine body while leaving the cervix intact called supracervical). It is the most

commonly performed gynaecological surgical procedure worldwide and is associated with both risk and benefits. The procedure can cause hormonal imbalance and affect a woman's overall health. Hysterectomy is therefore usually recommended in cases where reproductive conditions cannot be treated in any alternative way.

The indications are abnormal uterine bleeding, fibroids, uterovaginal prolapse, adenomyosis, endometriosis, pelvic inflammatory disease, gynaecological cancers and other obstetric complications. All hysterectomy specimens should be sent for histopathological examination regardless of the pre-operative diagnosis especially in malignant cases.

Aim of the Study

To know the most common age group undergoing hysterectomies and to know the most common pathology leading to hysterectomy.

Financial or Other, Competing Interest: None.

Submission 01-08-2018, Peer Review 09-08-2018,

Acceptance 27-08-2018, Published 03-09-2018.

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DOI: 10.18410/jebmh/2018/545



Indian J Med Paediatr Oncol. 2017 Jul-Sep; 38(3): 273–276.
doi: [10.4103/ijmpo.ijmpo_26_16](https://doi.org/10.4103/ijmpo.ijmpo_26_16)

PMCID: PMC5686965

PMID: [29200672](https://pubmed.ncbi.nlm.nih.gov/29200672/)

Evaluation of Micronucleus in Exfoliated Buccal Epithelial Cells Using Liquid-based Cytology Preparation in Petrol Station Workers

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Abstract

Background:

Liquid-based cytology (LBC) can be used for the evaluation of micronucleus (MN) in exfoliated buccal epithelial cells of populations occupationally exposed to potentially carcinogenic agents.

Aim:

This study was undertaken to evaluate the frequency of MN of exfoliated buccal epithelial cells using LBC preparation in petrol station workers.

Materials and Methods:

Fifty petrol station workers (cases) and fifty hospital administrative staffs (controls) were recruited and evaluated for MN by May-Grunwald Giemsa, Hematoxylin and Eosin, and Papanicolaou stains using LBC preparation. Statistical analysis was performed with Student's *t*-test, and $P < 0.05$ was considered statistically significant.

Results:

Regardless of staining method used, the mean frequency of MN for cases was significantly higher than that of controls ($P < 0.001$).

Conclusion:

The present study concluded that petrol station workers are under risk of significant cytogenetic damage. The MN in exfoliated buccal epithelial cells found to be a useful biomarker of occupational exposure to genotoxic chemicals. LBC can be used for sample preparation to evaluate the frequency of

Research Article

A clinico-morphological study of glandular hyperplasias of uterine cervix

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Received: 15 November 2015

Revised: 17 November 2015

Accepted: 15 December 2015

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ABSTRACT

Background: Non neoplastic lesions of uterine cervix form a major bulk of the Diagnosis in histopathological departments. Some of the non-neoplastic lesions of uterine cervix mainly exuberant processes like glandular hyperplasias are prone to varying extents of misinterpretation. This can lead to potentially adverse consequences for the patient in the form of inappropriate treatment. But, studies on non-neoplastic lesions are comparatively less. This is an attempt to study the clinico morphologic features of glandular hyperplasias of uterine cervix.

Methods: The present study is a retrospective study conducted using histopathology records of 2 years (June 2013 to May 2015) in the department of Pathology, at a tertiary care hospital in south India. The study included 811 specimens of uterine cervix obtained either in the form of biopsies or hysterectomy specimens

Results: 44 cases of Glandular hyperplasias of uterine cervix were encountered in the present study. In the present study uterine cervix is the most frequently occurring lesion, seen in 20 (2.47%) cases, followed by Microglandular hyperplasia in 13 (1.6%), Diffuse laminar endocervical glandular hyperplasia in 7 (0.86%), and Florid deep glands in 4 (0.49%).

Conclusions: Glandular hyperplasias of uterine cervix arise in the reproductive age. Early age of occurrence in the present study compared to other studies can be attributed to early marriages and childbearing in Indian women. As diagnosis rests on histologic characteristics in routinely stained sections, familiarity with these lesions by pathologists is essential to avoid over diagnosis and treatment.

Keywords: Glandular hyperplasias, Uterine cervix, Over diagnosis, Treatment

INTRODUCTION

Gynaecological specimens form the substantial proportion of the workload in most of the histopathological departments. Non neoplastic lesions of the cervix form a major bulk of the Diagnosis. Some of the non-neoplastic lesions of uterine cervix mainly exuberant processes like glandular hyperplasias are prone to varying extents of misinterpretation.¹ This can lead to potentially adverse consequences for the patient in the form of inappropriate treatment.²

Non-neoplastic lesions of uterine cervix are common, but there are very few publications on the subject compared to neoplastic diseases. Familiarity with these lesions by pathologists is needed to avoid over diagnosis and treatment.³

This is an attempt to know more about the clinico morphologic aspects of glandular hyperplasias of uterine cervix.

Original Research Article

A Morphological spectrum of benign lesions of the uterine cervix at a tertiary care hospital in Tamilnadu

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Abstract: Uterine cervix usually constitutes the majority of specimens received at histopathology section in department of pathology. A variety of rare but interesting lesions may occur in the cervix and create problems in diagnosis. Difficulties in distinction from well-differentiated adenocarcinoma can result in potentially major adverse consequences for the patient in the form of inappropriate therapy. Such, detailed histomorphological study of the non neoplastic lesions of the cervix are helpful in this regard. The study included 833 specimens of uterine cervix obtained either in the form of biopsies or hysterectomy specimens. These cervixes were subjected to detailed gross and microscopic examination and were further classified into various non-neoplastic lesions. A total of 16 types of benign lesions were encountered in the study. Chronic cervicitis (non specific) is the most frequently occurring lesion, seen in 678 (81.39%) cases, least common are decidual change in 1 (0.12%), endometriosis in 1 (0.12%), and tuberculosis in 1 (0.12%). During the study, a number of non-neoplastic lesions of the cervix were encountered, which caused a great deal of morbidity to the patients. This study is an attempt to study these more common but less frequently published lesions.

Keywords: uterine cervix, benign lesion, histomorphological, chronic cervicitis, morbidity, inappropriate therapy.

INTRODUCTION

Gynecological specimens from the major proportion of the workload in most of the histopathology departments. Non neoplastic lesions of the cervix form a major part of the diagnosis in histopathology departments. A wide variety of non-neoplastic lesions occur in the uterine cervix, the most important being inflammation, hyperplasia, dysplasia and heterotopias. Chronic cervicitis, an extremely common condition in adult females is of importance because it may lead to ascending infection [1].

Viral infections in the cervix may result in stimulated mitotic activity, which sometimes leads to overt neoplasia [2]. A variety of pseudoneoplastic lesions may occur in the cervix and create problems in differential diagnosis, specifically with regard to their distinction from well-differentiated adenocarcinoma, resulting in potentially major adverse consequences for the patient in the form of inappropriate therapy [3, 4].

Histopathological examination is the gold standard for the diagnosis of the nonneoplastic lesions of the cervix. And hence the study is undertaken.

MATERIALS AND METHODS:

The present study is a cross sectional study done using histopathology and medical records of 2 years (January 2014 to December 2015) in the department of Pathology, Dhanalakshmi Srinivasan Medical College & Hospital, Siruvachur, Perambalur, Tamilnadu.

The study included 833 specimens of uterine cervix obtained either in the form of biopsies or hysterectomy specimens. All inadequate biopsy specimens and in-situ and invasive malignant lesions of uterine cervix were excluded from the study. A detailed clinical examination including age, parity, clinical findings and provisional diagnosis were collected from the Medical records department.

All the specimens received at histopathology section were fixed in 10% formalin. The macroscopic findings of the hysterectomy specimens were examined and recorded, followed by fixation in 10% formalin for 24 hours. The hysterectomy specimen was later sampled carefully and tissue pieces were processed. The entire tissue piece of the biopsy specimen was submitted for processing. After routine processing, sections were cut at 4-6 μ thickness and stained

Ospe (Objective Structured Practical Examination) in Pathology – the Way Ahead

KEYWORDS

OSPE, Pathology, Practical examination, complement, Conventional method

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ABSTRACT

Evaluation of medical students needs to be uniform, valid and reliable during practical examination. OSPE (Objective Structured Practical Examination) is an instrument adapted to achieve this. At present there are no proper guidelines for usage of OSPE in summative assessment.

The study is carried out in Dept. of Pathology, Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur, Tamilnadu. 102 students of II MBBS attended the test on blood grouping. Students were assessed by both conventional and OSPE methods simultaneously.

The results showed significantly better scoring in OSPE pattern. The mean of marks obtained in conventional method was 2.2 (for a total of 5 marks) while it was 3.9 in OSPE method. P value is < 0.05 by paired t-test.

It is optimal to restrict OSPE to 25- 50% of total marks or exercises in practical examination. OSPE should not replace the existing system totally but should complement it.

Introduction:

Evaluation of medical students needs to be uniform and reliable during practical examination (Sandeep V Pakhale, Amrut A Mahajan, Anita S Fating, Shubhangi B Ghule, & Bharat S Borole, 2012). At present there are no proper guidelines for incorporating OSPE into the mainstream evaluation process. So some universities are not adopting OSPE at all, whereas some are using them as a predominant tool for summative evaluation.

This is an attempt to look into the advantages and drawbacks of OPSE and to find out the optimal use of OSPE in Pathology examinations.

Materials and Methods:

It is a cross sectional study. 102 students of II MBBS attended the test on blood grouping. Students were assessed by both conventional and OSPE methods simultaneously. Students were observed (OSPE) while they do the procedure and then viva (Conventional) was taken.

In Conventional method student performs the procedure and when he/she is done with the procedure examiner comes to his station to check the results and take viva. Here the procedure is not observed by the examiner.

In OSPE, examiner is observing the procedure and allots marks to each step (as per the predefined structured checklist) as and when student is doing the procedure. But he does not take viva/ talk to the student in the station. So assessment of knowledge was done in a separate response station.

Data was analyzed and results were compared using mean scores and paired t-test.

Results:

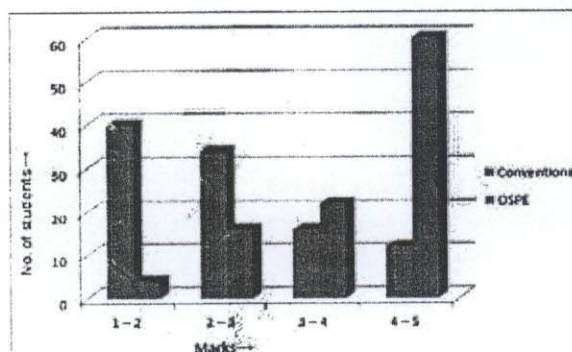
Clustering of students was noted towards lower marks in conventional method and around higher marks for OSPE method.

Table 1: scoring pattern

Marks	No. of students	
	Conventional	OSPE
1 – 2	40	4
2 – 3	34	16
3 – 4	16	22
4 – 5	12	60

In conventional assessment majority of students (40 students out of 102) secured 1 to 2 marks. In OSPE method majority of students (60 students out of 102) secured 4 to 5 marks. (Table 1)

Chart 1: scoring pattern



The results show marked variation in scoring pattern in

Clinico-Pathological Study of Non-Neoplastic Lesions of Uterine Cervix with their Histopathological Categorization

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Abstract: The non-neoplastic lesions of the uterine cervix are frequently seen in the histopathology departments. Of the 821 cervical specimens received, 909 non-neoplastic lesions were evaluated. Most of the patients' presented with vaginal bleeding, mass per vagina and white discharge. Based on histomorphology, the non-neoplastic lesions were divided into 3 categories i.e. Non-Infective Non-Adaptative lesions [76.79%], Adaptative lesions [13.64%] and Infective lesions [9.57%]. These lesions have overlapping symptoms and were clinically misdiagnosed to be malignant neoplasm. Therefore, familiarity regarding histopathological examination of these non-neoplastic cervical lesions with categorization can assist in appropriate management and prevent complications. Hence, the present study was undertaken.

Keywords: Cervicitis, Metaplasia, Infections, Histopathology, Non-neoplastic lesions.

1. Introduction

The major proportion of specimens in most of the histopathology departments usually belong to the gynaecopathology [1]. Among various gynaecological specimens, the commonest are non-neoplastic lesions affecting the uterine cervix.

Although, there is accessibility of the cervix to direct examination, clinical diagnosis still remains obscure. The diagnostic procedures like cervical cytology have an advantage to screen for cervical diseases. However, there is poor correlation in cervical cytology findings with their subsequent cervical biopsy reports. Therefore, histomorphological examination of the cervical lesions still remains gold standard for the diagnosis of non-neoplastic lesions of the uterine cervix [2].

Of the various non-neoplastic lesions, cervical inflammations due to non-infective and infective causes were common. The term chronic cervicitis may indicate only the duration of the symptoms, which becomes very difficult for the gynaecologist to correlate with clinical diagnosis. Other lesions like tunnel clusters, mesonephric hyperplasia, endometriosis and microglandular endocervical hyperplasia may be misinterpreted as malignant [3]. Thus, categorization and familiarity of the cervical non-neoplastic lesions with their histomorphological findings are essential in their recognition and could improve the approach towards better management of the patient. Also, early detection of these non-neoplastic lesions can prevent further complications.

2. Methods

The present prospective cross-sectional study was conducted over a period of 2 years in the histopathology division, department of Pathology at 2 tertiary health centers in Pondicherry and Telangana. The study included 821

specimens of uterine cervix obtained either in the form of biopsies or hysterectomy specimens. Inadequate biopsy specimens and specimens diagnosed as benign, in-situ and invasive malignant neoplasms of uterine cervix were excluded from the study. Clinical details of the patient including age, parity, clinical findings and provisional diagnosis were collected from the gynecology department.

All the specimens received at histopathology division were fixed in 10% formalin. The macroscopic findings of the hysterectomy specimens were examined and recorded, followed by fixation in 10% formalin for 24 hours. The hysterectomy specimen was later sampled carefully and tissue pieces were processed. The entire tissue piece of the biopsy specimen was submitted for processing and sections were cut at 4-6 μ thickness followed by Hematoxylin and Eosin stain. These stained sections were analyzed by light microscopy. Special stains like Ziehl Neelsen stain, Periodic Acid Schiff stain were performed wherever required.

3. Results and Discussion

Among 1,052 cervical specimens received during the study period, 830 specimens were non-neoplastic and remaining 222 specimens belonged to neoplastic lesions of the uterine cervix. Nine specimens were excluded from the study due to inadequate tissue biopsy. Out of 821 non-neoplastic specimens, 909 lesions were noted. In 72 [8.77%] specimens, more than one co-existing lesion was observed, whereas in 05 [0.61%] specimens there were more than 2 lesions. The non-neoplastic lesions of the uterine cervix were divided into 3 categories [Table.I] based on the etiology and histomorphological examination:

Category.1: Infective Lesions,

Category.2: Adaptative Lesions and

Category.3: Non-Infective Non-Adaptative [NINA] Lesions.

Volume 4 Issue 2, February 2015

www.ijsr.net

Paper ID: SUB151714

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Cervicitis: How Often Is It Non-specific!

NAVEEN KUMAR BHAGAVATHULA JAYAKUMAR

ABSTRACT

Background: Uterine cervix is most often reported as 'non specific cervicitis'. It is an effort to encourage specific reporting and thereby avoiding the term 'non specific' to a possible extent.

Materials and Methods: The study is carried out on 613 specimens of uterine cervix received at Department of Pathology, Aarupadai Veedu Medical College, Pondicherry, between 1st January 2010 to 31st December 2012.

Histopathology slides of all the cases were studied for the presence of specific features of various inflammatory lesions. Results are expressed in percentage.

Results: Chronic nonspecific cervicitis was the commonest inflammatory lesion constituting 89.23% of the cases. Other inflammatory lesions were follicular cervicitis in 6.85%, chronic cervicitis with koilocytosis in 3.75% and only one case (0.16%) of tuberculosis was observed.

Conclusion: Importance of these benign lesions of the uterine cervix lies in the fact that some of them like Chlamydia, Papilloma infection have specific treatment and some of them form differential diagnosis for malignant lesions and some progress to malignancy.

Keywords: Endometritis, Treatment, Uterine cervix

INTRODUCTION

Non-neoplastic diseases of uterine cervix are predominantly inflammatory and are common, but there are very few publications on the subject compared to neoplastic diseases.

Chronic cervicitis is an extremely common condition in adult females, at least at the microscopic level. Its importance lies in the fact that it may lead to endometritis, salpingitis, pelvic inflammatory disease, chorioamnionitis, and other complications during pregnancy, and it may also play a role in initiation or promotion of cervical neoplasia [1].

Viral infections in the cervix result in two types of tissue responses. The first one being degeneration and death; in the second, cells are stimulated into mitotic activity, which sometimes leads to overt neoplasia [2].

Cervix Uteri is most often reported as 'non specific cervicitis'. It is an effort to encourage specific reporting and thereby avoiding the term 'non specific' to a possible extent.

MATERIALS AND METHODS

The present prospective cross-sectional study was conducted over a period of 3years (Jan 2010 to Dec 2012) in the Department of Pathology, Aarupadai Veedu Medical College and Hospital, Puducherry, India.

The study included 613 specimens of uterine cervix obtained either in the form of biopsies or hysterectomy specimens. All dysplastic, in-situ and invasive malignant neoplasm of uterine cervix and inadequate biopsy specimens were excluded from the study. A detailed clinical details including age, parity, clinical findings and provisional diagnosis were collected from the gynecology department.

All the specimens received at histopathology section were fixed in 10% formalin. The macroscopic findings of the hysterectomy specimens were examined and recorded, followed by fixation in 10% formalin for 24 h. The hysterectomy specimen was later sampled carefully and tissue pieces were processed. The entire tissue piece of the biopsy specimen was submitted for processing.

After routine processing, sections were cut at 4-6 μ thickness and stained routinely using Hematoxylin and Eosin stain. These stained sections were analyzed by light microscopy. Ziehl Neelsen stain was performed wherever required.

RESULTS

Total specimen received in histopathology during the study period is 2183. Out of this 613 specimen were included in the study as per the inclusion and exclusion criteria. These 613 specimens were either of hysterectomy or biopsy, which had cervical tissue.

S. No	Lesions	No. of cases	Frequency (%)
1	Non-specific cervicitis	547	89.23%
2	Follicular cervicitis	42	6.85%
3	Chronic cervicitis with Koilocytic change	23	3.75%
4	Tuberculosis	01	0.16%
	Total	613	

[Table/Fig-1]: Showing different forms of Cervicitis encountered in the present study

Out of 613 of the cases, 547 showed non-specific cervicitis, with no other pathology. But, 42 cases displayed follicular cervicitis (Chlamydial infection to be ruled out). Though Follicular cervicitis is not diagnostic of Chlamydia infection, it has been shown to be more commonly associated with positive cultures than not. So, if follicular cervicitis is identified in a biopsy, a comment should be made in the report that this finding may be associated with Chlamydia [3]. Twenty three cases displayed koilocytic change suggestive of Papilloma virus infection. Only one case displayed epithelioid cell granulomas with caseation suggesting Tuberculous infection. Cervicitis is non-specific in about 89% of the cases in this study. 11% of cervicitis has specific causes [Table/Fig-1].

DISCUSSION

Chronic Non-Specific Cervicitis

Frequency of occurrence of chronic non-specific cervicitis was 89.23% in the present study, 72.2% in a study by FN Nwachokor, GC Forae [4] and 82% in a study by Olutoyin G & Omoniyi-Esan et al., [5] [Table/Fig-2].

Primary Mesenteric Gastrointestinal Stromal Tumour Presenting as Acute Abdomen: A Case Report

LAVANYA KRISHNAGOPAL, NAVEEN KUMAR BAGAVATHULA JAYAKUMAR, SUDARSHAN CHOUGULAE

ABSTRACT

Primary mesenteric gastrointestinal stromal tumours are uncommon neoplasms. These mesenchymal tumours present with

non-specific clinical features. We are reporting a case of large primary mesenteric gastrointestinal tumour with an unusual presentation as acute abdomen.

Key Words: Gastrointestinal stromal tumour – GIST

INTRODUCTION

The term, 'gastrointestinal stromal tumour' (GIST) was coined by Mazur and Clark, who showed them to be immunohistochemically and ultrastructurally different from other spindle cell mesenchymal tumours [1]. A pluripotential mesenchymal stem cell is their cell of origin [2]. Primary mesenteric malignant tumors which include GIST, account for 30% to 50% of all mesenteric tumors [3]. Primary mesenteric tumors usually present as an abdominal mass with other signs of an indolent process.

CASE REPORT

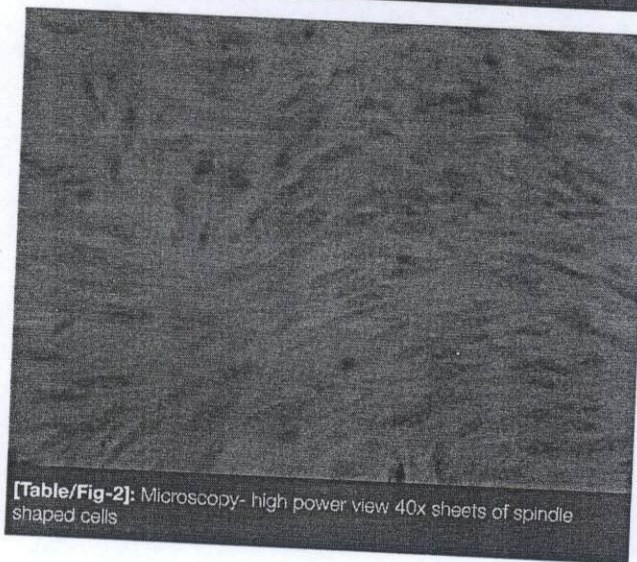
A 35-year old lady presented with complaints of a sudden onset of abdominal pain with nausea and vomiting (1 episode) of 8 hours duration. The pain was of increasing intensity, which diffusely spread over the abdomen. Her past medical and surgical histories were insignificant. Her complete blood count and her basic biochemical parameters were normal. Abdominal CT scan showed a heterogenous mesenteric mass which measured 10cm in diameter. Other organs and nodes were uninvolved. The patient was taken up for laparotomy. Per-operatively, a large haemorrhagic lesion which arose from the small intestinal mesentery was observed. The tumour was resected along with a segment of the small intestine, followed by intestinal re-anastomoses. The specimen, on examination, had a 13cm small intestinal segment with a nodular haemorrhagic lesion which arose from the mesentery without involving the intestine [Table/Fig-1]. The tumour mass was 11cm in diameter, predominantly cystic and filled with haemorrhage and tan solid areas at one end. The specimen was formalin fixed and hematoxylin and eosin stained sections were prepared. The sections from the solid areas revealed sheets and fascicles of spindle shaped cells with eosinophilic cytoplasm [Table/Fig-2]. The nuclei were elongated with blunt ends and some cells showed cytoplasmic vacuolation at the nuclear poles. The mitotic count was <5 per 50 high power fields. The immunohistochemical staining for CD117 was diffusely positive [Table/Fig-3]. The diagnosis of primary mesenteric gastrointestinal stromal tumour (high risk category) was derived.

DISCUSSION

Primary mesenteric neoplasms such as benign lipomas, mucinous cystadenomas and rarely, locally aggressive malignant tumours,



[Table/Fig-1]: Gross- nodular hemorrhagic tumor arising from mesentery of small intestine



[Table/Fig-2]: Microscopy- high power view 40x sheets of spindle shaped cells

may present with the clinical picture of acute abdomen due to bowel obstruction, volvulus or infarction. Vague abdominal pain with or without a palpable mass is more common in tumours which arise from the mesentery. The clinical presentation of GIST per se depends on the tumour location, size and aggressiveness [4].

Case Report

Amyloid tumor of thyroid, amyloid goiter: A case report with a stress on importance of preoperative diagnosis

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ABSTRACT

Although involvement of the thyroid gland by amyloid is a relatively common phenomenon, clinically significant enlargement of the thyroid owing to amyloid deposition is an extremely rare occurrence. Deposition of amyloid is commonly found in the kidneys, spleen, liver, lymph nodes, nerves, skin, heart, gastrointestinal tract, lungs, and blood vessels. We present a rare case of amyloid deposition in thyroid, leading to amyloid goiter which is still rarer.

Key words: Amyloid goiter, amyloid, thyroid gland

INTRODUCTION

Amyloid goiter can be defined as the presence of amyloid within the thyroid gland in such quantities as to produce a clinically apparent enlargement of the gland. This unusual entity was first described in 1858 by Beckman, and in 1904 by Eiselberg, who advanced the name "amyloid goiter." Focal microscopic deposition of amyloid within the thyroid gland might be seen in systemic secondary amyloidosis, medullary thyroid carcinoma, and less frequently, in primary amyloidosis. Clinically detectable thyroid enlargement from amyloid infiltration is rare, and most cases are not diagnosed prior to surgery.^[1]

CASE REPORT

A 36-year-old man presented with complaints of a gradually increasing swelling in front of the neck and generalized body swelling for 2 years, pain in the swelling and change in voice since 6 months, with history of breathlessness on lying down. Examination revealed an average built adult male with mild pallor. A $15 \times 5 \text{ cm}^2$ mass involving both the lobes of thyroid was palpable in the neck.

Investigations showed hemoglobin of 9.6 g and TLC $4590/\text{mm}^3$. ESR 5 mm/h and thyroid profile within normal limits. FNA done outside was reported as colloid goiter.

The patient was taken up for surgical removal of the tumor subsequently. The gross specimen consisted of thyroidectomy specimen with large lobe measuring $10 \times 6 \times 3 \text{ cm}^3$ and smaller lobe measuring $8 \times 5 \times 2 \text{ cm}^3$. Cut section revealed lobular gray white area almost replacing the thyroid tissue, with normal thyroid tissue made out only in the periphery. Microscopy shows diffuse infiltration of thyroid gland by amorphous eosinophilic material. Thyroid follicles of various sizes are seen widely separated by amorphous material [Figure 1]. Congo red staining display apple green birefringence on polarized microscopy [Figure 2]. Diagnosis of amyloid tumor of thyroid, amyloid goiter was made.

DISCUSSION

Amyloid is found in the thyroid in three different settings. The most common of these is the amyloid in the stroma of medullary carcinoma. Amyloid goiter is a tumefactive mass of amyloid associated with a foreign body giant cell response and with adipose tissue. It is associated with systemic amyloidosis. Another complication of systemic amyloidosis is amyloid deposition in the thyroid stroma and in glandular and periglandular blood vessels.^[2]

Access this article online

Website: www.thetrp.net

DOI: 10.4103/0973-0354.96053

Quick Response Code:



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Case Report

Cytology of hyalinising trabecular adenoma-like variant of medullary thyroid carcinoma

ABSTRACT

Medullary thyroid carcinoma is a rare thyroid neoplasm that can be either sporadic or familial. It occurs in adults, presenting as a solitary cold nodule on thyroid scan. Most are solid, firm, and non-encapsulated, and occur in the mid portion or upper half of the thyroid gland, corresponding to areas with greater numbers of C cells. We present a case of a 36-year-old female with a swelling in the front of her neck for six years. Fine needle aspiration done elsewhere revealed spindle cells, suggestive of a 'spindle cell neoplasm'. The histopathology of the thyroidectomy specimen showed features of a hyalinizing trabecular adenoma-like variant of medullary carcinoma. Subsequently, we performed aspiration on the received specimen and studied the cytological findings. The cytological diagnosis of this variant requires identification of the dual spindle and ovoid cell population and the granular neuroendocrine chromatin.

KEY WORDS: Fine needle aspiration cytology, hyalinizing trabecular, medullary carcinoma, thyroid

INTRODUCTION

Medullary carcinoma of the thyroid can display variants, such as, papillary, pseudo-papillary and follicular. The hyalinising trabecular adenoma-like or paraganglioma-like tumor is a rare variant. Diagnosis of this variant, based on fine needle aspiration (FNA) findings, requires a combination of strong suspicion, careful attention to nuclear features, and also immunoreactivity for calcitonin.

CASE REPORT

A 36-year-old female presented with a swelling in the front of her neck for six years. There were no associated symptoms. No history suggestive of a hyperthyroid state was elicited. Examination revealed a well-defined swelling of size 4 x 4 cm, which moved with deglutition and was located in the right lobe of the thyroid. The swelling was nontender and firm. The left lobe of thyroid was within normal limits. No cervical lymphadenopathy was evident.

The thyroid hormonal profile revealed a euthyroid state. A thyroid scan depicted a moderately enlarged gland with a hypofunctional nodule on the right lobe of the thyroid. FNA was performed elsewhere and was reported as a 'spindle cell neoplasm'. A right hemithyroidectomy was performed.

On gross examination, the right hemithyroidectomy

specimen measured 55 x 40 x 30 mm; the external surface was tan brown and showed a circumscribed nodule 30 mm in diameter. The cut section confirmed the presence of a well-encapsulated nodule with a uniform, gray-white, solid appearance. No papillary formations were evident. On microscopy, the encapsulated tumor was seen to be composed of cells in nests and trabeculae [Figure 1]. The individual cells were polygonal to spindle, with round to elongated nuclei, having granular chromatin [Figure 2]. Fibrous septae divided the cells into clusters; in places hyalinization of the septae was noted. A Congo Red stain for amyloid was negative. However, the immunohistochemistry for calcitonin was strongly positive in the tumor cells [Figure 3]. The final diagnosis was 'Medullary carcinoma thyroid — hyalinising trabecular adenoma-like variant'. Thereafter, total thyroidectomy was performed and did not reveal any residual tumor. At the time of writing, 15 months since the presentation, no evidence of metastasis or recurrence was evident.

Subsequent to the histopathological diagnosis, the initial FNA slides were retrieved from the patient and reviewed. Also, to confirm and study the cytological features, an FNA was performed on the specimen received. The cut surface was mop dried using filter paper and aspiration from both halves of the nodule was done using the routine FNA procedure. Air-dried smears and fixed smears were stained using May-Grünwald-Giemsa (MGG)

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Access this article online
Website: www.cancerjournal.net
DOI: 10.4103/0973-1482.82916
PMID: 21768710
Quick Response Code:


Angiolymphoid Hyperplasia with Eosinophilia Developing in a 9 Year Old Patient with History of Tuberculosis

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Abstract

Angiolymphoid hyperplasia with eosinophilia (ALHE) is a rare benign reactive vasoproliferative disease, presenting as painless vascular papules or nodules in the dermal and subcutaneous tissue particularly in the head and neck region. The etiology is uncertain whether; reactive or neoplastic; but its association with Tuberculosis is rare and very few cases have been reported so far. We present a nine year old girl with a swelling on the dorsum of foot since 3 months. She reported to have taken treatment for Tuberculosis when she was six years. Excisional biopsy showed vascular proliferation with prominent mixed inflammatory component, diagnosed as ALHE based on histopathological and Immunohistochemical methods. Its association in the present case showed possibly a result of complex immunological mechanism secondary to chronic infection like tuberculosis.

We present a case of ALHE with a very rare presentation on the dorsum of the foot in a 9 year old female with a history of Tuberculosis.

Keywords: Angiolymphoid hyperplasia with eosinophilia • Tuberculosis • Vasoproliferative lesion.

Introduction

Angiolymphoid Hyperplasia with eosinophilia (ALHE) is a vasocentric process involving the muscular arteries of head and neck, characterized by infiltrates of lymphocytes and eosinophils.^[1] ALHE clinically presents as a single to multiple red dome shaped papules or sub cutaneous nodules. It is rarely seen in trunk, extremities and genitalia.^[2] ALHE is most commonly seen in young to middle aged females, rarely in children.^[3] About one fifth of the patients have peripheral blood eosinophilia and lymphadenopathy.^[4]

The aetiology of ALHE is still unclear; vascular or lymphoproliferative; or heterogeneous group of entities. Some authors have proposed hypersensitivity reaction or a tissue reaction to a previous trauma as seen in cases of acquired traumatic A-V fistula.^[5] There has been a case report of an ALHE in a patient of peripheral T cell Lymphoma.^[1] The association of ALHE with tuberculosis is very rare and the purpose of this case report is to define the possible association of immune derangement in a case of Tuberculosis with ALHE.

Case report

A nine year old female attended our outpatient department with complain of swelling on dorsum of foot since 90 days with no history of fever, pain or trauma. Patient gave a history of tuberculosis 3 years back and has taken treatment for the same for a period of six months. Based on the clinical presentation, a clinical diagnosis of pyogenic granuloma was made. Peripheral blood showed 18% eosinophilia. Complete surgical excision of the mass was performed under local anaesthesia and the mass was sent for histopathological examination. The tumour measured 2.5x2x1cm, firm in consistency with no ulceration. Cut surface showed a well circumscribed solid gray white nodule with minute foci of haemorrhage. Microscopy revealed lobular proliferation of thick and thin walled blood vessels lined by plump endothelial cells separated by fibrocollagenous stroma. (Fig 1) The inflammatory component is composed of a diffuse infiltrate predominantly of eosinophils, lymphocytes and plasma cells. (Fig 2) Immunohistochemical studies showed CD34 positivity for vascular endothelial cells. (Fig 3 & 4) Based on clinical, histopathological and immunohistochemistry, a diagnosis of Angiolymphoid Hyperplasia with eosinophilia (ALHE) was made.

MAST CELLS IN APPENDICITIS: A STUDY

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HOW TO CITE THIS ARTICLE:

Kumaran C, Divya Lakshmi L. "Mast Cells in Appendicitis: A Study". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 34, August 24, 2015; Page: 5165-5170, DOI: 10.18410/jebmh/2015/720

ABSTRACT: AIM AND OBJECTIVE: To investigate the extent of mast cell involvement in surgically resected appendices of both the normal and inflamed appendices. **INTRODUCTION:** Mast cells are known to be effector cells in various inflammatory and immune reactions. The number of mast cells in appendicitis and its association is unclear. **MATERIALS AND METHODS:** One hundred and eight cases were studied with routine haematoxylin and eosin staining and a special stain toluidine blue. The number of mast cells was counted randomly in ten consecutive high power fields in all the sections with one percent toluidine blue and graded the mast cells count. **RESULTS:** Among one hundred and eight cases, the acute appendicitis were 60 cases (55.5%), with higher mast cell count and chronic appendicitis were 46 cases (42.6%), with highest mast cell count and normal appendices were 2 cases (1.9%), did not show any significant variation in mast cell count. **CONCLUSION:** We concluded that mast cell count was higher in acute appendicitis indicating immunological and non-immunological injury causing acute appendicitis. The mast cell count was highest in chronic appendicitis, indicating growth interaction between mast cells, nerves and fibroblasts.

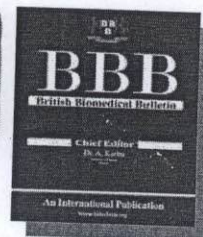
KEYWORDS: Appendicitis, Mast cells.

INTRODUCTION: The appendix is a normal true diverticulum of the cecum that is prone to acute and chronic inflammation. The appendix was first described by Erenario Da Capri the physician, anatomist in 1521. The "Vermiform Appendix" was coined by Verneys in 1710. Reginald Fitz coined the term 'appendicitis' in 1886. The lifetime risk for appendicitis is 7%; males are affected slightly more often than females.^[1]

Despite the prevalence of acute appendicitis, the diagnosis can be difficult to confirm preoperatively and may be confused with mesenteric lymphadenitis, acute salpingitis, ectopic pregnancy, mittelschmerz and Meckel diverticulitis.

Acute appendicitis is thought to be initiated by progressive increases in intraluminal pressure that compromise venous outflow. In 50% to 80% of cases, acute appendicitis is associated with overt luminal obstruction, usually caused by fecolith, or mass of worms. Ischemic injury and stasis of luminal contents, which favour bacterial proliferation, trigger inflammatory responses including tissue edema and neutrophilic infiltration of the lumen, muscular wall, and periappendiceal soft tissues.^[2]

Von Recklinghausen et al., in 1863 described the mast cell for the first time.^[1] Mast cells are bone marrow-derived cells found resident in tissues throughout the body particularly in association with structures such as blood vessels and nerves.^[3] Mast cells have cytoplasmic membrane-bound granules that contain a variety of biologically active mediators like platelet activating factor and the leukotrienes. Therefore, the mast cells are regarded as "Disseminated unicellular endocrine glands".^[1] The granules also contain acidic proteoglycans that bind basic



Case Report

Primary Mucinous Adenocarcinoma of Appendix a Rare Case Report

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ARTICLE INFO

Received 17 Aug. 2015
Received in revised form 30 Aug. 2015
Accepted 05 Sep. 2015

Keywords:

Adenocarcinoma,
Appendicitis,
Appendix and
Appendicectomy.

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ABSTRACT

Appendicitis is the most common cause of pain abdomen in right iliac fossa, tumor is very rare as the preoperative investigations are limited to identify the small tumors. We report a 33 year old male with primary mucinous adenocarcinoma of appendix presented with features of appendicular mass. The interval appendicectomy done revealed mucinous adenocarcinoma on histopathology with Duke stage A. Follow up investigations did not reveal any other source of growth or metastasis. Exact diagnosis of the pathology of appendix is important as the treatment varies so as the prognosis of the patient.

Introduction

Appendix a true diverticulum of caecum is more prone to inflammation rather than tumor.

Carcinoid is the most common tumor and adenocarcinomas are rare in appendix incidence of adenocarcinoma in appendix is 0.01-0.2%. Clinically these tumors present as appendicitis and very rarely as a mass in right iliac fossa, therefore preoperative recognition of adenocarcinoma is not possible and is usually diagnosed after histopathological evaluation of specimen after removal for suspected appendicitis.

Exact diagnosis and staging of adenocarcinoma is very important as the treatment varies^{1,2,3}.

We report a case of mucinous adenocarcinoma of appendix in middle aged patient on a resolved appendicular mass.

CASE STUDY

A 33year old male presented to the emergency with symptoms of lower abdominal pain and vomiting. Emergency ultrasound revealed a mass of 6x6cm, patient was treated conservatively and was



British
Biomedical
Bulletin

Case Report

Tuberculous Intestine Presenting as Giant Colonic Diverticulum

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Abstract: Colonic diverticular disease is relatively common in the western hemisphere but a giant colonic diverticulum (GCD) is an unusual finding. A case of GCD with radiographic features suggestive of an appendicular mucocoele/intussusception is reported. At surgery a diagnosis of an appendicular pyocoele was considered. The present case makes interesting reading due to it occurring against a background of tuberculosis in a patient much younger than that reported in literature and due to an unusual pathogenesis. Due to its gross appearance and location, GCD can be distinguished from other diseases of the gastrointestinal tract which can have similar characteristics on physical examination and imaging studies. The severe complications of the giant colonic diverticulum and its surgical significance make this condition important to recognize.

Keywords: Giant colonic diverticulum, Tuberculosis.

INTRODUCTION

Diverticular disease of the colon is a common benign condition that develops due to out pouching of layers of the colon due to various causes. Prevalence of the disorder is largely age dependent, with a rate of less than 5% in people under 40 years of age, increasing up to 65% in people aged 65 years or over [1]. Giant Colonic Diverticulum is usually defined as a diverticulum measuring more than 4 cm in diameter [2]. It has equal incidence in both males and females. Sigmoid Colon is affected in 90% of cases [3]. The first case was reported by Bonvin and Bonte in 1946 [4]. In the present article a case of giant pseudo-diverticulum occurring against the background of tuberculous infection is presented.

CASE REPORT

An 11 year old female was hospitalized with complains of severe abdominal pain in the right iliac fossa. On examination a tender mass was felt in right iliac fossa.

Ultrasonography was done and a diagnosis of an appendicular mucocoele or intussusception given (Fig. 1 a and b). Other laboratory investigations showed no significant abnormal findings.

On opening the abdomen a tubular structure attached to the caecum was observed which appeared markedly distended due to its fluid content. About 20 ml of brownish fluid was drained from the tubular structure (Fig. 2 a and b). Appendix could not be identified and surgeons interpreted this tubular structure as an enlarged appendicular mass. The specimen was sent for histo-pathological examination.

Histopathological examination

Gross

The specimen consisted of a tubular structure measuring 18 cm in length. The resected margins appeared congested. At one end of the resected site, a mucosal protrusion was noted and was suspected as being an ileocaecal mucosa/valve. The wall was markedly thickened and 5 cm from the distal end an ulcer was noted on the mucosal aspect. Representative bits were taken from the resected margins, ulcerated area and other thickened areas. Tissue was processed and embedded in paraffin blocks and 4 microns thick section were taken and stained with the Haematoxylin and Eosin stain.



ORIGINAL RESEARCH PAPER

Pathology

FIBROADENOMA IN ECTOPIC BREAST TISSUE: A SERIES OF 3 CASES.

KEY WORDS: Fibroadenoma, ectopic breast tissue, axillary region, vulva

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ABSTRACT

Ectopic breast tissue (EBT) is defined as "a residual or aberrant breast tissue that persists from normal embryologic development". EBT is an umbrella term that refers to both supernumerary breasts as well as aberrant breast tissue. It can also harbor all the pathological benign and malignant breast diseases as it occurs in normal breast tissue, though incidence remains very low. They are clinically significant as they are associated with other congenital anomalies of the urinary and cardiovascular systems. EBT may constitute a diagnostic challenge and is often misdiagnosed as lipoma, follicular cyst or lymphadenopathy. Owing to its rarity as a seat of origin in ectopic breast, we are reporting three cases of uncommon occurrences of fibroadenoma, two in axilla and one in vulval region in women of reproductive age groups with no congenital abnormalities.

INTRODUCTION

Ectopic breast tissue (EBT) is a condition in which abnormal accessory breast tissue is seen in addition to the presence of normal breast tissue. [1] The incidence of EBT is around 0.4-6% in women and about 1-3% in males. [2] EBT can present as a mass anywhere along the course of the embryological streak (milk line), which extends from the axilla to the inguinal region. [1] Fibroadenoma is a common benign disease of normal breast tissue and its occurrence in accessory breast tissue is very rare. [2,3] The behaviour, clinical presentation, microscopic features and prognosis are almost similar to that of breast fibroadenoma.

MATERIALS AND METHODS

A retrospective study on 50 patients was done with the clinical diagnosis of lymphadenopathy and lipoma in axillary and vulval swellings respectively by the Department of Pathology in Oxford Medical College Hospital and Research Centre, Bengaluru.

This case series was observed among patients referred from the department of Surgery and OBG for fine needle aspiration cytology over a period of 6 months from January 2017 to January 2018. Three patients were identified with EBT in axillary and vulval region. The first two patients presented with axillary swelling with a provisional clinical diagnosis of lymphadenopathy. The last case presented as a solitary, subcutaneous vulval swelling with a clinical diagnosis of lipoma or a cystic mass. Clinical examination of both breasts revealed no abnormalities and no lymph nodes or supernumerary breasts were detected in the axilla or the neck. All the three cases were clinically insignificant with no urologic or cardiovascular abnormalities were found.

Under all aseptic precautions fine needle aspiration cytology was performed for the first two cases, using 22 gauge needle and multiple slides were prepared after fixation. They were stained with H& E, Pap and Giemsa. The patients underwent excisional biopsy for the masses under local anaesthesia, and were sent for histopathological evaluation. For the third case vulval mass was sent directly for histopathological evaluation, FNAC procedure was not performed as the patient was uncomfortable.

RESULTS:

The first two patients with axillary swelling were of 32 & 35 years of age. (Table 1) Clinically the axillary masses were firm, non tender, mobile with sizes varied from 1.5 - 3 cm in diameter. (Fig 1) Ultrasound also showed solid masses with non specific features with the most likely diagnosis of lymph node. FNAC from both the masses showed highly cellular smear with clusters of benign ductal epithelial cells arranged in monolayered sheets, glandular and stag horn pattern along with many bare nuclei in the background. Scanty stromal fragments were also noted. (Fig 2&3) A clear

diagnosis of benign breast disease arising from ectopic breast tissue was made and was advised for excision. On Gross, the excised masses were nodular ranging from 2 to 3 cm in size. The cut surface showed homogeneous lobulated, white masses with slit like spaces. Microscopy showed a well circumscribed lesion with benign ducts arranged in pericanalicular and intracanalicular pattern lined by double layered epithelium embedded in abundant loose fibrocollagenous stroma. No atypia was noted in the lining epithelium. A diagnosis of Fibroadenoma in Ectopic breast tissue was made. (Fig 4 & 5)

Table 1.

CASES	AGE	SITE	CLINICAL DIAGNOSIS	FNAC	HISTOPATHOLOG
1.	32 yrs	AXILLA (LEFT)	AXILLARY LN	BENIGN BREAST TISSUE ARISING FROM EBT (NO MALIGNANCY NOTED)	FIBROADENOMA
2.	35 yrs	AXILLA (RIGHT)	AXILLARY LN	BENIGN BREAST TISSUE ARISING FROM EBT (NO MALIGNANCY NOTED)	FIBROADENOMA
3.	40yrs	VULVA (left)	VULVAL LIPOMA	NOT DONE	FIBROADENOMA

While the third woman presented with a left vulval mass was 40 years of age, with the probable clinical diagnosis of lipoma but was confirmed as fibroadenoma of the vulval mass in ectopic mammary tissue on histopathology.



Fig.1. Right axillary swelling

Fig.3.HP FNAC shows bimodal population of cells

Title of the Paper: Histopathological Spectrum of Upper Gastrointestinal Endoscopic Biopsies: A Study of 150 Cases

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Abstract

Background: Upper gastro intestinal (GI) endoscopy is an established mode of investigation and treatment of a wide range of upper gastro intestinal disorders, such as dysphasia, upper GI bleeding, persistent dyspepsia, heartburn, chronic acid reflux and in the surveillance of Barrett's esophagus, gastric ulcer and duodenal ulcer. Upper gastrointestinal tract is a common site for neoplasm's especially malignant tumors. Worldwide carcinoma stomach is the second most common cancer and carcinoma esophagus is the sixth leading cause of death.

Aims & Objectives: To analyze the histopathological spectrum of diseases in upper GI tract, estimate the incidence of H. Pylori associated chronic gastritis, incidence of malignancy and to correlate clinical features with histopathological diagnosis.

Materials and Methods: The present study was conducted in the Department of Pathology, MVJ Medical College and Research Institute, Hoskote over a period 2 years from September 2012 to August 2014. Total of 150 cases who underwent Upper GI Endoscopic Biopsy (esophageal, gastric, and duodenum (1st part) lesions) were studied.

Results: Out of the 150 upper GI endoscopic biopsies, 47 (31.3%) were from the esophagus, 95 (63.3%) from stomach and 8 (5.3%) from duodenum. There were 87 male patients and 63 female patients making the male: female ratio of 1.4:1. The highest number of biopsies was done in patients between 41 to 50 years (25.3%). Dysphagia (38.6%) is the commonest presentation with esophageal lesions. Dyspepsia (61.3%) & pain abdomen (38%) were the commonest presentation in patients with gastric lesions. Out of 47 esophageal biopsies 28 (59.2%) were squamous cell carcinoma followed by chronic esophagitis 7 (14.8%). Majority of cases of carcinoma esophagus were in the middle 1/3rd of the esophagus, histologically these proved to be squamous cell carcinoma & adenosquamous carcinoma. Only 2 cases of adenocarcinoma were obtained and these were in the lower 1/3rd of the esophagus. Out of 95 cases of gastric biopsies 79 (83.1%) were Chronic gastritis,

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Received on 28.11.2018,

Accepted on 28.12.2018

Mucin Histochemistry of Endocervix in Health and Disease

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ABSTRACT

Introduction: Mucus plays an important role in reproductive function and defence of the female reproductive tract. Alterations in mucus quantity and quality are related to physiological and pathological changes of female reproductive tract.

Aim: To study the specific types of endocervical mucin using standard histochemical stains in proliferative phase of the menstrual cycle, secretory phase of the menstrual cycle, non-neoplastic lesions of the cervix and neoplastic lesions of the cervix.

Materials and Methods: Prospective study was conducted over a period of two years from September 2012 to August 2014. All cervical biopsies as well as cervixes from hysterectomy specimens received at Department of Pathology at MVJMC and RH was taken for the study. Corresponding endometrial bits were also taken to assess the menstrual cycle phasing. Thirty cases from the proliferative phase and 30 cases from the secretory phase of menstrual cycle. Thirty cases from non-neoplastic cervical lesions and 15 cases from neoplastic

cervical lesions. On each cervical biopsy six sections were cut and mucin histochemistry was carried out. Mucin staining was graded as +, ++, +++. Data was entered in Microsoft excel 2010 and statistics was analysed using SPSS version 16.0. The p-value was obtained by chi-square test.

Results: Acid mucin was predominant in proliferative phase; neutral mucin was predominant in secretory phase. In inflammatory lesions mucin produced was variable. Among the neoplastic cases one squamous cell carcinoma showed mucin secretion which was reclassified as adenosquamous carcinoma of cervix. Among the acid mucins produced, it was found that carboxylated and weakly sulphated mucin was secreted predominantly.

Conclusion: Histochemical study of endocervical mucins yielded different types of mucin in the proliferative and secretory phases. Carboxylated mucin was predominant in inflammatory states and sulphated mucin was a component of cervical polyp. Adenosquamous carcinoma can be detected more easily.

Keywords: Acidic mucin, Alcian blue, Menstrual cycle, Neutral mucin, Periodic acid schiff stain

INTRODUCTION

Endocervix secretes slippery mucus secretion at a rate of 20-60 mg/day. The consistency and viscosity of mucus secreted by endocervical glands varies depending on the phases of menstrual cycle. The mucus character changes from a thick viscous to a watery consistency in periovulatory period to allow sperm to penetrate into the uterus and thus helps in fertilization. Quantity and quality of mucus secreted by endocervical glands are related to various physiological and pathological conditions of the female reproductive tract [1,2].

Histochemical studies have showed that both acid mucins and neutral mucins were produced by the same cells, but that the quantity produced varied through the menstrual cycle. The amount of neutral mucin produced was found to be greater in the periovulatory period, while acid mucin showed variations in quantity throughout the menstrual cycle [3].

Mucin histochemistry helps in identifying the types of mucin secretion in various physiological and pathological conditions of the cervix. The periodic acid schiff reagent stains the neutral mucin; alcian blue stains the acidic mucin and alcian blue in different molarity stains the various types of mucin (carboxylated and sulphated mucin). The combined alcian blue/periodic acid schiff provides a broad means of detecting mucins [4,5].

The objective of this study was to evaluate the expression of mucin in various phases of the menstrual cycle, non-neoplastic and neoplastic lesions involving the uterine cervix and to determine whether a distinct phenotypic pattern exists in the various phases of menstrual cycle to differentiate between benign, premalignant, and malignant endocervical glandular lesions.

MATERIALS AND METHODS

The present study was a prospective study which was conducted in the Department of Pathology, MVJ Medical College and Research Institute, Bangalore, Karnataka, India, over a period of two years from September 2012 to August 2014, after due clearance from institutional Committee for Ethics with IEC no: MVJMCRIH/IEC-01/2012.

Mucin in cervixes of healthy females was studied separately in proliferative phase and secretory phase.

Mucin in diseased females was classified under non neoplastic cervical lesions and neoplastic cervical lesions. One hundred and five cervical biopsies were obtained from both hysterectomy specimens and cervical punch biopsies. Corresponding endometrial bits were also taken to assess the menstrual cycle phasing. Thirty cases from the proliferative phase and 30 cases from the secretory phase of menstrual cycle. Thirty cases from non-neoplastic cervical lesions and 15 cases from neoplastic cervical lesions.

Consent was procured from all the 105 cases.

Inclusion Criteria: All cervical biopsies with adequate amount of tissue from the above mentioned condition.

Exclusion Criteria: Biopsies from pregnant women.

The specimens were fixed in 10% formalin. Representative bits were placed in cassettes, kept in fixative and processed in the automatic tissue processor for 16 hours. Paraffin tissue blocks were prepared and 3-4 μ thick sections were cut and stained with routine haematoxylin and eosin stain, Periodic acid-Schiff stain, Alcian blue at pH 2.5 and also at lower pH by changing the molarity 0.06 M, 0.3 M and 07 M.

Clinicopathological Correlation of Thyroid Cytology with Thyroid Function Tests: A Study of 100 Cases

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Abstract

Background: Thyroid Swellings are most common in routine clinical practice. Fine needle aspiration cytology (FNAC) gives quick results with good sensitivity and specificity. It minimize further investigations and surgeries. Combined approach of Thyroid functions test (TFT), FNAC and Histopathological findings will increase the specificity for the diagnosis of thyroid lesions. **Aims & Objectives:** Study aims to correlate cytological findings, TFT and Histopathological findings. **Materials and Methods:** The present study was undertaken in Department of Pathology, KBN institute of Medical Sciences, Kalburagi from June 2016 to May 2017. Total of 100 cases presented with Thyroid swellings, who underwent FNA and TFT. Among 100 cases, 25 cases had Histopathological Follow Up. **Results:** Total of 100 patients with thyroid swellings were included in this study. 90 females and 10 were males. Maximum patients were in age group of 21-30 years. Most Common Lesions were Non-Neoplastic accounting 88 % of cases, among these Colloid Goitre was commonest. 12% cases were found to be neoplastic, among these, Follicular Neoplasm were the most common, followed by Papillary Carcinoma. 70 % were Euthyroid, 2 % were Subclinical hyperthyroid, 16% were hypothyroid, 5% were hyperthyroidism and 7 % were subclinical hypothyroidism. Among these 25 cases had histopathological Examinations, 21 were correlated with cytological studies, 2 were false Negative and 1 was False positive. So, the sensitivity of FNAC was 83.3%, Specificity was 91.6% and Accuracy was 84%. **Conclusion:** FNAC gives High accuracy and specificity for further management of Thyroid lesions. All the FNA diagnosis must be viewed in the light of the clinical picture and thyroid hormone profile to minimize the risks of false negative reports.

Keywords: FNAC; Thyroid Function Tests; Thyroid Swelling.

Introduction

Neck swelling is a common clinical presentation besides, cosmetic deformity and it carries significant morbidity and even mortality if not managed properly. Thyroid swelling being the most common type [1].

Thyroid lesions are common worldwide and the prevalence of goiter is more than 40 million in India and more than 2 billion worldwide. Suspicious of malignancy can be considered in male gender; young people (aged <20 years), old people (aged >70 years) and with large lesions (>4 cm size). In last two decades, fine needle aspiration cytology (FNAC) has become a preferred test, being a fast, safe, reliable, minimally

invasive, cost effective, and reaching high sensitivity and specificity in the evaluation of thyroid nodules [2].

It causes concern because of high probability of malignancy in it, which ranges from 5-35% of all solitary thyroid nodules. But overall malignancy rate in thyroid are relatively less compared to benign ones. They constitute only 0.7% of all cancers in female and 0.2% in males. Fine needle aspiration and cytology (FNAC) is a well established out-patient procedure used in primary diagnosis of thyroid swellings [3].

Materials and Methods

A total of 100 patients with thyroid swelling were taken for FNA and TFT. Among 100 cases, 25 cases diagnosed as follicular neoplasm had Histopathological Follow Up. A 23-24 gauge needle was used,

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(Received on 14.07.2017, Accepted on 18.07.2017)

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Title of the Paper: Histopathological Spectrum of Upper Gastrointestinal Endoscopic Biopsies: A Study of 150 Cases

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Abstract

Background: Upper gastro intestinal (GI) endoscopy is an established mode of investigation and treatment of a wide range of upper gastro intestinal disorders, such as dysphasia, upper GI bleeding, persistent dyspepsia, heartburn, chronic acid reflux and in the surveillance of Barrett's esophagus, gastric ulcer and duodenal ulcer. Upper gastrointestinal tract is a common site for neoplasm's especially malignant tumors. Worldwide carcinoma stomach is the second most common cancer and carcinoma esophagus is the sixth leading cause of death.

Aims & Objectives: To analyze the histopathological spectrum of diseases in upper GI tract, estimate the incidence of H. Pylori associated chronic gastritis, incidence of malignancy and to correlate clinical features with histopathological diagnosis.

Materials and Methods: The present study was conducted in the Department of Pathology, MVJ Medical College and Research Institute, Hoskote over a period 2 years from September 2012 to August 2014. Total of 150 cases who underwent Upper GI Endoscopic Biopsy (esophageal, gastric, and duodenum (1st part) lesions) were studied.

Results: Out of the 150 upper GI endoscopic biopsies, 47 (31.3%) were from the esophagus, 95 (63.3%) from stomach and 8 (5.3%) from duodenum. There were 87 male patients and 63 female patients making the male: female ratio of 1.4:1. The highest number of biopsies was done in patients between 41 to 50 years (25.3%). Dysphagia (38.6%) is the commonest presentation with esophageal lesions. Dyspepsia (61.3%) & pain abdomen (38%) were the commonest presentation in patients with gastric lesions. Out of 47 esophageal biopsies 28 (59.2%) were squamous cell carcinoma followed by chronic esophagitis 7 (14.8%). Majority of cases of carcinoma esophagus were in the middle 1/3rd of the esophagus, histologically these proved to be squamous cell carcinoma & adenosquamous carcinoma. Only 2 cases of adenocarcinoma were obtained and these were in the lower 1/3rd of the esophagus. Out of 95 cases of gastric biopsies 79 (83.1%) were Chronic gastritis,

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Received on 28.11.2018,

Accepted on 28.12.2019

Mucin Histochemistry of Endocervix in Health and Disease

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ABSTRACT

Introduction: Mucus plays an important role in reproductive function and defence of the female reproductive tract. Alterations in mucus quantity and quality are related to physiological and pathological changes of female reproductive tract.

Aim: To study the specific types of endocervical mucin using standard histochemical stains in, proliferative phase of the menstrual cycle, secretory phase of the menstrual cycle, non-neoplastic lesions of the cervix and neoplastic lesions of the cervix.

Materials and Methods: Prospective study was conducted over a period of two years from September 2012 to August 2014. All cervical biopsies as well as cervixes from hysterectomy specimens received at Department of Pathology at MVJMC and RH was taken for the study. Corresponding endometrial bits were also taken to assess the menstrual cycle phasing. Thirty cases from the proliferative phase and 30 cases from the secretory phase of menstrual cycle. Thirty cases from non-neoplastic cervical lesions and 15 cases from neoplastic

cervical lesions. On each cervical biopsy six sections were cut and mucin histochemistry was carried out. Mucin staining was graded as +, ++, +++. Data was entered in Microsoft excel 2010 and statistics was analysed using SPSS version 16.0. The p-value was obtained by chi-square test.

Results: Acid mucin was predominant in proliferative phase; neutral mucin was predominant in secretory phase. In inflammatory lesions mucin produced was variable. Among the neoplastic cases one squamous cell carcinoma showed mucin secretion which was reclassified as adenosquamous carcinoma of cervix. Among the acid mucins produced, it was found that carboxylated and weakly sulphated mucin was secreted predominantly.

Conclusion: Histochemical study of endocervical mucins yielded different types of mucin in the proliferative and secretory phases. Carboxylated mucin was predominant in inflammatory states and sulphated mucin was a component of cervical polyp. Adenosquamous carcinoma can be detected more easily.

Keywords: Acidic mucin, Alcian blue, Menstrual cycle, Neutral mucin, Periodic acid schiff stain

INTRODUCTION

Endocervix secretes slippery mucus secretion at a rate of 20-60 mg/day. The consistency and viscosity of mucus secreted by endocervical glands varies depending on the phases of menstrual cycle. The mucus character changes from a thick viscous to a watery consistency in periovulatory period to allow sperm to penetrate into the uterus and thus helps in fertilization. Quantity and quality of mucus secreted by endocervical glands are related to various physiological and pathological conditions of the female reproductive tract [1,2].

Histochemical studies have showed that both acid mucins and neutral mucins were produced by the same cells, but that the quantity produced varied through the menstrual cycle. The amount of neutral mucin produced was found to be greater in the periovulatory period, while acid mucin showed variations in quantity throughout the menstrual cycle [3].

Mucin histochemistry helps in identifying the types of mucin secretion in various physiological and pathological conditions of the cervix. The periodic acid schiff reagent stains the neutral mucin; alcian blue stains the acidic mucin and alcian blue in different molarity stains the various types of mucin (carboxylated and sulphated mucin). The combined alcian blue/periodic acid schiff provides a broad means of detecting mucins [4,5].

The objective of this study was to evaluate the expression of mucin in various phases of the menstrual cycle, non-neoplastic and neoplastic lesions involving the uterine cervix and to determine whether a distinct phenotypic pattern exists in the various phases of menstrual cycle to differentiate between benign, premalignant, and malignant endocervical glandular lesions.

MATERIALS AND METHODS

The present study was a prospective study which was conducted in the Department of Pathology, MVJ Medical College and Research Institute, Bangalore, Karnataka, India, over a period of two years from September 2012 to August 2014, after due clearance from institutional Committee for Ethics with IEC no: MVJMCRIH/IEC-01/2012.

Mucin in cervixes of healthy females was studied separately in proliferative phase and secretory phase.

Mucin in diseased females was classified under non neoplastic cervical lesions and neoplastic cervical lesions. One hundred and five cervical biopsies were obtained from both hysterectomy specimens and cervical punch biopsies. Corresponding endometrial bits were also taken to assess the menstrual cycle phasing. Thirty cases from the proliferative phase and 30 cases from the secretory phase of menstrual cycle. Thirty cases from non-neoplastic cervical lesions and 15 cases from neoplastic cervical lesions.

Consent was procured from all the 105 cases.

Inclusion Criteria: All cervical biopsies with adequate amount of tissue from the above mentioned condition.

Exclusion Criteria: Biopsies from pregnant women.

The specimens were fixed in 10% formalin. Representative bits were placed in cassettes, kept in fixative and processed in the automatic tissue processor for 16 hours. Paraffin tissue blocks were prepared and 3-4 μ thick sections were cut and stained with routine haematoxylin and eosin stain, Periodic acid-Schiff stain, Alcian blue at pH 2.5 and also at lower pH by changing the molarity 0.06 M, 0.3 M and 0.7 M.

Lichen Planus – A clinical and histopathological correlation

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Abstract

Introduction: History and characteristic examination findings are often sufficient to diagnose cutaneous lichen planus. Although lichen planus has distinctive clinical features, the diagnosis may present a problem due to variations in clinical pattern. Skin biopsy may be useful to confirm the diagnosis and is of ten required in a typical presentation. In all cases, it is important to consider the possibility of the eruption being drug induced. Lichen planus is not an infectious disease. **Aim:** Main aim of this study was to correlate clinical features with histopathologic study in all clinically diagnosed and suspected cases of lichen planus and to know its clinical and histopathological variants and assess the clinical versus the pathological agreement in diagnosis. **Materials and methods:** A prospective cross-sectional study was conducted with clinico pathological examination of skin biopsy specimens in the Department of Pathology, Vydehi institute of medical sciences and research centre over a period of 2 years between 2010–2012. **Statistical analysis:** This study demonstrated no significant association between variants of LP and sex of the patient ($p > 0.05$) with $\chi^2 = 5.92$, $0.05 < p < 0.10$ using the probability level (alpha) and degree of freedom (df=1). **Results:** 60 cases of lichen planus were studied. 49 cases were confirmed on histological examination. 11 cases were diagnosed only on histology. Maximum number of cases occurred in the age group of 18 - 50 years. Males were affected more commonly than females. **Conclusion:** The possibility of this lesion to turn malignant justifies the importance of long term follow up for patients with such disease. Clinico pathological correlation is the key to confirm the diagnosis for further patient care and treatment.

Keywords: Lichen planus, Basal cell damage, Civatte bodies, Wickham's striae, Dermo epidermal junction

Introduction

The classical histological picture was first clearly described by Darier in 1909. Later Pinkus (1973) defined lichenoid tissue reactions as those exhibiting epidermal basal cell damage as the primary event which then initiates the cascade of changes which are seen and recognized in the fully developed LP histopathology. A viral etiology has always been an attractive theory, however numerous electron microscopic or virus isolation studies have failed to provide convincing proof that lichen planus is induced by a virus infection [1].

Lichen Planus is subacute or chronic dermatoses that may involve skin, mucous membrane, hair follicles and nails. Pruritic, Polygonal, Planar (flat topped), Purple Papules and Plaques are the six 'Ps' of lichen planus. The disease has a predilection for the flexor surface of the forearms, legs and glans penis. Eruption maybe localized or extensive and Koebner's phenomenon is commonly seen.

Lichen Planus is the prototype of lichenoid interface dermatitis in which the infiltrate comprises mainly lymphocytic population. Lichenoid interface dermatitis is one of the 2 major inflammatory patterns that primarily involve the epidermal basal zone, hence the use of the term interface. The other pattern is vacuolar interface dermatitis. These two patterns can be difficult to separate at times and both changes may be present in same lesion.

In most of these diseases, T lymphocytes infiltrate the basal layer of the epidermis and cause cytotoxic damage to or kill keratinocytes by the induction of a form of cell death known as apoptosis. Apoptotic keratinocytes become detached from their neighbors find their way into the papillary dermis – known as colloid, cystoids, or civatte bodies. The expression of Fas R/ FasL by the basal keratinocytes suggests that apoptosis is an important mode of cell death in LP [2]. The etiology of Lichen planus is unknown. Theories of infections including viral, bacterial, autoimmune, metabolic, psychosomatic and genetic causes have all had their

Manuscript received: 28th August 2018

Reviewed: 6th September 2018

Author Corrected: 14th September 2018

Accepted for Publication: 17th September 2018

SPECTRUM OF LESIONS IN HYSTERECTOMY SPECIMENS- A ONE YEAR RETROSPECTIVE STUDY

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ABSTRACT

BACKGROUND

Hysterectomy is the most commonly performed gynaecological surgery throughout the world. The prevalence varies from country to country, region to region. This study was conducted to identify the most common pathologies in hysterectomy specimens and also to know the most common age group undergoing hysterectomies. In this study, the most common pathologies were atrophic endometrium in endometrium, leiomyoma in myometrium, chronic cervicitis in cervix, ovarian cysts in ovaries and salpingitis in fallopian tubes. The most common age group was 40-49 years followed by 50-59 years group. Type of hysterectomy performed most commonly in this study was trans abdominal hysterectomy (TAH). Abnormal uterine bleeding, fibroid and uterovaginal prolapse were the most common clinical indications of hysterectomy. The pathological examination confirmed the clinical diagnosis in majority of the cases. Hysterectomy still remains the widely used treatment modality in developed and developing countries.

MATERIALS AND METHODS

This is a retrospective study consisting of 160 cases of hysterectomy specimens received in the department of Pathology, Oxford Medical College and Hospital, Bangalore, Karnataka. Total duration of study was one year i.e. From January 2017 to December 2017. Gross features were examined in detail and multiple bits were taken from representative sites, processed and paraffin blocks were made. After thorough microscopic examination a histopathological diagnosis was given.

RESULTS

A total of 160 cases were studied. Most common age group underwent hysterectomy was 40-49 years group and least was done in age group 70-79 age group. The most common type of hysterectomy was total abdominal hysterectomy comprising of 57 cases (35.62%) followed by total abdominal hysterectomy with bilateral salpingo oophorectomy comprising of 48 cases (30%) followed by vaginal hysterectomy comprising of 36 cases (22.5%).

CONCLUSION

Hysterectomy is a very commonly performed gynaecological surgery with AUB with underlying pathology being the most important indication for surgery. Therefore, it is mandatory that all hysterectomy specimens be subject to histopathological examination even if it grossly appears to be normal.

KEYWORDS

Hysterectomy, Endometroid Cancer, Abnormal Uterine Bleeding, Endometriosis.

HOW TO CITE THIS ARTICLE: Maisnam J, Naveen Kumar BJ, Hassan Z. Spectrum of lesions in hysterectomy specimens - a one year retrospective study. J. Evid. Based Med. Healthc. 2018; 5(36), 2656-2660. DOI: 10.18410/jebmh/2018/545

BACKGROUND

Hysterectomy is the surgical removal of the uterus performed by a gynaecologist to remove all or part of uterus. It may also involve removal of the cervix ovaries, fallopian tubes and other surrounding structures. Hysterectomy may be total (removing the body, fundus and cervix of the uterus) or partial (removal of the uterine body while leaving the cervix intact called supracervical). It is the most

commonly performed gynaecological surgical procedure worldwide and is associated with both risk and benefits. The procedure can cause hormonal imbalance and affect a woman's overall health. Hysterectomy is therefore usually recommended in cases where reproductive conditions cannot be treated in any alternative way.

The indications are abnormal uterine bleeding, fibroids, uterovaginal prolapse, adenomyosis, endometriosis, pelvic inflammatory disease, gynaecological cancers and other obstetric complications. All hysterectomy specimens should be sent for histopathological examination regardless of the pre-operative diagnosis especially in malignant cases.

Aim of the Study

To know the most common age group undergoing hysterectomies and to know the most common pathology leading to hysterectomy.

Financial or Other, Competing Interest: None.
Submission 01-08-2018, Peer Review 09-08-2018,
Acceptance 27-08-2018, Published 03-09-2018.

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LETTER TO THE EDITOR

DR. RASINI. M

SUPPURATIVE LESION DUE TO SALMONELLA TYPHI

It was interesting to read two case reports on suppurative lesions due to *Salmonella enterica* serotype typhi, in the December 2004 issue of the Journal.^{1,2}

During the pathogenesis of enteric fever the bacteria invade and multiply within the mononuclear phagocytic cells of the liver.³ These organisms may lurk in the liver to produce an abscess in the face of ineffective therapy with Ciprofloxacin which the patient had received for 15 days and might not have cleared the organisms from the tissues. It has been recently observed that *Salmonella enterica* serotype typhi strains have undergone first step mutation to Ciprofloxacin resistance as evidenced by in-vitro resistance to Nalidixic acid.⁴ Such strains show a sensitivity zone pattern for Ciprofloxacin in the in vitro disc diffusion method using NCCLS break point. However with the usual dosage of Ciprofloxacin treatment, failure may occur.⁵ Such patients respond readily to Ceftriaxone. This could have been the case in the patient described. It would have been clear if the authors had reported at least the Nalidixic acid sensitivity of the *Salmonella typhi* isolated, if not the MIC for Ciprofloxacin.

In the paper on Ovarian cyst infected with *Salmonella enterica* serotype Typhi, the authors write that the dermoid cyst might have helped localization following a subclinical infection. This to our mind appears plausible. In volunteer experiments involving the Quail strain of *Salmonella enterica* serotype Typhi a few volunteers are reported to have escaped clinical illness even after

ingesting 100 times the 50% infective dose. Most of these volunteers became symptomless excretors, a few of them had transient pyrexia with a positive blood culture and many made antibodies. As symptomless infections may be common in Vi negative strains, Vi typing might have thrown more light on pathogenesis in this case.⁶

We think it is relevant that the fate of the conceptus needs to be mentioned. Ciprofloxacin is contraindicated during pregnancy⁷, and the use of Metronidazole in pregnancy is controversial.⁸ Should we assume that these drugs were administered to the patient after the conceptus was removed?

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POSTOPERATIVE INFECTION OF LAPAROSCOPIC SURGERY WOUND DUE TO *MYCOBACTERIUM CHELONAE*

M Rajini,*SR Prasad, RR Reddy, RV Bhat, KR Vimala

Abstract

We report a case of postoperative wound infection due to *Mycobacterium chelonae*. A 35-year-old woman presented with multiple erythematous nodules, plaques and discharging sinuses over the abdomen, 45 days after she had undergone laparoscopic ovarian cystectomy. The seropurulent discharge from the wound showed acid-fast bacilli on Ziehl-Neelsen stain and culture yielded *Mycobacterium chelonae*. The patient responded to clarithromycin and doxycycline. The source of infection was probably contaminated water or disinfectant solution used for sterilization of laparoscopic instruments.

Key words: Atypical mycobacteria, *Mycobacterium chelonae*, post operative wound infection

Infections with pathogenic, water borne mycobacteria are being recognized more often in the recent years.¹ Skin and soft tissue infections due to these pathogens, however, have been rarely reported from India.^{2,3} Such infections need to be specifically diagnosed, as they require to be treated with drugs other than the routine anti-tuberculous drugs used for treating *Mycobacterium tuberculosis* infections.³ We report a case of postoperative wound infection caused by *Mycobacterium chelonae* following laparoscopic surgery.

Case Report

A woman of 35 years, from a village in Kolar district, Karnataka, was diagnosed in November 2004 to have an ovarian cyst on the right side, at R.L. Jalappa Hospital, Kolar. Her history revealed that she had undergone abdominal tubectomy eleven years ago. She underwent laparoscopic surgery in October 2004, for ovarian cyst, which was histologically diagnosed as a serous cystadenoma. The postoperative period was uneventful. After a week the sutures were removed and the wound was found to be healthy at the time of discharge.

One and a half months later, she came back with complaints of swellings, discharge and pain at the suture sites. Nodular swellings and induration with a few discharging sinuses were seen at the sites of laparoscopic portals of entry including the umbilicus (Fig. 1). Microscopy and culture were done on the sero-sanguinous discharge from the lesions.

Gram stain smear of the discharge showed numerous polymorphonuclear leucocytes but no bacteria. Ziehl-Neelsen (ZN) stain, however, revealed acid-fast bacilli

(AFB). There was no growth on blood agar, MacConkey agar and thioglycollate broth after 48 hours of incubation. The patient was initially treated with amikacin and ceftriaxone. Subsequently DOTS therapy was administered with rifampicin, isoniazid and pyrazinamide for a month.

Discharge from the wound persisted and the patient visited the hospital repeatedly. During these visits, two samples of pus from the discharging lesions were collected at an interval of 15 days for repeat microscopy and culture. Skin biopsies taken from two different sites of the lesions were subjected for both histopathology and culture. AFB were seen in both the pus samples collected. Culture grew non-pigmented, smooth colonies on Lowenstein-Jensen (LJ) medium within seven days of incubation at 37°C. One of these samples also yielded scanty growth of *Methicillin-resistant Staphylococcus epidermidis* (MRSE), in addition to mycobacteria. The pus and the tissue samples from the patient were also sent to the National Tuberculosis Institute (NTI), Bangalore for confirmation and identification of the AFB.

Histopathological examination of the skin biopsy showed normal epidermis, but the superficial dermis had lymphoplasmacytic infiltration and the deep dermis showed aggregates of polymorphs surrounded by lymphocytes and plasma cells (Fig. 2). Foci of haemorrhage, capillary proliferation, vasculitis with perivascular lymphocytic infiltration and fibrosis were also seen. No epithelioid granulomas were seen.

The samples sent to NTI grew non-pigmented AFB within four days on LJ medium. The isolate was reported to have grown at 25°C, 37°C and 42°C. It was found to grow on MacConkey agar but not on LJ medium containing 5% sodium chloride. The isolate also grew in the presence of para-nitro benzoic acid (PNB) and thiophene-2-carboxylic acid hydrazide (TCH), reduced nitrate and was urease positive. Tests for Tween-80 hydrolysis and iron uptake were negative. It was resistant to streptomycin, ethambutol, rifampicin and isoniazid by proportion method. It was sensitive to ciprofloxacin and

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Received : 08-03-06

Accepted : 23-11-06

National

Indexed
Copies

LEPTOSPIROSIS: AN OVERVIEW

S.R.PRASAD, M. RAJINI

Leptospirosis is an emerging infectious disease caused by the spirochaete, *Leptospira interrogans* (*L. interrogans*), with increasing incidence in both developing and developed countries.¹ The infection is ubiquitous and is considered the most common zoonosis.^{2, 3} Epidemics of leptospirosis occur in addition to sporadic cases. Though it is sub-clinical or mild in most cases, severe illness can sometimes end fatally. Prompt treatment instituted early during the illness can save the patient. Though eradication is thought to be difficult, control measures have been practiced.^{2, 4, 5, 6}

Leptospirosis was recognized as a distinct clinical entity by Adolf Weil, a German physician in 1886, who differentiated leptospiral jaundice from other causes of infective jaundice. Weil described the severe syndrome characterized by jaundice, myalgia, fever, acute renal failure and tissue haemorrhage. The causal organism was discovered by Japanese workers, Inada and Ido. They demonstrated that rats were the natural vectors, inoculated guinea pigs with tissues from infected rats and demonstrated the presence of the organisms at each stage of the experiment.² In India, leptospirosis was first identified in the Andaman Islands.⁷

MORPHOLOGY

Leptospire are so called because they are thin and spiral organisms (*G. Leptos*: fine + *speira*: a coil). They are 0.1µm in diameter and 6-20µm in length. The coils are tightly wound. The organisms are filterable. Leptospire appear as protoplasmic cylinders covered by a cell membrane, cell wall and are enveloped by a sheath of 3-5 layers. They possess two flagellae which arise from basal bodies situated at each pole. The flagellae wrap round the organism and the free end of the flagella is in the middle of the bacteria.

The pathogenic leptospira have either one or both ends bent in the form of a hook resembling a question mark. Leptospira cell wall shares the properties of both Gram-negative and Gram-positive bacteria. Leptospire have a double membrane cell wall like Gram-negative bacteria, but they have the peptidoglycan attached to the inner membrane like Gram-positive bacteria. This property renders them susceptible to antibiotics which act on both Gram-positive and Gram-negative bacteria.^{1, 4, 8}

METABOLISM AND BIOCHEMICAL PROPERTIES

Leptospirae are obligate aerobes with optimal growth temperature of 30°C. They

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HUMAN DIROFILARIASIS: AN UNCOMMON CASE OF SUB CUTANEOUS INFECTION WITH DIROFILARIA REPENS WITH A BRIEF REVIEW OF LITERATURE

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Abstract:

Dirofilaria are a group of arthropod borne filarial nematodes that cause infection in wide range of domestic and wild animals. *Dirofilaria repens* is a common zoonotic infection in countries like Sri Lanka. Human infection with *Dirofilaria repens* is not widely recognized in India. Most of the documented cases of human dirofilariasis recorded in India presented with ocular infections, affecting the eyelid, periorbital region and occasionally the sub conjunctivae. Here we report a rare case of sub cutaneous dirofilariasis, which presented as a swelling at an uncommon site.

Keywords : *Dirofilariasis*, *Dirofilaria repens*, *Dirofilaria tenuis*

Introduction.

Dirofilaria are a group of mosquito borne filarial nematodes that cause infection in wide range of domestic and wild animals. The widely recognized parasites among them are *Dirofilaria immitis* (*D.immitis*), the agent of cardiovascular *Dirofilariasis*, and *Dirofilaria repens* causing sub cutaneous infection. *D. repens* is a mosquito borne filarial parasite of the sub cutaneous tissue of domestic and carnivores such as dogs, cats and foxes. *Dirofilaria* species may be divided into two groups: subgenus *Dirofilaria* represented by *Dirofilaria immitis*, which is characterized by smooth cuticle and normally found in the right heart and pulmonary vessels of dogs, the natural host ; and subgenus *Nochtiella*, which parasitize the sub cutaneous tissue. Species of this group have longitudinal ridges on the cuticle. Representative species are *Dirofilaria* (*Nochtiella*) *repens*, found in dogs and cats, and *Dirofilaria tenuis*, found in raccoons¹. The mature *D. repens* live in the tissues and organs of vertebrates, while the immature stages or the microfilaria prefer the blood and the lymph vessels².

D. repens is a common zoonotic infection in countries like Sri Lanka. Human infection with *D. repens* is not widely recognized in India. However, there is probably a focus of human infection with *D. repens* in Kerala, from where few cases are being reported³.

Case report

An 18 year old female patient, hailing from Allepey district of Kerala, presented with swelling on the right side of the neck of six months duration. The swelling increased in size in the past one week and was associated with fever and pain.

On examination a 4cm x 3cm swelling was noted in the right supraclavicular region (Figure1). The surface of the swelling was smooth and the borders ill defined. It was not fixed to the underlying muscle or deeper tissue. The swelling was tender on palpation and redness was noted over the swelling. No similar swelling was noted elsewhere. Clinical diagnosis of cervical lymphadenopathy was made. Needle aspiration cytology was advised. On FNAC a thin thread like white worm was

Clinico-Epidemiological Profile of Leptospirosis among Children in Kolar, Southern India

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ABSTRACT

Introduction: Even though leptospirosis is commonly being reported in India there are very few reports on its presentation and outcome in children.

Objectives: This study was conducted to determine the clinical profile, the epidemiological factors and outcome of leptospirosis confirmed by serology in the children who were admitted and managed in the referral hospital attached to Sri Devaraj Urs Medical College at Kolar, Karnataka.

Methods: Hence a retrospective data analysis of records of 50 children diagnosed with leptospirosis over a period of four years (2007 to 2011) was undertaken.

Results: Fever with head ache (92%) and myalgia (96%) were the commonest presentations. Neurological and respiratory manifestations were observed in 20% and hepatosplenomegaly was found in 84% of them. Icteric leptospirosis contributed to 16% of the cases. Seventy eight percent of the cases were admitted in the monsoon. History of contact with animals was present in 68% of the children.

Conclusion: Leptospirosis can be easily overlooked among children in our clinical settings because of manifestations which are similar to malaria, dengue and typhoid fevers. Leptospirosis should be considered in fever cases in the monsoon and among those who had contact with animals.

Key words: Leptospirosis, children, zoonoses, clinico-epidemiological, Kolar.

INTRODUCTION

Leptospirosis is a zoonoses and occurs in endemic and epidemic forms in many parts of

India.^[1] A potentially serious but treatable disease, symptoms of leptospirosis may mimic those of a number of unrelated infections such as influenza, meningitis, hepatitis, dengue or viral haemorrhagic fevers.^[2] Because of the protean manifestations of leptospirosis it is often misdiagnosed and under-reported.^[3]

Leptospirosis is now emerging in India as an important public health problem.^[2,4] There is no information about the existing status of the disease and its burden in the country. Leptospirosis is being increasingly diagnosed at the tertiary care medical college hospital in

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International

Indexed in:-

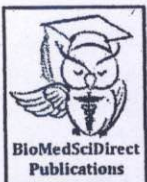
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Int J Biol Med Res. 2012; 3(1): 1303-1306



Contents lists available at BioMedSciDirect Publications

International Journal of Biological & Medical Research

Journal homepage: www.biomedscidirect.com



Original Article

Chlamydia in reproductive tract infections: scenario in Kolar region

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ARTICLE INFO

Keywords:

Reproductive tract Infections
Chlamydia

ABSTRACT

Abstract: Abnormal white discharge is a frequent symptom of women presenting to gynaecological OPD but signs and symptoms are not specific, hence require laboratory testing. Chlamydial reproductive tract infections lead to devastating consequences without mucosal signs and symptoms. Hence detection of chlamydia in high risk symptomatic and asymptomatic women and early treatment would result in cost savings in terms of hospitalisation and treatment of resultant morbidity. **Objectives:** 1. To find the frequency of Chlamydial infections in women presenting to gynaecological OPD. 2. Microbiological analysis of abnormal vaginal discharge. **Methods:** This is an observational study carried out in RL Jalappa Hospital attached to Sri Devraj Urs Medical College, Kolar from March 2009 to July 2010. One hundred women with abnormal vaginal discharge, infertility, ectopic pregnancy, PID (Polaric inflammatory disease) were included in the study. Swabs from Endo- cervix and surface of cervix were taken for studying Chlamydia by rapid card antigen (Quickstripe antigen detection) detection method, Grams stain and culture on blood and Mc Konkey agar. Papanicolaou smears were also taken to study type of smear and organisms like trichomonas. The resultant finding was analysed. **Results:** No specific infection was seen in 56 women. Two women had chlamydial infection, 2 had trichomonas and 13 were diagnosed with bacterial vaginosis. 9 women had candidal infections and 14 had specific infections like with bacteria Klebsiella etc. Rest had mixed infections. **Conclusion:** Chlamydia is an infrequent pathogen causing abnormal vaginal discharge and does not warrant routine laboratory testing. Bacterial vaginosis is the most common cause of abnormal vaginal discharge.

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1. Introduction

Abnormal vaginal discharge is a frequent complaint in women presenting to gynecological OPD in women of all age groups. However signs and symptoms of vaginitis are not specific to any single underlying cause. Accurate diagnosis requires laboratory testing in selected cases for effective treatment.

In the present study we analyzed the cause of cervico-vaginal infection in one hundred women with a) history of white discharge pervaginum b) women who have come seeking advice for infertility c) women with diagnosed ectopic pregnancy or history of ectopic pregnancy or confirmed cases of pelvic inflammatory disease.

A lot of emphasis has been put on diagnosis of Chlamydia trachomatis in causing genital tract infections. Such an infection is believed to cause pelvic inflammatory disease requiring hospitalization and sequele such as infertility and ectopic pregnancy and chronic inflammation leading to high health cost. There has been recent recommendation by CDC to screen high risk women i.e. women with recent onset of sexual activity, change of sexual partners H/o mucopurulent cervicitis for Chlamydia infections. This strategy aims at treating the infection before its devastating consequences and hence causes savings in the health care costs. Other common causes of vulvo-vaginal symptoms include vulvo-vaginal candidiasis, trichomonas vaginalis, and bacterial vaginosis. In a primary care study vulvo-vaginal symptoms including vaginal discharge were due to vulvo-vaginal candidiasis in 27%, bacterial vaginosis in 21%, trichomoniasis in 8% Chlamydia trachomatis in 2%, Neisseria gonorrhoea in 1% and no infection in 34% [1]. Several pathogens co-exist. Candidiasis and bacterial vaginosis and trichomonas account for at least 90% of

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Case Report

Cytological diagnosis of tuberculous cervicitis: A case report with review of literature

ABSTRACT

Tuberculosis of cervix is a rare disease. Tuberculosis usually affects women of childbearing age, indicating hormone dependence of infection. The patient presents with menstrual irregularities, infertility or vaginal discharge. Cervical lesions presents as papillary/vegetative growth or ulceration mimicking cervical cancer. Cervical Papanicolaou (Pap) smear plays an important role in diagnosing the disease by non-invasive technique in which the presence of epithelioid cells and Langhan's type of giant cells is diagnostic. However, other causes of granulomatous cervicitis should be considered and ruled out. Ziehl-Neelsen (ZN) stain for acid fast bacilli, fluorescent technique, biopsy and culture help in confirming the disease. We present the case of a 45-year-old female, who presented with vaginal discharge, dysfunctional uterine bleeding, first degree uterine descent with grade II cystocele and rectocele and cervical ulcer. Pap smear revealed epithelioid cells and Langhan's type of giant cells, confirmed by ZN stain of cervical smear, fluorescent technique and culture.

Key words: Cervical smear; tuberculous cervicitis; tuberculosis.

Introduction

Tuberculosis (TB) can affect any organ in the body and can exist without any manifestation.^[1,2] The common sites in females are fallopian tube, endometrium and ovary.^[1,3,5] TB of cervix is a rare disease.^[3,6] Many times, clinical symptoms and signs give no indication.^[3] Hence, a high index of suspicion of TB in females with abnormal cervical presentation is required. Routine screening cervical smears, especially from areas where TB is common.^[1]

Case Report

A 45-year-old multipara presented with vaginal discharge, dysfunctional uterine bleeding (DUB) and mass per vagina.

Per-speculum examination showed first degree uterine prolapse, grade II cystocele, rectocele and a cervical ulcer. Per-vaginal examination showed no significant abnormality. Patient did not reveal any present or past history of TB. Family history was not contributory. Routine cervical Papanicolaou (Pap) smear showed superficial/intermediate squamous cells with parabasal cells in a background of neutrophils. Focal areas showed macrophages, clusters of epithelioid cells and a few Langhan's type of giant cells [Figure 1]. A cytological diagnosis of granulomatous cervicitis was made. Ziehl-Neelsen (ZN) stain of the cervical smears showed acid fast bacilli (AFB), which was later confirmed by fluorescent technique and culture. Chest radiograph was not significant. The HIV status was negative. Patient did not have any kind of immunodeficiency. Patient was put on anti-TB drugs following which the symptoms resolved.

Discussion

TB cervicitis constitutes about 0.1–0.65% of all cases of TB and 5–24% of genital tract TB.^[1,4,6,7] Only a handful of cases of TB cervicitis diagnosed by cervical smears have been reported.^[8] It is uncommon in developed world, but still persists in developing countries like Africa and India.^[1,6] However,

Access this article online

Quick Response Code

Website:
www.jeytel.org



DOI:
10.4103/0970-9371.93242

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Cholera outbreak in a village in south India – Timely action saved lives

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Received 22 March 2012; received in revised form 17 May 2012; accepted 25 May 2012

KEYWORDS

Outbreak investigation;
Cholera;
Sanitary practices;
Prevention

Summary Cholera remains a public health concern in developing countries because of its high morbidity and mortality. This study was designed to assess the magnitude of and factors responsible for an outbreak in a South Indian village and to implement measures for containing and preventing the recurrence of such outbreaks. Data was obtained by surveying households in the village to identify cases and assess factors responsible for the outbreak. A sanitary survey of the water supply system was performed to identify the cause of the outbreak. Preventive measures were implemented by setting up a rapid response team to manage cases and provide safe drinking water and health education regarding the prevention of such outbreaks. A total of 73 cases were reported during the outbreak, an attack rate of 17.5%. Attack rates were similar among males and females, and the highest rates were observed among the elderly (33.3%), while the lowest rates were observed among adults (14.7%). There were no deaths reported due to cholera in the village. Most households (81%) surveyed did not use any method of water purification, 79.7% practiced open field defecation and 58.2% practiced inadequate hand washing, indicating poor sanitary practices. Cases were most commonly observed in houses which did not practice any method of water purification ($p < 0.001$) and among people living below the poverty line ($p = 0.02$). Despite the high attack rate, no deaths were reported, largely thanks to timely medical and preventive interventions.

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Introduction

Cholera remains a global threat to public health and a key indicator of a lack of social development

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Impact factor → 0.35
2011

Original Research Article

DOI: <http://dx.doi.org/10.18203/issn.2455-4529.IntJResDermatol2018xxxx>

Clinical profile and risk factors of dermatophytoses: a hospital based study

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Received: 16 August 2018

Revised: 04 September 2018

Accepted: 05 September 2018

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ABSTRACT

Background: Dermatophytoses are superficial mycoses which represents most common community health problem across the globe. Surveillance studies are required to understand the changing epidemiology and prevalence of causative agents to decide on appropriate therapy. This study aims to evaluate the clinical types, etiological agents and probable risk factors of dermatophytoses.

Methods: It was a cross sectional study of 150 clinically suspected cases of dermatophytoses during six months. Sociodemographic details, clinical history and detailed examination were collected from all the subjects. Skin scrapings were sent to microbiology for direct microscopy and fungal culture.

Results: Among the 150 subjects enrolled, males outnumbered females. Infection was mostly prevalent in the age group of 21-30 years (37.3%). Tinea cruris was the commonest clinical type (50%) followed by Tinea corporis (18.4%) and Tinea unguium (11.9%). Tricophyton rubrum was the aetiological agent isolated in majority (33%), followed by Tricophyton mentagrophytes (20%). The major risk factors of dermatophytoses were poor hygiene (32.1%), topical steroid usage (23.9%) and diabetes mellitus (20.1%).

Conclusions: The present study has provided recent data on etiological agents of dermatophytoses and risk factors in our area. It is essential to develop measures for prevention, control of dermatophyte infections and establishment of therapeutic strategies.

Keywords: Dermatophytoses, Risk factors, Dermatophytes

INTRODUCTION

Superficial mycoses are infections of skin, hair and nail caused by dermatophytes, yeasts and non-dermatophyte molds.¹ It is estimated that superficial fungal infections affect roughly 20-25% of the world population.² Among these, dermatophytes are responsible for the largest number of cases; hence it is of community health concern.¹ Dermatophytes are a group of fungi which cause lesions commonly referred to as "ringworm" or "tinea". They comprise of three genera *Microsporum*, *Trichophyton*, and *Epidermophyton*.^{3,4} Disease

transmission occurs by direct contact with infected humans /animals or indirectly by contaminated fomites.⁵ The clinical diagnosis of this infection can be established by typical manifestations and distribution of lesions. Occasionally direct examination and culture is performed for diagnostic confirmation and management.³

There is increase in prevalence of these infections in recent years due to inappropriate usage of higher antibiotics, immunosuppressive drugs, change in lifestyle and climatic conditions. The severity of these infections depends on the etiological agent and immune status of the

Bacterial Contamination of Hands and Anterior Nares of Health Care Professionals Attending ICU at a Tertiary Care Hospital in South India

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ABSTRACT

Introduction: Nosocomial infections remain a major challenge to the healthcare system and the patients in Intensive care units(ICU) are more prone for acquiring these infections. Carriage of drug resistant organisms by the health care workers (HCW) is a potential method of transmission of these organisms in the hospital environment. The objective of this study was to determine the multidrug resistant organisms among HCWs attending ICU.

Materials and Method: 60 HCWs belonging to different cadres attending the ICU were screened. Samples from hands and anterior nares were collected using sterile swab sticks and aerobic bacterial culture performed.

Results: A total of 83 isolates were obtained from 120 swabs. Methicillin resistant *Staphylococcus aureus*(MRSA) (12.9%), Methicillin resistant Coagulase negative staphylococci(MR CONS) (36.3%), and Extended spectrum beta lactamase (ESBL) producing gram negative bacilli(GNB) (50%)were the common drug resistant organisms detected. MRSA was more commonly seen in the anterior nares and among the nurses. MR CONS and ESBLs were obtained mainly from hands and among the house keeping staff and the doctors. Inducible clindamycin resistance was also noted in staphylococci. Majority of the hand swabs from the nurses yielded scanty or no growth while that of housekeeping staff and doctors exhibited drug resistant organisms.

Conclusion: Multidrug resistant organisms were commonly carried by the HCWs attending ICU. Commensal organisms are becoming resistant to multiple drug classes. HCWs serving the critical care areas need periodic screening, followed by decolonisation/eradication measures with more emphasis on those who are not restricted to ICU.

Keywords: Health care workers, Intensive care unit, Methicillin resistant *Staphylococcus aureus*, nasal carriage.

INTRODUCTION

Nosocomial infections remain a major challenge to healthcare system and result in significant mortality, morbidity, and economic burden¹. It is estimated

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that, health care associated infections (HAIs) occur in approximately 10% of admissions in developed countries and 25% in developing countries². HAIs are also responsible for increase in transmission of multidrug resistant organisms (MDROs) in a healthcare organization³. The HAIs are known to be transmitted from various modes: hands of health care providers, inanimate objects and the hospital environment. The hands of healthcare workers (HCWs) are the most common vehicle for the transmission of microorganisms from patient to patient and within the healthcare set up⁴.

MICROBIOLOGICAL PROFILE OF DERMATOPHYTE INFECTIONS IN A TERTIARY CARE HOSPITAL

Trupthi Gowda¹, Rajini Manikonda², Abhineetha Hosthota³

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BACKGROUND

Dermatophytosis refers to fungal infection of skin, hair and nails (keratinised tissue). The fungi causing these superficial mycoses belong to three genera Trichophyton, Microsporum and Epidermophyton. These fungi produce cutaneous infections with restriction to the non-living cornified layers of skin failing to invade deeper tissues or organ. Trichophyton species infects skin, hair and nails. Microsporum species infects skin and hair and Epidermophyton species infects skin and nail. Dermatophyte infections are commonly known as ringworm or tinea infections.

The purpose of this study is to know the epidemiological data of dermatophyte infection, compare the results of KOH and culture, identify the anatomical region most affected (clinical type) and to know the prevalence of dermatophyte species.

MATERIALS AND METHODS

A total of 200 clinically suspected cases of dermatophytoses were examined and the appropriate samples were collected. Direct microscopy in 10% KOH (skin, hair) and 40% KOH (nails) along with culture using Sabouraud Dextrose Agar (SDA) was done in each case.

RESULTS

Of the 200 cases, majority of them belonged to the age group of 21 - 30 years. Tinea cruris (31%) was the most common clinical type followed by Tinea corporis (19%). The overall positivity by culture was 54% and by direct microscopy was 84%. Trichophyton rubrum (49%) was the predominant dermatophyte species isolated followed by T. mentagrophytes (44%).

CONCLUSION

Tinea cruris was the most common clinical type followed by Tinea corporis. The study indicates the changing trends of clinical presentations associated with dermatophytoses.

KEYWORDS

Dermatophytosis, Tinea, Trichophyton spp.

HOW TO CITE THIS ARTICLE: Gowda T, Manikonda R, Hosthota A. Microbiological profile of dermatophyte infections in a tertiary care hospital. J. Evolution Med. Dent. Sci. 2018;7(01):67-70, DOI: 10.14260/jemds/2018/16

BACKGROUND

Dermatophytosis refers to fungal infection of skin, hair and nails (keratinised tissue). The fungi causing these superficial mycoses belong to three genera Trichophyton, Microsporum and Epidermophyton.¹ These fungi produce cutaneous infections with restriction to the non-living cornified layers of skin failing to invade deeper tissues or organ.² Trichophyton species infects skin, hair and nails. Microsporum species infects skin and hair, and Epidermophyton species infects skin and nail.³ Dermatophyte infections are commonly known as ringworm or tinea infections.² The lesions are usually identified clinically, but often misdiagnosed due to its resemblance with other skin infections as the patients use steroid ointments and creams which are easily available.⁴ Prevalence of dermatophyte infections has been reported worldwide, but is common in regions which are hot and humid. India experiencing this kind of climatic conditions makes our country prone for dermatophytosis.⁵

¹Financial or Other Competing Interest: None.

Submission 09-11-2017, Peer Review 13-12-2017,

Acceptance 19-12-2017, Published 01-01-2018.

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DOI: 10.14260/jemds/2018/16



There is a constant need to define the epidemiological and mycological characteristics of dermatophytosis for appropriate control measures. Hence, this study was conducted to know the clinico-epidemiological profile of dermatophyte infection, compare the results of KOH and culture, to know the anatomical region most affected (clinical type) and identify the species of causative fungi.

MATERIALS AND METHODS

The study included 200 clinically suspected cases of dermatophytosis attending the Outpatient Department of Dermatology and Venereology at a Medical College Hospital, Bangalore, during a period of 1 year (February 2016 - January 2017). A detailed case history was taken which included age, sex, socio-economic status, occupation, similar complaints in family, duration of disease and treatment received previously. Patients previously treated with antifungals and steroids were excluded from the study. General physical examination and systemic examination was done. Baseline investigations like complete haemogram, blood sugar and renal function tests were performed to rule out predisposing conditions.

Study Design

Descriptive Study.

Brucella infections in high-risk population and in patients hospitalized for fever: A serological study at Kolar, Karnataka

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ABSTRACT

Background: Brucellosis, one of the world's major zoonoses, is endemic in many parts of India. It is an occupational hazard for veterinary employees, butchers, dairy personnel, and laboratory workers. There is no information available on human brucellosis from Kolar region of southern India. **Methods and Materials:** Serum samples from 154 adults, at high risk for brucellosis and residing in and around Kolar, Karnataka, India, were screened for antibodies to brucella by the Rose Bengal plate agglutination test and immunoglobulin (Ig)G Enzyme-linked immunosorbent assay (ELISA). Sera detected to be positive by these screening tests were further tested by standard tube agglutination test (SAT), SAT with 2 Mercaptoethanol, and IgM ELISA. In addition, serum samples from 100 hospitalized patients with prolonged fever were also subjected to the above tests to detect acute brucella infections among patients. **Results:** Among the 154 individuals at high-risk screened, brucella antibodies were detected in 15 (9.74%) of the subjects. The seropositivity rate was 30.76% among veterinarians, 14.28 among cattle businessmen, 9.67% among butchers, and 3.79% among animal owners. Seropositivity was associated with drawing blood and exposure to animals during parturition. Symptoms such as myalgia, low back ache, and joint pains were significantly more among seropositives. When the results of all the tests were taken together, 33.3% seropositives could be classified as past brucella infections and 66.6% as possible chronic brucella infections. Among the 100 hospitalized patients with prolonged fever acute brucellosis was diagnosed in one patient. **Conclusion:** Brucellosis is an important zoonosis in Kolar region. Among individuals at high risk many have serological profile of possible chronic brucellosis; such individuals may need treatment and follow-up.

Key words: Brucella IgG ELISA, Brucella IgM ELISA, brucella infections in high high-risk groups, brucella serology, past brucella infections, possible chronic brucellosis

Introduction

Brucellosis is one of the world's major zoonoses of public health importance and economic concern. It is caused by bacteria belonging to the genus *Brucella*, which are facultative intracellular, gram-negative coccobacilli.^[1] Four species of *Brucella* are known to cause human infections: *Brucella melitensis* (*Br. melitensis*), *Brucella abortus* (*Br. abortus*), *Brucella suis* (*Br. suis*), and *Brucella canis* (*Br. canis*). Goats and sheep are reservoirs

for *Br. melitensis*; cattle for *Br. abortus*, swine for *Br. suis*, and dogs for *Br. canis*. Recently, infections from *Brucella pinnipediae* and *Brucella cetaceae* acquired from marine animals have been reported.^[2] Infections with brucella may either remain latent or manifest as acute, subacute, or chronic illness.^[1]

Most of the human infections are caused by *Br. melitensis* and *Br. abortus*.^[1] The animal reservoirs of these organisms transmit infection to man when he consumes raw milk or eats insufficiently cooked meat. Brucellae also pose an occupational hazard for veterinary employees, butchers, dairy personnel, and laboratory workers who are often exposed to the infected animals or their tissues.^[3,4]

In villages and small towns of India, people live in close contact with domestic animals and consume their products. This provides opportunities for transmission

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	DOI: 10.4103/1755-6783.133714

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Anti- Cyclic Citrullinated Peptide Antibodies: Clinical utility and their role as early prognostic markers in Erosive Rheumatoid Arthritis

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Abstract

Objectives: To assess the diagnostic utility of anti- cyclic citrullinated protein antibody (anti-CCP) in comparison to rheumatoid factor (RF) in diagnosis of rheumatoid arthritis (RA) and to determine its prognostic value in erosive rheumatoid arthritis.

Materials and Methods: The study included 60 patients with clinically suspected RA. Anti-CCP was measured by enzyme-linked immunosorbent assay (ELISA) and rheumatoid factor (RF) by nephelometry. The seropositivity with RF and ACCP antibodies were studied in comparison with radiographic changes and joint symptoms which included presence and duration of joint involvement- multiple joints, small joints, symmetric joints, stiffness or swelling of joints.

Results: Among the 60 patients, the mean age for RA was found to be 43 years. A higher seropositivity was found among the females. The sensitivity and specificity of anti-CCP reactivity for the diagnosis of RA were 38.3 and 100 respectively. Among the symptoms studied, small joint involvement and involvement of multiple joints showed a positive association with serologically positive individuals. Patients with high anti-CCP antibody titres showed higher RF titres and severe radiographic erosions.

Conclusion: Anti CCP antibodies are highly specific for rheumatoid arthritis. A combined diagnosis using both high titers of anti-CCP antibodies and a positive RF test markedly improves RA diagnostic specificity. ACCP antibody detection helps in early diagnosis as well as detection of progressive joint damage.

Keywords: Anti-cyclic citrullinated peptides, autoantibodies, citrullinated proteins/peptides, rheumatoid arthritis

Rheumatoid arthritis (RA) is the most common chronic autoimmune joint disease of unknown etiology [1]. The course of RA ranges from mild arthritis to progressive joint destruction [2, 3]. Genetic factors like presence of HLA -DRB1*04 alleles combined with smoking have shown to increase the risk of developing RA [2]. Various circulating auto antibodies are preset in the sera of RA patients. Among them, IgM autoantibody against IgG i.e. the Rheumatoid factor (RF) is most widely used in the diagnosis of RA. RF has an acceptable sensitivity but lacks specificity [4]. RF is also detectable in other connective tissue disorders like SLE and Sjogren's syndrome and in patients with chronic hepatitis, 3-5% of general population and around 30% of the elderly, thus making it a non specific marker for RA [5,6].

The focus of recent research is on the development of markers for early diagnosis of RA to prevent absolute crippling deformity of joints and extra articular complications [7]. Anti Cyclic Citrullinated Antibodies and antibodies to Citrullinated Vimentin have now been described as specific antigens of RA and antibodies to citrullinated proteins/peptides (ACPAs) are included in 2010 ACR/EULAR Rheumatoid Arthritis (RA) Classification Criteria[3,8]. ACPAs are a family of autoantibodies seen in RA patients and include antiperinuclear factor (APF), antikeratin antibodies (AKA), antilaggrin antibodies, and anticyclic citrullinated peptide (anti-CCP) antibodies. Studies have shown that anti-CCP was the most valuable marker in the diagnosis of RA, among the 3 ACPAs[9].



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Original Research Article

Prevalence of Methicillin resistance in Staphylococcal blood isolates and correlation with Vancomycin MIC: A study from tertiary care hospital

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ABSTRACT

Keywords

Methicillin
resistance in
Staphylococcal
blood,
Vancomycin
MIC

Staphylococcus are the major cause of nosocomial and community acquired infections and has become increasingly prevalent worldwide. The prevalence however, varies markedly in hospitals in the same country, and from one country to another. Methicillin resistant is more common among these isolates. These strains are particularly important because they have limited therapeutic options. Glycopeptides such as vancomycin are frequently the antibiotics of choice for treating such infections. Given the importance of Staphylococci in hospital setting, the present study was done to find out the distribution of the various Staphylococcal species causing blood stream infections in this hospital and to analyze the prevalence of methicillin resistance among these isolates. MIC evaluation of vancomycin correlating it with resistance towards methicillin was done. Method: A total 128 *Staphylococcus* spp isolates consisting of 06 *S. aureus* and 122 coagulase negative staphylococci (CoNS) were isolated from blood specimens from various out patient departments and wards. The identification and the antimicrobial susceptibility testing (AST) were performed in the Vitek 2 compact automated system. Results : A total of 69 % (89/128 strains) were oxacillin resistant. In the present study, our hospital has a prevalence rate of 50 % of oxacillin resistant. *S. aureus* and 69% of oxacillin resistant other Staphylococci spp. We found three cases of Methicillin resistant Staphylococcus strains showing vancomycin resistance with MIC 32 µg/ml. All the three isolates were found to be resistant to several other antimicrobials. Conclusion: Our study demonstrates the high prevalence of methicillin resistance among hospital isolates of Staphylococci. Although vancomycin resistance was less frequent among these isolates, there is a definite shift towards higher values of MICs which might affect patient's clinical outcome. Indiscriminate use of vancomycin leading to the emergence and spread of vancomycin resistance in multidrug resistant strains is of growing concern in the recent years. Continuous efforts should be made to prevent the spread and emergence of vancomycin resistance by early detection of the resistant strains. Using proper infection control measures in the hospital setting and formation of antibiotic policy guide lines is highly recommended.

Introduction

Staphylococci are important causes of serious nosocomial and community-acquired infections and continue to cause a variety of clinical syndromes worldwide (1). In many hospitals and areas worldwide, the prevalence of Methicillin resistant

Staphylococci (MRS) poses a serious therapeutic problem (2). The spread of these strains from the hospital to the community, coupled with the emergence of Vancomycin Intermediate Staphylococci(VIS) and Vancomycin Resistant Staphylococci,

Use of 16S rRNA gene-based sequencing for identification of *Oligella urethralis* that was misidentified as *Fransciella tularensis* by an automated system

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Introduction: *Oligella* infections are rare and have been only rarely reported in the literature. This may be due to the misidentification of *Oligella* as a *Moraxella*-like organism. To the best of our knowledge, we present what we believe to be the first case report on *Oligella urethralis* bacteraemia in India.

Case presentation: A 65-year-old female patient with compromising underlying illness presented with signs and symptoms of bacteraemia. The organism was initially identified as *Fransciella tularensis* by a bioMérieux colorimetric VITEK 2 Compact GN ID card, but 16S rRNA gene sequencing confirmed the isolate as *O. urethralis*.

Conclusion: The case emphasizes the importance of *O. urethralis* as an emerging opportunistic pathogen. Although automated systems allow accurate and rapid identification of commonly isolated bacterial organisms, they are less likely to correctly identify slow-growing, fastidious, rare or biochemically inert organisms. Therefore, it is good to confirm such isolates with a second method such as 16S sequencing and/or matrix-assisted laser desorption/ionization time-of-flight MS.

Keywords: 16S rRNA gene sequence; bacteraemia; *Fransciella tularensis*; imipenem; piperacillin/tazobactam; *Oligella urethralis*; VITEK 2 Compact.

Received 11 May 2015

Accepted 13 August 2015

Introduction

The genus *Oligella*, so named due to the small size of the bacilli on Gram staining, comprises two species: *Oligella ureolytica* and *Oligella urethralis*. *O. urethralis*, formerly *Moraxella urethralis* and Centers for Disease Control group M4, belongs to a group of taxonomically diverse non-fermentative Gram-negative bacilli (Rossau *et al.*, 1987; Winn *et al.*, 2006).

These organisms are commensals of the genitourinary tract, and most clinical isolates are from urethral samples and are often associated with an indwelling Foley catheter. Rare causes of bacteraemia, septic arthritis and pyelonephritis have been reported in the literature (Mesnard *et al.*, 1992).

Automated systems are used in the majority of clinical microbiology laboratories and are heavily relied on to promptly identify organisms. These systems provide rapid identification, thus reducing turnaround times and improving efficiency and cost-effectiveness (Snyder *et al.*, 2008). However, they are less likely to correctly identify clinically relevant non-fermenting Gram-negative bacilli.

We report a case of *O. urethralis* bacteraemia that was misidentified by a VITEK 2 compact system as *Fransciella tularensis*.

Case report

A 65-year-old female patient who lived in a rural area of Bangalore presented to the Emergency Medical Department of our hospital with predominant complaints of breathlessness for 1 day, swelling of both lower limbs and cough with expectoration for 3 days duration. The patient was a known case of diabetes mellitus, had hypertension for the past 15 years and had ischaemic heart disease 1 year previous; stage 4 chronic kidney disease was diagnosed. She was on regular treatment. On the same day of hospital admission she was shifted to the Intensive Care Unit and intubated in view of tachypnea, reduced pO₂ on arterial blood gas analysis and acidosis.

At the time of admission her pulse rate was 80 min⁻¹, respiratory rate 40 min⁻¹ and blood pressure 180/90 mmHg. On chest examination, bilateral rhonchi and lower zone fine crepts were present. Abdominal examination revealed distension with free fluid. Bilateral lower limb swelling

3

Bacterial Contamination of Hands and Anterior Nares of Health Care Professionals Attending ICU at a Tertiary Care Hospital in South India

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ABSTRACT

Introduction: Nosocomial infections remain a major challenge to the healthcare system and the patients in intensive care units (ICU) are more prone for acquiring these infections. Carriage of drug resistant organisms by the health care workers (HCW) is a potential method of transmission of these organisms in the hospital environment. The objective of this study was to determine the multidrug resistant organisms among HCWs attending ICU.

Materials and Method: 60 HCWs belonging to different cadres attending the ICU were screened. Samples from hands and anterior nares were collected using sterile swab sticks and aerobic bacterial culture performed.

Results: A total of 83 isolates were obtained from 120 swabs. Methicillin resistant *Staphylococcus aureus* (MRSA) (12.9%), Methicillin resistant *Congulase* negative *staphylococci* (MR CONS) (36.3%), and Extended spectrum beta lactamase (ESBL) producing gram negative bacilli (GNB) (50%) were the common drug resistant organisms detected. MRSA was more commonly seen in the anterior nares and among the nurses. MR CONS and ESBLs were obtained mainly from hands and among the house keeping staff and the doctors. Inducible clindamycin resistance was also noted in *staphylococci*. Majority of the hand swabs from the nurses yielded scanty or no growth while that of housekeeping staff and doctors exhibited drug resistant organisms.

Conclusion: Multidrug resistant organisms were commonly carried by the HCWs attending ICU. Commensal organisms are becoming resistant to multiple drug classes. HCWs serving the critical care areas need periodic screening, followed by decolonisation/eradication measures with more emphasis on those who are not restricted to ICU.

Keywords: Health care workers, Intensive care unit, Methicillin resistant *Staphylococcus aureus*, nasal carriage.

INTRODUCTION

Nosocomial infections remain a major challenge to the healthcare system and result in significant mortality, morbidity, and economic burden. It is estimated

that, health care associated infections (HAIs) occur in approximately 10% of admissions in developed countries and 25% in developing countries¹. HAIs are also responsible for increase in transmission of multidrug resistant organisms (MDROs) in a healthcare organization². The HAIs are known to be transmitted from various modes: hands of health care providers, inanimate objects and the hospital environment. The hands of healthcare workers (HCWs) are the most common vehicle for the transmission of microorganisms from patient to patient and within the healthcare set up³.

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Research Article

MULTIDRUG RESISTANT BACTERIA CREEPING INTO A NEWLY SET UP TEACHING HOSPITAL-TIME TO INTERVENE

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Received: May 02, 2019; Revised: May 24, 2019; Accepted: May 26, 2019; Published: May 30, 2019

Abstract- Introduction: Antimicrobial Resistance (AMR) has been on continuous rise and drug resistant bacteria are the commonest etiology in hospitalized and community acquired infections. The objective of this study was to detect multidrug resistant organisms isolated from various clinical specimen, and their antibiotic profile. **Materials and Methods:** 750 Clinical samples were cultured; organisms were isolated and identified. Antibiotic susceptibility test was done based on Kirby Bauer disc diffusion method. ESBL production was tested by phenotypic double disc potentiation test. AmpC β -lactamase production was tested by disc antagonism method. Detection of serine carbapenemases and MBLs was performed by Modified Carbapenem Inactivation method and EDTA Modified Carbapenem Inactivation method respectively as described by new CLSI guidelines. Among the Gram positive cocci, Methicillin and Inducible Clindamycin resistance was detected by cefoxitin disc diffusion and D-test respectively. **Results:** Among the resistant gram-negative bacteria, 33(10.9%) were ESBLs, 11(3.65%) Amp C, 3(1%) each were ESBL+Amp C, inducible AmpC and MBLs. Out of 150 resistant staphylococcal isolates, 103(68.6%) showed methicillin resistance and 26 (17.3%) showed inducible clindamycin resistance. Multidrug resistance (MDR) was observed in 4.8% of Gram negative and 2% of Gram positive bacteria. Extremely drug resistant bacteria (XDR) were found in 2% and 1% of Gram negative and Gram positive bacteria. **Conclusion:** Rising levels of AMR mandates routine detection of various types of resistance patterns. Routine detection of ESBLs, screening for Amp C beta lactamases, inducible Amp C, and confirmation of MBLs will help in providing authentic antibiotic susceptibility testing reports.

Keywords- Beta lactamases, Drug resistance, MRSA, Gram negative, Gram positive

Citation: Uma B.M. and Dhanalaxmi A. (2019) Multidrug Resistant Bacteria Creeping into A Newly Set Up Teaching Hospital-Time to Intervene. International Journal of Microbiology Research, ISSN: 0975-5276 & E-ISSN: 0975-9174, Volume 11, Issue 5, pp.-1565-1568.

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Academic Editor / Reviewer:

Introduction

Antimicrobial Resistance (AMR) has been on continuous rise in the past decade. Drug resistant bacteria are the commonest etiology in hospitalized and community acquired infections. Drugs belonging to Beta lactam group are used as the main stay of treatment as well as for empirical therapy in infections caused by these bacteria. Antibiotic resistance among both gram positive and gram negative bacteria is a rapidly expanding problem and a matter of concern, as they are able to mutate, acquire and transmit plasmids and other mobile genetic elements encoding antibiotic resistance genes [1]. Inducible clindamycin and Methicillin resistance is common among gram positives. β -lactamases namely extended spectrum β -lactamases (ESBLs), AmpC β -lactamases and metallo β -lactamases (MBLs) are the major cause of β -lactam resistance among gram negatives [2]. Resistance genes for all these three enzymes are often carried on plasmids, facilitating rapid spread between bacteria [3]. ESBLs belong to Group 2be of Bush's functional classification and AmpC beta-lactamases are well defined enzymes with broad substrate specificity and classified as class C according to Ambler and group 1 by Bush-Jacoby-Medeiros [4]. Extended spectrum beta-lactamases (ESBL's) were first reported in 1983 and Amp C beta lactamases in 1988 [5]. While ESBLs can hydrolyze all penicillin's, extended spectrum cephalosporins and aztreonam ; the Amp C beta lactamases can hydrolyze extended spectrum cephalosporins as well as cephamycins [1,6]. Carbapenems and beta lactam with beta lactamase inhibitors are the drugs of choice for infections caused by bacteria producing ESBLs and Amp C beta lactamases. But with the increase in carbapenemase producing bacteria, the carbapenems are losing their importance as the highest order saviour antibiotics for multi drug or

pan drug resistant bacteria. The carbapenemases are metallobeta lactamases which belong to Class B type in Ambler classification and they can hydrolyse all classes of beta lactams [5,6]. Often all the three enzymes are co-expressed in the same isolate [7]. The presence of ESBLs and Amp-C- β -lactamases in a single isolate reduces the effectiveness of the β -lactam- β -lactamase inhibitor combinations, while MBLs and Amp-C- β -lactamases confer resistance to carbapenems [3]. ESBL producing isolates, in addition to being resistant to β -lactam antibiotics, often exhibit resistance to other classes of drugs such as aminoglycosides, cotrimoxazole, tetracycline and fluoroquinolones thus making them multidrug resistant [8]. The reason being, carriage of resistance genes for multiple classes of drugs on the same plasmid. This further complicates the treatment of serious infections caused by these bacteria. These strains are associated with high morbidity, mortality, increased length of hospitalization and cost of health care. Among tropical countries, India has emerged as the focal point of antimicrobial resistance [6]. In the past decade multidrug resistant bacteria have been described in numerous pathogenic strains among members belonging to Enterobacteriaceae, Staphylococci, and non fermenters like Pseudomonas and acinetobacter in varying combinations [6,9,10-13]. With this background the above study was undertaken to detect multidrug resistant organisms isolated from various clinical specimen.

Material and Methods

The study was carried out at a newly set up tertiary care teaching hospital at Bangalore, India over a period of 3 months.

Research Article

Open Access

Evaluation of Blood Smears, Quantitative Buffy Coat and Rapid Diagnostic Tests in the Diagnosis of Malaria

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Abstract

Rapid diagnosis of malaria is important for the administration of effective treatment, to reduce the morbidity and mortality. The present study was carried out to compare the efficacy of quantitative buffy coat (QBC) and rapid diagnostic test (RDT) with conventional peripheral blood smears. Blood samples from 100 patients were obtained with symptoms suggestive of malaria. A total of 74 (74%) cases were positive by blood smears, while 80 (80%) and 71 (71%), were positive by QBC and RDT (Falcivax). Blood smears indicated that 74% (55 of 74) of the patients were positive for *P.vivax* and 25% (19 of 74) were infected with *P.falciparum*. QBC showed that 75% (60 of 80) were positive for *P.vivax* and 25% (20 of 80) were infected with *P.falciparum*. Falcivax identified 74% (53 of 71) were positive for *P.vivax* and 25% (18 of 71) of *P.falciparum*. QBC had a sensitivity and specificity of 74.3% and 80.7% for *P.vivax* and 100% and 98.7% for *P.falciparum*. Falcivax had a specificity of 100% and sensitivity of 96.3% and 94.7%.

Keywords: Malaria diagnosis; QBC; RDT

Introduction

Malaria, a widely prevalent parasitic disease affects 500 million people each year and is associated with 2-5 million deaths [1]. One of the most pronounced problems in controlling the morbidity and mortality is limited access to effective diagnosis and treatment in areas where malaria is endemic [2]. Microscopic examination of blood smears is the widely used method for detection of malaria parasites and remains the gold standard for malaria diagnosis [3]. But microscopic examination is laborious and time consuming and requires considerable expertise for its interpretation particularly at low levels of parasitemia [4]. Rapid and early detection of malarial parasite and early treatment of infection still remains the most important goals of disease management [5]. A key feature of the World Health Organization global malaria control strategy is the rapid diagnosis of malaria at the village and district level so that effective treatment can be administered quickly to reduce morbidity and mortality. There is therefore an urgent need for a field test which is simple, rapid and accurate. These RDT's have a number of important limitations, including suboptimal sensitivity at low parasite densities, to quantify infection rate and a higher unit cost relative to microscopy [6].

Materials and Methods

This study was conducted in the department of microbiology, Kasturba Medical College Hospital, Ambedkar circle, Mangalore, during the period from July 2005-2007. The study was cleared by the Institutional ethics committee. Patients attending the hospital, with symptoms and signs suggestive of malaria formed the study group. A total of 100 patients were included in the study. Blood sample collected from the patients were subjected to thick and thin smear (Traditional microscopy), Quantitative buffy coat (QBC) and Immunochromatographic test (ICT) Falcivax. Thick and thin smear were stained with Giemsa stain and observed under 100 X microscopy. Thick smear was used for the identification and thin smear for the speciation of the parasite. According to standard practice, thin smear was examined for 15 minutes and thick smear 200 fields were visualized.

Quantitative buffy coat

The QBC capillary tubes were filled with blood by capillary action and were centrifuged at the rate of 1200g for 5 min after proper balancing. The tubes were examined under fluorescence microscope. The ring

forms appeared as apple green with or without an orange dot at one side, schizonts as dark brown in colour, and gametocytes as yellowish green sickle shaped bodies.

Immunochromatographic test

Falcivax [Tulip diagnostics pvt ltd, Goa, India], is a rapid self performing, qualitative, immunoassay used for the detection of *P.falciparum* specific histidine rich protein-2 (HRP-2) antigen and *P.vivax* specific lactate dehydrogenase (PLDH). The test was performed according to the manufacturer's instructions, all the kit components were brought to room temperature, the whole blood was centrifuged, and 2-3 drops of serum was dispensed into the sample port, followed by 5 drops of buffer solution provided along with the kit. The results were read at the end of 15 minutes. A pink purple band appeared at the region 'Pv' in the test window 'T' in addition to the control band it was considered as *P.vivax* positive. A pink purple band appeared at the region 'Pf' in the test window 'T' in addition to the control band, it was considered as *P.falciparum* positive.

To measure the agreement between Blood smears, QBC and Falcivax, Kappa statistics was used and statistical significance was assessed.

Results

A total of 100 samples were examined for malaria parasites by quantitative buffy coat and Falcivax and the results were compared with peripheral blood smear examination. Blood smear results indicated that 74 cases were found to be positive for malaria parasites and the rest 24 were negative. Among the positive patients *P.vivax* was detected in 55 cases (75%) and *P.falciparum* in 19 cases (25%).

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Received November 07, 2011; Accepted December 06, 2011; Published December 15, 2011

Citation: Sreekanth B, Shenoy S, Lella K, Girish N, Reddy R (2011) Evaluation of Blood Smears, Quantitative Buffy Coat and Rapid Diagnostic Tests in the Diagnosis of Malaria. J Bacteriol Parasitol 2:125. doi:10.4172/2155-9597.1000125

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ORIGINAL ARTICLE

THE RATE OF TUBERCULOSIS INFECTION IN HIV POSITIVE PATIENTS IN RELATION TO CD4 COUNT

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ABSTRACT: INTRODUCTION: Tuberculosis is the most common HIV-related opportunistic infection in India, and caring for patients with both diseases is a major public health challenge, which places an immense burden on health care systems and poses particular diagnostic and therapeutic challenges, increasing the risk of treatment failure, relapse and death. Estimates by the World Health Organization (WHO) indicate that there are more than 9 million new active cases of TB and close to 2 million deaths per year. **MATERIALS AND METHOD:** The present retrospective study was conducted for a period of one year. HIV status was confirmed for patients attending voluntary counselling and testing centre (VCTC). HIV positive patients were referred to designated microscopic centre (DMC) for sputum examination for AFB and ART centre for estimation of CD4 count and necessary relevant investigations were carried out for extrapulmonary tuberculosis (EPTB). **RESULTS:** Out of 682 HIV positive patients, 93(13.6%) cases were diagnosed with pulmonary tuberculosis. Extrapulmonary tuberculosis was detected in 16 (2.3%) patients. The commonest form of EPTB was cervical adenitis detected in 13 (1.9%) of cases and pleural effusion in 3 (0.4%) of cases respectively. The mean CD4 count was 208 cells/ μ l in patients with pulmonary tuberculosis (PTB) and 192 cells / μ l, 162 cells / μ l in patients with cervical adenitis and pleural effusion. **CONCLUSIONS:** Further reduction of CD4 count occurs in dually infected patients. Early diagnosis and prompt institution of ART and ATT reduces mortality and morbidity significantly.

INTRODUCTION: Tuberculosis (TB) and human immunodeficiency virus (HIV) constitute the main burden of infectious disease in resource-limited Countries¹. Persons infected with HIV are particularly susceptible to tuberculosis, both from the reactivation of latent infection and from new infection with rapid progression to active disease². An individual who is HIV-positive has 10 times increased risk of developing TB compared to an HIV-negative person the life time risk is 50% for an HIV-positive person and 5–10% for an HIV-negative person³. Estimates by the World Health Organization (WHO) indicate that there are more than 9 million new active cases of TB and close to 2 million deaths per year and that 2.6 million new cases of HIV infection and 1.8 million AIDS-related deaths occur per year¹. In India alone about 2.5 million people are currently infected with

ORIGINAL ARTICLE

ANTIBIOTIC PROFILE OF PSEUDOMONAS AERUGINOSA STRAINS ISOLATED FROM VARIOUS CLINICAL SPECIMENS IN DM WIMS HOSPITAL WAYANAD, KERALA

Sreekanth B¹, Suresh G², Deepthy B. J³, Saleel V. M⁴, P. V. Harish⁵

HOW TO CITE THIS ARTICLE:

Sreekanth B, Suresh G, Deepthy B. J, Saleel V. M, P. V. Harish. "Antibiotic Profile of Pseudomonas Aeruginosa Strains Isolated from Various Clinical Specimens in DM WIMS Hospital Wayanad, Kerala". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 19, May 12; Page: 5090-5093, DOI: 10.14260/jemds/2014/2558

ABSTRACT: OBJECTIVES: Pseudomonas aeruginosa is one of the important bacterial pathogens isolated from various clinical samples. Several different epidemiological studies indicate that antibiotic resistance is increasing in clinical isolates. The present study was undertaken to assess the antibiotic susceptibility patterns of Pseudomonas aeruginosa isolated from various clinical samples. **MATERIALS AND METHODS:** A total of 290 Pseudomonas aeruginosa isolates from various clinical samples like exudates, urine, sputum, and blood, were tested for antibiotic sensitivity pattern using disk diffusion method as per Clinical and Laboratory Standards Institute guidelines [CLSI]. **RESULTS:** The highest number of Pseudomonas infections was found in exudates, followed by urine and sputum. Maximum resistance was seen to third generation cephalosporins cefaperazone (42.6%) and ceftazamide (39.3%). Low level of resistance was seen in amikacin (14.5%). Minimal resistance was seen to Imipenem (6.5%). **CONCLUSION:** Over all we have observed that there is increased antibiotic resistance which may be due to the selective pressure from the use of anti-microbial agents is a major determinant for the emergence of resistance strains. Antimicrobial surveillance should be done periodically to monitor the current susceptibility patterns in local hospitals. **KEYWORDS:** Clinical isolates of Pseudomonas aeruginosa, Antibiotic sensitivity pattern.

INTRODUCTION: Pseudomonas aeruginosa is a gram-negative bacterium that continues to be a major cause of opportunistic nosocomial infections, causing around 9-10% of hospital infections.¹ It has the unique ability to infect all body systems. It almost exclusively infects hospitalized patients and is the most frequent opportunistic pathogen isolated from nosocomial infection in intensive care units (ICU).² It continues to be the major pathogen in immunosuppression, cystic fibrosis and malignancy.³

Despite advances in medical and surgical care and introduction of wide variety of antimicrobial agents against having anti-pseudomonal activities, life threatening infections caused by Ps.aeruginosa continues to cause complications in hospital acquired infections.⁴ Unfortunately, P. aeruginosa demonstrates resistance to multiple antibiotics, thereby jeopardizing the selection of appropriate treatment.¹ Therefore a study was conducted to determine the antibiotic sensitivity patterns of Ps.aeruginosa isolated from various clinical samples obtained from hospitalized patients.

MATERIALS AND METHODS: The present study was conducted over a period of 6 months from October 2013-March 2014 at DM WIMS Hospital, Meppadi, Kerala. Out of total 500 samples obtained from patients from various sources, exudates, sputum, urine and blood, 182 isolates were ps. aeruginosa. All the specimens were inoculated onto Mac Conkey's agar and 5% blood agar. The

ORIGINAL ARTICLE

HEPATITIS B AND C IN HEALTHCARE WORKERS: PREVALENCE, RELATION TO VACCINATION AND OCCUPATIONAL FACTORSSateesh K. Malkappa¹, Sreekanth B²**HOW TO CITE THIS ARTICLE:**

Sateesh K. Malkappa, Sreekanth. B. "Hepatitis B and C in Healthcare Workers: Prevalence, Relation to Vaccination and Occupational Factors". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 15, April 14; Page: 3919-3922, DOI: 10.14260/jemds/2014/2376

ABSTRACT: Infection with Hepatitis B virus (HBV) and Hepatitis C virus (HCV) in occupationally exposed health care workers (HCWs) should be accepted as a realistic possibility. This study aimed at estimating prevalence of hepatitis B and hepatitis C virus infections among health care workers with the final goal to encourage HBV vaccination of the non-immune Indian health care worker in a tertiary hospital. A total of 219 samples were screened from November 2012 to October 2013. They were screened for the presence of hepatitis B surface antigen (HBs Ag), and anti-HCV antibodies by the third generation ELISA. The HBsAg prevalence was 1.37%. Anti-HCV antibody was not detected in any of the health care worker screened. 63.47% of health care workers were not immunised. All HCWs who were positive for HBsAg were non-immunised. A moderate HBV infection rate and low HBV vaccination coverage were found in the study. India is a tropical country still endemic for HBV infection and new strategies to promote HBV vaccinations are to be adopted.

KEYWORDS: Hepatitis B & C, Health care workers, Vaccination

INTRODUCTION: Approximately three million health care workers (HCW) are exposed to percutaneous blood each year.¹ The risk of HBV infections among HCWs is four times higher than in the general population and depends on the prevalence of HBV infected patients, nature and frequency of contact with blood and body fluids, duration of employment and immunization status. A high prevalence of these infections in the general population, the large capacity of infectious virus and daily contact with biological fluids and potentially contaminated instruments are key risk factors for HCWs for the transfer of HBV and HCV infection.² Infection with hepatitis B virus (HBV) and hepatitis C virus (HCV) in occupationally exposed health care workers (HCWs) should be accepted as a realistic possibility.³ Blood contains the highest HBV titres and is the most important vehicle of transmission in the health-care setting. HBV is relatively stable in the environment, remains viable for at least 7 days on environmental surfaces at room temperature.⁴ Screening for hepatitis B & C is still not being performed in many health setups. Due to tremendous increase in surgical workload, operation theaters could be one of the main sources of transmission of hepatitis B & C.⁵ Preoperative screening for hepatitis B & C in patients is not routinely performed even for elective surgery in our country because of multiple factors and this may pose a major risk to health care workers. Major factors are, lack of public awareness about the disease, inadequate funding for health care and poor health facilities throughout the country. Whereas the literature on hepatitis B virus infection in India is growing, there is still paucity of information on HBV and HCV among HCWs. This paper contributes to this discourse by presenting the prevalence estimates for hepatitis B and hepatitis C virus infections among health care workers.

MATERIAL & METHODS: The study was carried out in department of Microbiology over a period of 1 year from November 2012 to October 2013. Serum samples were collected from all the health care

DETECTION OF EXTENDED SPECTRUM β -LACTAMASES (ESBLs) IN CLINICAL ISOLATES

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DOI: 10.5455/ijmsph.2014.010720142

Received Date: 02.06.2014

Accepted Date: 01.07.2014

ABSTRACT

Background: Treatment of extended Spectrum β -lactamase (ESBL) producing gram negative bacilli is an increasing problem in hospitalized patients. Increasing resistance to third generation cephalosporins among gram negative bacilli has important therapeutic and clinical implications. ESBL producers significantly affect the course and outcome of infection and are associated with increased morbidity and mortality. The high proportion of ESBL producers and the outbreak of multi drug resistant gram negative bacilli are quite alarming and need expensive control measures. Appropriate laboratory detection is important to avoid inappropriate antimicrobial therapy.

Aims & Objectives: The present study was undertaken to investigate the high incidence of extended Spectrum β -lactamases (ESBLs) producers and their antibiotic susceptibility pattern.

Materials and Methods: A total of 228 GNB isolates, were studied for ESBL production. The isolates were screened for ESBL production by the double disc synergy test (DDST) as recommended by the Clinical Laboratory Standards Institute (CLSI). Antimicrobial susceptibility testing was done along with screening for ESBL production for commonly used antibiotics. Isolates which showed positive results were confirmed by phenotypic confirmatory disc diffusion test (PCDDT).

Results: Out of 228 GNB isolates studied, 102 (44.73%) isolates were positive for ESBL production by presumptive screening test, of which 84 (36.84%) isolates were confirmed by PCDDT. The isolates of *Escherichia coli* (71.6%) were the most common ESBL producers, followed by *K. pneumoniae* (22.6%) and others. Imipenem (94.45%) was the most active and reliable agent for the treatment of the infections which were caused by the ESBL producing organisms.

Conclusion: ESBL detection and antibiotic sensitivity testing should be undertaken routinely to avoid misuse of antibiotics and also prevent spread of these strains.

Key Words: Extended Spectrum Beta Lactamases (ESBLs); Gram Negative Bacilli; 3rd Generation Cephalosporins

Introduction

The introduction of the third-generation Cephalosporins into clinical practice in the early 1980s was heralded as a major breakthrough in the fight against β -lactamase-mediated bacterial resistance to antibiotics. The third generation Cephalosporins had the major advantage of lessened nephrotoxic effects compared to Aminoglycosides and Polymyxin.^[1] Increasing resistance to third generation cephalosporin amongst gram negative bacilli is predominantly due to the production of extended-spectrum β -lactamases (ESBLs).^[2] ESBLs are β -lactamases conferring resistance to 3rd generation Cephalosporins and aztreonam but not to Cephamycins and Carbapenems.^[3] ESBL enzymes are plasmid borne and they have evolved from point mutations which altered the configuration of the active site of the original and long known β -lactamases, which have been designated as TEM-1, TEM-2, and SHV-1.^[4] The resistance to newer β -lactams which are a result of these β -lactamases, has emerged quickly. The first report of plasmid-encoded β -lactamases which are capable of hydrolyzing the extended-spectrum Cephalosporins was published in 1983.^[4] Their numbers have increased

significantly since 1989, and represent one of the largest groups of novel enzymes.^[3] At present, there are more than 300 different ESBL variants, and these have been clustered into nine different structural and section evolutionary families based on amino acid sequence. TEM and sulfhydryl variable SHV are the major types. However, CTX-M type is more common in some countries.^[5] The aim of the present study was to isolate and identify ESBL producing bacteria in different clinical samples and to determine the antimicrobial susceptibility pattern of ESBL and non-ESBL producers.

Materials and Methods

The present study was carried out over a period of four months from October 2013 to January 2014. A total of 640 specimens were collected. Various samples included in the study were urine, pus and sputum. The specimens were cultured on blood agar and MacConkey agar and the isolates were identified on the basis of colony morphology and biochemical reactions.^[3]

Antimicrobial Susceptibility Testing: The susceptibility of gram negative bacilli to antimicrobial



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2016; 2(6): 405-407
www.allresearchjournal.com
Received: 24-04-2016
Accepted: 25-05-2016

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***Candida* biofilm: A study on characterisation, speciation and a comparative analysis of the effects of antifungal drugs on biofilm producers and non-biofilm producers**

Abirami Pragaspathy, Meera Meundi and Shreeshma P

Abstract

Introduction: Microbes build biofilms which is the potential cause of persistent infections which acts as the defense against host immune system and finally results in resistance to antimicrobial treatment. *Candida* is the most common opportunistic fungal pathogen among immunocompromised individuals.

Aims and objectives: To compare the effect of Antifungal drugs on biofilm producers and non-biofilm producers among *Candida* isolates.

Materials and Methods: *Candida* species isolated from the clinical materials received in our laboratory were identified by conventional methods. Biofilm formation was tested by tube method. Antifungal susceptibility was done and results were compared between biofilm producers and non-biofilm producers.

Results: Fifty four *Candida* species were isolated over a period of 3 months, of which *C. albicans* were 63% followed by *C. tropicalis* 24% and *C. krusei* 13%. Out of which 41% of *C. albicans* and 16% of *C. tropicalis* and 9% of *C. krusei* were biofilm producers.

Conclusion: Biofilm producers of *C. albicans* and *C. tropicalis* showed higher resistance to antifungal drugs in this study.

Keywords: Candidiasis, biofilm, antifungal susceptibility testing.

1. Introduction

C. albicans is the most common cause of candidiasis, although there is increased frequency of non-*albicans candida* species isolated from clinical specimens [1]. *Candida* biofilms have recently gained great attention due to their high prevalence and their notorious resistance to antifungal drugs [2, 3]. *Candida* biofilms can contribute to both superficial and systematic candidiasis [4, 5]. Invasive medical procedures and long duration of hospital stay are becoming increasingly common, which has led to the increased frequency of candidiasis [6]. All species of *Candida* causes diseases ranging from superficial infections such as oral thrush to invasive disease like endocarditis with marked differences in severity and susceptibility to different antifungal agents. [7] Microbes build biofilms which is the potential cause of persistent infections which acts as the defense against host immune system and finally results in resistance to antimicrobial treatment [8-11]. Extensive use of antimicrobial drugs for prolonged therapeutic courses has led to the change in the relative prevalence pattern of *Candida* species, with increased isolation of various non-*albicans Candida* species [12].

Non-*albicans* species like *C. tropicalis*, *C. krusei*, *C. glabrata* and *C. parapsilosis* are exhibiting increased tendency of resistant to antifungal action of azole groups of drugs particularly to fluconazole than *C. albicans*. All this leads to increase in the hospital stay in patients with fungal infections warranting rapid identification and antifungal susceptibility testing at the earliest [13].

2. Materials and Methods

Clinical samples received from out-patient and in-patient departments of K.V.G. Medical College and Hospital and swabs from oral cavity lesions of suspected cases of candidiasis from K.V.G. Dental College and Hospital, were taken up for the study. All the specimens were processed for the isolation of *Candida* spp. using Standard Mycology methods [14].

Awareness of Hand Hygiene in Hospital Set-up for Infection Control: Knowledge-based Questionnaire for Health Care Workers in a Teaching Hospital

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<https://dx.doi.org/10.13005/bpj/2052>

(Received: 09 July 2020; accepted: 20 October 2020)

The notion of hygiene is built on the relationship between cleanliness and the maintenance of good health. Hand washing technique is the rubbing together of all parts of the hands, including all the clefts using soap and water. Hand hygiene is the first step in preventing cross-transmission of microorganisms, which can help in prevention of Hospital Acquired Infections (HAIs). The entire world is in fact, emphasizing the importance of hand wash for the prevention of the COVID-19 pandemic. The germs causing infection in a health care setting can be transmitted through contaminated hands. Health care-associated pathogens can be acquired from any source, mainly from infected or draining wounds, patients' skin, aprons they wear, mattresses they use, bedside furniture and other objects in the immediate environment of the patient. Organisms such as *S. aureus*, *Proteus mirabilis*, *Klebsiella* spp., *Acinetobacter* spp., *Enterococci*, play an important role in HAIs. Although hand hygiene procedures are relatively simple, several studies have mentioned that health care workers do not adhere to this properly. Poor hand hygiene compliance has been one of the leading contributory factors to Health Care Acquired Infections (HCAIs). Reasons for low hand hygiene adherence include location of sinks in an inconvenient place, tight work schedule, reluctance as well as lack of role models and not being aware of implementation guidelines. Aim: To analyze the awareness of hand hygiene among health care workers in a hospital set-up for infection control. The goal of the study is to get a better insight of and explore the knowledge and awareness on hand hygiene among health care workers in a tertiary care hospital. Objective: To find out the lacunae in hand hygiene and to formulate and take measures to prevent HAIs and multidrug-resistant pathogens. Methods: The study was done through a self-administered questionnaire. Results: A total of 134 people participated which included 75 doctors (56%), 38 nurses (28.4%), 11 lab technicians (8.2%) and others (7.4%). The overall response was good. Both the nurses and doctors had adequate knowledge about hand hygiene. However, the nurses had better knowledge regarding the steps of hand wash (78.9%) and the disposal of biomedical waste (94.7%). The knowledge about hand hygiene and biomedical waste management was better among nurses and lab technicians. Conclusion: Most health professionals had adequate knowledge about hand hygiene. However, they did not have adequate practice of hand washing which can be initiated with effective training. Antimicrobial soap should be available and should be easily accessible for routine hand wash in all patient care areas to improve hand hygiene and to prevent hospital acquired infections.

Keywords: Hand hygiene, hand washing practice, hospital acquired infection, knowledge.



SUDDEN AND UNEXPECTED NATURAL DEATHS - A FOUR-YEAR AUTOPSY REVIEW

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Abstract

Sudden and unexpected death is an indication for a medicolegal autopsy. The present study constitutes both Prospective and Retrospective periods and was undertaken in Department of Forensic-Medicine at R.M.C. Loni, India, between the period Jan 2000 to Dec. 2004, with the object of studying this untimely deaths. A total of 1176 Medico-Legal Autopsies were performed during this period. Sudden and Unexplained deaths formed 8.67% of Medico Legal Autopsies, with Male to Female ratio of 5.8:1. About 66.67% of cases were due to Cardiovascular Pathology, 27.45 % were due to Pulmonary Pathology. All natural deaths occurring within 24hours (WHO) from the onset of signs and symptoms were considered. Cases involving trauma, drugs, poison, asphyxia, decomposition were excluded.

Keywords: Sudden Death; Natural death

Introduction

A person likely to die in the opinion of treating physician in a particular manner dies otherwise, is also a sudden death to be investigated. When death occurs on the spot due to violent trauma are homicidal, suicidal or accidental nature, it is an exception to death which has occurred as sudden. When a person dies by any other causes and manner than expected, where a person suddenly dies in a manner otherwise than expected not only it's a natural death but consider "Sudden Death" to be thoroughly investigated. The cause of death is often evident from the postmortem findings. But in some of the cases the diagnosis is not obvious

All Natural deaths autopsies which were carried out in this study were deemed Medico-Legal because of sudden nature of occurrence and the Medical Officer unable to certify the Cause of death. In many instances during the course of Medicolegal work we come across various deaths where the onset was Unexpected in individuals who were having history of disease and in other situations death will be sudden in individuals who were seemingly fit. In all this cases the very sudden nature leads to suspicion of foul play and hence police were informed hence the case was booked under Medico Legal category to rule out any foul play and know the

cause of death. But there are instances where homicides were disguised as Natural deaths.

As such Pathological or Clinical Autopsy can never happen because it is next to impossible to convince the nearest relatives for the consent irrespective of the religion. Once a case of Sudden death is reported to the hospital (Casualty) the Doctor in charge of the Causality reports the matter to the Police, the police in turn registers it as UNNATURAL and orders for the autopsy

The Size of the population limited to the jurisdiction to this autopsy study is around 4-5 lakhs. The group involved individuals of all age group, Sex, religion, caste and Nationality.

Materials and Methods

All autopsies were performed in the Department of Forensic Medicine between Jan 2000 to Dec. 2004. The period of study between Jan 2000 to Dec 2002 was retrospective and the period from Jan 2003 to Dec 2004 was Prospective studies. All clinical data were collected for admitted case; circumstances surrounding the death were analyzed as per the police report. In the present study the cases were chosen as per the definition of sudden deaths occurring within 24hr from the onset of

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Journal of Punjab Academy of Forensic Medicine & Toxicology

Year : 2010, Volume : 10, Issue : 1

First page : (14) Last page : (16)

Print ISSN : 0972-5687. Online ISSN : 0974-083X.

A Study of Pattern of Injuries in Road Traffic Collisions

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Online published on 23 December, 2011.

Received: 4 March, 2009; Revised: 4 January, 2010; Accepted: 15 January, 2010.

Abstract

The present study was carried out both prospective and retrospectively. The period of study was four year in which 254 cases were analyzed. The cases consisted both fatal and non fatal, all the cases were analyzed for age, sex, nature and distribution of injuries sustained as a result of road traffic collisions. The major age group affected was 21-30 years (31.51%) and the least age group affected was between 61-70 (01.97%). In majority of Cases Head and Face was affected [n=88 injuries-34.64%] and the least affected region of body was abdomen, (n=8;03.5%). In this study motor cyclist accident constituted to the majority of the traffic collisions (41.73%), which was followed closely by riders using road were affected, i.e. passengers ferrying busses, minibuses and trucks (34.25%), the least affected were the pedestrians who constituted to only 04.72% percent of the collisions. The males constituted to the majority of the collisions and the ratio of male: female was 5.4:1.

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A study of disseminated intravascular coagulation in routine autopsies

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Abstract

The present study was on Incidence of Disseminated Intravascular Coagulation(DIC) in routine autopsies. In this four year period (Jan 2003 to Dec 2006) of study, a total of 418 Medico legal autopsies were conducted of which 21 cases proved DIC. The study has been ventured primarily based on morbid anatomical and histo-pathological findings. Wherever possible clinical orientation has been attempted perusing antecedent case history and case records as and when available. The presence of single Microthrombi in minimum of one of the organs was considered to be DIC. The study also pointed out the discrepancies between clinical diagnosis and autopsy findings and also pointed out the clinical lapses in its diagnosis. The study also highlighted the incidental findings of DIC in Burns and Trauma cases, & also highlighted the need for the alertness of Clinicians in cases suspected to manifest into DIC. Of the total number of DIC(n=21) cases only 12 were treated in the Hospital out of which only 2 cases were suspected for DIC. The majority of Microthrombi was in Kidney(71.43%) and Lungs(66.66%), and the least was spleen(n=1). The maximum haemorrhage were reported in Kidney(n=11) and the least was in the Liver and Brain. The external manifestation of Haemorrhage was only in few (n=3) cases. The study also highlighted the importance of DIC as Immediate Cause of death due to various underlying mechanisms.

Introduction

Disseminated Intravascular Coagulation is an acute, subacute or chronic thrombohemorrhagic disorder occurring as a secondary complication in a variety of diseases(Kumar and Robbins, 1989). The activation of coagulation sequence, thereby consumption of the coagulation factors and the subsequent activation of the fibrinolytic system makes this effect a double edged sword to the patient and a challenge to the clinician and the autopsy surgeon. Disseminated Intravascular Coagulation is a secondary phenomenon, an intermediary mechanism of primary disorders. (Williams Hematology, 1986). Most often medico-legal autopsy surgeon encounters cases of Disseminated Intravascular Coagulation as fatal outcome in cases of sudden deaths, brought in dead to the hospital without obvious reasons along with the routine cases. Most of the instances have been reported where Disseminated Intravascular Coagulation was clinically unsuspected and necropsy evidence proved there prevalence and vice versa in others. Hence to bring out the incidence of Disseminated Intravascular Coagulation in medico-legal autopsies the study has been ventured.

Material and methods

The present study is being studied from January 2004 to Dec 2006. We analyzed 418 autopsy cases during this period. The actual material for the study was from the routine medico-legal autopsies. The information accompanying the dead body during postmortem examination was obtained by the

investigating police officer. The clinical history, the investigations and the treatment history for the cases who died in the hospital during course of treatment was obtained from the case files made available from Medical Records Department and the details were entered in the pre-tested proforma.

All the cases irrespective of the cause of death or manner of death were examined carefully both externally and internally for any signs of bleeding. During internal examination after the gross examination of each organ has been completed, the brain, two lungs, heart, two kidneys and spleen were preserved in 10% formal saline. The patients age, duration of hospitalization, clinical data, gross examination and major pathologic diagnosis were entered in a pre-tested proforma.

Each organs tissue blocks were taken totalling 20 in each case (2 from each kidney, 2 from left lung, 3 from right lung, 2 from heart, 2 from liver, 2 from spleen and 5 from brain).

The tissues after going through the tissue processing was reinforced into paraffin blocks and thin sections of tissues measuring 4-5 microns were taken with the help of microtome, the tissues sectioned was stained with haematoxylin and eosin stain.

Observations

Table No.1 shows the number and type of cases on which autopsy was performed during the period of study.

Trauma contributed to the major bulk (203) of cases, malignancy and electrical injuries contributed only two cases each to the total number of 418 cases.

Table No. 2 gives the details of autopsy examination of the 21 cases in which DIC were reported. The external and internal sign of haemorrhage on gross examination was recorded in each case along with the details of autopsy No, age, sex and aneque history or causation.

In death due to major surgical operation in trauma one cases of burns and viral infection, the external and internal signs of haemorrhage were absent on autopsy examination.

All cases except leukemia and three cases of snakebite didn't show any haemorrhages externally over the skin and gum. But the internal signs of haemorrhages over the organs and mucosal surface were noted in all the cases except in deaths due to viral infection, major surgery in trauma and one case of burns.

Table No. 3 gives the details of diagnosis, duration of Table 1: Distribution of the total number of autopsies.

(Jan 2004 to Dec 2006)

Year / Type of cases	No. of cases
Burns	69
Snakebite	15
Trauma	203
Asphyxia-hanging/ drowning/strangulation	41
Natural deaths	37
Obstetrics cases	5
Malignancy/ Carcinoma	2
Poisoning	44
Electrical injuries	2
Total	418

Dinesh Rao / Indian Journal of Forensic Medicine Toxicology, July-December, 2009, Vol. 3, No. 2

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Abstract

The present prospective study was carried from 2009 to 2012. During this period a Total of 3907 Homicides were Autopsied, of which 68 cases were recorded due to Murder Suicide Incidents, this contributed to 1.74% of Homicides Cases. A total of 174 victims died as a result of Murder. 89.72%(n-61) of the perpetrators were Male. The Most of the perpetrators belonged to the age group 31-40 years, contributing to 66.18% of the cases, and the least age group involved was between 11-20 and 41-50, contributing to 2.94% of cases. None of the Perpetrators above the age of 50 years were involved. Majority of the Victims were Females contributing to 78.74% (n-137) of cases. The Maximum number of Victims belonged to 31-40 year Age group contributing to 40.08%, the least age group involved was between 11-20 and 41-50, contributing to 7.47% and 12.64% respectively. There were no elderly victims recorded. Majority (30.88%; n-21) of the perpetrators involved were policemen and the least type of individuals involved were Soldiers contributing to 2.94%(n-02) of cases. The Relationship of the Victims revealed Divorced Spouse to be the Major Victims contributing to 29.31%(n-51) of the Victims, followed closely by Girlfriends and Children's contributing to 16.09%(n-28) each. The least affected were Housewives contributing to 11.49%(n-20) of the Victims. The Extramarital relationship (27.94%; n-19) and Jealousy (25%; n-17) were the Two Major Motives behind the Murder Suicide. The least provoking factors were Work stress (4.41%; n-03) and Disease conditions (4.41%; n-03). 91.18%(n-62) of the Perpetrators committed suicide by Gunshots. The least method adopted to commit suicide was Hanging contributing to 1.47% (n-01). 90.80%(n-158) of the Victims died as a result of Gunshot wounds. The least method adopted to Kill was by Ligature Suspension/ Hanging contributing to 1.72% (n-03) each. The perpetrator preferred in 30.88%(n-21) of Incident. Girlfriends House for Murder, followed closely by acts in Home in 25%(n-17) of cases. The commonest weapon of Choice was Firearm, which contributed to 91.18%(n-62) of the Cases, of which Handguns contributed to 75%(n-51) of cases. The least method adopted was by Ligature Suspension recorded in 1.47%(n-01) of cases. None of the incidents reported Murder and Suicide in different premises. The maximum distance between Suicide and Murder reported was 20 meters.

Keywords: Firearm; Death; Motive; Occupation; Psyche; Murder; Suicide; Sharp Force; Hanging.

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Accepted: April 15, 2014

Published: April 17, 2014

Citation: Dinesh Rao (2014) An Autopsy Study of 68 Cases of Murder Suicides. 2:302

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Introduction

A murder-suicide (or *murderside*) is an act in which an individual kills one or more other persons before, or at the same time as, killing him- or herself. The combination of Murder and Suicide can take various forms. Homicide-suicides are rare but catastrophic events mainly occurs in intimate relationships and families. Though there is no national tracking system for murder-suicides in the United States, medical studies into the phenomenon estimate between 1,000 to 1,500 deaths per year in the US[1] with the majority occurring between spouses or intimate partners, males

were the vast majority of the perpetrators, and over 90% of murder suicides involved a firearm. Depression, marital or financial problems, and other problems are generally motivators.

Violent deaths form a major menace in the urban society, the worst form of violent deaths are those of Murder Suicides (dyadic Deaths). With the onset of Urbanization and industrialization has created immense opportunities both in the form of employment, investment and Business. This has also contributed to unemployment, jealousy, Divorces, Sexual partner, work stress, diseases physical and mental, financial stress, domestic stress. All this factors have contributed to crimes in society. The present study is focused on those crimes involving Murder Suicides during the period of 2009 to 2012. Though Public health organizations have recommended restricted access and safe storage practices as means to reduce firearm injuries and deaths despite this precaution and legislation the firearm is always a weapon of choice for majority of Deaths.

Aims and Objectives

- To study the age and sex distribution of victim and perpetrator in murder suicides.
- To study the occupation of the perpetrator.
- To study the relationship of the victim with the perpetrator.
- To study the circumstances and motive leading to murder suicide.
- To study the causes of deaths in murder suicide.

An Autopsy Evaluation of Complete Decapitation Injuries

Dinesh Rao

Case Report

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Abstract

Complete Decapitations are not uncommon in routine Forensic Autopsies. In this study Complete Decapitations were found in 0.67% of Autopsies of which 96.15% [n-25] were Homicidal and 3.85% [n-1] due to Suicide. Only in 26.92% [n-07] of cases Decapitations were done during the process of death and in 73.08% [n-19] of Decapitations were done Postmortem. The Majority of the Victims belonged to 3rd [n-11] and the 4th [n-10] Decade. The Male to Female Ratio was 2:1. In 21[84%] cases the Head was recovered from the River/riverside Bush, away from the place of residence and in 04 [16%] cases the Head was recovered along with the Torso around the Place of Residence. Major number of cases [n-24] were due to Gang related violence and in 2 cases Love and Sex dominated the incident. In 92.31% [n-24] of cases the C2-3 was involved and in two cases other cervical vertebra were involved. The Thyroid was least affected [n-5] and major number of Decapitations [n-15] were carried out above the Thyroid cartilage and in 6 cases below the thyroid Cartilage. A decapitation was the Proximate Cause of Death in 07 cases, though associated with other nonfatal or near fatal injuries. Decapitations demonstrated extreme degree of violence and Mutilation. It is also a result of high degree of Offensive, Defensive and aggression. Public Display of Head in Complete Decapitation is a method to impose a sense of Fear, it is a mean to Propaganda and Intimidation.

Keywords: Complete Decapitations; Homicide; Exsanguinations; Conceal; Postmortem.

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Received: March 13, 2015

Accepted: March 27, 2015

Published: April 01, 2015

Citation: Dinesh Rao (2015) An Autopsy Evaluation of Complete Decapitation Injuries, *Int J Forensic Sci Pathol* 3(4), 99-104. doi: <http://x.doi.org/10.19070/2332-287X-1500024>

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Introduction

Complete Decapitation is the separation of the head from the body. Internal Decapitation is atlanto-occipital dislocation, or rthropedic decapitation describes the rare medical condition in which the skull separates from the spinal column during severe head injury. Beheading typically refers to the act of intentional decapitation, either as a means of murder or execution; Accidental decapitation can be the result of an explosion [1], Road Accident or industrial accident, improperly administered execution by hanging or other violent injury. Suicide by decapitation is rare, but not unknown [2]. The national laws of Saudi Arabia, Yemen, Iran and Qatar permit beheading, but Saudi Arabia is the only country

that continues to behead its offenders [3]. IN SA According to Amnesty International, at least 79 people were executed in the kingdom in 2013 [4]. Foreigners are not exempt, accounting for "almost half" of executions in 2013 [4]. In majority of the Homicidal Decapitations it is done to take the head as a trophy, for public display, to make the deceased more difficult to identify, for cryonics, or for other reasons [5, 6] Public display of the heads of executed persons, and of decapitated bodies, has served as a form of political propaganda or intimidation both in historical and in modern times. Islamic Rebel forces have regularly carried out beheadings of people. Historically, decapitation had been the most common method of execution in Korea, until it was replaced by hanging in 1896. Recently during the Mexican Drug War some Mexican drug cartels have turned to decapitation and beheading of rival cartel members as a method of intimidation [7]. Hence Beheadings are not uncommon and careful Examination is necessary to understand the Motive behind the act, it is also important to differentiate the Homicidal, suicidal and Accidental nature of the act because postmortem Decapitations are common. Hence the present study makes an attempt to study the Complete Decapitations in Autopsy.

Materials and Methods

All the Forensic Autopsy under Coroner's Inquest referred to the Legal Medicine Unit was the Material for the Study. The prospective Study was conducted between the periods 2009 to 2012. Each cases was analyzed based on its Age Sex, Place recovered (both

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ORIGINAL RESEARCH

Cause of Sudden Cardiac Deaths on Autopsy Findings; a Four-Year Report

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Abstract

Introduction: Incidence of sudden cardiac death (SCD) has been steadily increasing all over the world. While knowing the cause of SCD is one of the favorites of the physicians involved with these cases, it is very difficult and challenging task for the forensic physician. The present report is a prospective study regarding cause of SCDs on autopsy examination in four-year period, Bangalore, India. **Methods:** The present prospective study is based on autopsy observations, carried out for four-year period from 2008 to 2011, and analyzed for cause of SCDs. The cases were chosen as per the definition of sudden death and autopsied. The material was divided into natural and unnatural groups; Finally, on histopathology, gross examination, hospital details, circumstantial, and police reports the cause of death was inferred. **Results:** A total of 2449 autopsy was conducted of which 204 cases were due to SCD. The highest SCDs were reported in 50-60 years age group (62.24%; n-127), followed closely by the age group 60-69 (28.43%; n-58). Male to female ratio was around 10:1. The maximum number of deaths (n=78) was within few hours (6 hours) after the onset of signs and symptoms. In 24 (11.8%) cases major narrowing was noted in both the main coronaries; in 87 (42.6%) cases in the left anterior descending coronary artery (LAD), and in 18 (51.5%) cases in the right coronary artery (RCA). The major cardiac pathology resulting in sudden death was coronary artery disease (n-116; 56.86%) and myocardial infarction (n-104; 50.9%). most of the SCDs occurred in the place of residence (n-80; 39.2%) followed closely by death in hospital (n-49; 24.01%). **Conclusion:** Coronary occlusion was the major contributory cause of sudden death with cardiac origin and the highest number of deaths were reported in the age 50-59 years with male to female ratio of 10:1.

Key words: Cause of death; sudden; cardiac; coronary artery disease; autopsy

Cite This Article as: Rao D, Sood D, Pathak P, Dongre SD. Cause of sudden cardiac deaths on autopsy findings; a four-year report. *Emergency*. 2014;2(1):12-7

Introduction:

Incidence of sudden cardiac death (SCD) has been steadily increasing all over the world particularly in the urban population during last five decades (1, 2). In India incidence of ischemic heart disease has increased, to about 10 percent (3). As revealed in autopsy findings, majority of sudden and unexpected deaths result as a sequel to cardiovascular disease (4). Probably the most common cause of death recorded in autopsy is myocardial infarction (MI) due to coronary artery insufficiency (coronary occlusion due to atheroma and coronary thrombosis) (5). Knowing the cause of sudden death is always one of the favorites of the physicians involved with these cases. On the other hand, a very difficult and challenging task for the forensic physician, conducting the autopsy, is to ascertain cause and nature of death (6, 7). One difficulty which is mostly encountered in sudden unexpected deaths, whether cardiac or no cardiac, is the lack of precision of collecting anteced-

ent factors involved within the 24-hours, duration prior to death (8). For example, in certain cases of atrial fibrillations and spasms of coronary as a cause of death, the complete relaxation of coronary leaves no trace of such spasm, even though the death was due to coronary ischemia during autopsy. Many time it has been seen that when gross pathology could not help to evaluate the cause of death, the histology came forward to rescue the situation and a conclusive opinion could be given on the involved cardiac pathology (9, 10). Based on the above mentioned, the present report is a prospective study regarding cause of SCD on autopsy examination in four-year period, Bangalore, India.

Methods:

Study design and setting

The present study is a prospective cross-sectional study carried during the 4-year period from January 2008 to December 2011 in Kingston, Jamaica and Bangalore, India. A total of 2449 cases were chosen as per definition of sudden death and autopsied. All the cases were handed over for autopsy after completion of police/magistrate inquest. The material was divided into natural and unnatural deaths on the basis of underlying cause after analyzing the autopsy, police reports, and

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**Journal of International Academy of Forensic Science & Pathology
(JIAFP)**

ISSN 2395-0722

HOMICIDE BY ELECTROCUTION-A CASE REPORT

Case Report

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Accepted: May 08, 2015

Published: July, 2015

Citation: Dr Dinesh Rao Homicidal Electrocution-A Case Report. Vol 02. No 02.

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ABSTRACT

The deceased was brought dead to the casualty with a history of Alcoholic intoxication. He was last seen by his friends on the previous night in a nearby Shopping Complex. The Doctors summoned the Police, who ordered for an Autopsy which revealed a Patterned contact Electrical injuries over the right 2nd toe and death due to Electrocution. Toxicological report revealed 230mg% of Alcohol in blood and further investigation & crime scene investigation revealed the material used to establish the circuit. This case is presented to you to highlight the homicidal pattern of Electrical injuries and impress upon as the method adopted to meticulously execute the Crime. The uninsulated copper wire was wound around his Right 2nd toe and then connected to the Source which confirmed the homicidal nature of the act, the accused were arrested who confessed to the crime.

KEYWORDS: Electric Current, Source, Homicidal Electrocution, Alcohol Intoxication.

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A Study of Stab wounds in Sexual Homicides

Dinesh Rao^{1,2}

Case Report

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Abstract

In the present a total of 236 of stab wound Homicides were studied of which 86 were Sexual Homicides and 150 were Non-sexual Homicides. The Gender distribution had contrasting findings, in Sexual Homicides the Male to Female ratio was 1:4 whereas in Nonsexual victims the ratio was 14:1. The major age group involved in Sexual homicides were 21-30yrs whereas the Majority of the victims of Nonsexual homicides belonged to age group 21-40yrs. The sexual homicides never affected victims belonging to the first and 5th decade. Single edged stab wounds were commonly found in Stab wounds. Each of the Sexual Homicides victim sustained a minimum of Ten Stab Wound, the maximum noted were 41-50 stab wounds in 9.3% [n=8] of victims, highest number of victims [n=58; 67.4%] sustained 21-30 stab wound. 50.67% [n=76] of victims of non sexual homicides sustained 2-3 stab wound and 17.3% [n=26] of the victims sustained single Fatal Stab wound. The Genitals were affected in 30% [n=26] of Sexual Homicides. However in 74.67% [n=112] of the Victims of Non Sexual Homicides chest was affected. In Sexual homicides the Head and neck were involved in all cases. The Morphology of Stab wound in Sexual Homicides demonstrated a varied wound track pattern with extensive tailing of the wound and overlapping of the stab at places besides this Majority of the Stabs were superficial or Non fatal in Nature an observation differentiating from the Nonsexual Victims. Majority of the Victims of Sexual Homicide demonstrated multiple superficial linear incised wounds over the body. In Sexual Homicides circumstances, Crime Scene Evidence, Autopsy evidence and Perpetrators personality analysis is essential to conclude Sex Relation to the Victim.

Keywords: Sexual; Nonsexual; Sexual Sadism; Sexual Deviation; Perpetrator; Stabbings.

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Received: November 07, 2014

Accepted: November 22, 2014

Published: December 10, 2014

Citation: Dinesh Rao (2014) A Study of Stab wounds in Sexual Homicides. *Int J Forensic Sci Pathol*. 2(9), 1-7.

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Introduction

Sex related homicides are the result of Interpersonal violence oriented disputes and assaults, Rape/Sodomy and Lustmurder but majority of the cases do occur in non-paraphilic person's emotional challenges. Sexual sadism refers to the derivation of sexual pleasure from the infliction of pain, suffering and/or humiliation upon another person. The pain and suffering of the victim, which may be both physical and psychological, is pivotal to the sexual arousal and pleasure. The ICD-10 (World Health Organization, 1992) [1] defines sadism as "preference for sexual activity that involves bondage or infliction of pain or humiliation."

The sex drive is normally sufficiently powerful enough to override all but the most severe social sanctions. Thus we see variant sexual needs frequently erupting into variant sexual behaviors [2]. Sexual deviations are acts which involve non consent or assault and those acts which can be described as problematic from the standpoint of welfare of the society [3]. Geberth VJ [1993] [4] classified sex-related homicides into four distinct categories based upon frequency of occurrence.

1. Interpersonal violence oriented disputes and assaults. These disputes involve husbands and wives, men and women, boy and girl friends and sometimes siblings (incestuous homicides). Sometimes love triangles may also be seen. The motive is such murders is hate anger, jealousy or revenge with the thought that "If I cannot have you, no one else can too" Depersonalization is a notable feature of such murders.

2. Rape and/or sodomy oriented assault.

3. Deviant oriented assault commonly referred to as a lust murder or psychotic killing (in these situations the motive for the murder is not readily discernible.) "The Lust murder" This type of sex murder is committed by someone defined as a lust murderer who is oriented towards deviant and sexually sadistic assault and is easily differentiated from other types of sex-murderers by extensive mutilation of the body.

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Journal of International Academy of Forensic Science & Pathology
(JIAFP)

ISSN 2395-0722

RAPE CASES- A FORENSIC EVALUATION OF VICTIMS

Original Article

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Accepted: May 18, 2016

Published: July, 2016

Citation: Dr.Dinesh Rao (2016).Rape Cases-A Forensic Evaluation of Victims.

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ABSTRACT

OBJECTIVES: The Study was carried out to Forensically Evaluate Cases of Victim of Rape.

METHODS: The Study was retrospectively carried for the period 2009-2014 from the records available with the police and Department of FMT.

RESULTS: A total of 215 cases were studied, Majority of the Victims were Unmarried[86.04%;n-185] and Educated college going girls[n-130;60.47%]. Kidnapping and Rape were the major type of allegations in 55.81%[n-120] of cases, followed by Cheating and Rape in 39.53%[n-85] of cases. Majority of the accused were Known in 65.11%[n-140]. Majority of the Victims[53.48%;n-115] were subjected to Medical Examination one month after the alleged Rape and in only 65 cases[30.23%] the victims were subjected to Medical Examination within 72hours. In 65.11%[n-140] of cases the complainants were Parents of the Victims. When Consensual act brought within the Knowledge of Parents the Rape cases were filed against the accused in 46.51%[n-100] of cases and 23.25%[n-50] of cases were filed because of Breach in Love/Promise to marry.

CONCLUSIONS: Educated and unmarried victims were major complainants. Kidnapping and Rape, Cheating and Rape were the major type of False Allegations in Rape Cases. Majority of the False Allegations were the result of failed Relationship, Exposed Affair and Breach of Promise to Love/ Marry, This cases were reported after 72hours of the alleged Incidence.

KEYWORDS: Rape, False Case, Forensically, Evidence, Complainant, Complaint.

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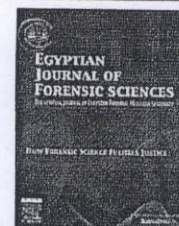
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Egyptian Journal of Forensic Sciences

journal homepage: www.ejfs.org



An autopsy study of death due to Suicidal Hanging – 264 cases

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Received 19 March 2014; revised 8 December 2014; accepted 10 January 2015

KEYWORDS

Hanging;
Ligature mark;
Asphyxia;
Neck;
Knot;
Fracture

Abstract The present study was carried out between 2010 and 2013, a total of 7968 Autopsies were conducted of which 3.31% ($n = 264$) cases were deaths due to hanging. The most preferred ligature materials were Stole ($n = 79$) and Bed spread/Sari ($n = 68$). In 88% of the cases, hanging was complete. Females ($n = 136$) and males ($n = 128$) were equally affected. The major age group involved in both the sexes was of 31–40 years, contributing to 50.76% ($n = 136$) of the self suspension. In 80.58% ($n = 213$) of the incidents, ligature mark showed discontinuity (incomplete). A Slip type of knot was used in majority of the noose, contributing to 97.73% ($n = 258$) of the suspensions. In 87.88% ($n = 232$) of hanging an oblique shaped ligature mark was noticed. The horizontal and near oblique ligature marks were seen only in cases of partial suspension. In 95.45% ($n = 252$) of the cases, the ligature mark showed blackening of the skin (friction burn). Only 4.54% ($n = 12$) showed intact skin. The outer layer of the skin over the ligature mark showed displacement in majority of the cases. Married victims contributed to 70.45% of cases. Domestic issues were the commonest reason ($n = 82$) for self suspension, of which female ($n = 68$) formed the majority of victims. In 70.83% ($n = 187$) of cases damage to neck muscle fibers and hemorrhage at the Sternal end of the Sternocleidomastoid muscle were present. In 85.61% ($n = 226$) of cases the cervical vertebra was intact. In 52.27% ($n = 138$) of the cases the internal carotid artery showed transverse tear. In 99.42% ($n = 248$) cases the thyroid cartilage was found intact. The hyoid bone was damaged in 6.06% ($n = 16$) of the victims. Majority of the victims, 59.09% ($n = 156$) belonged to low socioeconomic class.

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1. Introduction

Death due to hanging is not unusual across the world, this makes the majority of Asphyxia deaths.¹ Many a times

suspensions are raised with the manner of deaths in cases of suspension of the body (complete and partial) and position of ligature marks, resulting in punishment of Innocent or sparing the Guilt. Hence this study is conducted to study in detail the Autopsy findings of deaths due to hanging so as to put an end to these speculations surrounding the deaths in hanging.² This study helps to differentiate self suspension from other forms of hanging. This is a prospective study, conducted between 2010 and 2013. In this study only cases of Suicidal

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Peer review under responsibility of The International Association of Law and Forensic Sciences (IALFS).

<http://dx.doi.org/10.1016/j.ejfs.2015.01.004>

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Journal of International Academy of Forensic Science & Pathology

(JIAFP)

ISSN Awaiting

A STUDY OF MEDICAL PRESCRIPTION NOTES IN INDIA.

Original Article

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Accepted: December 10, 2014

Published: January , 2015

Citation: Dr.Dinesh Rao (2015) A Study of Medical Prescription Notes in India

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Abstract

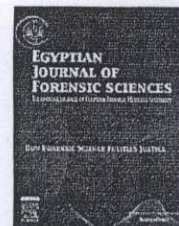
The present study was carried during the period of 2013-2014. A total of 454 Medical Prescription notes originating from Government and Private hospitals, Clinics ,Corporate Hospitals and Primary Health Centers were studied and analyzed for the details of information and compared with the standard proforma of an Medical Prescription. In 40 Prescription notes the Names of the Doctor were Absent. In Majority of the notes(n-342) the Name of the Hospital/Clinic and its Address were missing, the Date of prescription was missing in 144 prescriptions notes. The Majority of the Prescription details indicating Brand Names were Absent in 346 notes. In 166 notes the Dosage was not indicated. None of the notes mentioned details of preparation and in 56 notes the dosage had no mentioning. None of the notes indicated Message or Instructions to the Patient. None of the Prescription had information on Dispensation, besides total lack of information related to name of Pharmacist, Pharmacy and Date dispensed .Majority of the Prescriptions did not had information about the manner of Administration of Medicine. only 168 prescription mentioned the names with signatures and only 186 prescriptions



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Egyptian Journal of Forensic Sciences

journal homepage: www.ejfs.org



Effects of human decomposition on test fired bullet – An experimental research

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Received 19 March 2014; revised 5 January 2015; accepted 7 January 2015

KEYWORDS

Bullets;
Biofilm;
Biocorrosion;
Decomposition;
Class character;
Striae;
Rifling marks;
(MIC) Microbiologically induced corrosion

Abstract The present experimental research was carried out in the year 2011 in Kingston, Jamaica. A total of six Firearms were used in this research, each bullet served as its own control. A total of seven sets of Bullets were Test fired of which one set was embedded in the body [control] and was stored at 2–4 °C and other six sets were embedded in a fresh cadaver and subjected to environment temperature of 26–29 °C, for a period of 12 days. Macroscopic observation indicated complete corrosion of The class characteristic markings (major countable striations) by the 8th day, by the 6th day it was near obscuration. On the 2nd day with the onset of Biofilms, corrosive changes on the Rifling marks were noted. On the 4th day, Biofilm, and (microbiologically induced corrosion) Bio-corrosion had obliterated 100% of linear macroscopic striations (Microstriae/Individual Characters) and 50% of class character Rifling marks.

The observations through comparison microscope indicated that the individual characteristic (microscopic) markings on the bullet in the form of Microstriae showed complete corrosion or obscuring by the 10th day. The surface appeared smooth, onset of corrosion process was noted on the 2nd day and by the 4th day 50% obscuring of the marks were noted. This change in the markings of the metal surface of the bullet was uniform to all the Ammunitions used in this study. The control bullets showed no such changes during the period of study. The study confirms the existence of a potential danger in dealing with crime bullets retrieved from putrefied bodies. It also highlights the importance of early retrieval of dead bodies in Firearm deaths and the importance of proper storage facilities to deal with cases of Firearm deaths.

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1. Introduction

When a bullet is fired through a rifled barrel, the lands and groove spirals of the rifling fetch fine grooves called “striations” into the bullet. These can be matched with the barrel through which the bullet was fired. Examiners distinguish

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Peer review under responsibility of The International Association of Law and Forensic Sciences (IALFS).

<http://dx.doi.org/10.1016/j.ejfs.2015.01.003>

2090-536X © 2015 Hosting by Elsevier B.V. on behalf of The International Association of Law and Forensic Sciences (IALFS).

Please cite this article in press as: Rao D et al. Effects of human decomposition on test fired bullet – An experimental research. *Egypt J Forensic Sci* (2015). <http://dx.doi.org/10.1016/j.ejfs.2015.01.003>



Journal of International Forensic Science & Pathology (JIAFP)

ISSN 2395-0722

SUICIDES DUE TO GUNSHOT WOUNDS - AN AUTOPSY STUDY.

Original Article

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Accepted: November 02, 2014

Published: January, 2015

Citation: Dr.Dinesh Rao (2014) Suicides due to Gunshot Wounds-An Autopsy study.

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ABSTRACT

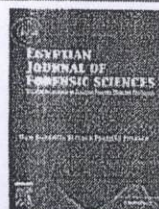
The present study was carried out during the period 2009 to 2012. A total 29 cases gunshot Suicides were studied. Males dominated the Victim group with the Male to Female ratio of 13.5:1. Majority of the Victims belonged to the age group 21-40yrs. In 93.1% of cases the Head was the most preferred region and Temple was the preferred Anatomical site. All the weapons used were Handguns and were Legally procured. Large majority of Victims[96.7%] preferred in House to commit the act. Marital/Relationship Crisis were the Major Motivating factors in 79.3% of cases. Psychiatric Illness contributed to only 6.9% of cases. 93.1% the victims were right handed. All the victims received single Shot. All the victims shot at contact range[31%] or loose contact range[69%]. The wounds track were directed forwards and in 86.2% of cases the wounds were directed Right to Left, upwards in 65.5% and Horizontal in 24.1%. Suicidal notes were found in 6.9% of cases. 27.6% of the victims Blood sample was positive for Alcohol. Victim clothes were intact in 86.2% of cases. 93.1% of cases the incidence took place between 8pm to 2am. In 89.7% of cases the Surroundings were intact. The Crime scene was compromised in 37.9% of cases. In all the cases the Weapon, spent shell were recovered from the crime scene. Ballistic examination of the weapon, spent shell and Bullet was done in all cases. Swabbing of both the hands for gunshot residue was done in all cases. A combined approach including Circumstances, Crime scene examination, Autopsy, Ballistic examination is important to arrive at the exact Manner of death in Gunshot Suicides.

Keywords: Gunshot, Suicide, Contact Range, Suicide Note, Ballistics.

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An Autopsy study of 74 cases of cut throat injuries

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Received 16 April 2014; revised 17 September 2014; accepted 21 October 2014

KEYWORDS

Cut-throat injury;
Machete;
Weapon;
Neck;
Cervical vertebra;
Vessels

Abstract The present prospective Autopsy study was carried out during the period July 2009 to May 2012, a total of 74 cases of cut throat injury were studied. All the cut throat injuries irrespective of those directly or indirectly contributing to the death were studied, hence the study is unique to itself considering the total number of Autopsy based study on Cut Throat injuries. Males dominated the list of victims, contributing to 71.62% ($n = 53$). Majority of those were in the age group 21–30 ($n = 25$) and 31–40 ($n = 26$) which contributed to 33.78% and 35.13% respectively. Majority of the cases were Homicides contributing to 97.29% ($n = 72$) of cases, only 2.7% were suicides and accidental cut throat were never reported. Males dominated Homicides category contributing to 72.22% ($n = 52$) of the cases. Gang and relationship crisis (homosexual and heterosexual) were the major motivating factors, each contributing to 39.19% ($n = 29$) and 32.43% ($n = 24$) of the cases respectively. The disease suffered by individuals were the least motivating factors contributing to 1.35% of cases ($n = 01$). The most common cause of death was Exsanguinations in 49.95% ($n = 34$) of cases followed closely by Asphyxia due to aspiration of blood i.e. 36.49% ($n = 27$) of cases and air embolism was the least cause of death, contributing to 4.05% ($n = 03$) of cases. Cut throat injury was associated with other injuries like Gunshot wound, Chop wounds and Stab wounds in 13.52% of ($n = 10$) autopsies. Chop injuries contributed to maximum number of other injuries in Homicides ($n = 46$). The most preferred place for the crime were open fields or farms ($n = 26$). Majority of the cut throat wounds were situated in Zone II level contributing to 66.21% ($n = 49$) of cases. Majority of the wounds were directed from left to right in 75.68% ($n = 56$) of cases and the cervical vertebra was affected in 8.11% ($n = 06$) of cases. Major weapon of choice was Machete contributing to 83.78% ($n = 62$) of injuries. The low income group was the most affected group contributing to 91.89% ($n = 68$) of cases.

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1. Introduction

In vertebral anatomy, the throat (Latin Gula) is the anterior part of the neck, in front of vertebral column. It consists of lar-

ynx, trachea, pharynx, vital blood vessels carotid and jugular, oesophagus, cricoid, thyroid and hyoid bone. It is sometimes considered a synonym for fauces. Anterior neck injuries are varied in extent, case and extent, they may be intentional or accidental. Prajapati and Sheikh, Okoye and Oteri. The present prospective study was carried out between July 2009 and May 2012. All the cut throat injuries examined, irrespective of the injury directly or indirectly contributing to the death,

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Peer review under responsibility of Forensic Medicine Authority.

<http://dx.doi.org/10.1016/j.ejfs.2014.10.001>

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Abstract

The present prospective study was carried from 2009 to 2012. During this period a Total of 3907 Homicides were Autopsied, of which 54 cases were recorded due to Murder and Arson Incidents, this contributed to 1.38% of Homicides cases. Majority of the Incidents involved Males contributing to 68.52% (n-37) of cases and the Females contributed to 31.48% (n-17) of cases. Maximum number of victims belonged to the age group 31-40 (n-20). The least affected Victims were in 1st and the 6th decade. Majority of Murders, 90.74% (n-49), were as a results of Gunshot wounds and the least type of deaths were due to Stab wounds (1.85%; n-01) and Chop wounds (7.41%; n-04). The commonest method adopted for Arson was placing the Victim in the Car and setting Fire, This was reported in 68.51% (n-37) of cases. This was followed by arson on House of the Victim in 25.93% (n-14) of cases. The least type of Method of Arson adopted were placing (Killing) the Victim in Bush in 1.85% (n-01) and Shop (business) in 3.70% (n-02) of cases and setting on Fire. Gang related Murder and Arson contributed to 64.81% (n-35) of cases. The other commonly reported cases were Sex related factors contributing to 12.96% (n-07) of the cases. The least Motivating factor was Jealousy, recorded in only 05.56% (n-03) of cases.

Keywords: Fire; Gunshot; Chop Wound; Stab Wound; Carbon Monoxide; Crime Scene; Murder; Concealment; Identity

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Received: March 22, 2014

Accepted: April 22, 2014

Published: May 21, 2014

Citation: Dinesh Rao (2014) An Autopsy Study of Homicide and Arson-54 Cases. 2:402

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Introduction

Arson [1] is the crime of intentionally and maliciously setting fire to buildings, wildland areas [2], vehicles [3,4] or other property with the intent to cause damage. More often than not, arsonists use accelerants (such as gasoline or kerosene) to ignite, propel, and directionalize fires. Arson crimes committed to conceal other crime, is sometimes done by criminals who aren't really 'arsonists'. Some criminals commit arson as a backup crime, to hide their main crime, like murder. When arson is committed to conceal another crime, it usually becomes apparent when no other arson crime is committed in the same vicinity (since most arsonists who commit serial arson live nearby the crime sight and keep committing arson). Arson crimes that don't seem to generate a financial payoff to the potential suspect also lend themselves to being more revenge-motivated or committed in order to aid in covering up another crime. The arsonist who commits arson to cover up

the crime of murder typically acts alone and under the influence of alcohol or drugs. He is usually single (four out of five) and does not always reside in the vicinity of where the crime occurred [Holmes Holmes, 2008] [5]. The present prospective study was carried out during the period 2009 to 2012. With a total of 54 cases of Murder wherein Arson was adopted to Conceal the Murder, were studied during this period. It is not unusual for an Arsonist to deliberately set fire to the property of another or to one's own property as to collect insurance compensation [6]. It has been well established, that despite their efforts, the Identity and Crime is well analysed by Meticulous Crime scene examination, Autopsy and Ancillary Investigations. In the present study all those Cases of Homicides wherein Arson was used as a mode to conceal the Crime and the Identity of the Victim were extensively analysed. The materials retrieved from the Crime scene and during Autopsy helped in establishing the Identity of the Victim, and Circumstances surrounding the Death. Further the Autopsy examination confirmed the Causes of Death, other than due to effects of Fire. All this factors helped the Investigators to establish the Motive behind the Crime.

Aims and Objectives

- To study the incidence of homicide and arson cases
- To study the type of homicides followed by arson.
- To collect evidence materials to identify the victim both at the scene and during autopsy.
- To study the motive behind the murder and arson.
- To study the cause of death in homicides followed by arson.
- The circumstances surrounding the murder and arson cases.

Material and Methods

- All cases referred to legal medicine unit for arson, accidental fire and murder followed by arson during the period of 2009



Original Research Article

An autopsy study of suicidal hanging

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ARTICLE INFO

Article history:

Received 02-09-2021

Accepted 11-09-2021

Available online xx xx xxxx

Keywords:

Suicidal Hanging

Ligature Material

Asphyxia

Suspension

Slip Knot

Hanging Types

Age

Sex

Typical hanging

ABSTRACT

Background: Hanging is the most preferred method of Suicide. Individuals are known to use different Ligature material and suspend completely or partially, hence, it is important to understand the Parameters involved in it. Large number of Suicidal death are reported.

Objective: To Understand Suicidal Hanging by studying different parameters involved in it like Ligature Material, Type of Knot, Sex and Age Group, involved, kind of Suspension and Position of knot.

Materials & Methods: A total of 634 cases were studied. Crime scene examination was done only in those cases where there was suspicion on the Suspension Deaths. Rest of the cases the crime scene photographs and investigating officer records were the inputs. Only Suicidal Hanging were considered for the Study.

Result: Suicidal Hanging contributed to 6.5% of the Total Cases. The Ropes [27.76%] and Stole [36.75%] contributed to the Most Preferred Ligature Material and Shoe Lace contributed [0.5%] to the least preferred Material for Self Suspension. Complete Suspension was observed in 62% of cases. The Majority of the Victims were Females contributing to 62% of the Deaths. The Major Age Group [50.76%] involved was between 21-30 years and the Unaffected Age group were those in the Extremes of Life i.e. 1-10 and 61-70 years. A Slip Knot was used on 97.73% of suspensions. In 78% of Suspension the Position of the Knot was situated over the [Typical Hanging] Nape of Neck. Married Victims contributed to 37.45% of cases.

Conclusion: The different Parameters of Suicidal Hanging are necessary to understand the Suicidal Nature of Hanging.

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1. Introduction

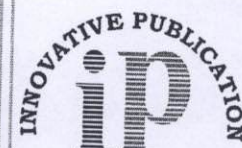
Hanging is a Form of Mechanical Asphyxia, wherein the Constriction of the Neck is from a Ligature Encircling the Neck, the Constricting Force being the Weight of the Body [Whole Body weight or Mere Weight of the Head]. It is a well known Form of Asphyxial Death, Since 2500 Years, with its Origin in Persia. The Oxford English Dictionary states that hanging in this sense is "specifically to put to death by suspension by the neck", though it formerly also referred to crucifixion and death by impalement in which the

body would remain "hanging". Hanging has been a common method of capital punishment since medieval times, and is the primary execution method in numerous countries and regions. The first known account of execution by hanging was in Homer's Odyssey (Book XXII).^{1,2} In this specialised meaning of the common word hang, the past and past participle is hanged³ instead of hung.

Hanging is a common method of suicide in which a person applies a ligature to the neck and brings about unconsciousness and then death by suspension or partial suspension. Hanging is a common suicide method. The materials necessary for suicide by hanging are readily

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Original Research Article

Fatal road traffic collisions-An autopsy based study

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ARTICLE INFO

Article history:

Received 02-09-2021

Accepted 11-09-2021

Available online xx xx xxxx

Keywords:

Road Traffic Collision

Pedestrian

Fatal Accident

Light Motor Vehicle

Motorcycle

Head Injury.

ABSTRACT

Background: The Deaths due to Road Traffic Collision has become a Major Public Health issue, hence Understanding the Deaths and the Factors involved is important to prevent Fatalities and at the same time Prevent Road Traffic Collision in General. The present Study is a Retrospective Study conducted during the period 2013 to November 2020.

Results: Road Traffic Accidents constituted 39.35% [n-1168] of the Cases. Males formed the Majority of the Victims contributing to 83.04% of the cases. Majority of the Victims were I the age group 31-40 years, consisting of 422 victims. The least Age Group affected were those below the age 10years and those individuals above the age 70years. Light Motor Vehicle were the Major Contributor to the Accidents, contributing to 46.40% [n-542] of the cases. Head and Neck was the Major region affected in 795 cases. The Maximum Fatality reported were due to Head or Craniocerebral Injuries in 87% of the cases. Abrasions were Present in all the Victims. Majority of the Deaths were due to Traumatic Shock reported in on the Spot Deaths or Brought Dead Victims in 35.45% [n-414] cases. The commonest Cause of Death reported after 07days of Treatment, were Septicemia, Lung infections, Peritonitis, Coma.

Conclusions: Craniocerebral Injuries were the Main Contributors to Fatality in 87% of Accidents. Majority of Deaths were due to Traumatic Shocks due to Multiple injuries involved. Importance of Emergency Care is well understood in this study.

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1. Background

The number of fatal and disabling road accident happening is increasing day by day and is a real public health challenge for all the concerned agencies to prevent it. A Traffic collision, occurs when a vehicle collides with another vehicle, pedestrian, animal, road debris, or other stationary obstruction, such as a tree, pole or building. Traffic collisions often result in injury, disability, death, and property damage as well as financial costs to both society and the individuals involved. Road transport is the most dangerous situation people deal with on a daily basis, but casualty figures from such incidents attract less media

attention than other, less frequent types of tragedy.¹ In 2013, 54 million people worldwide sustained injuries from traffic collisions.² This resulted in 1.4 million deaths in 2013, up from 1.1 million deaths in 1990.² About 68,000 of these occurred in children less than five years old.³ Almost all high-income countries have decreasing death rates, while the majority of low-income countries have increasing death rates due to traffic collisions. Middle-income countries have the highest rate with 20 deaths per 100,000 inhabitants, accounting for 80% of all road fatalities with 52% of all vehicles. While the death rate in Africa is the highest (24.1 per 100,000 inhabitants), the lowest rate is to be found in Europe (10.3 per 100,000 inhabitants).⁴ Injury and deaths due to road traffic accidents (RTA) are a major public health problem in developing countries where more than 85% of

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An autopsy study of 64 homicidal crushing injuries to head (Bludgeon Injury)

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Received: September 03, 2021; Accepted: September 27, 2021

Abstract

This Prospective Study was conducted during the period 2009 to November 2020. A Total of 9684 Autopsies were Conducted during this period. Homicidal Fatal Crush Injury Head cases comprised of 64 cases, i.e. 0.66% of Cases. The Majority of the Victims were Females, 72% [n=46] and Males 28% cases. Sex related Motives were the Major Factor in Female [24 cases] Homicides, Followed by Loot in 09 cases. In Males Loathing and Loot were the main factors contributing in 6 & 4 cases. The Majority of the Females Victims Occupation was Sex Worker/Prostitutes & Labor Class comprising 27 % 09 cases respectively. In Majority of Female Homicides the Murder Weapon was recovered next to the body in 23 of the cases whereas the same was recovered in only 03 cases in Males. Granite Block or Boulder Formed the Major Choice of Bludgeon or Murder Weapon in 34 cases of Female Victims and 08 cases of Male Victims. The Majority of the Female Victims [22 cases] were Bludgeoned on the Mud floor. The Majority of the Victims in Both the sexes belonged to the age group 21-30 years, contributing to 9 & 21 cases in Male and Females Respectively.

Keywords: Homicidal Crushing Head Injury, Bludgeon, Murder Weapon, Granite Blocks, Cement Blocks, Hammer, Motives, Sex Worker, Laborer.

INTRODUCTION

Crushing Head injury, as the name implies, occurs when the brain and skull are crushed—usually between two hard objects [1-3]. The more forceful the crushing is, the more severe damage will be, but damage also depends on factors such as the location of the injury and Hardness of the Impacting Object [Bludgeon]. This Prospective Study was conducted during the Period 2009 to November 2020.

A crushing brain injury causes damage to the brain, blood vessels, and skull, each of which can be life-threatening: A skull fracture exposes the brain to further damage by robbing the brain of its protective case. Further, fragments of the skull may puncture the brain or blood vessels, causing more damage. Most crushing skull injuries cause severe bleeds, as blood vessels are crushed under the weight of the skull or the objects that led to the injury. If severe enough, you can bleed to death. Even when the bleeding is relatively minor, it can cause damage to the brain or to surrounding structures, such as the spinal cord or sinuses. The brain itself usually suffers extreme injuries as a result of a crushing brain injury. The severity of the damage depends upon the force behind the crushing, as well as the location of the damage.

In the United States, TBI accounts for approximately 40% of all deaths from acute injuries and approximately 200,000 victims of TBI require hospitalised care annually [4]. In Singapore, 'external causes of morbidity and mortality' (ICD10: V01-Y89) is the fifth principal cause of death [5].

Traumatic brain injuries (TBI) occur when sudden trauma damages the brain and disrupts its normal function. It can cause significant disability and mortality and represents a public health concern in both developed and developing countries.

Compression or crush injury to the head is less commonly seen. A crush injury occurs when a body part is subjected to a degree of force or pressure, usually after being trapped between two heavy objects or hard surfaces. The bilateral application of static forces on the head can occur in any region, however it often occurs the bitemporal region [6-8].

Hence, The Present Study is Unique given the Long Duration of Study & More number of Cases Peculiar to Homicidal Fatal Crushing Injury to Head. All the Cases Studied in the study were Found Dead and never Treated Clinically, hence no Clinical Evaluation was done in all the cases.

Estimation of Age of Eruption of Second Permanent Molars among School Children in Kuppam, Andhra Pradesh

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ABSTRACT

Objectives: To find the age of eruption of second permanent molar teeth among school children in Kuppam.

Materials & Method: 762 school children, studying and belonging to Kuppam, aged between 9 and 15 years were examined for the eruption of second permanent molar teeth after informed consent from the school authorities.

Results: The mean age of eruption of right maxillary second permanent molar was 10.08 \pm 0.55 years (males) and 12.9 \pm 1.2 years (females). For left maxillary second permanent molar, it was 10.36 \pm 0.71 years (males) and 12.74 \pm 1.02 (females). For right mandibular second permanent molar, it was 12.24 \pm 0.99 years (males) and 12.39 \pm 1.17 years (females). For left mandibular second permanent molar, it was 12.2 \pm 1.02 years (males) and 10.38 \pm 0.72 years (females).

Conclusion: As most prominent text books of Forensic Medicine in India give age of eruption of second permanent molars as "12 to 14 years" and considering the earlier age of eruption of second permanent molars in recent studies including ours, it is our suggestion that, many more studies may be conducted in different parts of India. This fact may be considered for revision in the textbooks.

Keywords: Second Permanent Molar Teeth, Age of Eruption, 9 to 15 Years of Age

INTRODUCTION

Age of an individual is an important identification tool in Forensic Medicine in identification of an individual. Age of an individual is also legally important in many criminal offences and medical negligence cases.

12 years of age of an individual is medicolegally important as it is the age where an individual can consent for medical examination by a doctor. It is also an age where an individual becomes criminally responsible for his/her acts and is liable for

punishment. In purview of the importance of 12 years of age of an individual, important events in the growth and development of a person around 12 years of age needs special attention. One such event is eruption of second permanent molar teeth in an individual.

Many studies have been conducted in eruption of teeth in India and worldwide, regional differences are pertinent in all the studies.

This study is to investigate the eruption of second permanent molars among school children in Kuppam and whether it agrees with other studies in India and worldwide.

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REVIEW OF LITERATURE

Eruption is defined as the superior part of the crown of the tooth appearing level with the surface part of the crown of the tooth appearing level with the surface of the alveolar bone¹. From birth to fourteen years of age, the stage of eruption of temporary and permanent

Relationship between Gender and 2D:4D Ratio in South Indian Medical Students

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ABSTRACT

Objectives: To find the association of ratio of second digit (2D) to fourth digit (4D) lengths (2D:4D ratio) with gender among South Indian medical students.

Materials and method: 2D and 4D lengths (right hand) of 316 medical students both male and female from IInd MBBS aged between 18 to 21 years were taken using digital vernier callipers. 2D:4D ratios were calculated by dividing 2D length by 4D length.

Results: Statistically significant difference was found between 2D:4D ratios of male and female students. 2D:4D ratio of males was lesser than 2D:4D ratio of females.

Conclusion: 2D:4D ratio could be used as a gender determinant in South Indian population as agreed upon by other studies in India.

Keywords: 2D:4D ratio, gender determination, sectioning point, South India

INTRODUCTION

In the identification of an unknown individual, initial tools of identification are age, gender and stature. Among these the age and stature are gender dependent. So gender determination is the first step in identification of an individual. The methods of gender determination depend on the degree of sexual dimorphism inherent in the population from which the individual originates. Hence they might be of less efficacy if the individual originates from a population with low levels of sexual dimorphism¹.

Gender of a person can be determined from physical, morphological features, bones, microscopic study of sex chromatin in cells, gonadal biopsy and hormonal methods. Sometimes less reliable features like dress of an individual².

Usually gender determination from an individual is easy if the deceased is normal. If the deceased is found to be in a highly decomposed condition,

skeletonised state or mutilated condition, it becomes a difficult task which requires a proper post-mortem examination of the internal genital tract and skeletal examination³.

If only some part of the body like the head of an individual is received, gender can be determined by presence or absence of beard and moustache. If other parts of the body other than internal or external genitalia are received then it can pose difficulty. The nature and character of the soft parts may be helpful⁴. With skeletal examination, gender determination is more accurate only if pelvis, skull or long bones are available. Otherwise accuracy progressively decreases with other bones^{5,6,7}.

Second to fourth digit ratio (2D:4D) means ratio of the length of the index finger to length of the ring finger. Several studies have shown 2D:4D ratio and its correlation with gender and sex hormones. Lower 2D:4D values to be associated with males and also with masculinity.^{8,9,10}

Association between 2D:4D and Academic Performance in Forensic Medicine among Second Professional MBBS Students

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ABSTRACT

Background: Low right hand 2D:4D (Index finger to ring finger length ratio) has been well established as a proxy for intrauterine exposure to testosterone and hence masculine traits in both males and females. Whether academic performance is also related to intrauterine exposure to testosterone (low 2D:4D) has to be researched upon.

Material & Method: 2D:4D of both right and left hand of 54 male and 72 female medical students were taken with a digital vernier calipers and the correlation between 2D:4D and academic performance was observed using appropriate statistical methods.

Discussion: This study concurred with all previous studies that there was significant difference between Right hand 2D:4D of males and females ($p < 0.05$), males having lower 2D:4D. There was no such finding in left hand 2D:4D. This study also showed a mild positive correlation (0.16) which was statistically significant at $p < 0.1$ for the association between right hand 2D:4D and percentage marks scored in Forensic Medicine subject.

Conclusion: There was a mild positive correlation between 2D:4D of right hand and academic performance in Forensic Medicine among Second Professional MBBS students.

Keywords: 2D:4D, Academic performance, Forensic medicine, medical students

INTRODUCTION

2D:4D is the ratio of the length of the index finger to the length of the ring finger. It was first discussed by Manning et al^{1,2} that 2D:4D had correlation with intrauterine exposure of the individual during fetal life to estrogen and testosterone. Individual exposed to high testosterone levels had low 2D:4D and those individuals exposed to low testosterone and high estrogen levels had high 2D:4D. After this discovery, many research publications all over the

world correlated 2D:4D to physical, behavioral, psychological and athletic ability aspects of human beings.

Low 2D:4D is being considered as a proxy for high testosterone exposure during intrauterine life. High testosterone exposure during intrauterine life has been correlated with masculine traits like increased athletic ability, dominant personality traits, aggressive behavior etc. Low 2D:4D has also been associated with high risk taking behavior, financial trading, abstract thinking more so in males than in females. There are some studies which correlate low 2D:4D with competitive academic performance. Some studies show there is no correlation with 2D:4D and academic performance. There is paucity of research in area of interest to find the correlation with 2D:4D and

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Fracture of Upper Cervical Vertebrae Need Not Cause Death: A Case Report

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ABSTRACT

As quoted by many standard textbooks of Forensic Medicine, in cases of Judicial hanging, the cause of death is fracture of C2 – C3 vertebra. Here, in our institute, PESIMSR, Kuppam, we have received a case of fall from height with fracture of C2 vertebra. The patient is alive with quadriplegia. There are also other articles in literature which state that cause of death in judicial hanging being other than fracture of cervical vertebra. In cases where the death in judicial hanging fracture of cervical vertebra is reported, the cause of death is complete or partial transection of the spinal cord. Usually either in suicidal or judicial hanging there is no fracture of cervical vertebra, even if present is not usually the cause of death. It is asphyxia or cerebral anoxia which is the cause of death. Since Asphyxia is more painful than death by transection of spinal cord, it is our suggestion to the State authorities to consider other painless forms of execution.

Keywords: Fracture of cervical vertebra, Cause of death, Judicial Hanging.

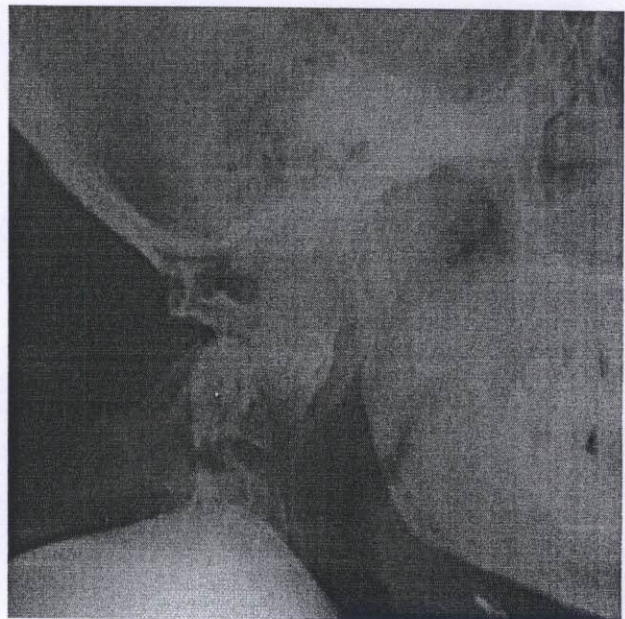
INTRODUCTION

A male aged about 28 years from Vellore district, Tamil Nadu was brought to the casualty of the PES IMS&R with the history of fallen from the top of the bus, while he was sleeping on the bus at its night halt station. He was the driver of the bus. He went to the local hospital, took injection and went home.

Next day he was taken to a local hospital in a nearby town with the complaints of quadriplegia. Later he was brought to the PESIMS&R Hospital, Kuppam for better treatment. His general condition was good, conscious and well oriented talks in whisper and was unable to lift any limb.

On examination the four limbs were flaccid, reflexes were brisk, and Babinsky is positive on both sides. Bowel and bladder control was good and was

eating well. Antero-posterior and lateral X-rays of the cervical spine were taken, which revealed the fracture dislocation of the odontoid process of the C2 vertebra. He was referred to higher institute for further management.



Radiograph No.1 : Lateral X ray of cervical spine (Neck flexion)

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Gender Determination from Directional Asymmetry of Digit Lengths and Digit Ratios (2D:4D) among Medical Students Belonging to Southern Parts of India

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ABSTRACT

Background: Directional asymmetry of digit ratios(D:r-l) is the difference between the ratio of index finger to ring finger (2D:4D) of right hand and left hand. Directional asymmetry of digit ratios has been associated with masculine traits in men and women. Digit lengths of index and ring finger of males and females also show directional asymmetry. Whether directional asymmetry of digit ratios and digit lengths can help in gender determination in forensic settings has to be explored.

Material & Method: Digit lengths of index and ring finger and their ratio (2D:4D) of both right and left hand of 54 male and 66 female medical students were taken with a digital vernier calipers and the significance of difference between digit lengths & 2D:4D of right and left hand (directional asymmetry) among gender groups was observed using appropriate statistical methods.

Discussion: This study replicated the findings of previous studies that there was significant difference between Right hand 2D:4D of males and females ($p < 0.1$), males having lower 2D:4D. There was no such finding in left hand 2D:4D. This study did not find any significant difference in directional asymmetry of digit ratios and digit lengths among gender groups in the study sample. Interestingly (though not statistically significant), left sided finger lengths (both index & ring) were more than right in males. Right sided finger lengths (both index & ring) were more than left in females.

Conclusion: There was no significant difference in directional asymmetry of 2D:4D and 2D, 4D lengths among gender groups in the study sample. Males showed mild left sided asymmetry, females right sided asymmetry (statistically not significant).

Keywords: Directional asymmetry, digit lengths, 2D:4D, digit ratios, medical students, gender

INTRODUCTION

Identification of individuals among commingled human remains is a challenging task for both police, medical and scientific officers. Gender determination is one of the initial tasks of this identification process. There are simple laboratory tests for gender determination from human samples but in settings

where laboratory access is far, anthropological measurements may give a quick method in streamlining the identification process^{1,2,3}.

2D:4D is the ratio of the length of the index finger to length of the ring finger. It has been established that 2D:4D is a proxy for intrauterine exposure to testosterone and estrogen of the fetus. 2D:4D is low in fetuses with high testosterone exposure and high otherwise. Low 2D:4D has been well correlated with masculine traits in both males and females. 2D:4D has also been considered as a gender determinant in forensic settings^{4,5,6}.

Not only 2D:4D, the difference between 2D:

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Comparison of PowerPoint Versus Blackboard in Teaching Informed Consent to Second MBBS Students

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Abstract

Introduction: Informed consent taking is one of the important skill required by a doctor prior to giving medical or surgical treatment to patients. Skills of informed taking are not upto the mark. So to impart these skills amongst various methods of teaching to large group, authors intend to find whether PowerPoint or blackboard is better to teach informed consent procedure. **Methods:** A cross-sectional study at PES Institute of Medical Sciences & Research (PESIMSR), Kuppam for 2 months involving 100 medical students belonging to Second Professional MBBS. Black board, projector, pre and post questionnaires relating to perception of teaching method and performance in the topic taught. After randomization, one group was taught with blackboard and the other group was taught using PowerPoint and assessed. **Results:** There was no statistically significant difference between the post-test results of PowerPoint class and black board class. Students gave better ratings for blackboard teaching. **Conclusions:** The students in blackboard classes however scored higher (5.38) than in PowerPoint classes (4.76), but the t test for difference of means was not statistically significant. Students liked blackboard better.

Key words: PowerPoint teaching, blackboard teaching, student performance, student preference

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Introduction and Background

Informed consent taking is one of the important skill required by a doctor prior to giving medical or surgical treatment to patients. Most of the time the task of obtaining informed consent is taken by doctors in their unit. Hence it is very important for the interns to know about procedure of informed consent taking. Current scenario is very poor with respect to informed consent taking where printed forms are filled out and given to patients to sign with minimal or no understanding of what is going to happen. Intentionally or unintentionally this is paternalism which is unethical and against the principle of informed consent^{1,2}. Informed

consent is taught in Forensic Medicine in second year MBBS and applied after three years during internship and beyond. After this time gap the students hardly remember anything. But due to lack of adequate faculty resources and also minimal time given for internship orientation programme, small group discussions or problem based learning methods are not practical. Large lecture group is feasible. So amongst various methods of teaching to large group, authors intend to find whether PowerPoint or blackboard is better to teach informed consent procedure^{3,4,5,6}.

Materials and Methods

Study design: Cross-sectional study

Study setting: PES Institute of Medical Sciences & Research (PESIMSR), Kuppam.

Study period: 2 months

Study population: 100 medical students belonging to Second Professional MBBS and consenting for the study

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Received on 18.09.2019

Accepted on 07.10.2019

A Study of Cytological Abnormalities of Pap Smear and its Risk Factors Among Married Women of Reproductive Age in Urban Area - Bagalkot.

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Abstract

Introduction: Cervical cancer is both a preventable and a curable disease, preventable because the pre-invasive stage can be detected by screening and curable because the verily early stage can be cured. The incidence and mortality from this disease in developing countries is very high. Women of low socio-economic status and minority women are at particular risk for not adhering to recommended cancer screening guidelines.

Objectives: 1. To study the cytological abnormalities of pap smear among married women in reproductive age group.
2. To study the risk factors of various stages of cervical dysplasia.

Material and Methods: This study was conducted in the urban field practice area of S Nijalingappa Medical College, Bagalkot during 2009-2010. All married women in reproductive age group were included in the study. After obtaining a informed consent, they were interviewed with the predesigned, pre-structured proforma. Data were obtained on social and demographic factors, education, marital and reproductive history and tobacco chewing was obtained. Under aseptic precautions, pap smear was obtained.

Results: In the present study, 211 married women participated, among them maximum (45%) were in the age group of 26-35 years. The pap smear report of these participants were inflammatory (57.8%). Severe dysplasia was reported in 9 women. Among the study participants, 66(31.3%) of the women had normal pap smear. Inflammatory smear was present more among 26-35 year age group (30.8%), Class II socio economic status (32.7%) and among Hindus(54.1%). Severe dysplasia was maximum reported among 46-55 years age group, class II socioeconomic status and among Hindus.

Recommendation and conclusion: Cervical cancer is a problem with multiple causes and a multipronged approach is essential to combat it. It is essential to provide health education for women, particularly those from the lower socioeconomic strata regarding sexual and genital hygiene and appropriate treatment of sexually transmitted infection.

Key words: Pap smear, cervical dysplasia, married women, reproductive age

Introduction

Invasive cervical cancer is considered as a preventable cancer due to long period before invasion, efficacy of screening programmes and proper therapy of primary lesions[1]. The risk factors for invasive cervical cancer include early age at the time of first sexual intercourse, multiple sexual partners, low socioeconomic status and a history of sexually transmitted diseases[2]. Carcinoma of the cervix is the commonest genital

malignancy afflicting women in the developing world. An estimated 1,90,000 women die each year as a result of cervical cancer, with 80% of these deaths occurring in the developing world[3]. High costs of therapy, lack of awareness and absence of adequate health infrastructure have prevented the most low-resource countries from instituting population-wide pap smear screening programmes. Only 5% of women in developing countries undergo cervical cancer screening compared with

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IMPACT OF EDUCATIONAL INTERVENTION ON THE KNOWLEDGE OF BIO-MEDICAL WASTE MANAGEMENT AMONG HEALTH CARE WORKERS IN A TERTIARY CARE HOSPITAL AT BAGALKOT CITY

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HOW TO CITE THIS ARTICLE:

B. S. Mannapur, A. S. Dorle, C. H. Ghattargi, K. R. Kulkarni, U. Y. Ramdurg, L. D. Hiremath, Suma N. "Impact of Educational Intervention on the Knowledge of Bio-Medical Waste Management among Health Care Workers in a Tertiary Care Hospital at Bagalkot City". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 19, May 12; Page: 5076-5082, DOI: 10.14260/jemds/2014/2556

ABSTRACT: BACKGROUND: The waste generated from medical activities can be hazardous, toxic and even lethal because of their high potential for diseases transmission and injury that also results in environmental degradation. An adequate and appropriate knowledge of health care waste management among the health care workers is the first step towards developing favourable attitude and practices thereby ensuring safe disposal of hazardous hospital waste. **OBJECTIVES:** To determine the knowledge regarding the bio-medical waste management among health care workers. To evaluate the effect of the intervention program given to health care workers. **METHODS: TYPE OF STUDY:** A cross-sectional study. **STUDY PERIOD:** May-December 2013. **STUDY SETTING & STUDY SUBJECTS:** The present study was conducted at S. Nijalingappa Medical College and HSK Hospital & Research center in Bagalkot city among paramedical workers which includes all the nursing staff and lab-technicians of the hospital (n =122). An identical pre and post-training questionnaire was designed which is pre-tested & structured and given to the above mentioned paramedical staff before and after the training session. The study variables include general information and questions regarding the knowledge about the health hazards, segregation, storage, personal protective devices, prophylactic vaccination, treatment, disposal and the rule of bio-medical waste management. A series of training sessions were conducted by trained community medicine staff along with PGs and training included knowledge about all aspects of biomedical waste with power point presentation and demonstration. **STATISTICAL ANALYSIS:** The data was tabulated by using Microsoft Excel 2010 and analyzed by using Openepi software and chi-square test was used. **RESULTS:** Among 122 participants, 94 (77.05%) were males and 28 (22.95%) were females. Most of them 94 (77.05%) belongs to the age group of 20-29yrs and 24 (19.67%) to the age group of 30-39 years. Majority i.e., 105 (86.07%) were nursing staff and 17 (13.93%) lab technician by occupation. 74 (60.65%) of the study participants belongs to class IV & 31 (25.4%) to class III of socio-economic status. In the present study, there was a highly statistical significant increase in the knowledge in all aspects (segregation, storage, personal protective devices, prophylactic vaccination, treatment, disposal and the rule except health hazards) of bio-medical waste management after training compared to before training. In case of health hazard, there is increase in knowledge, but it is not statistically significant ($X^2= 1.048$, $p=0.307$). **CONCLUSION:** Awareness regarding bio-medical waste management can be increased by conducting interventional training programs periodically by the persons trained in the field of bio-medical waste management.

KEYWORDS: Bio-medical waste management, Intervention, Health care workers, Tertiary hospital.

A study on factors responsible for utilization of antenatal maternal health services under NRHM, in rural field practice area of S. N. Medical college, Bagalkot

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Abstract

Background: Mother and child in a community constitute vulnerable group or special risk group, pregnancy and childbirth are special events in a women's life. In India, the utilization of basic maternal health services has remained poor in spite of increase in public and private expenditure on the provision of advanced health care.

Objectives: To assess the utilization of antenatal maternal health services under NRHM program in Shirura rural field practice area of S. N. Medical College Bagalkot. To assess the factors responsible for utilisation of antenatal Maternal health Services.

Materials and Methods: The cross sectional study was conducted in rural field practice area of S. Nijalingappa Medical College, Bagalkot. The number of postnatal mothers interviewed was 302. Postnatal mothers who were residing in the rural area during their antenatal period and who were within 3rd month of postnatal period were included.

Results: Among the 302 mothers interviewed, 50.3% were between 19-23 years of age and 47% belonged to Class IV socioeconomic status. About 98.7% mothers were registered their pregnancy out of which 79.1% registered in the 1st trimester. Mothers with ≥ 4 antenatal visits was 67%, acceptance of inj TT (98.7%) and IFA tablet consumption was only 45.7%. There was significant association between socioeconomic status, age at conception and parity with full ANC coverage. There was no statistical significance between age, religion, type of family, husbands education, mothers education, husbands occupation, mothers occupation with full ANC package.

Conclusion: Overall utilization of antenatal services by the study population is satisfactory when compared to national indicators and this positive work should be encouraged and continued with more community awareness and participation.

Key Words: Utilization, Antenatal services, Intranatal services, Postnatal services, IFA

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A cross sectional study on eating disorders among college students in Bagalkot city

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Abstract

Introduction: Young adulthood is a stressful transition period that may increase the risk for disturbed eating, especially for college students. The prevalence of eating disorders (ED) in this part of the world (South East Asia) is lower than that of Western countries but appears to be increasing. There are very limited studies on Eating Disorders in India. So, we conducted this study to determine the prevalence of eating disorders.

Aim: To find out the prevalence of eating disorders among college students of Bagalkot city.

Methodology: A Cross sectional study was conducted among 489 students from eight colleges in Bagalkot city. A pre tested, semi structured questionnaires were used and BMI were noted. Results were tabulated using Microsoft excel 2007 and chi square tests used to find the association.

Results: In the present study 65.85% were girls and 34.15% were boys. Majority (31.09%) belong to class III socio-economic class (SEC) and 89.78% reside at hostel. The prevalence of study participants with disturbed eating attitude and serious ED was 12.68% and 2.86% respectively. Among ED, two third (78.57%) were more than 21yrs old ($p < 0.001$), maximum among female (92.86%) ($p = 0.03$), more than one fifth (28.57%) are medical college students and majority (71.43%) were from urban background ($p < 0.001$). ED was more prevalent (64.29%) among class I SEC ($p < 0.001$). The risk of ED was for female (OR=0.14, 95%CL-0.01-1.10), urban background (OR=2.3, 95%CL-0.71-7.46) and statistically significant for students staying away from home (OR=13.7, 95%CL-4.5-41.4)

Conclusions: Eating disorder is strongly correlated with the urban background and higher socio economic status. Awareness regarding eating disorders should be emphasized among youth, parents and public.

Key words: Eating Disorders, College students, EAT-26 questionnaire.

Introduction

Eating Disorders (ED) classically refers to a morbid state involving food refusal or relentless reduction of food intake and of gorging followed by vomiting being mentioned in literature as far back as ancient Greek and Rome [1]. ED includes the following Anorexia Nervosa, Bulimia Nervosa and Eating disorders not otherwise specified [2]. Various biological

and physical factors appear to be associated with eating disorders. Negative body image of the individual's body shape is the ideal contribution to ED. Criticism, teasing and bullying focused on food, body weight, and shape issues increase the risk of developing eating disorders. In addition food related and weight related

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Knowledge and Attitude towards Infant and Young Child Feeding (IYCF) practices among Anganawadi Workers in Rural Field Practice Area of Kaladgi, Bagalkot

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Abstract

Background : Anganawadi workers (AWW) are female workers under Integrated Child Development Scheme (ICDS). Her work includes health and nutrition education on various aspects of health of the mother and the child. Hence, it is important for the anganawadi worker to have adequate scientific knowledge about Infant and young child feeding (IYCF) practices.

Objectives : 1. To assess the knowledge and attitude about the aspects of Infant and young child feeding (IYCF) practices. 2. To find the gap in the knowledge and fill it by educational intervention.

Materials and Methods : This is an educational intervention study conducted in Kaladgi, a rural health training centre of S. N. Medical College, Bagalkot, in the year 2011. A predesigned proforma was used to obtain the information about the breast feeding practices after obtaining consent to participate in the study. This proforma consisted of 12 questions which were close-ended type, covering the issues of entire IYCF. After obtaining the data, it was tabulated in Microsoft excel. Scoring was done to quantify the knowledge, classified as good if they had scored 10-12, satisfactory (8-10) and poor if it was ≤ 7 . Later, education was given regarding the facts of breast feeding to them, and post test was conducted using the same proforma, then tabulated and analysed.

Results : 76 anganawadi workers participated in our study. Pre-test score was good (10-12) among 12 participants. The score was good in 58 participants after education intervention. The change in knowledge about IYCF was found to be statistically highly significant ($p < 0.0001$).

Conclusion : Even though the breast feeding practices are universal, the early weaning and faulty feeding practices will lead to malnutrition in young children. Anganawadi workers are the key persons who will promote the good practices in her area, hence they should be equipped with knowledge by regular training programmes.

Key words : IYCF, anganawadi workers, educational intervention.

Introduction

Breast feeding is one of the most important determinants of child survival, birth spacing and prevention of childhood infections. The importance of exclusive breast feeding and the immunological and nutrition values of breast milk have been demonstrated [1]. The beneficial effects of breast feeding depends on breast feeding initiation, its duration and the age at which the breast fed child is weaned [2].

Breast feeding practices vary among different regions and communities. In India, breast feeding in rural areas appears to be shaped by the beliefs of a community [3]. These practices are further influenced by social, cultural and economic factors. In rural areas, auxiliary nurse midwives, anganawadi workers, health workers, traditional and trained birth attendants also

influence the breast feeding practices. To achieve optimal growth and development, WHO provides guidelines under IYCF recommends that infants should be exclusively breast fed for the first six months of life. Thereafter to meet their nutritional requirements, infant should receive adequate and safe complementary foods while breastfeeding continues up to two years of age and beyond.

Anganawadi workers (AWW) are workers under ICDS scheme. Her work includes health and nutrition education on various aspects of the health of the mother and child. Thus it is important for the anganawadi worker to have adequate scientific knowledge about breast feeding practices. Hence this study was conducted to assess the knowledge and attitude of AWW with regard to breast feeding practices and identify the

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The Knowledge And Perception About Lymphatic Filariasis In One Of The Endemic Talukas Of Rural North Karnataka

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ABSTRACT

Research Question: 1) To study the knowledge and perception about lymphatic filariasis (LF) in one of the endemic talukas of rural north Karnataka.

Objectives:

1. To evaluate the knowledge and perception about lymphatic filariasis in one of the endemic talukas of rural north Karnataka.
2. To find out the source of information of the MDA activity of the respondents.

Study Design: A cross sectional study.

Study Area: The Bilagi taluka of Bagalkot district which comprises 65 villages.

Study Period: The study was conducted for 6 months i.e. from March 2009 to September 2009.

Study Participants: People from the villages of the Bilagi taluka.

Methods: The data was collected by using pre- tested and pre-designed proforma.

Results: Most of the study population (68.99%) was not aware about the mode of spread of lymphatic filariasis (LF). Only 31.01% knew that LF spread by mosquito bites. A majority of the study population (63.67%) said that mosquitos breed in dirty water and only 6.64 % said that mosquitos breed in clean water. 64.86% of the study population had knowledge about the manifestations of lymphatic filariasis, while 35.14% did not have any knowledge about the manifestations of the disease. 70.83% were aware about the treatment for filariasis, while the rest of them (29.17%) were not aware about it. The most common sources of information about the MDA activity were government workers like ANMs (40.24%) and Anganwadi workers (30.19%). Teachers were the source of information for only 23.16% of the population. The role of media as a source of information on MDA activity was minimal (0.27%).

Key Words: knowledge, perception, filariasis, endemic area

INTRODUCTION

Lymphatic filariasis (LF) is a disabling and disfiguring infection which is caused by parasitic worms. It is a major cause of disability, social stigmatization, psychosocial and economic reductions in life opportunities, and a major burden on health and hospital resources, especially on account of the costs for surgical intervention. [1]

The term "Lymphatic Filariasis" covers the infections caused by three closely related nematode worms, *Wuchereria bancrofti*, *Brugia malayi* and *Brugia timori*. All these three infections are transmitted to man by the bites of infective mosquitoes. All these three parasites have basically similar life cycles in man-adult worms which live in the lymphatic vessels, whilst their offsprings, the microfilaria, circulate in peripheral blood and are available to infect mosquito vectors when they come to feed. [2]

This disease is a major contributor to poverty, and programmes to eliminate it will reduce suffering and disability, improve the reproductive and sexual health (through reduced male genital morbidity) and will improve child and maternal health and development, through the ancillary benefits arising from their effects on the intestinal parasites. [3]

Filariasis is a global problem. It is a major social and economic scourge in the tropics /subtropics of Africa, Asia, Western Pacific and parts of the Americas, affecting over 120 million people in 80 countries. More than 1.1 billion people live in areas where there is a risk of infection [4]. It is estimated that about 600 million people are living in areas which are endemic for lymphatic filariasis in

SEAR. There are about 60 million infected people in the above mentioned region and about 31 million people have the clinical manifestation of the disease [5]. In this region, all the three types of parasites are present. Lymphatic Filariasis (L.F.) is an important public health problem, next to malaria, in India [6]. This problem is increasing every year due to the gross mismanagement of the environment. India contributes about 41% of the global lymphatic filariasis cases [7].

In Karnataka, eight districts are endemic to lymphatic filariasis. From 2005, the MDA campaign, by using the DEC plus Albendazole combination, targeted a population of 1.60 lakh people. In the Bagalkot district, about 1072 lymphatic filariasis cases are found to be present, based on the microfilaria surveys and the line listing lymphoedema cases. In the Bagalkot district, only four talukas were included, for observing MDA, since 2005 [8].

However, with the newer tools which are available, such as ultrasonography for the direct visualization of the adult worms and the antigen detection for the indirect assessment of their functional activity, with past and recent experiences with DEC as a 'partially macrofilaricidal' drug, and with the clear implications that albendazole can be macrofilaricidal [9]

For the proper implementation of the Mass Drug Administration (MDA) programme, public awareness is needed. With this aim, this study was conducted to know the levels of knowledge and perception about lymphatic filariasis in one of the endemic talukas of rural North Karnataka

Study of various factors associated with utilization of health services for gynecology morbidity among married women in field practice area of community health centre, Rajapur (Gulbarga)

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Abstract

Introduction:

Female reproductive health particularly the gynaecological problems among women has received very little attention among health policy maker and programme planners. A multidisciplinary approach is required for the improvement in health status of women, particularly reproductive age group.

Objectives:

To assess the magnitude of gynecological problems in relation to their history, clinical examination. To find out utilization of health services among the woman with gynecological & related problems in the study area.

Materials and methods:

Design: Cross-sectional study.

Study area: Rajapur village field practice area M.R. Medical College Gulbarga. Population of Rajapur is 5000 spread over nearly in 850 families. Family was taken as unit for study purpose. Estimated married were 580. The sample interval was taken as two.

Sample size: 290 married women. The information was collected in pre-tested proforma, gynaecological examination.

Results: In present study out of 290 women, 231 women who had one or other gynaecological morbidities, i.e., 85 (29.31%) women reported menstrual problems, 46 (15.86%) women had dysmenorrhoea, 103 (3.45%), 10 (3.45%), 10 (3.45%) had polymenorrhoea, oligomenorrhoea and menorrhagia respectively. Out of 231 women, who had one or more gynaecological morbidity on examination of which 184 (79.6%) women did not utilize health services. 28 (12.2%) women received treatment from government hospital, 19 (8.2%) received treatment from private hospital. The relationship between the educational status of the women and treatment received by women was statistically significant.

Conclusion: To conclude, the gynaecological morbidity is one of the major health problem faced by the women which was observed with a high prevalence of 236 (81.37%) as perceived by women, 231 (79.7%) as confirmed with clinical diagnosis. Various factors like of knowledge, social taboos, poor social economic status, illiteracy, women's place in the society, inadequate facilities for care had made these gynaecological problems among women appear like an ice-berg.

Key words: Utilization of health services, Gynaecological morbidities, Married women

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A Profile of Tobacco Consumption Among Females Female more than 15 Years of age In Rural Field Practice Area of RHTC. Kaladagi.

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Abstract

Introduction: In India it has been estimated that roughly one-third of women and two thirds of men use tobacco in any form (smoke or smokeless form). Awareness of the hazards of smokeless tobacco consumption is very low in rural populations. On the other hand, many believe that tobacco use has medicinal value for curing or palliating common ailments such as toothache, headache, and abdominal pain.

Aim and objectives:

1. To know the prevalence of smokeless tobacco consumption among females of more than 15 years of age
2. To study the factors responsible for smokeless tobacco consumption among them.

Material and methods:

Study design: A cross sectional study.

Study setting: Rural Health Training Centre (RHTC) Kaladagi, Bagalkot.

Study participants: Women more than 15 years of age in slum area of RHTC Kaladagi. (255)

Statistical analysis: Chi square test.

Results: In present study 17.6% of women were chewing tobacco. 88.89% of women were chewing tobacco because of toothache. There is association between tooth ache and tobacco consumption and it is statistically highly significant also. Chi-square value=190.8 (P<0.0000001)

Key words: smokeless tobacco, females, rural slum.

Introduction

In India it has been estimated that roughly one-third of women and two thirds of men use tobacco in one form or another [1].

In India tobacco problem is more complex than probably that of any other country in the world, with a large consequential burden of tobacco-related diseases and death [2].

Awareness of the hazards of smokeless tobacco consumption is very low in rural populations. On the other hand, many believe that tobacco use has medicinal value for curing or

palliating common discomforts such as toothache, headache, and abdominal pain. This leads to advice for initiating tobacco use from adults to other nonusers, even children [3].

Countries in South Asia are major producers of tobacco and the region is a net exporter. Tobacco leaf production has been increasing steadily for many decades, and has doubled since the 1960[4]. The increasing demand for tobacco in Bangladesh is being met by imports, especially from India[5].

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Role of Mass Media In Utilisation of Family Planning Methods

A Cross Sectional Study at Field Practice Area of Urban Health Centre, Bagalkot

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Abstract

Research Question : What is the role of mass media in utilization of Family Planning Methods?

Objectives : 1) To study the role of mass media in utilization of Family Planning Methods in Urban and Urban slum population of field practice area (UHC) Bagalkot.

2) To study the different factors associated with utilization of Family Planning Methods in Urban and Urban slum population of field practice area (UHC)

Study design : A cross sectional study.

Study setting : Urban Health Centre (UHC), Bagalkot.

Study participants : 200 married presently non-pregnant women aged 15-44 years those who attended the UHC during Nov 1st 2005 to April 1st 2006.

Statistical analysis : Chi-square test

Results :

1. The study population included 47.5% (95 Women) from urban area and 52.5% (105 Women) from urban slum area women in reproductive age group
2. 42.11% and 45.71% of the women belonged to 25-34 age-group in urban area and urban slum respectively.
3. Out of 200 women, 38.95% and 21.90% of the women were exposed to T.V media in Urban and urban slum respectively, out of which the Family Planning Method users were 78.38% and 69.56% from urban and urban slum respectively. 21.05% and 26.67% of women were exposed to Doctor Advice in urban and urban slum respectively, out of which 90% and 82.14% women adopted Family Planning Methods. Still there is lack of information regarding family planning methods in urban and in urban slum i.e., 23.15% and 44.76% respectively. Even though there is no information the Family Planning Method users in urban area are 45.45% and in slum area 48.94 %. And totally (exposed as well as not exposed) the use of Family Planning Methods in our study was 66.32% in Urban area, 60% in Urban slum area respectively.

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Utilization of Health Services for Gynaecological Morbidity among Married Women

Lalita D. Hiremath

Abstract

Introduction : Female reproductive health particularly the gynaecological problems among women has received very little attention among health policy maker and programme planners. A multidisciplinary approach is required for the improvement in health status of women, particularly reproductive age group.

Objectives : | To assess the magnitude of gynaecological problems in relation to their history, and on clinical examination.

| To find out utilization of health services among the woman with gynaecological and related problems in the study area.

Material and Methods

Design : Cross - sectional study

Study area : Rajapur village field practice area M. R. Medical College, Gulbarga.

Population of Rajapur is 5000 spread over nearly in 850 families. Family was taken as unit for study purpose. Estimated married were 580. The sample interval was taken as two.

Sample size : 290 married women. The information was collected in pre-tested proforma, gynaecological examination was done at community health centre.

Results : In present study gynaecological morbidity perceived by women was 81.37%, but gynaecological morbidity on clinical examination was 79.66%.

Utilisation of health services for gynaecological morbidity was very less i.e. 28(12.2%) from government hospital and 19(8.2%) from private hospital.

Utilisation of health services was more among educated women i.e 100% in degree holder but only 15.9% in illiterate women.

Women, who received the treatment considering the educational status of their husband, highest percentage was seen in degree holders i.e, 31.8%, but 19.5% who were illiterate.

Conclusion : Utilisation of health services for gynaecological morbidity was very less i. The relationship between educational status of women and treatment received was statistically significant. The relationship between educational status of the husband and treatment received by women was statistically insignificant .

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Study of Socio Demographic and Microbiological Profile of Inflammatory Pap smear of Married Women in Urban Field Practice Area Bagalkot- a Cross-sectional Study

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Abstract

Introduction: Epidemiological studies of cervical cancer have focused on behavioural variables such as "female hygiene" and douching that might be related to genital infections. Earlier reports of nonspecific genital infection/sore associated with cervical cancer suggested a link between genital tract inflammation and cervical cancer. Therefore, there is need to focus on inflammatory Pap smear.

Objectives: To study the socio demographic profile of married women with inflammatory pap smear To isolate the causative pathological organisms in Reproductive Tract Infections among them

Methodology: This study was conducted in urban field practice area of S. N. Medical College, Bagalkot during June-Aug 2012. Study population of urban practice area was 5421, with 1132 houses. We selected every fifth house for our study purpose and one married woman selected from each house & collected socio demographic profile of 225 women by using pretested & predesigned questionnaire. Out of 225 women, 14 women did not turn for investigation, so we collected sample from 211 women. All the women were referred to urban health centre for collection of sample for Pap smear & culture. The sample was sent to pathologist & microbiologist respectively for reporting & isolation of organism. All pregnant women, known case of Ca Cervix, previously hysterectomised patient were excluded from the study. The data was tabulated and analysed using Microsoft excel.

Results and discussion: Out of 122 inflammatory smears most common age group affected was 26-35 yrs., with class II socioeconomic status, in which 75 were multipara. The most commonest organisms isolated were staphylococcus (24) and E coli (23)

Conclusion: A check on the inflammatory Pap smear is needed as a routine screening test in order to prevent cervical cancer.

Introduction

Cervical cancer is the third most commonly diagnosed cancer and the fourth leading cause of cancer death in women worldwide, accounting for 9% (529,800) of the total new cancer cases and 8% (275,100) of the total cancer deaths among females in 2008. More than 85% of these cases and deaths occur in developing countries [1]. Its mortality exemplifies health inequity, as its rates are higher in low & middle-income countries (LMICs), and in low socioeconomic groups within countries.

Every woman has the right to cervical screening at least once in her lifetime [2]. 'Once in a lifetime'

screening would result in reduction of 20-30% in the lifetime risk of cervical cancer. This approach could also be one of the options for the limited resource conditions[3].

World over, Pap smear has been the standard test for screening of cervical cancer and its precursors. However, it suffers from low sensitivity and has a high false negative rate of 9%-40%. [3,4,5]. Inflammation on Pap smear is considered a relatively benign finding. However, due to the low sensitivity and high false negative rate of Pap smear there is a possibility that an inflammatory Pap smear may miss cervical premalignant changes. Since the incidence of

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Obstetrical and Neonatal Outcome of Pregnancy among the Normal and High Risk Women

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Abstract

Objectives

- To study the outcome of pregnancy among the women admitted in tertiary hospital (HSK)
- Comparison of outcome of pregnancy among normal and highrisk

Methods

A cross sectional hospital based study was conducted in HSK Hospital. Bagalkot for a period of 6 months from 01-01-07 to 30-06-07.

- Study population : All women delivered in HSK Hospital during above mentioned period. i.e. 275 women.
- Birth Weight of baby : Using a standard lever type of weighing balance
- Haemoglobin percentage was done by Sahli's Haemoglobinometer.

Results

- Among the admitted women 37.45% were normal and 62.55% were high risk.
- 95% of high risk women were delivered by LSCS. Relationship between high risk pregnancy and outcome of pregnancy by LSCS is highly significant.
- PIH found in 13.10% of women.
- High risk women were more in rural areas when compared to urban areas.

Conclusion

Percentage of highrisk women were more. Relationship between type of pregnancy and mode delivery was highly statistical significant. Complications in rural area were more.

Introduction

A pregnancy is defined as high risk when there is a likelihood of an adverse outcome to the women and/or her baby i.e. greater than the incidence of that outcome in the general pregnant population.¹

Healthy mother and child are bedrock

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of health and prosperous communities and nation. The period of intrauterine growth and development is one of the most vulnerable periods in the human life cycle. Low birth weight leads to an impaired growth of the infant with its attendant risks of a higher mortality rate, increased morbidity,¹ impaired mental development,² and the risk of chronic adult disease.³ Infants whose weight is

Original Research Article

DOI: <http://dx.doi.org/10.18203/2394-6040.ijcmph20175364>

Impact of educational intervention on knowledge and attitude of bio-medical waste management among health care personnel working in a tertiary care hospital of Bengaluru city, Karnataka, India

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Received: 23 October 2017

Revised: 12 November 2017

Accepted: 13 November 2017

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ABSTRACT

Background: The waste produced in the course of healthcare activities carries a higher potential for infection and injury than any other type of waste. Inadequate and inappropriate knowledge of handling of healthcare waste among health care personnel may have serious health consequences and a significant impact on the environment as well. Hence this study was undertaken to assess the knowledge and attitude regarding the bio-medical waste management among nurses and laboratory technicians working in our hospital and to evaluate the effect of the intervention program given to them.

Methods: A quasi-experimental study was conducted among the nurses and laboratory technicians working at The Oxford Medical College, Hospital and Research Centre, Bengaluru. An identical pre-designed and pre-tested structured questionnaire was given to them before and after the training session.

Results: After the training program, a statistically significant increase in knowledge on all aspects of bio-medical waste management was found among the study participants. The attitude on all aspects related to BMW management improved among the participants after the intervention.

Conclusions: All health care personnel must undergo regular training in BMW management. This should be coupled with effective implementation of rules and regular monitoring by authorities.

Keywords: Knowledge, Attitude, Bio-medical waste management

INTRODUCTION

Let the waste of "the sick" not contaminate the lives of "the healthy".

In the persuasion of the aim of reducing health problems, eliminating potential risks, and treating sick people, healthcare services inevitably create waste which itself may be hazardous to health. The waste produced in the course of healthcare activities carries a higher potential for infection and injury than any other type of waste.¹

Bio-medical waste (BMW) is defined as "any waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals".²

BMW management is currently a burning issue more so with the increasing health care facilities and increasing waste generation. It is estimated that annually about 0.33 million tons of hospital waste is generated in India and waste generation rate ranges from 0.5 to 2.0 kg/bed/day.³

Original Research Article

Challenges faced in utilization of social security facilities among elderly in a rural area of Bangalore

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Received: 18 September 2018

Revised: 16 October 2018

Accepted: 17 October 2018

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ABSTRACT

Background: As the life expectancy is rising, there is change in structure of the population. For the year 2018 the estimates are 8% of total population were above the age 60 years, and is likely to rise to 19% by 2050. There is implication of increase in the prevalence of chronic conditions such as cardio vascular diseases, chronic respiratory diseases, locomotor and mental disorders etc. social security is to provide sustenance to people who cannot work and earn their living due to aging. The objectives of the study were to assess the awareness and utilisation of social security facilities among elderly in rural area and to determine the Challenges in utilizing social security facilities among elderly in rural area.

Methods: Descriptive study was done in Muthanallur village, Bangalore. All elders (60 years old and above) were interviewed using a pre-tested semi-structure questionnaire. Results are described in terms of proportions and percentages. The results with p-value less than 0.05 were considered statistically significant.

Results: There were 194 (45.4%) subjects aged 60-69 years. A majority of them were females 244 (57.1%) and males 183 (42.9%). Study subjects residing in joint families were 360 (84.3%) awareness about IGNOAPS and IGNWPS was higher 206 (63%). Awareness among females (76.4%) were significantly more aware of IGNWPS as compared to males (87.9%) ($p < 0.05$).

Conclusions: Awareness and information to approach for utilizing the scheme and ease of administrative procedures should be an integral part of social security scheme.

Keywords: Social security schemes, Elderly, Challenges, IGNOAPS, IGNWPS

INTRODUCTION

As the life expectancy is rising, the population of the aged people is also increasing steadily. This demographic change resulted in change in structure of the population. For the year 2010 the estimates are 8% of total population were above the age 60 years, and is likely to rise to 19% by 2050.¹

This profound shift in the proportion of older Indians, taking place in the context of changing family relationships and limited social support system will bring

with it a variety of social, economic and health care policy challenges.¹ One direct implication of this would be increase in the prevalence of chronic conditions such as cardio vascular diseases, chronic respiratory diseases, locomotors disorders and mental disorders etc.

Social Security is defined as security that society furnishes through appropriate organization, against certain risks to which its members are exposed" The risks which cover in most countries are sickness, invalidity, maternity, old age and death.¹

A Study of the Profile of Hysterectomy Acceptors in Rural Bangalore

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ABSTRACT

Introduction: Uterus, a vital reproductive organ is subjected to many benign and malignant diseases. Many treatment options are available including medical, conservative and surgical approach, but still hysterectomy remains the most common gynecological procedure performed worldwide

Objectives:

1. To describe the profile of hysterectomy cases
2. To evaluate the various indications of hysterectomy
3. To evaluate the various pathological findings

Methodology: Study was conducted in M.V.J medical college and research hospital, Bangalore rural using a predesigned and structured questionnaire. Patients in the Gynecological wards who have undergone Hysterectomy from the period 2010 January to 2011 June were the study subjects.

Results: A total of 293 subjects were interviewed, findings are as follows, mean age of hysterectomy cases is 44 ± 9.9 , majority of the cases were in the age group 35-45 years. Common indications of hysterectomy are Uterine prolapse (36%), fibroid (21%), dysfunctional uterine bleeding (17%). Significant pathological findings are Cervicitis(52%), Leiomyoma(12%), Adenomyosis(9%). Information about risk factors for cervical cancer revealed the following. Mean parity is 3, Regular Pap smear test was done in only 1.3% of the cases, none of them were aware about HPV vaccination. None of them reported about multiple sexual partners and STDs. About 1.7% of the study subjects reported that their partners had undergone circumcision, OCP usage for more than 8 yrs was seen in 6.1% of the cases. Poor birth spacing was seen in 33%, poor personal hygiene was reported in 37% of the cases.

Conclusion: As 52% of the study subjects reported cervical inflammation as the pathology findings. Regular cervical cancer screening programmes must be emphasized such as regular Pap smear test should be conducted in women of reproductive age group,

Keywords: Hysterectomy, Indications, Pathology, Adenomyosis, Leiomyoma

INTRODUCTION

Uterus, a vital reproductive organ is subjected to many benign and malignant diseases. Many treatment options are available including medical, conservative and surgical approach, but still hysterectomy remains the most common gynecological procedure performed worldwide.¹ Hysterectomy is the second most common major surgical procedure for women in the United States. There is considerable variation in the

rates of use of this procedure within the United States and between the United States and other countries. This variation may be related to differences among patients, physicians, and organizations.²

Compared to a higher frequency of hysterectomy (10-20%) in other countries, a lower rate (4-6%) has been reported from India. Higher tolerance threshold of Indian women and a 'low level of medicalization' have been proposed as the reasons for this lower rate.³

A Study of Hospital Acquired Infections in ICU of a Tertiary Care Hospital in Bangalore

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ABSTRACT

Introduction: Infections acquired in health care settings during the course of treatment are among one of the major causes of death and increased morbidity among hospitalized patients. Hospital acquired infections have significant bearing on economic costs owing to the increased length of stay.

Objectives: 1. To find out common organisms causing hospital acquired infection and their antibiotic susceptibility

2. To find the relation between invasive procedures and hospital acquired infections

Methodology: Retrospective analysis of inpatients records of medical intensive care units using a predesigned and structured questionnaire. Hospital acquired infections were identified as per operational definition which was based on microbiological reports.

Results: The rate of Hospital acquired infection was 1.2% among patients admitted to Medical ICU. It is observed that duration of hospital stay is considerably long among these patients. Organisms isolated from the specimens are Pseudomonas, Methicillin resistant staphylococcus, These organisms were sensitive to Amikacin in addition to other drugs such as Cephaperazone, Vancomycin, Linezolid, and Netilmycin. Logistic regression analysis (using statistical package for social sciences) revealed statistically significant association between Hospital Acquired Infections and Patients on Ventilators [Odds ratio =16.66 (P = 0.04)].

Conclusion: The rate of Hospital acquired infections are more in intensive care units. Invasive procedures contribute to the development of Hospital acquired infection. Therefore strict infection control programmes and antibiotic policy should be formulated.

Keywords: Hospital acquired infections, Invasive Procedures, Antibiotic Susceptibility

INTRODUCTION

The eternal conflict between man and germs has incessantly existed from times immemorial. Patient care is provided in facilities which range from highly equipped clinics and technologically advanced university hospitals to front-line units with only basic facilities. Despite progress in public health and hospital

care, infections continue to develop in hospitalized patients, and may also affect hospital staff. Many factors promote infection among hospitalized patients: decreased immunity among patients; the increasing variety of medical procedures and invasive techniques creating potential routes of infection; and the transmission of drug-resistant bacteria among crowded hospital populations, where poor infection control practices may facilitate transmission.

Infections acquired in health care settings during the course of treatment are among one of the major causes of death and increased morbidity among hospitalized patients. Hospital acquired infections have significant bearing on economic costs owing to the increased length of stay. This not only increases the direct costs to the patients or payers but also

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A Study on Physical Activity and Obesity amongst Secondary School Children.

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Research Article

Received: 09/01/2014

Revised: 26/02/2014

Accepted: 07/03/2014

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Keywords: Physical activity,
Obesity, Overweight,
Adolescents

ABSTRACT

The combination of inactivity and surplus calories contributes to abnormal blood lipids, elevated Blood pressure, Obesity and Diabetes. To find out the proportion of obesity and overweight among school children and to find the level of physical activity. This study was conducted among the selected schools of Bangalore city, 1203 high school students were interviewed of which 600 students were from government schools another 603 were from private schools. Levels of physical activity and Body mass index was measured Adequate physical activity was seen among 445(37%) of the study subjects. Adequate level of physical activity found among 8, 9 and 10 standards are 165(41.4%), 160(41%) and 120(29%) respectively. The difference of physical activity observed was found to be statistically highly significant ($P < 0.001$). The proportion of overweight and obesity among the study subjects was 55(4.6%) and 25(2.1%) respectively. Among the overweight subjects 30(54.5%) were females and 25(45.5%) were males. Obesity was seen among 19(76%) of males and 6(24%) of females. The observed difference is statistically significant ($P = 0.03$). Implementing State educational policies that seek to promote the physical well-being of children is the need of the hour.

INTRODUCTION

The combination of inactivity and surplus calories (particularly from animal products) contributes to abnormal blood lipids and elevated blood pressure (BP) and results in widespread obesity, diabetes, and excessive risk of CVD [1].

Overweight and obesity is defined based on BMI (Body mass index). Children are considered to be overweight if they had a BMI 25 kg/m^2 and to be obese if their BMI was 30 kg/m^2 [2]. BMI has extremely high specificity (98 to 99%), but lower sensitivity compared to other standard tests for estimating fat content of the body [3]. Obesity is a global nutritional concern, the increasing prevalence of overweight, obesity and its consequences prompted the World Health Organization to designate obesity as a global epidemic [4].

A pattern of inactivity, also known as sedentism, begins early in life, making the promotion of physical activity among children imperative. Physical education offers many benefits: development of motor skills needed for enjoyable participation in physical activities; promotion of physical fitness; increased energy expenditure; and promotion of positive attitudes toward an active lifestyle. Evidence also exists that physical education may enhance academic performance, self-concept, and mental health [5].

With cars on most driveways and the decline in the number of physically active jobs, 70% of the adult population is sufficiently inactive to be classed as "sedentary". For thousands of years, physical activity has been associated with health. Today science has confirmed the link with overwhelming evidence that people who lead active lifestyles are less likely to die early or to experience major illnesses [6].

Current recommendations state that children and adults should strive for at least 30 minutes daily of moderate intensity physical activity, Such as a two-mile brisk walk, that should make you feel warm and mildly out of breath. During moderate intensity activity, you should still be able to talk without panting in between your words.

A STUDY ON HIGH BLOOD PRESSURE READINGS AMONGST SECONDARY SCHOOL CHILDREN

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ABSTRACT

Globally, Non-communicable diseases (NCDs) are increasingly recognized as a major cause of morbidity and mortality. NCDs are linked to a cluster of major risk factors such as tobacco use, alcohol, unhealthy diets, physical inactivity, stress, obesity, high blood pressure, cholesterol, and glucose levels, these risk factors are measurable and largely modifiable. The objective behind the study was to find out the proportion of study subjects with high blood pressure readings to evaluate family history of hypertension among the study subjects. This study was conducted among the selected schools of Bangalore city. Study population consisted of 8 standard, 9 standard and 10 standard students of the selected schools. This study was done for a period of 6 months, 1203 students were interviewed of which 600 students were from government schools another 603 were from private schools. A total of 1203 students were interviewed of which 600 were from Government schools, 603 were from private schools. Males constituted 648(53.9%) and females 555(46.1%). The age of the study subjects ranged from 11 to 18 years, maximum numbers of students were in the age group of 14 years 390 (32.3%). Family history of Hypertension was reported among 380(31.5%) study subjects, 193 (16 %) had history among single parent followed by 160 (13.3 %) among single grandparent. The different ranges of high blood pressure reading among the study subjects are as follows. The readings corresponding to significant hypertension was recorded among 51(4.2%) and severe hypertension among 8(0.7%) of the study subjects. 15(5.9%) of the study subjects showed increase in blood pressure readings among government schools and 44(4.6) % in private schools, however the difference observed is not statistically significant ($P = 0.3$). There is evidence of family history of hypertension and elevated levels of blood pressure amongst the school students. Hypertension directly increases the risk of coronary heart disease (heart attack) and stroke (brain attack). Therefore preventive strategies have to be implemented among the school children so as to modify the risk factor or to completely avoid the risk factors before they set in.

Key Words: Hypertension, School Children, Tracking, Non Communicable Disease, Risk Factor

INTRODUCTION

Globally, Non-communicable diseases (NCDs) are increasingly recognized as a major cause of morbidity and mortality. NCDs are linked to a cluster of major risk factors such as tobacco use, alcohol, unhealthy diets, physical inactivity, stress, obesity, high blood pressure, cholesterol and glucose levels, these risk factors are measurable and largely modifiable. Many of the cardiovascular risk factors have their origin in childhood. On both pathological and behavioral grounds, prevention should start in child hood, this is the time when the atherosclerotic and hypertensive disease processes start and it is also when life style habits are formed (For e.g. .smoking, eating, physical exercise). Thus preventive efforts should be directed towards discouraging children from adopting harmful life styles than to attempt to reverse the situation and decrease the resulting risk of atherosclerosis in adulthood (WHO, 1986). WHO's Global School Health Initiative seeks to mobilize and strengthen health promotion and education activities at the local, national, regional and global levels (WHO, 2005).

Studies of young adults with high blood pressure found that many had high blood pressure as a child. By their 20s, studies show that children and adolescents with high blood pressure will exhibit harmful effects

**A Study on Postnatal Depression of Women in Rural Bangalore**Sudeepa D^{*} @, Suwarna Madhukumar^{**}, Vaishali Gaikwad^{**}^{*}Assistant Professor, ^{**}Associate Professor

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Revised: 26/12/2012

Accepted: 04/01/2013

ABSTRACT

Introduction: Postnatal depression generally occurs within 6–8 weeks after childbirth but it may appear up to the end of the first year after birth. Risk factors for postnatal depression are past history of psychological disorder, psychological disorder during pregnancy, low socioeconomic status, complicated delivery, and poor marital relationship.

Objectives: To find the proportion of postnatal depression among postnatal mothers and to determine risk factors for postnatal depression.

Methodology: Postnatal mothers between 6–8 weeks after delivery attending immunization clinic of rural health training centre were interviewed.

Results: It was estimated that 28(11.47%) of them had postnatal depression. Mean age of study subjects was 22.6 ± 2.48 , majority of them were Hindus 208 (85.2%), 112(45.9%) were educated up to grade 7 and below, 100 (40.9%) had education up to grade 10 and below, 32(13.1%) had not attended school. Mean per capita income was found to be 1800 ± 1146 . Partner non participation in baby care was an important risk factor for post natal depression among 20 (71.42%) cases, spousal disappointment with sex of the new born child was seen among 16 (57.14%) cases. Other risk factors were excessive crying of the infant, marital dissatisfaction, breast feeding problems, less sleep for the mother, low social support and not living with the family of origin.

Conclusion: Maternal and infant health policies, a priority in low-income countries, must integrate maternal depression as a disorder of public health significance.

Key words: post natal depression, marital relationship, breast feeding problems

INTRODUCTION

Most people today have heard the term 'baby blues' used to describe a mild short period of depression which many women experience after child birth, this is nothing but postnatal depression. Postnatal depression (PND) is a condition characterized by a persistent experience of sadness or a diminished ability to experience

pleasure, irritability, feelings of low self-esteem and manifest anxiety, a tendency to brood over the infant's health and well-being, fatigue, as well as alterations in sleep patterns and appetite. ^[1]

Postnatal depression generally occurs within 6–8 weeks after childbirth but it may appear up to the end of the first year after birth. One meta-analysis has shown an

Original Research Article

A Study on Metabolic Syndrome among Diabetic Patients in a Tertiary Care Hospital

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Revised: 10/05/2013

Accepted: 17/05/2013

ABSTRACT

Introduction: Metabolic syndrome is a widely prevalent and multi-factorial disorder. Metabolic syndrome describes a cluster of metabolic alterations associated with excess fat weight.

Objectives: To describe the proportion of Metabolic syndrome among diabetics and to evaluate the components of metabolic syndrome

Methodology: 205 Diabetic patients admitted in Medical wards of a teaching hospital were interviewed for data collection.

Results: A total of 205 subjects were interviewed, as per NCEP-111 criteria 143(69.75%) study subjects had metabolic syndrome, 85 (59.44%) were men and 58 (40.55%) were women. 41(28.67%) of them were positive for 3 criteria, 86(60.13%) cases had 4 criteria and 16(11.18%) were positive for all the 5 criteria. Among men waist circumference was high in 10(11.76%) subjects, high systolic blood pressure was seen among 43(50.58%) cases, diastolic blood pressure was more in 41(48.23%) patients, hypertriglyceridemia was found in 63(74.11%) subjects, values of high density lipoprotein was low among 40(47.05%) cases, high levels of fasting blood sugar level was seen among 74(87.05%) cases. Among women waist circumference was high in 28(48.27%) subjects, high systolic blood pressure was seen among 22(37.93%) cases, diastolic blood pressure was more in 22(37.93%) patients, hypertriglyceridemia was found in 36(62.06%) subjects, values of high density lipoprotein was low among 48(82.75%) cases, high levels of fasting blood sugar level was seen among 50(86.20%) cases. Waist circumference was significantly high ($p < 0.0001$) among females. Low levels of high density lipoprotein were significantly more ($p < 0.0001$) in females.

Conclusion: Preventive lifestyle interventions are essential

Key words: Metabolic syndrome, Hypertension, Diabetes

INTRODUCTION

The Metabolic syndrome is a widely prevalent and multi-factorial disorder. The syndrome has been given several names, including- metabolic syndrome, insulin resistance syndrome, syndrome X and plurimetabolic syndrome. ⁽¹⁾ Metabolic

syndrome describes a cluster of metabolic alterations associated with excess fat weight. The typical abnormalities include impaired glucose tolerance, dyslipidemia, insulin resistance (hyperinsulinemia), hypertension, upper body obesity, coagulation abnormalities, hyperuricemia and polycystic

An Epidemiological Study of Hypertension and Its Risk Factors in Rural Population of Bangalore Rural District

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Abstract: *Background:* In developing countries like India the prevalence of non communicable diseases is slowly assuming an alarming proportions and Hypertension is the commonest NCD and it accounts for a large proportion of cardiovascular deaths. *Objectives:* To estimate the prevalence of Hypertension in rural areas of Bangalore. To assess the risk factors and its strength of association with Hypertension. To study the treatment seeking behavior in hypertensives. *Study period:* June 2008 to June 2009. *Materials and Methods:* A house to house survey was conducted and 1501 study subjects 15 years of age and above were screened in a village using a pre tested questionnaire. Two independent BP readings were taken in sitting position by visiting each participant at their home. Hypertension was defined using JNC7 criteria. It defines hypertension as blood pressure more than 140/90 mmHg. *Statistical tests:* Percentiles, chi square test. *Results:* Prevalence of Hypertension was 8.06%. There were various risk factors significantly associated with hypertension like age, sex, BMI, smoking, alcohol, salt intake etc. *Conclusion:* The overall prevalence was 8.06%. Of the 121 hypertension patients 104 (85.95%) were aware of their disease and only 68 (65.38%) were taking regular treatment.

Keywords: Hypertension, prevalence, risk factors, treatment

Introduction

Hypertension is the most common cardiovascular disease and is assuming epidemic proportions in developing countries as well [1]. It affects nearly 26% of the population worldwide [2]. Hypertension exhibits a iceberg phenomenon where unknown morbidity exceeds the known morbidity. The prevalence of hypertension is rapidly increasing in developing countries and is said to be one of the leading causes of death and disability among the elderly [3].

Prevalence of hypertension in India, for the last three decades has increased by about 30 times among urban residents and by about 10 times among rural residents [4]. Pooled epidemiological studies have shown the average prevalence of hypertension in India is 25% in urban areas to 10% in rural areas [1, 5]. Several risk factors have been implicated in the etiology of hypertension. This includes geographic considerations, genetic socio-economic, socio-cultural and dietary, nutritional status etc. While the risk factors and their impact on hypertension is documented by well designed studies in the Western countries, systematically conducted studies using rigorous epidemiological techniques are lacking in India.

Study about Awareness and Practices about Carbonated Drinks among School Students in an International School, Bangalore

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ABSTRACT

Title: Study about awareness and practices about Carbonated Drinks among school students in an International school, Bangalore

Background: The consumption of carbonated drinks in youngsters is increasing in alarming proportions. They are often not aware of the health hazards of the excess consumption. Studies have suggested that children who drink a lot of soft drinks risk becoming fat, weak-boned, cavity-prone and caffeine addicted. A cross sectional study was conducted in an International School to assess the awareness and practices in school students regarding carbonated drinks. The study subjects comprised of school students between ages 14years and 18years who were in eight standard to twelfth standard. A total of 300 students were randomly selected and included in the study. A self administered pre-tested structured questionnaire was introduced for the purpose of the study. Maximum of students responded gastritis (46%) specifically as the important ill-effects associated with the consumption of the carbonated drinks for long period of time followed by teeth diseases (20.15 %) and about 23.5% of the them were not aware of the ill-effects of the same at all. A holistic approach should be incorporated to combat the problems associated with the consumption of carbonated drinks.

Keywords: Carbonated Drinks, Awareness, Attitude, Practices, Teeth Erosion, Gastritis

INTRODUCTION

Young children are often influenced by media and often do things under its influence. The consumption of carbonated drinks in youngsters is increasing in alarming proportions. They are often not aware of the health hazards of the excess consumption. Carbonation occurs when carbon dioxide is dissolved in water or an aqueous solution¹. A soft drink is a beverage, often carbonated, that does not contain alcohol like colas, iced tea, lemonade, squash and fruit punch etc. Hot chocolate, hot tea, coffee, milk, tap water, and milkshakes are not carbonated drinks. Many carbonated soft drinks are optionally available in versions sweetened with sugars or with non-caloric sweeteners.²

Scientific studies have shown how as few as one or two soft drinks a day can increase one's risk for numerous health problems. Studies have suggested that children who drink a lot of soft drinks risk becoming fat, weak-boned, cavity-prone and caffeine

addicted. One extra soft drink a day gave a child a 60 percent greater chance of becoming obese. Each daily drink added .18 points to a child's body mass index (BMI).³ Soft drink consumption in children poses a significant risk factor for impaired calcification of growing bones.

Many sodas are high in calories and have a lot of sugar. Some of these health problems are obesity, diabetes, tooth decay, osteoporosis, nutritional deficiencies, heart disease, and many neurological disorders.⁴ Soft drinks have long been suspected of leading to lower calcium levels and higher phosphate levels in the blood. When phosphate levels are high and calcium levels are low, calcium is pulled out of the bones. The phosphate content of soft drinks is very high, and they contain virtually no calcium.³

When one consumes carbonated beverages instead of milk, juice and water, body will not get some of the nourishment as per the needs.⁵ There is a growing concern in the medical and scientific communities

Prevalence and Risk Factors for Diabetes Mellitus among Tuberculosis Patients- A Study in Tamil Nadu

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ABSTRACT

Background: An increased co morbidity of Tuberculosis (TB) and Diabetes (DM) has been observed in recent times globally. India too is likely to face the full impact of these growing co-epidemics.

Objective: The objective of this study was 1. To estimate the prevalence of DM among TB patients.

2. To find out the risk factors existing among TB -DM cases.

Methodology: A facility-based cross-sectional study was done in 4 randomly selected Government Medical Colleges in Tamil Nadu, India from January to June 2014. Data was collected using the WHO-STEPs Questionnaire from 728 TB patients who were on DOTS treatment. For screening Diabetes, a fasting glucose level of >126mg/dl was considered. Analysis of data was done using SPSS version 16.0

Results: Out of the 728 patients studied 244 (33.5%) were found to be diabetic. Majority of the cases were males (516, 70.9%). There were 161 (22.1%) who were known diabetics and 83 (11.4%) were newly diagnosed diabetics. There were 117(48.7%) of DM with TB patients who had family history of DM. Risk factors for occurrence of Diabetes in TB cases was found to be family history of Diabetes ($p<0.001$), older age group ($p=0.003$) and sputum positive cases on Cat I treatment ($p<0.001$).

Conclusion: High prevalence of DM (33.5%) in TB patients. There is an urgent need to include screening of DM among TB patients. The National Non Communicable Disease Control Programme and RNTCP should work together to tackle this co- epidemic.

Keywords- Tuberculosis, Diabetes Mellitus, Prevalence, Risk Factors, Medical Colleges

INTRODUCTION

The converging Tuberculosis and Diabetes epidemic is projected to hit South Asia.^{1,2} Type 2 Diabetes Mellitus (DM) has affected approximately 230 million persons worldwide, and is expected to reach 366 million by the year 2030, by which time 80% of those affected

will be living in the middle and low income countries where active Tuberculosis (TB) is widespread.^{3,4,5} The consequences of these two converging epidemics are likely to be catastrophic in India, with a high TB burden and rapidly growing rate of DM.⁶

The role of medical colleges in TB control has been significant and have been providing diagnostic and curative services for both TB and DM. They account for about 25% of all new TB cases reported in India each year, it is unknown how many patients have both TB and DM in this setting. Successfully addressing the DM-TB problem is the need of the hour.⁷

The World Health Organization has developed

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Isoniazid preventive treatment in children in two districts of South India: does practice follow policy?

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SUMMARY

SETTING: Two districts of Tamil Nadu, India

OBJECTIVES: To determine the proportion of household contacts aged <6 years of patients with tuberculosis (TB) with positive sputum microscopy results who initiated and completed isoniazid preventive treatment (IPT), and to determine reasons for non-initiation and non-completion of IPT.

DESIGN: Household visits were conducted on a random sample of adult patients registered during January–June 2012 to identify household contacts aged <6 years.

RESULTS: Among 271 children living with 691 index patients, 218 (80%) were evaluated and 9 (4%) were diagnosed with TB. Of 209 remaining contacts, 70 (33%) started IPT and 16 (22.9%) completed a full course of IPT. Of 139 contacts who did not start IPT,

five developed TB disease. Reasons for non-initiation of IPT included no home visit by the field staff (19%) and no education about IPT (61%). Reasons for non-completion included isoniazid not provided (52%) and long duration of treatment (28%).

CONCLUSION: This study shows that Revised National TB Programme guidance was not being followed and IPT implementation was poor. Poor IPT uptake represents a missed opportunity to prevent future TB cases. Provision of IPT may be improved through training, improved logistics and enhanced supervision and monitoring.

KEY WORDS: tuberculosis; contact investigation; children; isoniazid; preventive treatment

EACH YEAR, approximately 1 million new cases of tuberculosis (TB) occur in children aged <15 years worldwide, with the 22 high-burden TB countries accounting for 75% of these.¹ Young children in close contact with a smear-positive pulmonary TB case are at high risk of latent tuberculous infection (LTBI) and development of TB disease. It is estimated that up to 43% of infected children aged <12 months and 24% of those aged 1–5 years develop TB disease.² In addition, children aged <5 years are at a higher risk of developing disseminated forms of TB, including miliary TB and TB meningitis, frequently resulting in death.^{2,3}

The World Health Organization (WHO) recommends screening the household contacts of an infectious source case to identify children with TB disease and enable prompt treatment. Screening also provides an opportunity to provide isoniazid preventive treatment (IPT) for household contacts who do

not have disease.⁴ Daily isoniazid (INH) for at least 6 months given as preventive therapy to young children has been shown to greatly reduce the likelihood of progression from LTBI to active TB disease.^{5–7} IPT is safe, as side effects in children are extremely rare, and its efficacy in preventing disease is as high as 90% when taken correctly.^{5–7} However, several studies have reported that adherence to IPT is generally poor, particularly in high-burden, low-resource settings.^{8–15}

India has one of the highest TB burdens in the world.¹ The Government of India's Revised National TB Control Programme (RNTCP) recommends screening of household contacts (especially children aged <6 years) of all smear-positive pulmonary TB cases.¹⁶ For children with no evidence of active TB disease, IPT at 5 mg/kg/day is recommended for 6 months.^{4,7,16} Despite these recommendations, implementation of IPT in children is suboptimal in India.

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Article submitted 27 January 2014. Final version accepted 3 April 2014.

[A version in French of this article is available from the Editorial Office in Paris and from the Union website www.theunion.org]

ORIGINAL ARTICLE

Nutritional Status of Adolescent Girls in Rural Area of Kolar District -A Cross-Sectional Study

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Abstract: *Objective:* To assess the nutritional status of adolescent girls in selected villages of the Kolar district. *Methods:* A community-based cross-sectional study was carried out over a period of two months. 230 adolescent girls of age 10–19 years were selected randomly. Data was collected by interviewing the adolescent girls using predesigned and pre tested Proforma. Various statistical applications like percentiles, mean, standard deviation and proportions were used for analysis of the data. *Results:* The prevalence of wasting and stunting was 54.79% and 32.17% respectively as per water lows classification and the trend of wasting and stunting declines with the age. The prevalence of thinness was found to be 73.5% as per Indian standards. Prevalence of Anemia was 34.8% percent and it was more among menstruating girls than compared to non-menstruating girls. Anemia prevalence was less among adolescent girls using footwear during defecation than girls not using foot wear. *Conclusion:* It is concluded that there is a high prevalence of under nutrition among adolescent girls in the rural area of the selected villages. Health education and nutrition interventions are needed on priority basis.

Key words: Nutritional status, Adolescent girls, rural area

Introduction

Adolescence, a period of transition between childhood and adulthood, occupies a crucial position in the life of human beings. This period is characterized by an exceptionally rapid rate of growth. The peak rates of growth are exceeded only during the fetal life and early infancy [1]. Adolescents are the best human resources. But for many years, their health has been neglected because they were considered to be less vulnerable to disease than the young children or the very old. Their health attracted global attention in the last decade only [2]. Unfortunately assessment of nutritional status of adolescent girls has been the latest explored area of research particularly in rural India. The findings of studies on school children can not be extrapolated to adolescent girls, as their school enrollment as well as sustenance are less than that of boys. It is likely that girls not attending schools belonged to disadvantaged section of society and contribute significantly in domestic and peridomestic activities, there by jeopardizing their health [3]. With this back ground this community-based study was undertaken to assess the nutritional status of adolescent rural girls of Kolar district.

Objectives of the Study: To assess the nutritional status of adolescent girls (10 to 19 years) in a rural area of Kolar District.

Risk Factors of Coronary Heart Disease among Bank Employees of Belgaum City - Cross-Sectional Study

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Abstract

Background: Bank employees, with their resources and infrastructure, are ideal for increasing awareness and initiating preventive activities for the control of coronary heart disease (CHD). However, there are no reliable estimates of CHD risk factor burden, or of its awareness and treatment status among bank employees. The study intends to evaluate the prevalence of risk factors of CHD among bank employees of Belgaum city. **Objectives:** To estimate the prevalence of risk factors of CHD and to assess the knowledge regarding risk factors of CHD among bank employees. **Methodology:** It was a cross-sectional study for a period of one month. The study population consisted of bank employees working in various banks in Belgaum city. **Results:** The prevalence of risk factors of CHD was as follows: hypertension 31%, diabetes 21%, high serum total cholesterol 29%, high triglycerides 39%, high LDL cholesterol 19.3%, low HDL cholesterol 17.7%, smoking 26%, sedentary habits 44%, positive family history 12%, overweight / obesity (BMI ≥ 25 kg/m²) 33% and 26% of the study subjects had truncal obesity. Among these, 55% of the study subjects had at least two of these risk factors. **Conclusion:** The present study shows a disturbing burden of coronary risk factors in the study population. There is an urgent need to undertake population based measures to reverse the trend.

Keywords: Coronary heart disease; Risk factors; Employees, knowledge

Introduction

Coronary heart disease is the largest killer disease in developed countries and is rapidly assuming a similar role in developing countries. The WHO has drawn attention to the fact that coronary heart disease (CHD) is our modern epidemic, not an unavoidable attribute of aging. It is estimated that if incidence of CHD is brought to zero it would increase the life expectancy by 3 to 9%. [1] It has been estimated that during the period 1965 to 1996, CHD mortality fell by 50% in Australia, Canada, France, and the United States and by 60% in Japan due to total lifestyle modifications. Other parts of Western Europe reported more modest declines (20% to 25%) [2]. The burden of CHD is rising in India. The estimated prevalence of CHD is around 3-4% in rural areas and 8-11% in urban areas among adults older than 20 years, representing a two fold rise in rural areas and a six-fold rise in urban areas over the past four decades. About 29.8 million people were estimated to have CHD in India in 2003; 14.1 million in urban areas and 15.7 million in rural areas [3]. It is expected to double in the next two decades, making it the single largest cause of death by the year 2020 [4]. While the exact etiology of this predisposition to CHD in Indians is still debated, from a public health point of view it is clear that the rapid

An Epidemiological Study Analyzing Presentation and Oncological Outcome of Primary Malignant Tumors of Femur in Mohan Dai Oswal Cancer Hospital, Ludhiana, Punjab

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ABSTRACT

Introduction: Amputation was generally considered the standard treatment for most primary malignant tumors of femur. In recent years with the significant advances in the management of malignant bone tumors (better understanding of the histological criteria for diagnosis, better clinical staging procedure, improved surgical techniques, neo adjuvant & adjuvant chemotherapy and radiotherapy and improved techniques of Oncological reconstruction), there is increased trend towards limb salvage surgery.

Aims and objectives: 1) To study presentation and oncological outcome of primary malignant tumors of Femur.

Materials and method: This study was a retrospective as well as prospective study involving 25 patients having primary malignant tumour of femur coming to department of Orthopaedics at Mohan Dai Oswal Cancer Treatment & Research Foundation, Ludhiana from January 1999 to December 2005.

All the patients were evaluated in terms of complete clinical presentation (onset of symptoms, progression and duration). Various signs and symptoms (pain, swelling, pathological fracture, deformity, limb length discrepancy) were noted thoroughly.

Treatment included Surgical management (Limb sparing surgery or amputation), Chemotherapy, Radiotherapy wherever indicated.

Once the decisions for surgery were taken, consent was taken from patient in written. If prosthesis is indicated, size of prosthesis was determined pre-operatively using x-ray and CT scan. Prosthesis was then ordered as required. Patients were followed for a minimum period of one year. These patients were called every month for the first 3 months and then every three monthly for next 9 months and 6 months thereafter. At each visit evaluation of these patients was done for :-

1. Any signs of radiological/clinical union.
2. Any signs of local recurrence/distant metastasis.
3. Any implant/graft related problem.

Conclusion: 25 patients of primary malignant tumours of femur were studied in the Department of Orthopaedics at Mohan Dai Oswal Cancer Hospital, Ludhiana from January 1999 to December 2005. Average age was 22.68 years. There were 21 male patients and 4 female patients. The major histopathological diagnosis was osteosarcoma (84%) followed by spindle cell sarcoma (8%) and chondrosarcoma (8%). Distal end of femur was predominantly involved (84%) and pain was the commonest presenting complaint (92%). Majority of patients (68%) presented after 60 days of onset of symptoms.

Keywords: Primary Malignant Tumors, Femur, Oncological Outcome

An Epidemiological Study Analyzing Social-Economic Problems and effect on Life among Adults Osteoarthritic Patients in a Rural Area of Amritsar

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ABSTRACT

Introduction: In India Osteoarthritis (OA) is the most frequent joint disease with radiological prevalence of 22% to 39%. Change in socio-economic status adversely affects the individual's way of life in older age. Predominantly Punjab state economy is dependent upon farming and recent change in lifestyle and dietary habits has brought a significant change in epidemiology of osteoarthritis in community. Hence, this study was planned with the aim to study the social-economic problems faced by the adults suffering from osteoarthritis

Materials and method: The proposed study was carried over a period of 1 year from January 2011-December 2011 in the adult population in the village Balkalan aged 30 years and above.

A pre-designed and pre-tested questionnaire was used in form of proformas to record the information in the local language. The data was collected, compiled and analyzed statistically, and valid conclusions were drawn.

Conclusion: The present study showed 16% prevalence of symptomatic OA among adult population of village Balkalan. Majority of patients (32.1%) with symptomatic Osteoarthritis were in age group of 60-70 years while 27.8% were in 50-60 years of age and 15.4% were in 70-80 years age group.

Osteoarthritis was noticed more in the lower income group, 37% patients were in Rs 1407-4203 income group, which corresponded to higher prevalence in class 4 socioeconomic status group (upper lower) having 63% prevalence of OA.

Majority of patients (91.4%) said that OA has lead to increased consumption of analgesic drugs while 14.8% told that it has lead to increased consumption of narcotics & 17.9% told it had lead to increased consumption of habit forming drugs like proxyn tablets for OA pain relief No statistically significant association was found between place of first consultation and socio-economic status.

Keywords: Adult Osteoarthritic, Social-Economic Problems, Rural Area of Amritsar City, Punjab

INTRODUCTION

Musculoskeletal disorders are among the most prevalent chronic conditions in the developed and developing world. In India Osteoarthritis (OA) is the most frequent joint disease with radiological prevalence of 22% to 39%¹.

Change in socio-economic status adversely affects the individual's way of life in older age. Urbanization, mechanization, nuclearisation of family, migration, and dual career families are making care of the elderly more and more of a personal and social problem in India. The increasing number of older people and the

Original Article

AQ2 Microteaching revisited! A tool for improving undergraduate student seminars

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Received : 23 January 2019

Accepted : 17 December 2019

Published :

DOI

10.25259/IJPP_283_2020

Quick Response Code:



ABSTRACT

Objectives: A deluge of techniques are made available for students to encourage for self-directed learning. Microteaching is one of the old techniques which is traditionally used as a method to improve pedagogical skills. Incorporating microteaching techniques in student seminars enhance the effectiveness of the learning process. The objectives of the study were to assess the effectiveness and perceptions regarding microteaching methodology in improving the undergraduate student seminars.

Materials and Methods: The study was conducted among ten randomly selected 1st year MBBS students. They were assigned a seminar topic from pre-discussed lecture in Physiology. They were divided into two equal groups and one group underwent training in microteaching through a workshop. Each student from both the groups presented seminar which was evaluated on Likert's scale by standardised blinded observers consisting of 13 faculty and 12 students. Perceptions of students were assessed by self-evaluation. The data were analysed by Chi-square and Mann-Whitney U-test.

Results: Each student was evaluated by 25 members and got 125 responses from each group. The median score for all the components in the assessment was significantly higher in the intervention group as compared to the control group. The presentation skills, providing non-verbal clues and stating the objectives were significantly better among the microteaching trained group ($P \leq 0.05$). Common perception among the intervention group was that they found it interesting, innovative, improved presentation skills, interactive and needed preparation for application and analysis, whereas some students felt lack of time and motivation were the obstacles for implementation of microteaching methodology for student seminars.

Conclusion: The students found microteaching methodology to be very interesting and useful learning tool. Microteaching technique assists students to develop competence and confidence in seminar presentations.

Keywords: Microteaching, Seminar, Medical students, Undergraduates

INTRODUCTION

Self-directed learning is one of the important components proposed in the new Graduate Medical Regulations of 2019.^[1] Nowadays, a deluge of techniques is encouraged to increase the interest of students in learning.^[2] Student centred learning encourages active participation from the students and the results are better learning outcomes.^[3] As per the learning pyramid proposed by NTL, the highest retention rate for a student is by teaching others as compared to listening to lectures, reading and group discussions.^[4] There are multiple reasons why medical students must be trained in educational principles, some of them being effective communicator

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CORRELATION OF HbA1c IN ASSOCIATION WITH DIFFERENT COMPLICATIONS OF DIABETES

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ABSTRACT

Aims

This present research paper attempt to know the correlation between HbA1c in association with various Complications of diabetes.

Methods

A retrospective cross-sectional study was conducted at Department of Medicine, BGS Global Institute of Medical Science, Bengaluru during the year 2016-2018. A total of 120 patients were considered for the study (defined sample size calculated with marginal error 20% and level of significance alpha is 0.05). All patients were meet inclusion and exclusion criteria. Exclusion criteria; terminal illness, patients who are suffering from chronic illness and ICS (ICS) etc. The HbA1c parameter was collected at different time intervals, complications, drug adherence, adverse drug reaction, duration of diabetes, diabetes-associated illness and co morbidity and mortality data were collected from the structural data sets. The collected data was analyzed by using R-programming language-open source software. The multiple logistic regression was employed to test the hypothetical results

Results

As per the resulted findings, the mean duration of diabetes was 12.85 with SD 3.26 Years. The duration of diabetes <5 (7.50%) years a smaller proportion will not be any global changes for the incidence of diabetes & associated complications when compared with an increased duration between 6-10 years (18.33%); 11-15 years (26.67%) and ≥16 (47.50%). Increased perpetuation was found to be strongly associated with diabetes complication at the onset of mean age 53.21 years $p < 0.01$. The cardiovascular disease (CVD) (5.00%), coronary heart disease (CHD) (3.33%), Ischemic stroke (2.50%) and diabetes microvascular complications (6.67%) were found to be statistically significant $p < 0.01$ with elevated reference range of HbA1c 6.85-7.00 mmol/L, the overall incidence of diabetes complications was 17.50%.

Conclusions

The present study concludes that the HbA1c target of >7.0 mmol/L might be too high for some patients and geometrically progressed diabetes-associated complications, in HbA1c levels should be approached cautiously

KEYWORDS: HbA1c, CHD, CVD, Glycated Hemoglobin, RBC

A Study on Clinical Spectrum of Scorpion Sting in A Teaching Hospital in Bengaluru Region

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Received on 18.06.2019,

Accepted on 04.09.2019

Abstract

Context and Aim: In Bengaluru region the Scorpion sting is not common among rural and urban population. The exact incidence of Scorpion sting bite was unreported among the people living in Bengaluru region. So, the aim of present study was to find the incidence, clinical features, complications and outcomes of Scorpion sting bite among Bengaluru region. **Settings and Design:** This observational prospective study was conducted in BGS Global Institute of Medical Sciences in Bengaluru region from Jan 2017 to Dec 2017. Patient between the age of 3 and 66 with history of scorpion sting bite were included in the study. **Methods and Material:** There were 25 patients (0.56%) with scorpion sting bite during the study period. Among which 16 (0.36%) of them were treated as outpatient basis and 9 (0.2%) scorpion sting bite patients were treated as inpatient. There clinical features, treatment, management of complication and follow up was done during their admission. **Statistical analysis used:** The data collected was put in the Excel sheet. The incidence of Scorpion sting bite was calculated and the other parameters were analyzed and depicted in percentages. **Results:** The incidence of Scorpion sting bite was 0.56% among patients who attended Emergency Department. As per this study Scorpions sting bite are more common in May to November months which is the rainy season in this area. Presentation with pain and paresthesia is common, they also had tachycardia and tachypnea as major signs. 11% of patient had myocarditis among which 1 case (4%) died with pulmonary edema. **Conclusions:** Scorpion sting bite is an occasional occupational health hazard affecting the farmers leaving in villages of Bengaluru region during rainy seasons.

Keywords: Bengaluru Region; Complication; Incidence; Scorpion sting; Treatment.

Key messages: Incidence of Scorpion sting bite was 0.56% among patients who attended Emergency Department in a tertiary care center in Bengaluru. The most common Clinical features were pain and paresthesia. Tachycardia and Tachypnea being the most common sign. Among this majority recovered but 11% cases had myocarditis and 4% died due to pulmonary edema.

How to cite this article:

Tejaswi CN, Kanavi Roopa Shekharappa, Lakshmikantha BM, et al. A Study on Clinical Spectrum of Scorpion Sting in A Teaching Hospital in Bengaluru Region. Indian J Emerg Med. 2019;5(3):193-199.

A STUDY ON EPIDEMIOLOGY, CAUSES AND PROGNOSIS OF ACUTE RENAL FAILURE IN INDIAN POPULATION

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ABSTRACT

AIM

To study the Epidemiology various aetiological, precipitating factors, pattern of complications and the prognosis with reference to immediate outcome of acute renal failure cases.

MATERIALS AND METHODS

It was a prospective study under which fifty cases of acute renal failure admitted in various units of the Department of Medicine were studied under different parameters like age, sex, clinical presentation, causes, complication and prognosis in BGS Global Institute of Medical Sciences Hospital from 2013 to 2015. The outcome of ARF in each case was documented and percentages were calculated.

RESULTS

The most common cause of ARF in developing country being acute gastroenteritis 42% of cases, snake bite 28% of cases, malaria 6% of cases, hepatorenal syndrome 4% cases, obstetrics causes 4% cases, sepsis 4% and rest other causes being 2% each. The commonest complication being electrolyte imbalance among ARF cases. Out of the 50 cases studied, 17 died in the hospital suggesting a mortality of 34%; 14 patients were referred for dialysis and were lost to follow up (28%); 18 patients (36%) had complete recovery from ARF.

CONCLUSION

The most common cause of ARF is gastroenteritis, so simple remedial measures like using clean sanitary, drinking water, improvement of general hygiene, good obstetric care, control of mosquitoes and use of oral rehydration solution for diarrhoea can go a long way in decreasing the incidence of ARF in the developing world. Physician should be aware of the complication, close attention to haemodynamic, volume status and avoidance of nephrotoxic medications is important to have better outcome in ARF patient.

KEYWORDS

Acute Kidney Injury, Acute Renal Failure, Cause, Epidemiology, Prognosis.

HOW TO CITE THIS ARTICLE: Tejaswi CN, Shekharappa KR, Lakshmikantha BM, et al. A study on epidemiology, causes and prognosis of acute renal failure in Indian population. J. Evolution Med. Dent. Sci. 2016;5(73):5388-5393, DOI: 10.14260/jemds/2016/1223

INTRODUCTION

Acute Renal Failure (ARF) often referred to as Acute Kidney Injury (AKI) is characterised by sudden (i.e. hours to days) impairment of kidney function. AKI now understood to be an increasingly common and potentially catastrophic complication in hospitalised patients.¹ There are many Western studies conducted on the causes and prognosis of ARF, but very few Indian studies. So this study was conducted with the aim being to study the Epidemiology, various aetiological, precipitating factors, pattern of complications and the prognosis with reference to immediate outcome of acute renal failure patients.

Financial or Other, Competing Interest: None.

Submission 16-05-2016, Peer Review 08-07-2016,

Acceptance 14-07-2016, Published 12-09-2016.

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DOI: 10.14260/jemds/2016/1223

MATERIALS AND METHODS

The present work is a prospective study conducted in BGS Global Institute of Medical Sciences Hospital from 2013 to 2015. This study consists of fifty cases with symptoms and signs of acute renal failure admitted under various units of the Department of Medicine.

Acute renal failure is defined as a deterioration of renal function over a period of hours to days, which results in an increase in serum creatinine of > 0.5 mg per decilitre over the baseline value, an increase of more than 50 percent over the baseline value or a decrease in renal function that results in the need for dialysis. Oliguria (Urine output of less than 400 mL/day) is a frequent but not invariable clinical feature. ARF may or may not be symptomatic.

Criteria for Selection of Patients

1. Patients who satisfied the above clinical criteria were included in the study.
2. Patients with signs and symptoms suggesting acute renal failure due to obstructive uropathy were excluded from the study after abdominal ultrasonography.

Study of clinical manifestations of dengue cases in a tertiary care hospital, Bangalore, Karnataka

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Received May 7, 2016. Accepted May 30, 2016

Abstract

Background: Symptomatic dengue virus infections can present with a wide range of clinical manifestations, from mild febrile illness to a life-threatening shock syndrome or organ dysfunction.

Aim and Objectives: To study the clinical manifestations and laboratory findings of dengue cases, which is important for patient management and crucial for saving life.

Material and Methods: Hospital-based cross-sectional study conducted from July to December 2015, included suspected dengue cases aged 16 years and above admitted in the medical wards of the hospital. Detailed epidemiological, clinical, and laboratory parameters recorded. Chi-square (χ^2) test and descriptive statistics were analyzed using SPSS (17.0).

Results: Of the total 114 patients, 64 (56.1%) males and 50 (43.8%) were females. Majority of the affected patients were in the age group of 31–40 years (6 (31.5%)). Commonest symptom and sign observed was fever in 103 (90.3%). Signs of quadrant/epigastric tenderness, tachycardia, flushing were observed in more than > 50% of the patients and bradycardia, right upper shifting dullness, evidence of pleural effusion, shortness of breath, low blood pressure, low urine output, cold extremities were observed in less than 30% of patients. The commonest complication was severe abdominal bloating (8 (7.0%)), major bleeding and hepatitis in 5 (4.3%) of the patients. Briefly, 13 (11.4%) required the ICU treatment. In total, 107 (93.8%) had thrombocytopenia, raised AST and ALT in 89 (78.0%), leucopenia in 74 (64.9%), ascites in 71 (62.2%), gall bladder wall edema in 64 (56.1%), and hematocrit in 28 (24.5%) of the patients. Also, 92 (80.7%) patients were NS1 positive.


Conclusion: Manifestations of dengue cases are acute and varied. Proper confirmation of diagnosis, early institution of therapy helps in dengue prevention and management.

KEY WORDS: Dengue, dengue fever, hospital, clinical manifestation

Introduction

Dengue infection is a major health problem in our country. Globally the incidence of dengue has increased in the recent years. The World Health Organization (WHO) estimates that

presently about two-fifths of the world population is at risk for this viral infection.^[1] India is one of the seven identified countries in the South-East Asia region regularly reporting incidence of dengue fever/dengue hemorrhagic fever (DF/DHF) outbreaks and may soon transform into a major niche for dengue infection in the near future.^[2] Until mid-1990s, dengue was reported from only three of the four South Indian states, namely, Andhra Pradesh, Karnataka, and Tamil Nadu. All the four serotypes of the virus have been in circulation and documented in Tamil Nadu.^[3] During all these epidemics, children < 15 years of age were quite severely affected, but majority of infection occurred in active adults in the age group of 16–60 years. Symptomatic dengue virus infections can present with a wide range of clinical manifestations, from mild

Access this article online	
Website: http://www.ijmsph.com	Quick Response Code:
DOI: 10.5455/ijmsph.2016.07052016504	

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Study of 25 hydroxy vitamin D levels in type 2 diabetes mellitus patients.

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Journal article : International Journal of Medical and Health Sciences 2016 Vol.5 No.3 pp.128-130 ref.14

Abstract : Introduction: Vitamin D has the effect on insulin release. A type 2 diabetes mellitus (T2DM) patient with the presence of vitamin D deficiency causes impedance in the management of T2DM. Therefore, the present study was undertaken to find the levels of vitamin D in T2DM patients. Materials and Methods: 80 T2 DM patients and 80 age matched controls were studied for their Vitamin D levels along with their fasting glucose, serum calcium and HbA1c levels. Analysis was performed by using student 't' test to compare the values between T2DM patients and controls. Pearsons correlation was performed between the parameters in the T2DM patients. Results: The prevalence of Vitamin D deficiency in T2DM patients and controls was found to be 21.25% and 11.25% respectively. Mean \pm SD of the Serum Vitamin D (25.0 ± 2.9 ng/L) and serum calcium (7.8 ± 0.6 mg/dl) concentrations were significantly low ($p<0.01$) in T2DM patients. Vitamin D showed a significant negative correlation with diabetic duration. Vitamin D levels showed an inverse correlation with fasting serum glucose and HbA1c but were not statistically significant. Conclusion: Vitamin D levels were appeared to be lower in T2DM patients than in the control group and it showed a significant negative correlation with the duration of diabetes.

ISSN : 2277-4505

URL : <http://www.ijmhs.net/journals-aid-378...>

Record Number : 20163261097

Publisher : International Journal of Medical and Health Sciences

Country of publication : India

Language of text : English

A Comparative Study of Cardiovascular Parameters in Obese and Non-Obese Individuals

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Abstract- Obesity by definition is a state of excess adipose tissue mass. Obesity is a global epidemic becoming a threat to healthy populations in increasing number of countries. Numerous studies have documented that obesity and, more particularly, central adiposity as indicated by an enlarged waist circumference (WC), is associated with the presence of systemic hypertension, coronary heart disease, type 2 diabetes mellitus as well as an increased mortality risk. The cardiovascular disorders due to obesity result in increased mortality from complications such as coronary artery disease, heart failure, arrhythmias and sudden death(8). This study was done to study the importance of cardiac parameters in obesity which is a preventable condition which in turn reduces the morbidity and mortality.

Objectives: Objectives: To analyze the parameters like Systolic blood pressure, diastolic blood pressure, mean arterial pressure, heart rate and pulse pressure in obese and non-obese population.

Materials and methods: 75 male obese and non-obese patients were randomly selected for the study from the outpatient department. Careful measures were taken to avoid people with age less than 20 years and more than 50 years, female sex, smoking, existing cardiovascular disease and respiratory diseases. **Results:** Mean age of obese subjects was 31.52 \pm 6.38 and non-obese subjects was 31.41 \pm 6.20. BMI in obese and non-obese subjects was 32.26 \pm 1.39 and 22.76 \pm 0.730 respectively which is statistically significant ($p < 0.001$). They also had statistically significant difference in terms of weight (83.72 \pm 5.17 in obese subjects and 61.12 \pm 3.73 kgs in non-obese subjects, $P < 0.001$) and Body surface area (BSA) (1.94 \pm 0.0777 in obese and 1.68 \pm 0.0682 in non-obese subjects). The study showed that the obese subjects had significantly high systolic (140.32 \pm 6.93 vs 121.59 \pm 6.67 mmHg) and diastolic blood pressure (86.11 \pm 6.79). **Conclusion:** The study shows that obese individuals had significantly more blood pressure (both systolic and diastolic) and increased heart rate compared to non-obese individuals.

Index Terms- obesity, systolic, diastolic, blood pressure, mean arterial pressure, heart rate

I. INTRODUCTION

Obesity by definition is a state of excess adipose tissue mass. Although it is often viewed as a equivalent to increased body weight, which maybe not true always. Lean but very muscular individuals may be overweight by numerical standards without increased adipose tissue(1) Obesity is a global epidemic becoming a threat to healthy populations in increasing number of countries.(2). The prevalence of obesity has increased recently in

younger population. Numerous studies have documented that obesity and, more particularly, central adiposity as indicated by an enlarged waist circumference (WC), is associated with the presence of systemic hypertension, coronary heart disease, type 2 diabetes mellitus as well as an increased mortality risk.

Most widely used method to measure obesity is Body-mass Index (BMI). Other approaches are Anthropometry (skin fold thickness), Densitometry (underwater weighing), CT scan/MRI scan and electrical impedance. A BMI of 19-24.99 are considered normal, 25-30 are considered overweight and >30 are considered as Obese. Data from the National health and Nutrition examination survey (NHANES) shows that the percentage of American adult population with obesity has increased from 14.5% to 33.9%. As many as 68% of US population above the age of 20 are were overweight(1)

Obesity is a global epidemic becoming a threat to healthy populations in increasing number of countries.(2). Obesity has been reported to be associated with a number of cardiovascular (CV) diseases, pro-inflammatory state, coagulation abnormalities and metabolic disturbances such as lipid abnormalities, altered glucose metabolism, insulin resistance and type 2 diabetes mellitus (3). Studies have shown that the obese patients are more prone to ventricular arrhythmia and obesity is a strong predictor of sudden death in men.(4). Decreased HRV has been shown to significantly increase CVD risk and it has been considered as a strong mortality predictor (5). Numerous studies have documented that obesity and, more particularly, central adiposity as indicated by an enlarged waist circumference (WC), is associated with the presence of systemic hypertension, coronary heart disease, type 2 diabetes mellitus as well as an increased mortality risk. A variety of adaptations in cardiorespiratory structure and function occur in the individual as adipose tissue accumulates in excess amounts, even in the absence of comorbidities. Hence, obesity may affect the heart and lungs through its influence on known risk factors such as dyslipidemia, hypertension, glucose intolerance, inflammatory markers, obstructive sleep apnea, hypoventilation, and the prothrombotic state, in addition to as yet unrecognized mechanisms(6). Heart rate variability (HRV) analyses represent a noninvasive technique for assessing the heart autonomic nervous system function in a variety of clinical conditions such as diabetic neuropathy, obesity, myocardial infarction, sudden death and congestive heart failure. Reduced HRV has been shown to predict increased mortality in the general population as well as in patients with cardiovascular disease (CVD)(5). Along with the epidemic of obesity and abdominal obesity, concomitant metabolic derangements pose obese individuals at greater risk for future morbidity and mortality (7). The exact mechanism of increased cardiovascular mortality in obese individuals has not

Evaluation of Dyslipidaemia among Different Age Groups in Urban South Indians

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ABSTRACT

BACKGROUND

The significant reason for morbidity and mortality in industrialised countries is coronary artery disease. Globally, it is considered as one of the major public health problems. There is emerging evidence of premature coronary artery disease occurring in Asian Indians at least 10 years earlier as compared to other ethnic groups. The most important atherosclerotic risk factor is dyslipidaemia. Recent studies have reported that Total Cholesterol [TC], Low Density Lipoproteins [LDL], Triglycerides [TG] levels have increased among young urban population over a 20-year period. Hence, this study was carried out to find out the prevalence of dyslipidaemia among different age groups in urban South Indian population.

METHODS

This study is a descriptive cross-sectional study conducted among patients visiting the OPD of Department of General Medicine. The study subjects were divided into 3 groups as per age as 18 - 40 years, 41 - 60 years and > 60 years by involving 1989 subjects of whom 532 were in 18 - 40 years age group, 522 were in 41 - 60 years age group and 935 were over 60 years of age. In this study, fasting serum lipid profile was estimated.

RESULTS

The study revealed higher prevalence of dyslipidaemia in the group < 60 years. Statistically significant difference in mean was found with cholesterol, LDL, and triglycerides in the age group of 18 - 40 years and more than 60 years. Statistically significant difference was not found between 18 - 40 years and 40 - 60 years for HDL. Mean serum cholesterol was high in the age group 18 - 40 years. The highest mean triglycerides were found in the age group of 41 - 60 years. The highest mean HDL levels were found in the above 60 years age group.

CONCLUSION

Higher percentage of dyslipidaemia was found in the age groups less than 60 years. It is also the need of the hour to devise comprehensive strategy for awareness programme for periodically screening of all age groups.

KEY WORDS

Dyslipidaemia, Cholesterol, Low Density Lipoproteins, Cholesterol & Triglyceride

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DOI: 10.14260/jemds/2020/0000

How to Cite This Article:
Narayanaswamy RK, Rayappa WDSC,
Ramesh P. Evaluation of dyslipidaemia
among different age groups in urban south
Indians. J Evolution Med Dent Sci
2020;9(40):0000-0000, DOI:
10.14260/jemds/2020/0000

Submission 20-06-2020,
Peer Review 27-08-2020,
Acceptance 05-09-2020,
Published 00-10-2020.

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4.0 International [CC BY 4.0]]

Original Research Article

CURB-65 Score in Indian Patients

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Abstract: Community acquired pneumonia is the most common cause of morbidity and mortality. Various scores have been proposed as a tool for augmenting clinical judgment for stratifying patients with community-acquired pneumonia (CAP) and predict the outcome in the same. The objectives were to study the relation of CURB-65 score and outcome in pneumonia in Indian patients. CURB-65 is the recommended severity score in the CAP guidelines of the British Thoracic Society (BTS). Because it is followed predominantly in western countries and not in India, study was undertaken to observe and interpret CURB 65 in Indian scenario. A total of 164 patients admitted with symptoms of pneumonia aged above 65years evaluated for CURB-65 score. 164 patients diagnosed to have CAP are included in the study, have been evaluated for CURB-65 score at the time of admission and were given the score from 0 to 5. Among 164 patients, 107 patients were having score 3 and above have been observed to have increased need for ICU admission and mortality. 47 patients with CURB-65 score 3, death observed in 19 patients; 43 with score 4, death observed in 27 patients; 17 with score 5, 13 deaths were observed. CURB 65 of score 3 and above is associated with highest ICU admissions and mortality.

Keywords: CURB 65, community-acquired pneumonia (CAP)

INTRODUCTION

Pneumonia is the infection of pulmonary parenchyma. Despite being the cause of significant morbidity and mortality, pneumonia is often misdiagnosed, mistreated and underestimated [1]. Community acquired pneumonia (CAP) is a common disorder with an incidence of about 20% to 30% in developing countries compared to an incidence of 3% to 4 % in developed countries [2].

The spectrum of pneumonia severity ranges from mild, which can frequently be treated on an out-patient basis, to very severe, with multiple complications and high mortality, so determining the pneumonia severity is key in pneumonia management. Even with the use of extensive laboratory testing and invasive procedures; aetiological confirmation being achieved in no more than 45% to 70% of patients [3]. *Streptococcus pneumoniae* is the most commonly isolated pathogen responsible for 35% to 60% of cases

[4]. Studies reported during the last two decades from India have also reported a higher prevalence of *Klebsiella pneumoniae* among culture positive pneumonias [5].

Major national and specialist society guidelines support the use of severity assessment in guiding clinical decisions regarding the site of care and level of medical intervention required. To aid severity assessment in CAP, a number of severity scores have been validated to predict the need for intensive-care unit (ICU) admission and mortality. CURB-65 was developed and validated by Lim *et al.*; [6] and has subsequently been shown to have moderate discrimination for the prediction of mortality in CAP.

The 2007 American Thoracic Society/Infectious Diseases Society of America guidelines on community-acquired pneumonia recommend the use of the CURB-65 assessment

Awareness of Diabetes Mellitus and its Complications among Patients at Tertiary Care Hospital

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Abstract

Aim: To study the awareness of diabetes and its complications among the patients in tertiary care hospital

Objectives: India is one of the fastest growing countries in the world. The initiative is taken to find out the awareness and to find out how aware our patients are about their diabetes and also to find out about advice given by the treating doctor (general practitioner/specialist). All the information is based on a questionnaire.

Materials and Methods: All diabetes mellitus Type 2 patients admitted toward and those visiting the outpatient at our center are included in the study. 500 patients were included in this prospective study.

Results: In our study, 48% had familial history, 47% did not know the frequency of blood sugar check-up, amazingly 55% did not know the complications, 45% of patient were not aware of insulin and 40% of the patients did not know names of the tablet of their own treatment.

Conclusion: The potential benefits of early detection are improved quality of life, decreased hospitalizations. Screening of diabetes is important as it not only detects new cases but identification of many impaired glucose tolerance and impaired fasting glucose pre-diabetes states. Public health policy should be aimed at the aspects. Clinical practitioners should aim at regular health campaigns in community to identify these hidden cases.

Key words: Awareness, Diabetes mellitus, Impaired glucose tolerance and impaired fasting glucose

INTRODUCTION

India has dubious distinction of having the largest number of people with diabetes. India has around 50 million cases of diabetes, expected to be around 80 million by 2025. It is 15-20% of global burden, contributes 1% of world's diabetes research.¹ It is known as diabetes capital of the world. In India, it is no longer a disease of rich and affluent man disease. It is becoming a problem in middle-income group and poor sections of society. Poor diabetic subjects are more prone to complications and morbidity. Till date, no national awareness program has been performed.

Nearly, 25% of Indian city dwellers have not even heard of diabetes according to a study. Screening of patients is necessary to reduce the burden of disease on individuals as well as community and nation.

Screening is defined as "A process of identifying those individuals who are at sufficiently high risk of a specific disorder to warrant further investigation or direct action." Types of screening are (a) entire population, (b) targeted screening, and (c) opportunistic screening.

Diabetes is part of a larger global epidemic of non-communicable diseases and a major public health challenge globally. This affects 6.6% (285 million people) of the world's population in the 20-79 years age group.² According to the International Diabetic Federation (IDF), this number might reach 380 million by 2025.^{3,4} The IDF in 2007, the country with the largest numbers of people with diabetes is India (40.9 million), followed by China (39.8 million), the United States (19.2 million), Russia.^{5,6}

Access this article online



www.ijss-sn.com

Month of Submission : 02-2016

Month of Peer Review : 03-2016

Month of Acceptance : 03-2016

Month of Publishing : 04-2016

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Original Article

Study of Hypothalamo Pituitary Adrenal Axis in Frail Elderly Subjects

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Abstract

Background: Frail elderly people are at increased risk of death and disability from minor environmental stresses such as infection because they do not have the reserves to respond and maintain adequate homeostasis. Studies have shown that elderly patients had a significantly smaller response to ACTH stimulation test. Due to paucity of data regarding HPA axis functioning in frail elderly in Indian studies, we assessed the adrenocortical response to ACTH stimulation test in frail elderly subjects.

Objectives: To assess the basal serum cortisol levels and serum cortisol response to 1 mcg ACTH stimulation test in frail elderly subjects.

Methodology: Case control study. Elderly patients visiting OPD or admitted at M.S. Ramaiah hospital from September 2007 to August 2009 were classified into 2 groups. Those fulfilling the criteria of frailty above 65 yrs were taken as cases, non-frail elderly were taken as controls. 40 cases and 20 controls were included.

Results: Equal number of hospitalized and out-patient subjects were studied (20 in each group). Mean age was 75.35 years in hospitalized frail, 69.6 years in out-patient frail, 68.3 years in controls. M:F ratio was 1:1. 45% of cases had frailty index of 4. A delta-rise of > 9 mcg/dl (after 1 mcg ACTH stimulation test) was seen in 10 cases (25%) of frail elderly as compared to 16 controls (80%) indicating a possible adrenal insufficiency in remaining 30 cases (75%). The mean duration of hospital stay was 5.6 days. Frail elderly with poor ACTH response had poor quality of life as measured by activities of daily living score ($p = .026$).

Conclusion:

- Frail elderly individuals have adrenal insufficiency (subclinical hypocortisolemia) compared to healthy elderly subjects, thereby indicating a poorer response to ACTH stimulation test may influence outcome during acute illness.
- Frail elderly with poor ACTH response had poor quality of life as measured by activities of daily living score ($p = .026$).
- Hyponatremia and hypotension co-related well with state of adrenal insufficiency.

Introduction

Frailty is defined as the loss of a person's ability to withstand minor environmental stresses because of reduced reserves in the physiological function of several organ systems. As a consequence, frail elderly people are at increased risk of death and disability from minor environmental stresses such as infection because they do not have the reserves to respond and maintain adequate homeostasis.¹

Studies have shown that baseline serum cortisol tends to be higher in older patients and older patients had a significantly smaller response to ACTH stimulation on both low-dose (1 microgram) and standard-dose ACTH tests (250 microgram).⁸ Studies have shown high prevalence of subclinical hypocortisolemia in ICU settings ranging from 40 to 85%.⁹

Due to paucity of data regarding HPA axis functioning in frail elderly in Indian studies, we assessed the basal cortisol secretion and adrenocortical function response to ACTH stimulation test in frail elderly individuals.

Objectives of the Study

1. To assess the basal serum cortisol levels (8am) in frail elderly individuals.
2. To assess the serum cortisol response to 1 microgram ACTH stimulation test in frail elderly individuals.

Materials and Methods

Study Design

Prospective case control study. Elderly patients visiting OPD or admitted at M. S. Ramaiah hospitals from September 2007 to August 2009 were classified into two groups.

40 Subjects who fulfilled the criteria of frail elderly were taken as cases. 20 Subjects not fulfilling the criteria of frail elderly formed the control group. Selection of cases and controls was regardless of other co-morbid conditions.

Statistical Analysis – Comparison of mean values were carried out using Student t test, Chi square tests.

Inclusion Criteria

Elderly individuals > 65 years, BMI < 23 kg/m². Patients having three or more of the following five factors: Frailty Index.¹⁰

1. Unintentional weight loss (10 pounds or more in a year)
2. General feeling of exhaustion
3. Weakness (as measured by grip strength)
4. Slow walking speed
5. Low levels of physical activity

- Elderly patients > 65 years were taken as controls.

*WHO guidelines, 2007

**Asia Pacific guidelines, 2002.

Exclusion Criteria

Patients on steroids. Patients on drugs which suppress HPA axis like ketoconazole, metyrapone, aminoglutethimide. Patients

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Received: 25.11.2010; Revised: 06.04.2011; Accepted: 27.04.2011

Original Research Article

Diabetes Mellitus - Comparative Study of Drugs, Comorbidities, Hba1c and Lipid Profile

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Abstract: Diabetes mellitus (DM) is a group of metabolic diseases which manifest as high blood sugar levels over a prolonged period. Long-term complications include cardiovascular disease, stroke, chronic kidney failure, foot ulcers, and damage to the eyes etc. This comparative study of patients with diabetes mellitus in Karnataka and patients was done to observe the differences and similarities in patterns of disease, HBA1C levels, treatment, and adverse effects of drugs. A total of 330 patients i.e. 230 Karnataka patients and 100 Kerala patients were studied from October 2014 till September 2016. In this prospective observational study, all the patients were observed for detailed history, examination, investigational findings, drug intake, adverse effects, and interactions. The results were analyzed. Patients with Type-1 Diabetes Mellitus were excluded. Males constituted 53.6% of study population, while females constituted 46.4%. 30% of the patients are in age group of 61-70 years followed by 51-60 years group with 28.5. Among Kerala patients 70% have hypertension while 38.7% of Karnataka have hypertension. 14.8% of Karnataka patients have undergone percutaneous coronary intervention (PCI). 9% of Kerala patients had Cerebrovascular accident while only 0.9% of Karnataka patients had Cerebrovascular accident (CVA). Mean Triglycerides, LDL Cholesterol, total cholesterol were higher in Kerala patients compared to Karnataka patients while mean HDL cholesterol is lower in Kerala patients. Patients from Kerala have poorer control of diabetes, higher prevalence of hypertension, heart disease, and cerebrovascular accident. Kerala patients have lesser prevalence of nephropathy and retinopathy but the results are not statistically significant. Adverse effects to drugs were reported commonly by Kerala patients compared to Karnataka patients. Dyslipidemia is more common in Kerala patients. Eventhough patients from both states have more prevalence of comorbidities, Kerala patients are at more risk.

Keywords: Diabetes Mellitus, Hypertension, Ischemic Heart disease, Dyslipidemia, Triglycerides, Cholesterol, Retinopathy, Nephropathy, Neuropathy, Metformin, Glimipiride, Insulin

INTRODUCTION:

Diabetes mellitus (DM) is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Diabetes mellitus is probably one of the oldest known diseases to mankind. DM was first recorded in Egyptian manuscript about 3000 years ago [1]. In 1936, the clear distinction between type 1 and type 2 DM was done [2]. Type 2 DM was described as a component of metabolic syndrome for the first time in

1988 [3]. Type 2 DM is the commonest form of DM characterized by hyperglycemia, insulin resistance, and relative insulin deficiency [4]. Type 2 DM results due to interaction between genetic, environmental and behavioral risk factors [5, 6].

People living with type 2 DM are more vulnerable to various forms of both short-term and long-term complications, and risk of premature death. As of 2015, an estimated 415 million people are

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<http://mc.manuscriptcentral.com/jph>

**HyPE Study: Hydroxychloroquine Prophylaxis related
adverse Events' Analysis among healthcare workers during
COVID-19 pandemic: A rising public health concern**

Journal:	<i>Journal of Public Health</i>
Manuscript ID:	JPH-20-0365
Manuscript Type:	Original Article
Date Submitted by the Author:	07-May-2020
Complete List of Authors:	<p>B S, Nagaraja; Bowring and Lady Curzon Hospital, Internal Medicine K N, Ramesh; Bowring and Lady Curzon Hospital, Internal Medicine Dhar, Debjyoti; National Institute of Mental Health and Neuro Sciences, Neurology; Bangalore Medical College and Research Institute, Internal Medicine Mondal, Mahammad; National Institute of Mental Health and Neuro Sciences, Neurology; Bangalore Medical College and Research Institute, Internal Medicine Dey, Treshita; Post Graduate Institute of Medical Education and Research, Radiation Oncology Saha, Subhrakamal; Jawaharlal Nehru Hospital and Research Center, Internal Medicine Khan, Mumtaz; Bowring and Lady Curzon Hospital, Internal Medicine Shah, Rutul; National Institute of Mental Health and Neuro Sciences, Neurology K, Pratik; National Institute of Mental Health and Neuro Sciences, Neurology J, Manjula; Bangalore Medical College and Research Institute, Internal Medicine T A, Sangeeth; National Institute of Mental Health and Neuro Sciences, Neurology; Bangalore Medical College and Research Institute, Internal Medicine Singh, Vikram; National Institute of Mental Health and Neuro Sciences, Neurology; Bangalore Medical College and Research Institute, Internal Medicine</p>
Keywords:	Health impact assessment, Public health, Population-based and preventative services

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KNOWLEDGE OF BLOOD TRANSFUSION AMONG THE NURSING STAFF IN A TERTIARY MEDICAL COLLEGE, BANGALORE

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ABSTRACT

BACKGROUND

The transfusion of blood products is essential for restoring the body's oxygen transport capacity or replenishing lost or depleted blood components. Whether to transfuse a blood or not will be decided by a physician and remaining activities of blood collection to immediate management of transfusion will be taken care by the nursing staff. This study is done to know the knowledge of nursing staff about blood transfusion.

MATERIALS AND METHODS

This study is conducted using the questionnaire. A modified routine blood transfusion questionnaire. All the nursing staffs working in a tertiary care hospital are included in the study. Nursing staffs are given the same questionnaire to answer both before and after a lecture on blood transfusion procedure and management. Their knowledge before and after lecture are compared.

RESULTS

Among the 100 participants, majority (77%) were in the age group of 20 to 24 years (Mean \pm SD: 23.69 \pm 3.25) and 88 were female participants. Majority had a work experience of 1 to 2 years (55%) mean \pm SD: 3.20 \pm 2.57 and only 42 of 100 participants had participated in blood transfusion training programme. The assessment of knowledge of the participants before and after giving the lecture on blood transfusion procedure and immediate management of blood transfusion related reactions showed significant improvement of their knowledge after the training lecture (p value <0.05).

CONCLUSION

There is a need for improvement of nursing staff knowledge on blood transfusion procedure and immediate treatment of transfusion-related complications through training programmes in hospital setup where they are working.

KEYWORDS

Blood Transfusion, Nursing Staff, Knowledge, Training Lecture.

HOW TO CITE THIS ARTICLE: Dasaraju S, Subraya SH. Knowledge of blood transfusion among the nursing staff in a tertiary medical college, Bangalore. J. Evid. Based Med. Healthc. 2017; 4(62), 0000-0000. DOI: 10.18410/jebmh/2017/1.

BACKGROUND

Since its initiation in the early twentieth century, blood transfusion, whereby blood or its constituents are infused to individuals through intravenous administration has been one of the most common procedures administered to hospitalised individuals.¹ The transfusion of blood products is essential for restoring the body's oxygen transport capacity or replenishing lost or depleted blood components.² However, blood transfusion has certain risks to recipients, including transmission of transfusion transmitted infections, acute or delayed transfusion reactions, all immunisation and immunomodulation.³

Financial or Other, Competing Interest: None.

Submission 01-08-2017, Peer Review 09-08-2017,

Acceptance 26-08-2017, Published 00-09-2017.

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DOI: 10.18410/jebmh/2017/1



Bishop (2008) indicates that transfusion process is composed of five interrelated phase. Those are-

1. Decision to transfuse blood by physician is a first phase. Other four phases are dependant and managed by nursing staff in the ward.
2. Patient preparation before collecting blood bag.
3. Collection of blood bag from blood bank.
4. Pre-transfusion patient preparation.
5. Patient monitoring and activities during and after blood transfusion.⁴

Nursing staffs are trained at various levels of their service regarding blood transfusion. But, the knowledge of each nursing staff varies with the type of training and local health facilities. Most transfusion errors are due to human factors, which are preventable through training and revision of transfusion protocols. This study is an attempt to identify the knowledge gap in blood transfusion process of the nursing staff, so that areas of improvisation can be identified and transfusion associated risks can be minimised.

Original article:

Hematological profile of snake bite patients in a Tertiary Care Hospital

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ABSTRACT:

Introduction: Haematological complications are more common than any other complications due to snake bite. Several educational and preventive activities are required to minimise the incidence of snake bite. Early recognition of signs of envenomation and derangement of haematological parameters can prevent many complications.

Objective of the study: To study the hematological profile in snake bite patients.

Methodology: Patients with history of snake bite who fulfill the inclusion and exclusion criteria, getting admitted at K.R. Hospital, Mysore Medical College during the period of January 2011 to June 2012. Patients who have developed local signs of envenomation due to snake bite are included in the study group. The coagulation profile assessed by doing blood investigations.

Results: Among 50 patients with signs of snake bite envenomation, 70% of the patients had prolonged whole blood clotting time that is more than 20 minutes, PT-INR was prolonged (>1.2 seconds) in 33 (66%) patients and APTT was prolonged (>28 seconds) in 44 (88%) of patients and thrombocytopenia (platelet count <1.5 lakh) was found in 13 (26%) patients

Conclusion: It is important to recognize the signs of envenomation and monitor the coagulation profile to treat snake bite patients at the earliest and to avoid haematological complications.

Keywords: Snake bite, Signs of Envenomation, Haematological profile, PT, APTT, WBCT

INTRODUCTION

Snake bite rates are more commonly seen in temperate and tropical countries where most of them are farmers. In India, a large proportion of snake bites occur when people are working barefoot in the fields or while walking at night. Recent estimates indicated that 1.2 million - 5.5 million snakebites worldwide each year, with 0.4 -1.84 million envenomations and 20,000-94,000 deaths.¹ This study is an attempt to study the hematological profile of snake bite patients. Worldwide, only about 15% of the more than 3000 species of snakes are considered dangerous to humans.² Venomous snakes belong to the families Viperidae, Elapidae, Hydrophiidae, Atractaspididae, and Colubridae.

Snake venoms are extremely complex substances. They have proteic and non-proteic fractions, and may produce local changes, such as acute inflammatory activity, edema, ecchymosis, blisters and necrosis, and systemic changes, such as hemorrhage, blood pressure alteration, neurotoxicity, hemolysis, rhabdomyolysis and acute kidney injury (AKI).³ Haematological complications are more common than any other complications due to snake bite. A simple 20 Minute Whole Blood Clotting Test (20WBCT) considered the most reliable test of coagulation and can be carried out at the bedside without special training to diagnose and treat early haematological complications of snake bite.

E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2020; 2(2): 133-135
Received: 14-05-2020
Accepted: 21-06-2020

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Thyroid dysfunction in type 2 DM patients with microvascular complications

Dr. Prakash Gundagatti, Dr. Atul Kumar Pandey, Dr. Sareetha AV and Dr. Pramod GR

DOI: <https://doi.org/10.22271/27069567.2020.v2.i2b.188>

Abstract

In 2010, the prevalence of DM in the United States was estimated to be 0.2% in individuals aged <20 years and 11.3% in individuals aged >20 years. In individuals aged >65 years, the prevalence of DM was 26.9%. The prevalence is similar in men and women throughout most age ranges (11.8% and 10.8%, respectively, in individuals aged >20 years). Patients were examined for presence of diabetes mellitus according to ADA criteria for diagnosis of diabetes mellitus.

All diabetic patients were then subjected to estimation of BMI, HbA1C, Serum cholesterol, Serum triglyceride, HDL, VLDL and LDL levels. Then all the patients were evaluated for thyroid dysfunction by testing thyroid profile (T3, T4, TSH and anti TPO Ab). Among 110 diabetes patients in the present study, 33 patients had microvascular complications, of which 8 patients had thyroid dysfunction. There was no significant association present between these two groups (p value was 1.00).

Keywords: HbA1C, ADA criteria, HDL

Introduction

Diabetes mellitus (DM) refers to a group of common metabolic disorders that share the phenotype of hyperglycemia resulting from defects in insulin secretion, insulin action, or both ^[1].

The worldwide prevalence of DM has risen dramatically over the past two decades, from an estimated 30 million cases in 1985 to 285 million in 2010. Based on current trends, the International Diabetes Federation projects that 438 million individuals will have diabetes by the year 2030 ^[1].

Although the prevalence of both type 1 and type 2 DM is increasing worldwide, the prevalence of type 2 DM is rising much more rapidly, presumably because of increasing obesity, reduced activity levels as countries become more industrialized, and the aging of the population ^[1].

In 2010, the prevalence of diabetes ranged from 11.6 to 30.9% in the 10 countries with the highest prevalence (Naurua, United Arab Emirates, Saudi Arabia, Mauritius, Bahrain, Reunion, Kuwait, Oman, Tonga, Malaysia-in descending prevalence ^[1].

In 2010, the prevalence of DM in the United States was estimated to be 0.2% in individuals aged <20 years and 11.3% in individuals aged >20 years. In individuals aged >65 years, the prevalence of DM was 26.9%

The prevalence is similar in men and women throughout most age ranges (11.8% and 10.8%, respectively, in individuals aged >20 years). Worldwide estimates project that in 2030 the greatest number of individuals with diabetes will be aged 45–64 years ^[1].

Nowhere is the diabetes epidemic more pronounced than in India as the World Health Organization (WHO) reports show that 32 million people had diabetes in the year 2000 ^[2]. The International Diabetes Federation (IDF) estimates the total number of diabetic subjects to be around 40.9 million in India and this is further set to rise to 69.9 million by the year 2025 ^[3].

The histopathological hallmark of diabetic microangiopathy is thickening of capillary basement membrane, with associated increase in vascular permeability throughout the body ^[4]. The increased vascular permeability, allows extravasation of plasma proteins that accumulate as periodic acid Schiff - positive deposits in the vessel walls. The basement membrane thickening, brought about by the extracellular matrix elaboration occurs in many tissues, including retinal capillaries and the vasa nervorum ^[5].



E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2020; 2(1): 79-81
Received: 12-01-2020
Accepted: 26-02-2020

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Study of serum magnesium level in patients of newly diagnosed type-2 diabetes mellitus and its effect on glycemic control

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DOI: <https://doi.org/10.22271/27069567.2020.v2.i1a.187>

Abstract

Magnesium deficiency has been found to be associated with microvascular disease in diabetes. Hypomagnesemia has been demonstrated in patients with diabetic retinopathy, lower levels of magnesium predicting a greater risk for diabetic retinopathy. In this, Hospital based Observational Study, 106 newly diagnosed Type 2 diabetes mellitus patients who had attended Diabetic clinic, Medicine OPD and were admitted in Medicine ward, were selected as per the inclusion and exclusion criteria for the study. The data for the purpose of study were collected in a predesigned Proforma. The mean HbA1c among cases was (8.43 ± 1.71) . Controlled diabetes were grouped under HbA1c level < 7 . There were 16 patients who have their HbA1c level in controlled range with mean serum magnesium level 2.17 ± 0.09 mg/dl. There were 90 patients in uncontrolled group with mean serum magnesium level 1.86 ± 0.17 mg/dl. ($p < .001$).

Keywords: Hypomagnesemia, HbA1c, magnesium deficiency

Introduction

Hypomagnesemia is a common feature in patients with type 2 diabetes. Although diabetes can induce hypomagnesemia, magnesium deficiency has also been proposed as a risk factor for type 2 diabetes. Magnesium is a necessary cofactor for several enzymes that play an important role in glucose metabolism [1]. Low magnesium status has repeatedly been demonstrated in patients with type 2 diabetes. Magnesium deficiency appears to have a negative impact on glucose homeostasis and insulin sensitivity in patients with type 2 diabetes [2].

Magnesium deficiency has been found to be associated with microvascular disease in diabetes. Hypomagnesemia has been demonstrated in patients with diabetic retinopathy, lower levels of magnesium predicting a greater risk for diabetic retinopathy. Magnesium depletion has also been associated with arrhythmogenesis, vasospasm, platelet activity and hypertension [3].

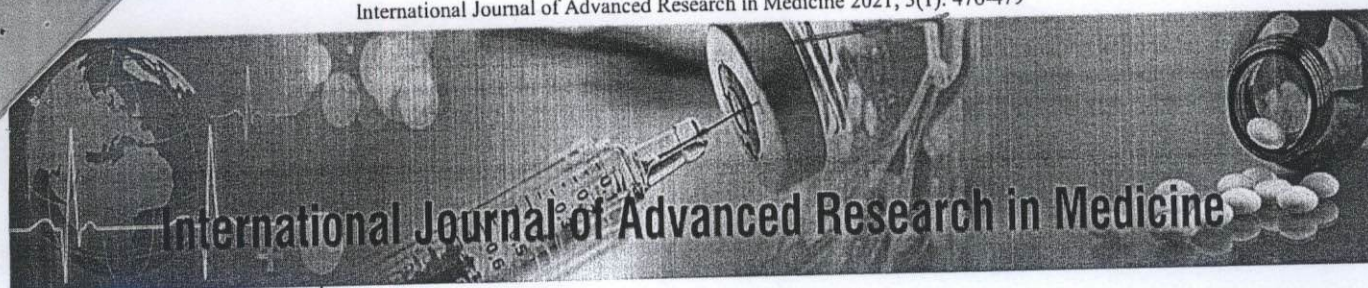
Many studies have reported significantly lower serum magnesium levels in type 2 diabetics when compared with non – diabetic healthy controls [4]. Among diabetics, low serum magnesium values were reported in patients with retinopathy. In North-East India, there are related data available which are only restricted to few unpublished reports. Also, the comparative studies within diabetic population based on glycemic control are limited. With this background, we decided to study the level of serum magnesium. In newly diagnosed type – 2 diabetics and correlate with glycemic status.

Aims and Objectives

To compare the levels of serum magnesium in patients with newly diagnosed Type 2 Diabetes Mellitus and normal healthy individuals (controls) To correlate the serum magnesium level with the glycaemic status in newly diagnosed Type 2 diabetes mellitus patients.

Methodology

In this, Hospital based Observational Study, 106 newly diagnosed Type 2 diabetes mellitus



E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2021; 3(1): 476-479
Received: 24-05-2020
Accepted: 30-06-2020

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Correlates of thyroid disorder in type DM patients

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DOI: <https://doi.org/10.22271/27069567.2021.v3.i1h.186>

Abstract

Diabetic patients have a higher prevalence of thyroid disorders compared with the normal population. Because patients with one organ-specific autoimmune disease are at risk of developing other autoimmune disorders, and thyroid disorders are more common in females, it is not surprising that up to 30% of female type 1 diabetic patients have thyroid disease. A thorough clinical examination including vitals, general physical examination, systemic examination and investigations was carried out. Biochemical investigations were carried out using proper aseptic precautions for collecting blood. It is seen that, in the present study patients were divided into 2 groups based on duration of diabetes. There were 52 diabetic patients in ≤ 3 months group, of which 40 patients were euthyroids and 12 patients had thyroid dysfunction. There were 58 diabetic patients in ≥ 3 months group, of which 44 patients were euthyroids and 14 patients had thyroid dysfunction. However there was no statistically significant difference between these two groups. (p value was 1.00).

Keywords: Diabetes, thyroid disorders, euthyroids

Introduction

It is estimated that approximately 285 million people or 6.4% in the age group 20-79 will have diabetes worldwide in 2010. About 70% of these live in low-and middle-income countries. The worldwide estimate is expected to increase to some 438 million, or 7.7% of the adult population, by 2030. The largest increases will take place in the regions dominated by developing economies [1].

The Prevalence of diabetes and prediabetes (impaired fasting glucose and/or impaired glucose tolerance) in urban and rural India: phase I results of the Indian Council of Medical Research-India Diabetes (ICMR-INDIAB) study shows that weighted prevalence of diabetes (both known and newly diagnosed) was 10.4% in Tamilnadu, 8.4% in Maharashtra, 5.3% in Jharkhand, and 13.6% in Chandigarh. The prevalences of prediabetes (impaired fasting glucose and/or impaired glucose tolerance) were 8.3%, 12.8%, 8.1% and 14.6% respectively [2].

It has long been known that thyroid hormones act differentially in liver, skeletal muscle and adipose tissue – the main targets of insulin action. While thyroid hormones oppose the action of insulin and stimulate hepatic gluconeogenesis and glycogenolysis, they up-regulate the expression of genes such as GLUT-4 and phosphoglycerate kinase, involved in glucose transport and glycolysis respectively, thus acting synergistically with insulin in facilitating glucose disposal and utilisation in peripheral tissues [3, 4].

Diabetic patients have a higher prevalence of thyroid disorders compared with the normal population. Because patients with one organ-specific autoimmune disease are at risk of developing other autoimmune disorders, and thyroid disorders are more common in females, it is not surprising that up to 30% of female type 1 diabetic patients have thyroid disease.^{5,6} A number of reports have also indicated a higher than normal prevalence of thyroid disorders in type 2 diabetic patients, with hypothyroidism especially subclinical being the most common disorder.

Methodology

Type of study: Hospital-based Observational Study,

E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2021; 3(1): 473-475
Received: 14-05-2020
Accepted: 20-06-2020

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A study on spectrum of thyroid dysfunction in type 2 DM

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DOI: <https://doi.org/10.22271/27069567.2021.v3.i1h.185>

Abstract

The prevalence of thyroid disease in diabetic patients is significantly higher than in general population. Apart from autoimmune etiology linked to the higher prevalence of thyroid disease in DM, it has also been observed that thyroid function is intrinsically linked to insulin resistance. It has also been stated that common factors simultaneously are responsible for increased TSH levels and insulin resistance. Method of collection of data was done by taking detailed clinical history regarding diabetes mellitus (onset, duration), any history of long term illness, any previous thyroid dysfunction, previous history of any kind of drug therapy, whether the patient was on insulin or oral hypoglycemic drugs was sought. It is seen that out of 110 diabetic patients, 16 (14.55%) patients had subclinical hypothyroidism, 7 (6.36%) patients had overt hypothyroidism, 3(2.73%) patients had overt hyperthyroidism and 84(76.36%) patients were in euthyroid group.

Keywords: Thyroid dysfunction, Type 2 DM, euthyroid

Introduction

Thyroid disease is common in the general population, and the prevalence increases with age. Hypothyroidism is more common than hyperthyroidism. It can be autoimmune in origin, presenting as either primary atrophic hypothyroidism or Hashimoto's thyroiditis. The mean incidence rate of autoimmune hypothyroidism is upto 4/1000 women and 1/1000 men^[1]. Subclinical hypothyroidism (SCH) is found in 6–8% of women (10% over the age of 60) and 3% of men. The annual risk of developing clinical hypothyroidism is about 4% when subclinical hypothyroidism is associated with positive Thyroid peroxidase (TPO) antibodies. Graves' disease accounts for 60–80% of thyrotoxicosis. The prevalence varies among populations, reflecting genetic factors and iodine intake (high iodine intake is associated with an increased prevalence of Graves' disease).

Graves' disease occurs in up to 2% of women but is one-tenth as frequent in men. The disorder rarely begins before adolescence and typically occurs between 20 and 50 years of age; it also occurs in the elderly^[2,3].

The prevalence of thyroid disease in diabetic patients is significantly higher than in general population. Apart from autoimmune etiology linked to the higher prevalence of thyroid disease in DM, it has also been observed that thyroid function is intrinsically linked to insulin resistance. It has also been stated that common factors simultaneously are responsible for increased TSH levels and insulin resistance^[4].

In type 2 DM, prevalence of thyroid disease has been found to be as high as 31%, the most common disorder being SCH, followed by subclinical hyperthyroidism, overt hypothyroidism and overt hyperthyroidism^[5].

Hyperthyroidism in DM is typically associated with worsening glycemic control and increased insulin requirement. There is increased hepatic gluconeogenesis and rapid gastrointestinal glucose absorption.

Hypothyroidism in DM, may lower the exogenous insulin requirement due to reduced rate of insulin degradation. Hypothyroidism is also accompanied by increased TG, LDL, TC levels in the blood, thereby increasing the risk of CVD.

Subclinical hypothyroidism is defined as a serum TSH level above normal despite normal levels of serum free thyroxine. Subclinical hyperthyroidism is defined as normal serum free thyroxine and free T3 levels with a TSH level suppressed below the normal range.



Rothmund-Thomson Syndrome - A Rare Case Report

KEYWORDS

genodermatosis, poikiloderma, short stature, skeletal abnormalities

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ABSTRACT

We here with report a case of 4 yr old male child with bow legs, mild developmental delay, sparse hair, peg shaped teeth, ricketty features, and hyper and hypopigmentation. All these findings are consistent with the diagnosis of Rothmund-Thomson syndrome. We are presenting this case because of its rarity.

Introduction:

Rothmund-Thomson syndrome (RTS) is a rare condition the prevalence of which is unknown. It is a genodermatosis presenting with a characteristic facial rash (poikiloderma) associated with short stature, sparse scalp hair, sparse or absent eyelashes and/or eyebrows, skeletal abnormalities, radial ray defects, premature ageing and a predisposition to cancer. We are hereby presenting this case in view of its rarity.

Case report:

A 4 year old male child, of 1st birth order, born to a 2nd degree consanguineous couple, who is having mild developmental delay presented to our hospital with complaints of not growing well since birth and recurrent episodes of loose stools, bow legs since late infancy. Perinatal history was uneventful. He was stunted and wasted his weight was 10 kgs (<-3SD), height 77 cms (<-3SD). On examination child had no dysmorphic features, he had sparse and hypopigmented hair, peg shaped teeth, widening of wrist and bow legs suggestive of rickets and hyper pigmentation of the trunk and limbs with hypopigmented macular lesions of palms and soles. On investigations X-ray wrist joint showed widening and fraying of lower end of radius and ulna and x ray skull-open anterior fontanelle. His Hb was 6.2 gm/dl (anemic), TLC 7200/mm, TPC 6.6 lakh/mm, and peripheral smear suggestive of hypochromic microcytic anemia with polychromasia. Serum Ca-(9.3), Po4(4.2), ALP(124), serum cortisol(200 ng/dl), are all within normal limits. Ophthalmological examination revealed corneal xerosis and positive Schirmer's test. Skin biopsy was done which was s/o Hypohydrotic Ectodermal Dysplasia. On dental examination child was diagnosed to have Amelogenesis Imperfecta, CT scan brain was normal.

Based on the compatible clustering of all clinical features diagnosis of Rothmund Thomson syndrome was made, which requires genetic testing of RECQL4 gene for confirmation. In our case we could not do genetic testing. Child was started on 6 lakh IU vit d followed by maintenance of 400 IU daily along with iron supplementation for anemia. On follow up X-ray wrist revealed healing rickets. We are planning for 6 monthly evaluation for cataracts, and annual evaluation for malignancies.



Fig (A)



Fig (B)

CASE REPORT

UNILATERAL OPEN LIP SCHIZENCEPHALY – A RARE CASE REPORT

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HOW TO CITE THIS ARTICLE:

Majeti Srinivasa Rao, Manas Ranjan Sahoo, J. Alekhya, A. Vasundhara, P. Sudarsini, "Unilateral open lip schizencephaly – a rare case report". Journal of Evolution of Medical and Dental Sciences 2013; Vol. 2, Issue 42, October 21; Page- 8123-8125.

INTRODUCTION: Schizencephaly is a rare neuronal migration disorder with an incidence of 1.5 in 1,00,000 live births. Herein we report a rare case of left sided open lip schizencephaly.

KEYWORDS: neuronal migration, developmental delay, schizencephaly.

CASE REPORT: A 9 year old male child came to our OPD with complaints of right upper and lower limb weakness which was recognised by his parents at 6 months of age .he was a product of 2nd degree consanguineous marriage delivered through NVD which was a prolonged labour requiring forceps assistance, antenatal h/o was uneventful. He had a height of 118cm (0-1SD) and weight of 25kg (0-1SD). There was a mild developmental delay of gross motor domain, the child attained walking without support at the age of one and a half year and the weakness was non progressive. Child had 1 episode of unprovoked right sided focal seizure at 3 years of age. On examination he had uniform wasting of right sided upper and lower limb muscles with right sided facial nerve palsy of upper motor neuron type, power was 4/5 in both upper and lower limbs, he had slurring of speech, and his gait was circumductory. There were no involuntary movements. There was no mental retardation. Skull and spine were normal. There were no neurocutaneous markers. Keeping the above findings in mind work up for infantile hemiplegia was done, laboratory investigations revealed hemogram, serum electrolytes, ammonia and lactate which were in normal ranges. In order to rule out structural abnormalities MRI brain was done which showed a uniform grey matter lined cleft extending from pial surface of the cerebral mantle upto the ventricular ependyma.

Thus the diagnosis was clinched with the help of MRI scan. Prognosis was explained to the parents and physiotherapy was advised.

Close differentials include: other disorders of neuronal migration like focal cortical dysplasias, grey matter heterotopia, porencephaly etc.

DISCUSSION: Schizencephaly is a rare cortical malformation that manifests as a grey matter lined cleft extending from the pial surface of the cerebral mantle upto ventricular ependyma. Incidence is estimated to be around 1.5 in 1,00,000 live births. It is almost always sporadic and there is no known gender predilection. Developmental delay, motor disturbances correlate with degree of anatomical abnormality. Seizures are relatively common. Exact pathogenesis is uncertain but is most likely to be a disorder of neuronal migration. Some familial cases have been reported were heterozygous germline mutations of homeobox gene EMX2 are often encountered. It can be divided into two morphological types: 1. open lip, 2.closed lip. Most frequently the cleft involves posterior frontal and parietal lobes (70%). Large clefts can involve temporal and occipital lobes, isolated involvement is uncommon. MRI is the imaging modality of choice as it enables better differentiation of grey and white matter defects.



3

Case report

A Case Study on Subcutaneous zygomycosis with ulcer

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ABSTRACT

Keywords

Subcutaneous
phycomycosis,
Basidiobolus
ranarum.

Subcutaneous mycosis due to *Basidiobolus ranarum* is endemic in south India. We hereby report a case of subcutaneous zygomycosis in a 6 months old female child who presented with a painless, non-tender swelling progressed to ulcer on the thigh.

Introduction

A 6 month female child was brought to pediatric department with h/o gradually increasing painless ulcerated swelling over the left thigh. There was history of insect bite 4 months ago. The swelling was gradually increasing since then and progressed to ulcer formation covered by eschar.

No discharge was observed. On cutaneous examination there was a single firm, well defined swelling with ulceration having insinuating edges covered by eschar of size 8 x 4cms. The swelling with ulcer was freely mobile over the underlying structure. There was an indurated small satellite nodule proximal to the ulcer (Figure 1).

Routine investigations were normal and x ray left thigh showed soft tissue swelling. Tests for HIV negative, swabs were sent for bacterial and fungal culture. Bacterial culture was sterile and a 10% potassium hydroxide wet mount revealed broad, irregular aseptate hyphae. Growth on Sabouraud's dextrose agar after 3 days of incubation at 25 °C showed creamy brown, centrally heaped up, radially folded colonies with satellite colonies on the periphery (Figure 2). On performing lactophenol cotton blue wet mount of the fungal culture, aseptate hyphae and numerous smooth walled zygospores with characteristic beaks (Figure.3) were observed, thus confirming the diagnosis of the fungus as *Basidiobolus ranarum*.



Original Research Article

Clinico-haematological profile and outcome of dengue fever in children

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ABSTRACT

To evaluate clinical features, disease severity, laboratory findings and outcome of serologically confirmed cases of dengue fever in children between May 2012 to October 2012. Dengue fever cases admitted in the Pediatric department of Alluri Sita Ramaraju Academy of Medical Sciences, Eluru. Eighty children with Dengue fever were hospitalized in the Pediatric department of ASRAM. Each case was evaluated and followed for various clinical manifestations and outcome. All the children were monitored and managed according to standardized WHO protocol. The mean age of patients is 9.77 ± 4.1 with almost equal male to female ratio. Among 80 patients 32.5% had dengue fever, 3.75% had DHF1, 36.25% had DHFII, 21.2% had DHFIII and 6.25% had DHF IV. The common symptoms were fever (100%), abdominal pain(58%), vomiting(42%), myalgias(32%), itchy rash(28%). Bleeding manifestations were seen in 68.7% cases with petechiae (70%) being the most common followed by melena(23%), hematemesis (20%), epistaxis(7%), gum bleeds(6%), Haematuria (6%) and menorrhagia (3%). Hepatomegaly is seen in 33.75% cases, leak syndrome in 25% cases. Thrombocytopenia in 85% cases, among which 78% had haemorrhagic manifestations. Mean platelet count in DHF cases is 40758 ± 27180 . Tourniquet is positive in 38.7% of cases, The sensitivity of the tourniquet test for haemorrhagic manifestations is 56% and Specificity is 88%. 72% of cases of patients with thrombocytopenia had leucopenia (p value 0.009). The complications seen were liver dysfunction(17.5%), coagulopathy (7.5%), encephalopathy(2.5%) pancreatitis (1.25%) and ARDS (1.25%). Mortality in the study is 6.25% with DSS with coagulopathy(5%) being the lead cause followed by DSS with ARDS (1.25%). The common symptoms were fever, abdominal pain, vomiting, petechiae, GI bleeds. The incidence of bleeding is higher with increasing severity of thrombocytopenia. Tourniquet test is not a good screening test for haemorrhagic manifestations. Leucopenia is also a significant feature in patients with thrombocytopenia. Refractory shock and coagulopathy were main causes of mortality.

Keywords

Dengue Fever
Children
Clinico
Haemato-
logical profile
Outcome

Introduction

Dengue is the most important emerging tropical viral disease in the world today.

The WHO estimates 50 million dengue infections occur annually and almost half



Purulent Meningitis as an Unusual Presentation of Staphylococcus Aureus Endocarditis in A 10 Year Child : A Case Report

KEYWORDS

Endocarditis, cutaneous vasculitis, meningococcal septicemia, septic shock

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ABSTRACT

On presentation of Staphylococcus aureus endocarditis, unusual manifestations may represent the main clinical features of the disease. Isolated bacterial meningitis as the first manifestation of endocarditis is considered to be an unusual neurological complication. Here, we describe a case S. aureus endocarditis presenting as isolated meningitis and mimicking meningococcal septicemia with cutaneous vasculitis with septic shock. This case is reported because of diagnostic challenge and how recognition of this infectious syndrome is of crucial importance for the correct management of patients.

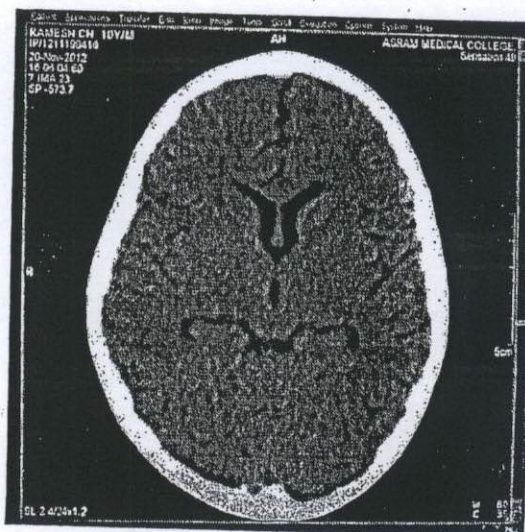
Introduction:

Staphylococcus aureus is a leading cause of bacteraemia and endocarditis, but also a rare cause of bacterial meningitis. The mortality rate of S. aureus endocarditis is approximately 20-40%, depending on the extreme variability in clinical presentation which may delay the early diagnosis and treatment of the disease [1-3]. Therefore, early diagnosis and adequate monitoring of the various complications due to S. aureus endocarditis are important. In this paper, we describe a case of S. aureus endocarditis presenting as isolated meningitis and mimicking meningococcal septicemia.

Case report:

10yr male child came to hospital with complaints of fever for 7 days, head ache and altered sensorium 2 days. There was no h/o seizure. At admission child was in septic shock, so managed with fluid bolus followed by dopamine infusion @ 10mcg/kg/min. On examination child was irritable with GCS of 13/15, pupils were bilateral equal and reacting to light, neck stiffness was present, no cranial nerve deficit, no motor deficit were present, bowel, bladder were normal. Eyes were congested, bluish black discoloration of right lower limb great toe and both palmar aspect of hands. So possibility of meningococcal meningitis with septic shock was kept and treated with inj ceftriaxone 1.2gm iv bd, inj vancomycin 350mg iv 6th hrly, dexamethasone 3.6mg iv 6th hrly for 2 days. Initial investigations were Hb- 8.9, TLC- 18200, N86%, L7%, total platelet count-75000, peripheral smear showing microcytic hypochromic anemia with neutrophilic leukocytosis with thrombocytopenia, MP smear negative, PT 19/14 with INR 1.5, APTT 45 s (normal 20-34), D-dimer was positive, urea 23mg/dl, creatinine 0.5mg/dl, bilirubin 0.8mg/dl, SGOT 105 IU/L, SGPT 60 IU/L, ALP 320 IU/L, Serum Na 140meq/L, K 4.9 meq/L, Ca 8.9mg/dl, RBS 98mg/dl. Urine r/m showed microscopic hematuria. After stabilization and recovery of shock with correction of coagulopathy CSF study was done. CSF report was 04 cells, all are lymphocytes, sugar 61mg/dl, protein 76mg/dl, ADA 2.5 IU, csf c/s sterile. CT scan brain reported as subtle hypodense lesion in left lateral thalamus. EEG was normal. Doppler USG was ordered for peripheral vasculitis, which suggested thrombosis of right cephalic vein with upper limb lower limb Doppler being normal.

On day 3 of illness, his sensorium improved but fever persisted and physical examinations revealed splinter hemorrhage in lower limb great toes. On CVS examination ejection systolic murmur of grade 3/5 was heard over mitral area. On reviewing history there was no past h/o breathlessness, joint pain, sore throat or any abnormal movement. With doubt of infective endocarditis 2D-Echo was done which revealed vegetation over AML (size 0.9x0.7cm) with moderate Mitral regurgitation with normal biventricular function. Three set of Blood c/s were sent. Out of 3 c/s, one blood c/s suggested of staphylococcus aureus sensitive to erythromycin, clindamycin, linezolid and resistant to vancomycin. According to report linezolid was added and continued for 6 weeks. ASO was negative, CRP was positive, ESR 60mm/1hr. Ophthalmological examination revealed Roth spot in both eyes. Final diagnosis was kept as native valve endocarditis with Mitral regurgitation with embolic phenomenon presenting as meningitis with septic shock and DIC. Child became afebrile after 4 days of linezolid therapy. On discharge and follow up child there was resolution of vegetations and child was clinically asymptomatic.





PROFILE OF RISK FACTORS AND OUTCOME OF HYPOGLYCEMIA IN NEWBORNS ADMITTED IN THE NEONATAL UNIT OF A TERTIARY CARE HOSPITAL, ASRAM, WEST GODAVARI DISTRICT

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HOW TO CITE THIS ARTICLE:

P. Nandakishore, Majeti Srinivasa Rao, A. Vasundhara, P. Sudarsini, K. Umamaheswara Rao, P. Sourika, Ch. Anusha Deepthi, M. Srinivas Reddy. "Profile of Risk Factors and Outcome of Hypoglycemia in Newborns Admitted in the Neonatal Unit of a Tertiary Care Hospital, Asram, West Godavari District". *Journal of Evolution of Medical and Dental Sciences* 2014; Vol. 3, Issue 18, May 05; Page: 5048-5056.
DOI: 10.14260/jemds/2014/2552

ABSTRACT: AIMS: 1. To know the various risk factors of neonatal hypoglycemia and their incidence among the babies admitted in tertiary care hospital, ASRAM, Eluru. 2. To know the outcome of neonatal hypoglycemia in both symptomatic and asymptomatic newborns in tertiary care hospital, ASRAM, Eluru. **DESIGN:** Prospective study. **SETTING:** Tertiary hospital based study over 24 months. **METHODS:** Blood glucose values are measured using Reagent Strip method (Glucotrend2 of USA. and confirmed by Laboratory Diagnosis The blood glucose values were measured at 1, 2, 4, 6, 12, 24, 36, 48 and 72 hours of life or till discharge whichever is earlier. **RESULTS:** A total of 150 cases were observed of which 59 cases (33.3%) developed hypoglycemia. The common risk factors observed are low birth weight in 23(46%), sepsis in 12(24%), IDM in 5 (10%), asphyxia in 4(8%) and 6 cases (12%) have no risk factors. 76.9% of the cases have developed hypoglycemia at the first hour of life. In our study 52% of neonates with hypoglycemia have recovered well with oral feeds given at 30mins. The remaining 48% required glucose infusion. Only 1 case had recurrent hypoglycemia (2%) even on glucose infusion and it is controlled with single dose hydrocortisone. **CONCLUSIONS:** Hypoglycemia is a common in the newborns, and a high index of suspicion is required to identify it early. It is also an easily treatable problem, in most occasions. Hypoglycemia in the newborn if detected and treated early will prevent adverse neurodevelopmental outcome. **KEYWORDS:** hypoglycemia, low birth weight, risk factors, neurodevelopment.

INTRODUCTION: Hypoglycemia is a common disorder in neonates.^{1,2} In neonates there is not always an obvious correlation between blood glucose concentration and the classic clinical manifestation of hypoglycemia. The absence of symptoms does not indicate that glucose concentration is normal. There is still no universal definition for this disorder.³

The definition of clinically significant hypoglycemia is one of the most confused and contentious issue in contemporary. Koh et al did a detailed survey and found that the definition ranged from 18 mg/dl to 72mg/dl. Confusion exists due to the fact that the "normal" range of blood glucose is different for each newborn and depends upon a number of factors including birth-weight, gestational age, body stores, feeding status, availability of energy sources as well as the presence or absence of disease. Thus the definition of hypoglycemia should be flexible and encompass all these aspects. Further, there is no concrete evidence to show the causation of adverse long-term outcomes by a particular level or duration of hypoglycemia.⁴

A recent consensus has been to evolve an "operational threshold". This threshold is currently believed to be a blood glucose value of less than 40 mg/dl (plasma glucose less than 45 mg/dl). Many



A Rare Case of Congenital Amniotic Band Syndrome

KEYWORDS

Amniotic band, Mifepristone, Misoprostol, Acrosyndactyly, Congenital talus equinovarus (CTEV).

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ABSTRACT

Amniotic Band Syndrome occurring in babies secondary to antenatal drugs is a rare presentation. We report a case of amniotic band syndrome in a 7 months old female child secondary to antenatal use of mifepristone and Misoprostol at the gestational age of 11 weeks, presenting with acrosyndactyly, bilateral C.T.E.V., lymphoedema of left thumb. The deformities were corrected surgically, and the child is improving well.

Introduction:

Amniotic band syndrome (ABS) also known as Constriction Ring syndrome is a well known disorder affecting the extremities far more frequently than face¹. Abnormalities result from bands of amnion that get attached to the developing foetus causing constriction that leads to webbing of toes, amputation of limbs and sometimes even severe defects like Talipes equinovarus and various joint contractures². The disorder is sporadic and is not inherited and the overall incidence of 1 in 15,000 births has been reported³.

Case Report:

A 7 months 14 days old female child with the birth history of normal vaginal delivery born to a non consanguineous couple at term gestation was brought to ASRAM hospital with complaints of fusion of tips of fingers of both hands, absence of little toe of right foot and internal rotation at the ankle joint of both lower limbs since birth. There was an antenatal drug intake history of Mifepristone and Misoprostol at the gestational age of 11 weeks for termination of pregnancy, but the termination was unsuccessful. Natal history was uneventful and the child was developmentally normal.

On clinical examination acrosyndactyly of all five fingers of right hand, acrosyndactyly of index, middle, and ring fingers of left hand and lymphoedema of left thumb along with CTEV of both lower limbs observed.

Complete hemogram, urine routine examination, 2D-Echo and usg abdomen were normal.

Band release and Z plasty was done in both hands. Orthopedic opinion was taken and parents were counselled for CTEV correction.

Discussion: In children with limb abnormalities that are consistent with a diagnosis of Amniotic constriction band, specific risk factors for ABS must be considered. Thalidomide, Warfarin, Phenytoin and several others including Misoprostol

cause vascular disruption in a limb that has formed normally thereby causing ABS.^{4,5} With reference to the current case in order to conclude the etiology of ABS a thorough antenatal history was taken. There was antenatal drug intake of Mifepristone and Misoprostol at eleven weeks of gestation. Drug exposure at less than 12 weeks of gestation age is potentially associated with the occurrence of ABS. Amnion rupture most likely occurs before 12 weeks of gestational age. Prior to 12 weeks of gestation, the amnion and chorion are completely separate membranes, and as such the amnion is more vulnerable to rupture, when any insult occurs in the form of trauma, drug exposure.⁶

Conclusion:

Antenatal drug intake is one of the most important risk factor for occurrence of ABS.

With reference to the current case use of Mifepristone and Misoprostol for the termination of pregnancy led to the occurrence of ABS. A thorough counselling to parents who opt for early termination of pregnancy with drugs should be given on the teratogenic effects and on the probability of occurrence of ABS in case of failure of termination of pregnancy.

Fig : 1 . Acrosyndactyly of all five-fingers of right hand and acrosyndactyly of index, middle, and ring fingers Lymphoedema of left thumb

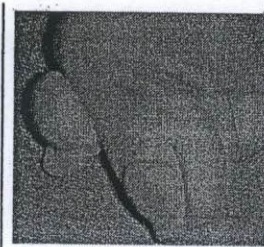


Fig : 2. Band release

Fig : 3. Post operative

REFERENCE

Child 1988; 142:51
Defects and Med Gen

Evaluation of National Immunization Programme in and Around Eluru.



Medical Science

KEYWORDS : Immunization, cluster sampling technique, Chi-square test, dropouts, literacy, health education.

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ABSTRACT

Back ground: The urban population is increasing rapidly in India. In urban areas, inspite of multiple agencies providing health care, the immunization coverage was low.

Objective: This study has been undertaken to evaluate knowledge and attitude of parents towards National Immunization programme and to assess immunization status of children in the age group between 12 and 23 months in Municipal Corporation of Eluru.

Materials and Methods: The present cross sectional study was carried out in urban area under Municipal Corporation of Eluru (MCE) from December 2013 to September 2014 using 30 cluster sampling technique. A total of eight children aged 12-23 months were interviewed from each cluster on pre tested, predesigned schedule, thus giving us the a total of 240 children will be my sample size and rounding off it to 250 children. Chi square test was applied for statistical analysis.

Observations & results: Two hundred and twelve children (84.8%) were found to be fully immunized. Immunization coverage was high for BCG (99.6%) and lowest for DPT-3 (88.88%). Most common reason (50%) for dropouts was found to be lack of awareness among parents regarding immunization schedule. A strong association between Immunization status and factors like possessing immunization card, literacy of mother, knowledge of parents regarding vaccination, were noted in present study.

Conclusion: Considering mothers' poor knowledge and good attitude, health education on immunization is emphasized to improve their practices. Increasing the knowledge and understanding of the caretakers of the young children about the essentiality and benefits of routine immunization would be a strong step forward in achieving the goals.

INTRODUCTION

Immunization is the most cost effective public health intervention, since it provides direct and effective protection. It has been a major contributor in decline of under five mortality rate in last five decades in India.¹ In India, an estimated 26 million children are born every year. As per 2011 Census, the share of children (0-6 years) accounts 13% of the trail population in the country. An estimated 15.5 lakh children die every year before 5 years of age. However, vaccine preventable diseases are responsible for over 5 lakh deaths annually in India.

In 1985, Universal Immunization Programme (UIP) was started in India with an aim of achieving at least 85% coverage of primary immunization of infants with 3 doses of DPT & OPV, one dose of BCG & one dose of measles vaccine by 1990.² Estimates from the 2005-2006 Indian National Family Health Survey (NFHS-3) indicate that only 43.5% of children aged 12-23 months were fully vaccinated and 5% had received no vaccinations at all.³ The current estimated immunization coverage for DPT-3 in South-East Asia remains relatively low at 73%.⁴ In India, the coverage was even lower at 61%.⁵ According to National Family Health Survey (NFHS-3) data, only 46% of infants in Andhra Pradesh were fully immunized.³ Estimates from 2007-2008 District Level Household and facility Survey (DLHS-3) indicate that only 67% of children aged 12-23 months were fully immunized in Andhra Pradesh. As per DLHS-3 primary immunization coverage of West Godavari district was 72%.⁶ Majority of the population in rural areas depend mainly on Government agencies for health care including immunization. Whereas in urban areas, inspite of multiple agencies providing health care, the immunization coverage was low.

AIMS & OBJECTIVES

The present study was conducted with the objective of assessing the immunization coverage in urban area of Eluru, to find out the various reasons for partial or non immunization of child and to assess the factors associated with immunization.

MATERIALS & METHODS

DESIGN: Community based cross sectional study in urban area of Eluru.

SETTINGS: Urban area under Municipal Corporation of Eluru (MCE), Andhra Pradesh.

INTERVIEWEES: Parents of children in the age group of 12 months to 23 months, as they are expected to complete primary immunization totally.

PERIOD OF STUDY: This study was conducted from December 2013 to September 2014 in and around Eluru.

METHODS:

1. Selection of areas (areas recognized by MCE).
2. WHO Cluster sampling technique.
3. Identification of area with the help of health workers in-charge of the area.
4. Using the pre-set proforma for the survey.
5. Door-to door survey of the selected area and interviewing the parents and cross checking with immunization cards, if available.
6. Processing the data.

SAMPLING TECHNIQUE USED

30 Cluster technique or modified cluster sampling (used in NFHS & assessment of immunization coverage). Also called " PROPORTIONATE TO POPULATION SIZE (PPS) SAMPLING "

STEPS INVOLVED

Step-1: The total cumulative population of Eluru town was 222668. Number of clusters to be surveyed as per " WHO Immunization evaluation method" will be 30.

Step-2: Sampling interval = Cumulative population / Total number of clusters



Clinical Profile of Hemophilia in Children in a Tertiary Care Centre in Andhra Pradesh, India

KEYWORDS

Hemophilia, Bleeding disorder, Children, Hemarthrosis

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ABSTRACT

Introduction: Hemophilias are a group of inherited, life-long coagulation disorders. Hemophilia A (classic hemophilia, factor VIII deficiency) and hemophilia B (Christmas disease, factor IX deficiency) are sex-linked recessive disorders, with the incidence of hemophilia A outnumbering those with hemophilia B. Some of the patients have their disorder caused by mutation. Hemophilias are present in every nook and corner of the world and have a varied presentation. There is a high morbidity and mortality associated with it and knowing their presentation helps in better management practices.

Objectives: To observe the clinical presentation of hemophilia in children.

Methodology: This observational study was carried out in the Department of Pediatrics, Alluri Sitarama Raju Academy of Medical Sciences for a period of one year from 1st February 2014 to 31st January 2015. Clinical profile of 66 diagnosed cases of hemophilia <15 years of age was analyzed.

Result: All the cases under the study were male with an age range of 3 months to 15 years. Hemophilia A was seen in 51(77%) cases and 15(23%) cases were identified as hemophilia B. Only 49% cases had family history of bleeding. Among hemophilia A, 49% were mild, 39% were moderate and 12% with severe hemophilia. 53.34% of hemophilia B presented with mild disease, 33.33% with moderate form of the disease and 13.33% with severe disease. Hemarthrosis (68%) was the most common problem with which the patients presented. Gum bleeding was the second most common presentation followed by prolonged bleeding after tooth extraction, bruises and Ecchymosis. 49% of the patients had their first bleeding symptoms between ages of 1-5 years and 85 %cases showed bleeding manifestation before the age of 5. Only 15% cases had presented after 5 years of age. Bruises and hematoma were the most common initial manifestation followed by joint bleeding, cut injury of lips and chin, scab and facial hematoma.

Conclusion: Bruises and hematoma were the main presentation features of the children in the study. Children with hemarthrosis have a rather morbid childhood. Cases as high as 36% of them presented before their first birthday which makes mandatory detection in infants.

Introduction

Hemophilias are a group of inherited, life-long coagulation disorders. Hemophilia A (classic hemophilia, factor VIII deficiency) and hemophilia B (Christmas disease, factor IX deficiency) are sex-linked recessive disorders, with the incidence of hemophilia A outnumbering those with hemophilia B by a ratio of 4 or 5 to 1. About 30% of patients have their disorder caused by mutation (1). The reported hemophilia A prevalence in lower income countries is often considerably less than that in higher income countries, and less than expected from average international incidence. The literature (2-6) suggests that the incidence of Hemophilia is same for all populations and races and has been estimated to be 20 per 100 000 male births (7,8). People with hemophilia registered in the Hemophilia Federation of India account for only about 10% of what is expected. There are many possible reasons for under reporting cases of hemophilia A. Aledort (9) reported that the majority of hemophiliacs in the developing world could not be identified because of a lack of diagnostic capability, lack of access to care and economic means, and unavailability of factor VIII replacement therapy. Without treatment, those with severe hemophilia often die in childhood or early adult life (10-13) thereby resulting in a decreased prevalence relative to the number of cases born. In addition, the reporting procedures in many countries have not accurately identified people with hemophilia. This study was designed to observe the clinical presentation of hemo-

philia in children in a tertiary care hospital which will provide glimpse of presentation of pediatric Hemophilia in the country.

Methodology

A cross sectional study was carried out on a total of 66 cases in the department of Pediatrics, Alluri Sitarama Raju Academy of Medical Sciences over a period of one year from 1st February 2014 to 31st January 2015. Hemophiliacs who were diagnosed earlier and suspected cases with bleeding disorders which afterwards were diagnosed as hemophilia either admitted into inpatient or attending at outpatient department of Pediatrics were included in the study. New cases of hemophilia who had received fresh frozen plasma, coagulation factors or cryoprecipitate within the timeframe of 24 hours were excluded from this study. Parents' consent was taken and history regarding presenting symptoms including symptoms at first presentation and family history were also taken. Parents were enquired about their child's first bleeding presentation or was taken from the documents of the treating physicians. Evaluation of the symptoms was done through thorough physical examination. New cases were identified through investigations like complete blood count (CBC), prothrombin time (PT), activated partial thromboplastin time (APTT), factor VIII and IX assay. Reports of the CBC, PT, APTT and factors assay were collected from the patients who were diagnosed previously. Hemophilia diagnosis was made on the

Wolman's Disease

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Wolman's disease is a rare fatal disorder caused by absence of acid lipase leading to accumulation of cholesterol esters. Only about 4 cases have been reported in Indian literature. We report here a case of Wolman's disease in which adrenal calcification was diagnosed antenatally.

CASE REPORT

A 6-day-old male baby born to consanguineous parents was referred to us for left testicular swelling and bilateral adrenal calcification which had been detected antenatally by ultrasonography (USG). This infant was born after 12 years of married life. Mother had two abortions earlier, both at first trimester. Present pregnancy had no antenatal or perinatal complications.

On admission, the infant weighed 3.5 kg., head circumference was 34 cm. Left testis was firm and enlarged (2.5×3 cms). Right testis was normal. Liver was just palpable and spleen was not palpable. Infant's general behaviour was normal. A clinical diagnosis of Wolman's disease was considered at admission in view of adrenal calcification, but testicular swelling could not be explained. Since fine needle aspiration cytology proved to be inconclusive, excision biopsy was done. This showed

haemorrhagic necrosis, probably due to torsion. Serum cholesterol was 122 mg/dl. Liver biopsy showed cloudy changes. The child was discharged with the provisional diagnosis of Wolman's disease.

At 3 months of age he was readmitted with progressive distension of abdomen and pedal oedema. He had not attained any milestones. On examination, he weighed 4.5 kg and head circumference was 38 cms. He was very pale and had bilateral pitting pedal oedema. Examination of abdomen revealed firm liver 6 cm below the right costal margin and spleen 8 cm below the left costal margin. Fundus was normal. Investigations revealed haemoglobin of 6 gm/dl, grossly elevated triglycerides (1375 mg/dl) and marginally elevated cholesterol (275 mg/dl). Liver biopsy (Fig. 1) showed cytoplasmic lipid vacuoles. Similar vacuoles were also observed in the bone marrow aspirate. Enzyme studies could not be done. Considering the clinical features, adrenal calcification and the liver biopsy findings, a diagnosis of Wolman's disease was made.

DISCUSSION

Wolman's disease is an autosomal recessive inherited disorder of lipid metabolism resulting from mutation at chromosome 10 q 23.2-q 23.3¹. It is characterised by severe deficiency of acid lipase which leads to accumulation of cholesterol esters and

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Growth Pattern of Exclusively Breastfed Low Birth Weight Infants

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Abstract

Background and Aim: To study the growth pattern of exclusively breastfed low birth weight (LBW) infants up to 6 months of corrected gestational age

Study Design: In this prospective observational study, LBW (1501–2500 g) infants born over a span of 2 years were enrolled. Anthropometric measurements (weight, length, and head circumference [HC]) were recorded at birth, 15 days, and every month until 6 months of corrected gestational age.

Results: A total of 252 LBW infants completed follow up, of which 162 were exclusively breastfed until the completion of 6 months of corrected gestational age. Among them, 102 were term LBW infants and 60 were preterm infants with mean gestational age of 35 weeks. Mean birth weight of term LBW infants was 2294 g and that of preterm infants was 2104 g. All infants showed better growth in the first 3 months compared to later months in all parameters. Term LBW infants showed more growth than preterm infants, significantly and consistently. The weight and HC of both, term LBW and preterm infants was comparable to Agarwal charts by 6 months of age in both, male and female infants. However, the length was lower than the Agarwal charts but was parallel to Agarwal charts until 6 months of corrected gestational age.

Conclusion: LBW infants can grow optimally on exclusive breastfeed alone until 6 months of corrected gestational age with appropriate breastfeeding counseling and support to the mothers and family members.

Key Words: Agarwal charts, gestational age, head circumference, length, nutritional status, weight

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Familial Occurrence of Kawasaki Disease in an Indian Family

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Conflict of Interest:
None declared

This article has been peer reviewed.

Article Submitted on: 1st September 2011

Article Accepted on: 18th September 2011

Funding Sources: None declared

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Cite this article: Bannaji MH, Puttaiah K, Patil S. Familial occurrence of Kawasaki disease in an Indian family. J Pak Med Stud. 2012; 2(4): 151-154

ABSTRACT

The etiology of Kawasaki disease (KD) continues to be elusive to the researchers. Although epidemiological studies support infectious origin, familial occurrences across the world suggest possible genetic predisposition. We are reporting two cases of KD diagnosed among cousins. The diagnosis in

both these cases was based on clinical criteria. Laboratory data and response to therapeutic measures was also noted. This study reports the occurrence of familial KD in Indian population, which has not been reported in Indian literature before.

Keywords: Kawasaki disease; Familial; Diagnosis

INTRODUCTION

Kawasaki disease (KD), formerly known as the mucocutaneous lymph node syndrome, is an acute febrile illness of childhood seen worldwide. It is a vasculitis with a predilection for the coronary arteries, with approximately 20%-25% of the untreated patients experiencing coronary artery abnormalities, including aneurysms. Attempts to find an etiological agent for Kawasaki disease, one of the leading causes of acquired heart disease in children, have not found a definitive answer, although epidemiological studies support infectious origin. Continued research to solve the mystery of KD has found an interesting aspect to the occurrence of the disease in the form of its familial occurrence. Surveys from Japan and North America have reported KD in family members, siblings and offspring, suggesting a possible genetic predisposition for the occurrence of the disease and for the involvement of coronary vessels [1] [2]. There have been reports of recurrence of KD with coronary artery involvement in siblings [3]. There is not much information on the familial occurrence of KD in Indian population. Herewith presenting an Indian child with KD whose cousin had suffered from the same disease earlier on, suggesting familial occurrence of KD in Indian population.

CASE REPORTS

Case 1: The Patient

An 8-year-old male child presented with history of high grade intermittent fever of 5 days, with redness of tongue and peeling of the skin of hands and feet for 3 days. He was the only child born to non-consanguineous parents. He has no significant medical or past history. On examination (Figure 2), he was febrile, with bilateral bulbar conjunctival congestion, strawberry tongue, angular cheilitis, periungual desquamation (Figure 3), bilateral cervical lymphadenopathy and mild hepatomegaly. A diagnosis of KD was made based on his clinical presentation. Following admission, his initial blood investigations showed leukocytosis with normal platelet count, and raised erythrocyte sedimentation rate (ESR) and raised C-reactive protein (CRP). Echocardiogram done at admission revealed dilated left coronary artery. Child was treated with intravenous immunoglobulin (IVIg) and aspirin. Fever subsided subsequently by fourth day of treatment. His condition improved significantly and was later discharged from the hospital. On follow-up after 3 weeks, repeat echocardiogram revealed normal left coronary artery, showing improvement from the previous findings.

EFFECT OF PRANAYAMA ON ADOLESCENT ASTHMA – A ONE YEAR PROSPECTIVE STUDY

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Introduction

Asthma is a chronic inflammatory disorder of the airways characterized by an obstruction of airflow, which may be completely or partially reversed with or without specific therapy. Asthma in pediatric population is the most prevalent chronic disorder. Approximately 1 in every 6 children suffers from some chronic respiratory disorder.

Breathing is a normal part of our life, though we fail to pay attention to it. It is an autonomic function of the body that we perform even without concentrating on it. Pranayama teaches us the proper way to breathe. With yoga breathing, we increase the capacity of our lungs, bringing more oxygen supply to the body to function well.

Yoga breathing, or Pranayama, is the science of breath control. It consists of series of exercises especially intended to meet the body's needs and keep it in vibrant health. Pranayama comes from the following words:

- Prana - "life force" or "life energy"
- Yama - "discipline" or "control"
- Ayama - "expansion", "non-restraint", or "extension"

There are the four stages of Pranayama - Arambha, Ghata, Parichay & Nispatti

Need for the study

Asthma is stimulated by multitude of factors including inhalation of allergens, food, exercise, respiratory infections, environmental irritants, dry or cold air and intense emotions. Apart from pharmacological management the psychic component of asthma is dealt with general measures like relaxation techniques, counseling and removal of the patients from the harmful environment¹. Hypnosis and yoga (pranayama) are getting increasingly recognized as better treatment for asthma.

Asana (passive stretching of muscles) and pranayama (voluntary regulation of breathing) affects the body in several ways. Asana enhances the muscles fitness^{6-8, 9-14} and decreases the muscle tension¹⁵. Decrease in muscle tension reduces the level of arousal and physiological reactivity to stress^{16, 17}.

Objectives of the study

- To find out the effect of pranayama
- To find out effect of health education on mild to moderate asthma in school going children of adolescent age group between 12 years to 15 years.

Materials and Methods

The study was aimed to find the effect of Pranayama in Pediatric Asthma. Method: During June 2005 – June 2006, On

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Original Research Article

Prevailing pattern of feeding practices and malnutrition among infant and young children

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Received: 31 January 2019

Accepted: 28 February 2019

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ABSTRACT

Background: Nutritional factors like breast feeding practices, weaning practices and diet during illness influence the growth and development of children. Recurrent infections are other important factors that lead to malnutrition.

Methods: This was a non-randomized prospective study using pretested, predesigned questionnaires. Study was done in a single centre to determine the pattern of feeding practices and malnutrition among infant and young children. This study was carried out in the Department of Paediatrics at Sri Manakula Vinayagar Medical College and hospital, Puducherry.

Results: Out of the 200 babies studied, 22% of the babies were exclusively breast fed and 5% of the babies were bottle fed. The remaining 73% of the babies were on both breasts feeding and bottle feeding. A 52% of children in the age group 6-12 months, 50% children under 12-24 months and 52% of children >24 months were found to be malnourished according to WHO growth standards.

Conclusions: Quantity and quality of complementary feeds given is inadequate due to lack of awareness, fear and food stigma. Hence feeding practices are far from satisfactory. Complementary feeding and weaning practice guidelines are better practiced as the age advances but their practice at a younger age would lead to a better outcome.

Keywords: Breast feeding, Complementary feeding, Infant, Malnutrition

INTRODUCTION

Optimum nutrition is essential for child survival and Quality of survival. The word nutrition is derived from nutricus which means "To suckle at the breast".¹ Nutrition is defined as "The process by which the organism utilizes food".

It signifies the dynamic process in which the food that was consumed utilized for nourishing the body.² "Malnutrition is found to start in the womb and ends in the tomb".¹ Severe forms of malnutrition like marasmus and Kwashiorkor represent only a tip of the iceberg.² Many more suffer from moderate, mild (or) invisible

PEM malnutrition which increases morbidity and mortality.

Nutritional factors like breast feeding practices, weaning practices and diet during illness influence the growth and development of children. Recurrent infections are other important factors that lead to malnutrition.³ The aim of the study was to assess the breast-feeding practices of children up to 6 months, to know the continued breast-feeding practices beyond 6 months, to evaluate the complementary feeding pattern in young children, to compare the same with IMNCI guidelines, to correlate the feeding practices and nutritional status in various age groups.



Original Research Article

How safe are our children in our own homes? accidental ingestion in children: a 6 year retrospective study from a tertiary care centre

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Received: 13 January 2019

Accepted: 11 February 2019

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ABSTRACT

Background: According to the World Health statistics, in 2016 more than 100000 deaths were caused due to unintentional poisonings. Children are vulnerable due to their smaller body surface area, an inherent behaviour of negation, curiosity in exploring their surroundings, their initial phallic stage where they tend to put any objects they come across into their mouth.

Methods: This study is a hospital based retrospective observational study where the records of all the children admitted due to poisoning, accidental or intentional from June 2012 to November 2018 were reviewed. All the children admitted due to food poisoning and idiosyncratic drug reactions were excluded from the study.

Results: A total of 203 cases of accidental ingestion were admitted during the study period, of which the majority of the patients were male children. The age group varied from 5 months to 14 years. Majority of the accidental ingestions were due to kerosene (108), followed by insecticides (25) and cleaning agents (20).

Conclusions: Poisoning in young children is unintentional and accidental; hence the introduction of safe child resistant containers should be encouraged in storing harmful chemicals. Knowledge about the chemicals, awareness about their hazardous effects and education of the care givers about safe storage would be the first step in the prevention of accidental ingestion. Establishment of a reporting system from all the health care centres and establishment of poison information system at all the levels is the need of the hour.

Keywords: Kerosene, Pediatric, Poisoning, Prevention

INTRODUCTION

Poison is defined by WHO as a substance that could cause harm to a living being, which could either be a result of bodily contact e.g., caustic, or due to absorption following ingestion, inhalation, or injection.¹ According to the World Health statistics, more than 100,000 deaths in 2016 were due to unintentional poisonings. In the same year, WHO data states that unintentional poisoning in children less than 5 years caused more than 23,000 deaths.^{2,3} Children are especially vulnerable to hazardous household chemicals. Their smaller body surface area, inherent negation behaviour, curiosity to explore their

surroundings, their initial phallic stage where they tend to put any objects they can find in their mouths, all these reasons require caregivers to be wary. Unsupervised and unattended children are most prone to the risk of accidental ingestion of toxic chemicals kept in the house. Acute poisoning from pesticides could often be fatal to children.

The aetiology of poisoning and the type of agents vary not only with geographical area, but also with time. As new chemicals and products are discovered every day, they are introduced into markets for a variety of purposes. The type and severity of poisoning also depend on

Clinical Spectrum and Epidemiological Profile of Patients Admitted to Pediatric Intensive Care Unit at a Tertiary Care Centre in South India

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Abstract

Introduction: The knowledge of clinical spectrum and epidemiological profile of critically ill children plays a significant role in the planning of health policies that would mitigate various factors related to the evolution of diseases prevalent in these sectors. The data collected enable prospective comparisons to be made with benchmark standards including regional and international units for the continuous pursuit of providing essential health care and improving the quality of patient care.

Purpose: To study the clinical spectrum and epidemiological profile of the critically ill children admitted to the pediatric intensive care unit at a tertiary care center in South India.

Materials and Methods: Descriptive data were collected retrospectively from the Hospital medical records between 2013 and 2016.

Results: A total of 1833 patients were analyzed during the 3-year period, of which 1166 (63.6%) were males and 667 (36.4%) were females. A mean duration of stay in pediatric intensive care unit (PICU) was 2.21 ± 1.90 days. Respiratory system was the most common system affected in our study 738 (40.2%). Acute poisoning in children constituted 99 patients (5.4%). We observed a mortality rate of 1.96%, with no association with age or sex. The mortality rate was highest in infants below 1-year of age (50%). In our study, the leading systemic cause for both admission and death was the respiratory system.

Conclusion: This study analyses the epidemiological pattern of patients admitted to PICU in South India. We would also like to emphasize on public health prevention strategies and community health education which needs to be reinforced, especially in remote places and in rural India. This, in turn, would help in decreasing the cases of unknown bites, scorpion sting, poisoning and arthropod-borne illnesses, which are more prevalent in this part of the country.

Key words: Child, Female, India/epidemiology, Infant, Intensive care units, Male, Patient admission, Pediatrics, Retrospective study

INTRODUCTION

The care of critically ill children remains the most demanding and significant aspect in the field of pediatrics. Optimum care in the pediatric critical care unit depends on the level of training and expertise of the health-care

personnel, the availability of the resources, and evidence-based management protocols. The principal objective of pediatric critical care is not only to decrease the mortality but also to restore the child who is suffering from a life-threatening condition to health with a minimum of pain, anxiety, and complications and to provide comfort and guidance to the child's family.¹

In spite of the modern health-care facilities and several health programs rolled out by the governments and policy makers every year, the current global situation of the under-five mortality rate is alarming. About 5.9 million children under age five died in 2015,² i.e., 16,000 every day. These are the figures given by global health observatory data, WHO.

Access this article online



www.ijss-sn.com

Month of Submission : 04-2016
Month of Peer Review : 05-2016
Month of Acceptance : 05-2016
Month of Publishing : 06-2016

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Comparison of PSI Scoring System with CURB-65 as an Marker of Sevearity in Community Acquired Pneumonia

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Received on 20.08.2018,

Accepted on 24.08.2018

Abstract

Introduction: Pneumonia is a commonly seen ailment in the department of general medicine and chest medicine. However with timely diagnosis and appropriate management the duration of morbidity and mortality rate can be reduced. Various grading systems are utilized to predict the mortality rate of pneumonia. **Objective:** We aimed at analysing the utility of PSI score and CURB-65 in predicting the 30 day mortality rate in patients with community acquired pneumonia at our institute. **Materials and methods:** A retrospective study was conducted at our institution in which the records of the patients who presented to the department of Chest and emergency medicine between January 2017 to December 2017 and diagnosed as community acquired pneumonia were retrieved reviewed. Clinical examination findings, radiological findings and the laboratory findings were recorded in the patient's proforma. The PSI score and CURB-65 score were calculated and correlated with the patient's clinical outcome. **Results:** 175 patients were diagnosed as community acquired pneumonia (CAP) cases. Among them 85 patients were treated on OPD basis. The rest 90 patients were hospitalised for treatment. 22 patients were admitted to wards, and 68 patients were admitted to ICU. Of the total 90 hospitalised patients 27 patients were females and 63 patients were males. The patients were between 20 years to 70 years. Highest numbers of patients were seen in the age group of 50-59 years. The clinical outcome was defined as mortality among the hospitalised patients. The mortality rate in our study was 30% (27 patients). Considering class I, II, III of PSI score as low risk group and score 0 to 2 of CURB-65 as low risk group the sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy were calculated. The sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy of PSI Score were 85%, 65%, 35%, 84% and 50% respectively. In comparison the sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy of CURB-65 were 27%, 71%, 60%, 100% and 80% respectively. **Conclusion:** We conclude from our study that PSI score is more sensitive than CURB-65 in warranting the ICU admissions whereas CURB-65 is more specific in predicting 30 day mortality risk among the patients. The diagnostic accuracy of CURB-65 was higher in our study.

Keywords: PSI Score; CURB-65; Mortality Rate; Sensitivity; Specificity; Diagnostic Accuracy.

Introduction

Pneumonia is a commonly seen ailment in the department of general medicine and chest medicine. It is a significant cause of morbidity and mortality throughout the world particularly among patients

above 65 years of age [1,2,3]. In a developing country like India it is one of the commonest infections resulting in considerable morbidity and mortality amongst the elderly individuals [4]. However, with timely diagnosis and apt management the duration of morbidity and mortality rate can be reduced.

Evaluation of various factors influencing sputum smear positivity in newly diagnosed cases of pulmonary tuberculosis at a tertiary care centre of Bengaluru

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Abstract

Introduction: In a developing country like India tuberculosis (TB) is a common infectious disease diagnosed both in rural and in urban population. According to WHO (world health organisation) an open case of tuberculosis has at least three close contacts in their household resulting in prevalence rate of 2.5% among the close contacts. In the developing country it adds on to the economic burden. Many factors have been attributed to persistence of sputum positivity even at the end of intensive phase of TB treatment.

Objective: We conducted a retrospective study at our institution to identify the clinical, radiological and bacteriological factors of the patients influencing sputum conversion for AFB (acid fast bacilli) at the end of intensive phase (2 months) of anti-tubercular treatment in category 1.

Material and Methods: A retrospective Study was conducted at our institution from January 2016 to December 2017. Newly diagnosed open cases of TB were included in the study with retro viral cases being excluded from the study.

Results: Out of 179 cases in the study 103 cases were male and 76 cases were females. The predictive analysis and chi square test showed statistically significant association of smoking, cavity formation and degree of bacillary load and persistent sputum positivity.

Conclusion: Smoking, cavity formation and higher AFB load in the initial smears have higher possibility of persistent sputum positivity requiring more vigilant monitoring of such patients.

Keywords: Tuberculosis; Sputum positivity; Smoking; Cavity formation; Bacillary load.

Introduction:

In a developing country like India tuberculosis (TB) is a common infectious disease, diagnosed both in rural and in urban population. Several factors like poor diet, low socioeconomic status, and co-morbid conditions like diabetics, chronic smoking and alcohol consumption have been described to be associated with TB. A significant surge is seen with increasing incidence of HIV positivity and drug resistance. The initial evaluation of new open case of pulmonary TB and the re-evaluation at the end of intensive phase of treatment is critical in proper management of the patient and their categorisation. According to WHO (world health organisation) an open case of TB has at least three close contacts in their household resulting in prevalence rate of 2.5% among the close contacts [1]. In the developing country it adds on to the economic burden. Many factors have been attributed to persistence of sputum positivity even at the end of intensive phase of tuberculosis treatment [2]. The persistent sputum positivity not only results in poor patient outcome. Identification of these factors will help in segregating patients requiring more vigilant surveillance [2].

sputum conversion for AFB at the end of intensive phase (2 months) of category 1 anti-tubercular treatment.

Material and Methods:

A retrospective Study was conducted at Sathagiri Institute of Medical Sciences and Research Centre from January 2016 to December 2017. After obtaining the ethical committee approval the records of newly diagnosed cases of pulmonary tuberculosis with sputum positivity for AFB (acid fast bacilli) and treated with category 1 anti-tubercular therapy with isoniazid, rifampicin, pyrazinamide and ethambutol were retrieved and included in the study. Retroviral positive cases were excluded from the study. A detailed clinical data were collected from the patient's records at the time of entry into study which included age, gender, history of smoking, chest X-ray and bacillary load in sputum positive smears. Following which data of the repeat sputum examination after 2 months of intensive phase therapy were documented. Using the clinical, radiological and bacteriological parameters included in the study in both persistent sputum positive and negative cases the predictive statistical analysis, odds ratio was calculated to identify the possible association

A Prospective Study on Clinical Pattern of Hospital Acquired Pneumonia

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DOI: [10.36347/sasjm.2021.v07i01.002](https://doi.org/10.36347/sasjm.2021.v07i01.002)

| Received: 16.12.2020 | Accepted: 31.12.2020 | Published: 08.01.2021

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Abstract

Original Research Article

Introduction: Hospital-acquired pneumonia (HAP) is the second most common nosocomial infection and has higher morbidity and mortality and prolongs hospital stay for patients and excess costs for them [1, 2]. Most significant factor associated with HAP is mechanical ventilation (MV) [1]. High risk MDR pathogens, sepsis, septic shock, elderly patients, bilateral infiltrates in chest x ray and co-morbidities are associated with, increases incidence of HAP and mortality. **Methods:** This prospective study was conducted in medical intensive care unit (MICU) and respiratory intensive care unit (RICU) of tertiary care teaching medical college hospital over a period of 18 months. 1554 cases were included in the study based on ATS/IDSA 2016 HAP guidelines. **Objective:** We studied clinical, radiological, bacteriological profile and factors affecting the outcome of HAP patients. During the study, we also analyzed causative organisms. **Results:** Out of 1554 patients, 194(12.5%) patients developed HAP. Incidence of HAP among patients aged >60 years was 64%. 132 (68%) male patients and 62(32%) female patients developed HAP. 124 (22%) patients who were on mechanical ventilation had HAP. 52% HAP cases had chronic respiratory illness. 16% of HAP patients did not have any chronic systemic illness. Delirium was observed in most of the cases in higher age group. Bilateral infiltrates in chest x ray, sepsis, and septic shock are associated with high mortality. Most common organism isolated from sputum and endotracheal aspirate was *Klebsiella pneumoniae*. **Conclusion:** Incidence of HAP in this study was 12.5%. Patients with higher age group and male gender were predominantly affected. Mechanical ventilation more than 48 hours, comorbidities, old age, bilateral infiltrates in chest X ray, sepsis, septic shock and multidrug resistant (MDR) pathogens are associated with high mortality. Early diagnosis, effective preventive and therapeutic strategies, aiming to decrease morbidity, mortality and optimize use of antimicrobial agents.

Keywords: Hospital-acquired pneumonia (HAP), Intensive care unit, Mechanical ventilation, respiratory intensive care unit, medical intensive care unit.

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INTRODUCTION

Hospital acquired pneumonia is the second most common nosocomial infection in intensive care unit [1, 2]. HAP is the most common cause of mortality which ranges from 30 to 70% [3-5]. Incidence of HAP is higher in ICU acquired respiratory infection and it ranges from 9% to 28%, variation is related to different ICUs [6, 12-15].

HAP is pneumonia occurring more than 48 hours after hospital admission and not incubating at the time of admission [7]. Ventilator associated pneumonia occurs after 48 to 72 hours of initiation of mechanical ventilation [7, 8]. Multiple risk factors are associated with increased incidence of HAP includes mechanical ventilation more than 48 hours, severity of underlying illness, presence of comorbidities and longer duration of stay in ICU [4, 9, 18]. The increasing incidence of HAP among patients on mechanical ventilation results in a

significant increase in the cost of care of hospitalized patients and also prolongs hospital stay in ICU and consequently increases cost [10, 11]. Atypical presentation in elderly HAP patients is quite common and associated with higher mortality rate in this study and is consistent with the HAP mortality rate worldwide and it ranges from 30% to 70% [3-5].

MATERIALS AND METHODS

OBJECTIVE: To study clinical, radiological and bacteriological profile of hospital acquired pneumonia and factors affecting the outcome of HAP.

Study period: 18 months

Diagnosis of HAP was done on the basis of ATS/IDSA 2016 guidelines in the presence of both of the below,

1. Radiological criteria: new or progressive infiltrates in chest x ray



Original Research Article

Clinico demographic profile of patients with bronchiectasis – A cross sectional study

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ARTICLE INFO

Article history:

Received 12-02-2021

Accepted 17-03-2021

Available online 07-06-2021

Keywords:

Bronchiectasis

HRCT

Post infection

COPD

ABSTRACT

Introduction: Bronchiectasis (BE) is a common but neglected chronic lung disease. Most epidemiological data are limited to cohorts from Europe and the USA, with few data from low income and middle income countries. "Bronchiectasis" is a chronic debilitating respiratory condition, natural history of Bronchiectasis is variable, some patients have only a few chest infections per year with no disease progression overtime, while others have more frequent prolonged infective episodes and progress more quickly to respiratory failure with an associated increase in risk of death.^{1,2} A vicious cycle of infection and inflammation exists in damaged airways with patient suffering from persistent cough, purulent sputum production, recurrent chest infections and general malaise, associated with increased morbidity and reduced quality of life and socioeconomic, cost of long term management is significant.

Materials and Methods: 162 CT confirmed adult patients ≥ 18 years were included in the study, data of patients were retrieved demography, clinical features, causative factors, spirometry and imaging reports were studied and analysed.

Results: 162 adult patients were included in the study. Males (54%) and more than 50 years age group population [64%] was predominantly affected. 58% were non-smokers.

Chronic cough (100%) with sputum production (86%) and fatigue (78%) were the most common symptoms, digital clubbing and crackles were the most common examination findings. Dominant cause of BE was post infection (46%) followed by COPD (20%), ABPA (10%) and miscellaneous causes. Obstructive abnormality (42%) was the most common spirometric pattern observed. Higher incidence of cystic BE (57%) was found in our study.

Conclusions: Patients > 50 years and males were predominantly affected. Most of the study population had never smoked. Most common symptom found was chronic productive cough and fatigue. Etiology of BE is heterogeneous. Post Tuberculosis BE variety was common. BE in COPD patients was not less common. Central Bronchiectasis was not uncommon.

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1. Introduction

BE was originally described in 1819 by Laennec. BE is a chronic lung disorder characterized by permanent dilatation of Bronchi leading to impaired mucociliary clearance, chronic airway inflammation and bacterial colonization and is associated with chronic cough, daily sputum production and recurrent respiratory infection. BE not associated with Cystic-Fibrosis is known as non-Cystic-Fibrosis BE.

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BE is a growing global health problem. In Europe and the USA, the reported prevalence of the disease has increased by more than 40% in the past 10 years. In India specific data on prevalence of BE are not available.^{1,2} The characteristics of patients from low income and middle income countries might be different to those in Europe.^{3,4} Prevalence of BE is estimated to be 50 to 500 per 1,00,000 people, based on European datasets.⁵ BE is associated with frequent acute exacerbation which are an independent predictor of progressive decline in respiratory function

Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-3933.ijam20194579>

Efficacy of intrapleural instillation of streptokinase with pigtail catheter drainage in the treatment of tuberculous pleural effusion

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Accepted: 02 October 2019

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ABSTRACT

Background: Tuberculosis is the most common cause of exudative lymphocytic pleural effusion in India. The present study was undertaken to evaluate the efficacy of intrapleural instillation of streptokinase with pigtail catheter drainage in the treatment of tuberculous pleural effusion.

Methods: Clinical profile, hospital course and outcome of tuberculous pleural effusion patients at the end of six months of anti-tubercular treatment of 50 patients from January 2009 to June 2010 were analyzed. These patients were randomly divided into two groups. One group (n=25) received intrapleural streptokinase via pigtail catheter and the other group (n=25) received intercostal drainage without intrapleural streptokinase instillation. All the patients received standard daily anti TB regimen of 2HERZ/4HR for a total duration of six months.

Results: Majority of the patients were above 40 years of age (60%). The male to female ratio was 2.3:1. The major symptoms of the patients were, fever in 44 patients (88%), cough in 42 patients (84%), breathlessness in 33 patients (66%), loss of appetite in 25 patients (50%) and chest pain in 25 patients (50%). Most of the patients had ADA levels between 40-70 IU/L (48%) and only 6% had ADA levels below 40 IU/L. The mean pleural drainage was 2615±126.1 ml in the study group (intrapleural streptokinase) and 1858 ± 93.3 ml in the control group (p <0.0001). Mean duration of intercostal drainage in the study group was 3.76 ± 0.144 days and it was 5.08±0.199 days in the control group (p <0.0001). The mean duration of hospitalization in the study group was 6.60±0.91 days and it was 8.60 ± 0.57 days in the control group (p=0.06).

Conclusion: Intrapleural streptokinase instillation is successful in increasing the total drainage of pleural fluid and results in effective drainage of tuberculous pleural effusion. It is also associated with increased amount of pleural fluid drainage, decreased duration of intercostal drainage, decreased length of hospital stay.

Keywords: Efficacy, Pleural effusion, Streptokinase, Tuberculosis

INTRODUCTION

Pleural effusion is the presence of excessive quantity of fluid in the pleural space.¹ Though it produces minimal clinical manifestations; it should be considered as an ominous sign of a serious disorder. So, no effort should be left in arriving at specific diagnosis to give the most

rational treatment. Effusion may be transudative due to abnormalities of hydrostatic, or osmotic pressures and exudative resulting from increased permeability or trauma. Etiological diagnosis is often difficult in cases of pleural effusion. In developing countries tuberculosis is the most common cause of effusion even then other causes should be excluded before concluding as

Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-3933.ijam20195567>

Complications and residual pleural thickening after intrapleural instillation of streptokinase with pigtail catheter drainage of tuberculous pleural effusion

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Received: 27 September 2019

Accepted: 04 October 2019

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ABSTRACT

Background: Tuberculosis is the most common cause of exudative lymphocytic pleural effusion in India. Residual pleural thickening (RPT) is observed in about 50 percent of patients even after proper treatment with ATT. Pleural fluid drainage either with simple aspiration or with intercostal drainage and addition of corticosteroids along with antitubercular drugs have not shown to influence the incidence of RPT. The present study was undertaken to study the complications and residual effects of tuberculous pleural effusion on the patients during the follow up period following intrapleural streptokinase instillation.

Methods: Clinical profile, hospital course and outcome of tuberculous pleural effusion patients at the end of six months of anti-tubercular treatment of 50 patients from January 2009 to June 2010 were analyzed. These patients were randomly divided into two groups. One group (n=25) received intrapleural streptokinase via pigtail catheter and the other group (n=25) received intercostal drainage without intrapleural streptokinase instillation. All the patients received standard daily anti TB regimen of 2HERZ/4HR for a total duration of six months. All the patients were followed up for a total duration of 1 year for evidence of any residual pleural thickening.

Results: Majority of the patients were above 40 years of age (60%). The male to female ratio was 2.3:1. The major symptoms of the patients were, fever in 44 patients (88%), cough in 42 patients (84%), breathlessness in 33 patients (66%), loss of appetite in 25 patients (50%) and chest pain in 25 patients (50%). Most of the patients had ADA levels between 40-70IU/L (48%) and only 6% had ADA levels below 40IU/L. The incidence of residual pleural thickening in the study group was less as compared to the control group (2.36±0.49mm vs 9.28±1.50mm) (p <0.0001).

Conclusion: Intrapleural streptokinase instillation with pigtail catheter drainage less number of complications associated with study group and is successful with the decreased incidence of residual pleural thickening during the follow up period.

Keywords: Pigtail catheter, Residual pleural thickening, Streptokinase, Tuberculosis

INTRODUCTION

Presence of excessive quantity of fluid in the pleural space is called pleural effusion. The diagnosis of tuberculous pleural effusion is important because

tuberculosis is normally a treatable cause of exudative lymphocytic pleural effusion. Other differential diagnoses of exudative lymphocytic Pleural effusions are malignancy, fungal infection, melioidosis, sarcoidosis, and connective tissue diseases. The primary difficulty in

1-Year Hospital-Based Observational Study of Trichoscopy Findings and Disease Activity in Alopecia Areata

Abstract

Introduction: Alopecia areata (AA) is a chronic, non-scarring type of alopecia that presents as patchy hair loss over the scalp and other parts of the body. The diagnosis of AA can sometimes be challenging. Trichoscopy can be used to observe certain follicular patterns, shaft changes, and interfollicular pattern which help in diagnosing and determining the disease activity in AA. **Materials and Methods:** This study was a 1-year hospital-based observational cross-sectional study consisting of 60 patients clinically diagnosed with AA. Trichoscopic examination of the scalp and hair was performed using a videodermatoscope—Dinolite premier AM4113ZT model, trichoscopic images were recorded, and results were analyzed statistically. **Results:** AA was more common in males 39/60 cases (65%) with male to female ratio of 1.85:1. Scalp was the most frequently involved site, seen in 52/60 cases (86.67%) and patchy alopecia was the most frequent clinical pattern of presentation (83.33%). The characteristic follicular features noted were black dots, yellow dots, and empty hair follicles. Black dots were the commonest finding (63.33%) and represented a marker for active disease. The characteristic hair patterns noted were broken hair, micro-exclamation mark hair, coudability hair, all of which were commonly seen in active cases. 72% of cases that had clinically inactive disease showed active disease on trichoscopy. **Conclusion:** Trichoscopic features of AA are characteristic and they not only provide an important clue to the diagnosis in doubtful cases but also help in assessing disease activity in AA.

Keywords: Alopecia areata, dermoscopy, trichoscopy

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Introduction

Alopecia areata (AA) is a chronic, non-scarring, immune-mediated disease of anagen hair. It presents as patchy hair loss over the scalp and other parts of the body.^[1] The diagnosis of AA can sometimes be challenging and it becomes difficult to assess the disease activity.^[2] Trichoscopy is a non-invasive method that is used to examine various patterns of skin, hair and subsurface skin structures that helps in diagnosing and determining the disease activity in AA.^[1]

Materials and Methods

The study was a 1-year hospital-based cross-sectional observational study where a total of 60 consecutive consenting patients who were clinically diagnosed as having AA were included as per universal sampling, irrespective of age and sex. Those with concomitant androgenetic alopecia, trichotillomania, and other

coexisting scalp disorders were excluded. Clinical photographs were taken and hair pull test was performed at the advancing edges of the alopecic patches by grasping approximately 20–60 hairs between the thumb, index, and middle fingers from the base of the hairs near the scalp and firmly, but not forcefully, tugged away from the scalp. If more than 10% of hairs are pulled away from the scalp, this was considered a positive pull test. Trichoscopic examination of the scalp and hair was performed using a videodermatoscope—Dinolite premier AM4113ZT model—with polarized light and a contact method (at times using ultrasound gel as interface fluid) under 50 × and 200 × magnifications, and trichoscopic images were recorded. The trichoscopic features were noted; the results were tabulated and statistically analyzed by SPSS version 25 software using the correlation method and Chi-square test wherever applicable.

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How to cite this article: Vyshak BM, Doshi BR, Manjunathswamy BS. 1-year hospital-based observational study of trichoscopy findings and disease activity in alopecia areata. Indian Dermatol Online J 2020;11:965-9.

Received: 09-Jan-2020. Revised: 12-Mar-2020.
Accepted: 05-Apr-2020. Published: 19-Sep-2020

Access this article online

Website: www.idoj.in

DOI: 10.4103/idoj.IDOJ_19_20

Quick Response Code:



Access this article online

Quick Response Code:



Website:

www.ijournalhs.org

DOI:

10.4103/kleuhsj.kleuhsj_265_19

Cross-sectional study on assessing quality of life of patients diagnosed with superficial dermatophytosis in South-West India

Bhavana Doshi, Vijaya Sajjan, B. S. Manjunathswamy, Anisha P. Bindagi

Abstract:

BACKGROUND: Dermatophytosis is a common skin infection, having recurrent and persisting course because of topical steroid abuse, irregular treatment, and poor hygiene. The aim of this study was to assess the quality of life (QoL) of patients diagnosed with superficial dermatophytosis.

MATERIALS AND METHODS: Patients ($n = 100$) diagnosed with superficial dermatophytosis were recruited in the study. A pretested, structured questionnaire was used for recording patient's details. The observing dermatologist simultaneously assessed the clinical severity of the disease. Data were collected by a single examiner and recorded in a case record pro forma. Clinically doubtful cases were included after examining samples with 10% KOH. Correlation analysis was performed between the Dermatology Life Quality Index (DLQI) score and the study variables.

RESULTS: Out of 100 patients, 42 had DLQI scores with moderate effect (score 6–10). A total of 19 patients had a very large effect on QoL and four patients had DLQI scores bearing an extremely large effect on QoL. Both males and females had similar mean DLQI values. A moderate correlation was found between DLQI scores and the use of topical steroids ($r = 0.0002$), and a slight correlation was found between duration of the disease and DLQI scores ($r = 0.006$).

CONCLUSION: A high prevalence of the disease was found in males, and prolonged disease duration with use of topical steroids was observed. A significant impact was found in the QoL of the patients. Hence, proper counseling and treatment, along with early detection, is needed.

Keywords:

Dermatologists, dermatophytosis, Dermatology Life Quality Index, steroids, tinea

Introduction

Dermatophyte infections are common, with the most infective cases observed in the dermatology outpatient clinics.^[1,2] The causative organisms include species of *Trichophyton*, *Microsporum*, and *Epidermophyton*.^[3] The frequency of chronic and recurrent dermatophytosis over the recent years has increased alarmingly. The prevalence rate of superficial mycotic infection around the world is 20%–25%, and in India, it ranges from 36.6% to 78.4%.

Although its incidence is advancing, no measures have been taken in India for the control of dermatophyte infections.^[2] The study chose to cover the region of North Karnataka as it falls in the tropics, with epidemic proportions in areas having high rates of humidity with excessive sweating, making people prone to skin infections.

Superficial mycosis is a disease of the skin and its appendages, caused by fungi, and includes dermatophytosis, candidiasis, and pityriasis versicolor.^[4] Transmission of this infection is through the infecting fungus;

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How to cite this article: Doshi B, Sajjan V, Manjunathswamy BS, Bindagi AP. Cross-sectional study on assessing quality of life of patients diagnosed with superficial dermatophytosis in South-West India. *Indian J Health Sci Biomed Res* 2020;13:160-4.

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Received: 22 October
2019,

Revised: 23 November
2019,

Accepted: 16 April 2020,
Published: 23 June 2020

Original Article

Prevalence of metabolic syndrome among psoriatic patients attending a tertiary care hospital in Western India

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Abstract

Context Psoriasis is a multi-system inflammatory disease where the skin, nails and joints are commonly affected. Psoriasis is associated with an increased risk of cardiovascular atherosclerosis. Metabolic syndrome is a significant predictor of atherosclerotic disease with associated risk for cardiovascular events in such patients.

Aim To study the prevalence of metabolic syndrome among psoriatic patients attending tertiary care hospital in western India.

Material and Methods The present one year hospital based cross sectional study was done on a total of 100 psoriatic patients who attended our tertiary care hospital in western India from January 2017 to December 2017. A written consent form was obtained. All the patients were screened for metabolic syndrome according to NCEP-ATP III criteria. Venous samples were taken at the enrolment visit after the subjects had fasted overnight for measuring serum cholesterol, triglycerides and plasma glucose. An ethical committee clearance was obtained prior to the start of the study. Statistical analysis used: SPSS-17 software and epi-info software.

Results In our study, 32 out of 100 psoriatic patients (32%) had metabolic syndrome. 69% of the study population were males and 31% were females. PASI <9 was seen in 64% of the population. Hypertension, diabetes mellitus, duration of the disease, PASI were statistically significant in relation to occurrence of metabolic syndrome.

Conclusion Patients with psoriasis should be routinely screened for metabolic syndrome and treated accordingly to manage cardio-metabolic risk. However, the directionality of this association could not be established. Limitation; lack of controls in our study.

Key message Early detection of metabolic syndrome can prevent the occurrence of cardiovascular abnormalities.

Key words

Psoriasis, PASI, metabolic syndrome.

Introduction

Psoriasis is a common, chronic, inflammatory, papulosquamous, condition of the skin, in which both genetic and environmental influences have a critical role. The disease is variable in

duration, periodicity of flares and extent.¹ The study was conducted to know the prevalence of metabolic syndrome among psoriatic patients attending tertiary care hospital in western India.

Several studies have recently concluded that

Intimate Partner Violence, Anxiety, and Depression in Women with Sexually Transmitted Infections—A Hospital-based Case Control Study

Journal of Psychosexual Health

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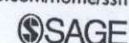
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DOI: 10.1177/2631831821992656

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Karthik K. N.³, and Raghul Raj¹

Abstract

Background: Sexually transmitted infections (STIs) have complex relationship with mental health and intimate partner violence (IPV) causing community health concern among adolescents and young adults. Women encounter behavioral, psychological, and reproductive health consequences of violence affecting across their lifespan.

Aim: To determine IPV anxiety and depression in women with STIs.

Methods and materials: It is a hospital-based cross-sectional study. A total of 115 consecutive females between 18 and 45 years of age who attended STI clinic were enrolled. Sociodemographic details were collected by semi-structured pro forma. IPV was assessed by World Health Organization violence against women instrument; Hamilton Anxiety Rating Scale and Hamilton Depression Rating Scale were applied to assess severity of anxiety and depression.

Results: Mean age of subjects was 31.21 ± 9.08 years. About 55% of the patients had history of IPV. Psychiatric comorbidities noted in 66% of patients. The odds of IPV were more with history of child abuse, suicidal ideation, and substance abuse in husband.

Conclusion: IPV, anxiety, and depression in STI are in the primitive stage of validation due to associated stigma and lack of awareness. It is high time to divulge dormant triggering factors to protect vulnerable population. Current research should focus on education and women empowerment to prevent STI and mental health issues.

Keywords:

Intimate partner violence, anxiety, depression, women, sexually transmitted infections

Received xx xxxx 20XX; revised xx xxxx 20XX; accepted xx xxxx 20XX

Introduction

Sexually transmitted infections (STIs) and intimate partner violence (IPV) with psychiatric comorbidities are delicate, abhorrent-entangled community issue. STIs are a group of contagious diseases in which the main mode of transmission is by sexual intercourse. STIs' variable prevalence and mode of acquisition depend on various sociocultural and epidemiological factors prevailing in that respective topography.¹ Over the years, STIs' scenario is changing very rapidly. There is a decrease in bacterial STIs with the syndromic approach adopted by clinicians for effective management. On the contrary, viral diseases are recurrent and are widely spreading in the community, thus contributing to raising trend in STIs.¹ According to The National Family Health Survey-3, 11.1% of women in India have STIs.² They

cause major public health concern among women due to their association with reproductive health morbidity. STI includes lower back pain, dyspareunia, urinary tract abnormalities, recurrent abortions, and infertility.³

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Dermaroller as an inexpensive and excellent therapeutic modality in the treatment of acne scars along with subcision and punch floatation

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Abstract

In the present times microneedling using dermaroller is a less well known method. Here the emphasis has been mainly laid on the efficacy of combining microneedling with subcision & punch floatation for effective scar reduction. Acne scars are largely preventable complications of acne. 95% of the scars occur over the face thus impacting the quality of life. Treatment with dermaroller is known by many names like microneedling therapy, collagen induction therapy or dermaroller therapy. The present study focuses at ascertaining the efficacy of dermaroller treatment objectively in the management of atrophic facial scars when combined with subcision and punch floatation.

Keywords: Dermaroller, Microneedling, Acne scars, Subcision, Punch floatation.

Introduction

Acne scars are largely preventable complications of acne. 95% of the scars occur over the face thus impacting the quality of life and thereby lowering confidence of the patients. Correction of scars is the priority for acne patients.¹

Facial scarring has always been a challenge to treat and there are different treatment options. Like Laser resurfacing or Dermabrasion that offer significant improvement in facial scars, but are invariably associated with considerable morbidity & downtime interference with daily activities of the patient in post procedure period. On the other hand, treatments like microdermabrasion & non ablative resurfacing with Lasers do not give same efficacy as traditional ablative resurfacing techniques. New treatments are emerging to overcome the limitation. One such treatment is microneedling with dermaroller. Acne scars can be classified into three different types—atrophic, hypertrophic, or keloidal. Atrophic acne scars are by far the most common type. The pathogenesis of atrophic acne scarring is not completely understood, but is most likely related to inflammatory mediators and enzymatic degradation of collagen fibers and subcutaneous fat.⁴

Skin needling, also referred to as collagen induction therapy, utilises vertical needle punctures rather than the horizontally directed punctures that are used in subcision and can be used to treat rolling and boxcar scars. Traditionally, a small roller equipped with rows of small needles typically ranging in size from 0.5 to 3.0 mm in length is passed over the skin using gentle pressure, puncturing the superficial layers of the skin to loosen fibrotic adhesions and induce collagen synthesis. This technique has been reported to reduce scar depth by upto 25% after 2 sessions.⁵

Acne has a prevalence of over 90% among

adolescents and persists into adulthood in approximately 12%–14% of cases with psychological and social implications.⁷

Microdermabrasion and non-ablative resurfacing with lasers do not show the same level of efficacy as the traditional, ablative resurfacing techniques. New treatments and techniques such as dermaroller or microneedling therapy are being added over the last few years to overcome these limitations. There are some clinical studies in the world literature that have documented a favourable clinical and histopathological response in the skin after dermaroller treatment.¹⁰

About the instrument: The standard dermaroller used for acne scars is a drum-shaped roller studded with 192 fine microneedles in eight rows, 0.5-1.5 mm in length and 0.1 mm in diameter, as shown in figure 1. The number of needles on the rolling barrel may range from 192-540. The microneedles are synthesized by reactive ion etching techniques on silicon or medical-grade stainless steel. Some of them are made of titanium and those with gold coating are claimed to be less traumatic than conventional needles. The instrument is presterilized by gamma irradiation.²

Dermaroller can also be used for stretch marks, wrinkles, facial rejuvenation & transdermal drug delivery.²

Materials and Methods

A total of 20 patients were selected for the study [11 males & 9 females] in the age group of 20-35 years. 2 patients did not continue the study.

All the patients willing to undergo the study were included in the study. A written and informed consent was obtained from all the patients. Appropriate grades were assigned to all the patients according to Table 1.

MICROBIOLOGICAL PROFILE OF DERMATOPHYTE INFECTIONS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

BACKGROUND

Dermatophytosis refers to fungal infection of skin, hair and nails (keratinised tissue). The fungi causing these superficial mycoses belong to three genera Trichophyton, Microsporum and Epidermophyton. These fungi produce cutaneous infections with restriction to the non-living cornified layers of skin failing to invade deeper tissues or organ. Trichophyton species infects skin, hair and nails. Microsporum species infects skin and hair and Epidermophyton species infects skin and nail. Dermatophyte infections are commonly known as ringworm or tinea infections.

The purpose of this study is to know the epidemiological data of dermatophyte infection, compare the results of KOH and culture, identify the anatomical region most affected (clinical type) and to know the prevalence of dermatophyte species.

MATERIALS AND METHODS

A total of 200 clinically suspected cases of dermatophytoses were examined and the appropriate samples were collected. Direct microscopy in 10% KOH (skin, hair) and 40% KOH (nails) along with culture using Sabouraud Dextrose Agar (SDA) was done in each case.

RESULTS

Of the 200 cases, majority of them belonged to the age group of 21 - 30 years. Tinea cruris (31%) was the most common clinical type followed by Tinea corporis (19%). The overall positivity by culture was 54% and by direct microscopy was 84%. Trichophyton rubrum (49%) was the predominant dermatophyte species isolated followed by T. mentagrophytes (44%).

CONCLUSION

Tinea cruris was the most common clinical type followed by Tinea corporis. The study indicates the changing trends of clinical presentations associated with dermatophytoses.

KEYWORDS

Dermatophytosis, Tinea, Trichophyton spp.

HOW TO CITE THIS ARTICLE: Gowda T, Manikonda R, Hosthota A. Microbiological profile of dermatophyte infections in a tertiary care hospital. J. Evolution Med. Dent. Sci. 2018;7(01):67-70, DOI: 10.14260/jemds/2018/16

BACKGROUND

Dermatophytosis refers to fungal infection of skin, hair and nails (keratinised tissue). The fungi causing these superficial mycoses belong to three genera Trichophyton, Microsporum and Epidermophyton.¹ These fungi produce cutaneous infections with restriction to the non-living cornified layers of skin failing to invade deeper tissues or organ.² Trichophyton species infects skin, hair and nails. Microsporum species infects skin and hair, and Epidermophyton species infects skin and nail.³ Dermatophyte infections are commonly known as ringworm or tinea infections.² The lesions are usually identified clinically, but often misdiagnosed due to its resemblance with other skin infections as the patients use steroid ointments and creams which are easily available.⁴ Prevalence of dermatophyte infections has been reported worldwide, but is common in regions which are hot and humid. India experiencing this kind of climatic conditions makes our country prone for dermatophytosis.⁵

'Financial or Other Competing Interest': None.

Submission 09-11-2017, Peer Review 13-12-2017,

Acceptance 19-12-2017, Published 01-01-2018.

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DOI: 10.14260/jemds/2018/16



There is a constant need to define the epidemiological and mycological characteristics of dermatophytosis for appropriate control measures. Hence, this study was conducted to know the clinico-epidemiological profile of dermatophyte infection, compare the results of KOH and culture, to know the anatomical region most affected (clinical type) and identify the species of causative fungi.

MATERIALS AND METHODS

The study included 200 clinically suspected cases of dermatophytosis attending the Outpatient Department of Dermatology and Venereology at a Medical College Hospital, Bangalore, during a period of 1 year (February 2016 - January 2017). A detailed case history was taken which included age, sex, socio-economic status, occupation, similar complaints in family, duration of disease and treatment received previously. Patients previously treated with antifungals and steroids were excluded from the study. General physical examination and systemic examination was done. Baseline investigations like complete haemogram, blood sugar and renal function tests were performed to rule out predisposing conditions.

Study Design

Descriptive Study.

Penodynia and Depression

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Sir,

Penodynia is a chronic penile pain of duration more than three months clinically presents as burning/vague pain located in the penis in the absence of any objective signs, or positive and relevant investigations to explain such a symptom [1]. Independent penile pain is a rare complaint [2]. Penodynia occurs when the symptoms develop in the absence of observable local disease, infection or a result of referred pain. The exact etiology of this pain is unexplored, because most often the clinical examination and work up unravel a definitive cause. These patients might have psycho social impairment, rarely this symptom (pain) will be the only manifestation of a mental illness [3]. In chronic pain treatment of the organic cause alone may not ease the symptom, especially when psychological and behavioral aspects are involved. This article represents our view on penodynia, depression and the role of amitriptylline.

A 35 years old married male presented with severe burning sensation of shaft of penis present throughout the day since 8 months. History of sexual exposure was present before the onset of symptoms. Clinical examination of scrotal skin, testis, cord, epididymis, penis and perianal area did not reveal any abnormality. Per rectal examination was done to rule out prostate pathology. Lab investigations like random blood sugar, urine routine and microscopy, X ray lumbosacral spine and ultrasound abdomen, pelvis and scrotum was done to rule out an organic cause. Serological tests to rule out STI were done. The patient had guilt of his sexual exposure. Clinical interview by psychiatrist revealed disrupted sexual activity and psychosocial impairment. A diagnosis of depression was made. Patient was started on amitriptylline 10mg for 1 week then increased to 25mg. He showed gradual improvement in symptoms during the follow up.

This is the third case report of penodynia and first from the Asian country. The first case report on penodynia was published in 2004 by Markos [4] and two french articles by Dauendorffer JN in 2012 and 2014 [5,6]. Unfortunately, penodynia is a condition that has been open to elucidation due to sparse literature on the subject. Here we discuss the clinical presentation, differential diagnosis and management of chronic pain in penis. The etiology of penodynia is not understood, and treatment aspects remain controversial.

Penodynia is a diagnosis of exclusion. Clinicians should first think of the apparent causes of penile pain, such as sexually transmitted infection or trauma. However a wide range of differential diagnoses in patient with penile pain should be considered. The pathologic process within the penis that can result in pain include urethritis, urethral foreign bodies, priapism, Peyronie's disease, balanoposthitis and insect bites (for example ant/spider bites). The other causes of penile pain are due to adjacent structures which include prostatitis and scrotal disorders like testicular torsion, epididymitis, orchitis and direct inguinal hernia. Paraphimosis and balanitis should be considered as the differential diagnosis of penile pain in uncircumcised men [2]. Patients with pudendal neuralgia and pain disorder associated with psychological factors may also experience penile pain which are relatively under-diagnosed [2,7]. So it involves a meticulous elicitation of clinical history and physical examination of the abdomen, buttocks, inner thighs, perineum and male genitalia. If needed repeated virologic, microbiologic, serologic investigations, and imaging like ultrasound, X ray, and MRI has to be done. Since any chronic symptoms can have a concealed psychological problem, other psychiatric illness has to be considered after excluding the possibility of organic source.

How to cite this article: Hosthota A, Bondade S, Monnappa D, Basavaraja V. Penodynia and Depression. Our Dermatol Online. 2016;7(2):240-241.
 Submission: 18.08.2015; Acceptance: 30.09.2015
 DOI: 10.7241/ourd.20162.67

Scleredema adultorum of Buschke in a child confirmed by special stains

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Sir,

Scleredema adultorum of Buschke is an uncommon condition with unknown pathophysiologic characteristics. It is a misnomer as the condition can occur in childhood. Sudden onset after infection, insidious onset with paraproteinemias and those preceded by diabetes are the three types of scleredema [1].

Scleredema is characterized by diffuse shiny, symmetrical, non pitting and woody induration of skin. It usually begins on back, sides of neck and spreads to face, shoulders, arms, thorax and becomes generalized. The hands, feet and genitalia are usually spared [2]. There is no sharp demarcation between normal and abnormal skin. Wrinkling occurs when the skin is compressed between the thumb and index finger, indicating that the epidermis is spared. Disease reaches its peak in 1-2 weeks, may continue to spread for 2-3 months in some instances. History of diverse infections, from a few days to 6 weeks prior to onset is observed in 65-90% of cases [3]. Common infections are influenza, tonsillitis, pharyngitis, measles, mumps, scarlet fever, impetigo or cellulitis, prior streptococcal infections [3]. We report a case of scleredema confirmed by special stains in a male child.

A 6 years old boy presented with diffuse hardening of the skin on face, neck and upper trunk of 1 month duration. It was followed by 10 days after the acute febrile illness. The genitals and legs remained uninvolved. Past and family history was insignificant. Examination revealed shiny, symmetrical woody induration of the skin with no sharp line of demarcation between involved and

uninvolved areas. There was lack of expression on face however, the movements of chest and abdomen were not affected. There was no clinically detectable systemic abnormality.

Haematological and urine examination was normal. Erythrocyte sedimentation rate (ESR) was raised (35 mm/h), absolute eosinophil count (AEC): 540 cells/cumm. Anti Nuclear antibody (ANA), lupus erythematosus (LE) phenomenon and anti streptolysin O (ASO) titre were negative. Chest X-ray showed streaky interstitial opacities.

Histopathological examination showed no epidermal changes. Increase in the thickness of reticular dermis with separated collagen fibres were observed (Figs. 1a and b). Von Geisson stain showed swollen collagen bundles (Fig. 2a). Alcian blue (pH 2.5) stain shows deposition of mucin on the surface of collagen fibres and in the interfibrillar spaces (Fig. 2b).

Various differential diagnosis like scleredema, scleromyxedema and scleroderma were considered in our case. Histopathology of scleredema, epidermis and appendages are unaffected (Fig. 1a). There is thickening of reticular dermis with increased collagen fibres extending upto subcutaneous tissue (Fig. 1b). Whereas flattening of epidermis, atrophy of pilosebaceous unit with marked proliferation of fibroblasts and increased collagen seen in upper and mid dermis in scleromyxedema. On Von Geisson stain, scleredema shows swollen collagen fibres separated from one another (Fig. 2a). In scleromyxedema collagen fibres are arranged in whorled pattern. On Alcian blue staining, mucin deposition is seen on the surface of

How to cite this article: Hosthota A, Kothottil R, Subraya SH. Scleredema adultorum of Buschke in a child confirmed by special stains. Our Dermatol Online. 2018;9(1):103-104.

Submission: 24.06.2017; Acceptance: 29.08.2017

DOI: 10.7241/ourd.20181.34

Clinical profile and risk factors of dermatophytoses: a hospital based study

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Received: 16 August 2018

Revised: 04 September 2018

Accepted: 05 September 2018

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ABSTRACT

Background: Dermatophytoses are superficial mycoses which represents most common community health problem across the globe. Surveillance studies are required to understand the changing epidemiology and prevalence of causative agents to decide on appropriate therapy. This study aims to evaluate the clinical types, etiological agents and probable risk factors of dermatophytoses.

Methods: It was a cross sectional study of 150 clinically suspected cases of dermatophytoses during six months. Sociodemographic details, clinical history and detailed examination were collected from all the subjects. Skin scrapings were sent to microbiology for direct microscopy and fungal culture.

Results: Among the 150 subjects enrolled, males outnumbered females. Infection was mostly prevalent in the age group of 21-30 years (37.3%). Tinea cruris was the commonest clinical type (50%) followed by Tinea corporis (18.4%) and Tinea unguium (11.9%). Tricophyton rubrum was the aetiological agent isolated in majority (33%), followed by Tricophyton mentagrophytes (20%). The major risk factors of dermatophytoses were poor hygiene (32.1%), topical steroid usage (23.9%) and diabetes mellitus (20.1%).

Conclusions: The present study has provided recent data on etiological agents of dermatophytoses and risk factors in our area. It is essential to develop measures for prevention, control of dermatophyte infections and establishment of therapeutic strategies.

Keywords: Dermatophytoses, Risk factors, Dermatophytes

INTRODUCTION

Superficial mycoses are infections of skin, hair and nail caused by dermatophytes, yeasts and non-dermatophyte molds.¹ It is estimated that superficial fungal infections affect roughly 20-25% of the world population.² Among these, dermatophytes are responsible for the largest number of cases; hence it is of community health concern.¹ Dermatophytes are a group of fungi which cause lesions commonly referred to as "ringworm" or "tinea". They comprise of three genera *Microsporum*, *Trichophyton*, and *Epidermophyton*.^{3,4} Disease

transmission occurs by direct contact with infected humans /animals or indirectly by contaminated fomites.⁵ The clinical diagnosis of this infection can be established by typical manifestations and distribution of lesions. Occasionally direct examination and culture is performed for diagnostic confirmation and management.³

There is increase in prevalence of these infections in recent years due to inappropriate usage of higher antibiotics, immunosuppressive drugs, change in lifestyle and climatic conditions. The severity of these infections depends on the etiological agent and immune status of the

Original Research Article

The association of acne vulgaris with smoking in men: a hospital based study

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Received: 05 March 2017

Accepted: 27 March 2017

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ABSTRACT

Background: Acne is a multifactorial dermatosis which occurs often during early adulthood with different grades of severity. The factors contributing to the formation of acne include genes, hormones, iatrogenic, psychological, environmental and occupation. Our article presents the findings on a possible impact of smoking on acne.

Methods: This study was conducted to evaluate smoking habits in 126 male acne patients in the age group of 15-45 years. Equal number of age and gender matched healthy controls were taken after consent. These subjects were administered a semi structured proforma to collect socio demographic details. Acne was graded taking into account the predominant lesions and smokers were administered Fagerstrom Test for Nicotine Dependence.

Results: Among the total subjects, 28.57% of cases and 15.87% of controls were smokers. In acne patients the number of cigarettes smoked was more as compared to controls. There was positive correlation between the number of cigarettes and the grading of the acne ($r=0.4515$). The risk of acne was 2.12 times more in smokers than in non-smokers.

Conclusions: Various studies have reported that smoking may play a role in pathogenesis of acne. Compelling evidence shows that higher nicotine dependence will exacerbate acne. So the association between the two cannot be excluded. The effect of smoking on the course of acne is still inexplicit.

Keywords: Smoking, Acne vulgaris, Nicotine, Male

INTRODUCTION

Acne vulgaris affects over 80% of all individuals during early adult life, with males more commonly affected than female subjects.¹ Several factors have been suggested to influence acne including diet, sweating, UV radiation, stress, and occupation.² Of late smoking is an imperative and reversible risk factor of several diseases due to change in lifestyle. The skin is an organ gets affected by cigarette smoke both directly through contact and indirectly as the toxic substances entering into the blood stream by inhalation.³ There is paucity of literature establishing the relationship between smoking and acne.

It is not clear whether smoking is a contributing or counteracting factor for acne. Due to the contentious association between acne and smoking in previous studies, we attempted to study the relation between acne and smoking in men.

METHODS

This study was conducted in the department of dermatology of The Oxford Medical College, Hospital and Research centre (T.O.M.C.H&R.C) for 6 months (June to December) in 2015 to evaluate the smoking habits in 126 male acne patients in the age group of 15-45

Impact of Acne Vulgaris on Quality of Life and Self-esteem

Abhineetha Hosthota, MD; Swapna Bondade, MD; Vinay Basavaraja, MD

PRACTICE POINTS

- Grading of acne will help with appropriate treatment, thus reducing the adverse psychological effects of the condition.
- Acne severity has a negative impact on quality of life and self-esteem.
- A sympathetic approach and basic psychosomatic treatment are necessary in the management of acne.

The psychological impact of acne is determined by various factors including age, sex, personality, grade of disease, scarring, and environmental and ethnic background. Apart from managing the clinical manifestations of acne, clinicians also have to deal with the psychological aspects of the disease by assessing patients' quality of life (QOL) and self-esteem. These measures will aid in better management of acne patients. This study examined the relationship between acne and QOL and self-esteem. The results showed that acne severity may have a considerable adverse impact on QOL and self-esteem. Dermatologists need to emphasize the psychosocial sequelae of acne through awareness programs and encourage medical treatment along with basic psychosomatic remedies in the management of acne.

Cutis. 2016;98:121-124.

Acne vulgaris predominantly occurs during puberty and can persist beyond 25 years of age, most commonly in women.^{1,2} Although acne does not cause physical impairment, it can be

associated with a considerable psychosocial burden including increased levels of anxiety, anger, depression, and frustration, which in turn can affect vocational and academic performance, quality of life (QOL), and self-esteem.³

Quality of life measures provide valuable insight into the debilitating effects of acne.¹ It has been suggested that acne patients may experience poor body image and low self-esteem as well as social isolation and constriction of activities.⁴ Self-esteem is a favorable and unfavorable attitude toward oneself.⁵ A marked emphasis has been placed on body image in society, fueled by external cues such as the media.^{3,6} This study was carried out to assess QOL and self-esteem in acne patients.

Methods

This prospective, hospital-based, cross-sectional, case-control study was conducted at The Oxford Medical College, Hospital & Research Center (Bangalore, India), over a period of 3 months. One hundred consecutive acne cases (age range, 12–45 years) and 100 age- and gender-matched controls who did not have any skin disease provided consent and were included in the analysis. Guardians gave consent for individuals who were younger than 18 years. Exclusion criteria for cases included a medical disorder (eg, epilepsy, diabetes mellitus, hypertension) or medications that would likely interfere with acne assessment.

The cases and controls were administered a semistructured questionnaire to collect

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The authors report no conflict of interest.

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VOLUME 98, AUGUST 2016 121

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JB

CASE REPORT

Successful Treatment of Laser Induced Hypopigmentation with Narrowband Ultraviolet B Targeted Phototherapy

Q-switched 1064 nm neodymium-doped yttrium aluminium garnet (Qs 1064 nm Nd: YAG) laser plays an important role in the treatment of pigmentary skin disorders, including tattoos. Although it has high efficacy and safety, adverse effect like hypopigmentation may occur causing anxiety to patients. We present a case report of Qs 1064 nm Nd: YAG laser induced hypopigmentation which was successfully treated with ultraviolet B targeted phototherapy, with rapid and satisfactory re-pigmentation.

KEYWORDS: Laser induced hypopigmentation, Q-switched 1064 nm neodymium-doped yttrium aluminium garnet laser, targeted ultraviolet B phototherapy

INTRODUCTION

Q-switched 1064 nm neodymium-doped yttrium aluminium garnet (Qs 1064 nm Nd: YAG) laser has gained much popularity in the treatment of pigmented skin lesions and tattoos. It works on the principle of selective photothermolysis, generating ultra-short pulses of high energy and peak power, with an additional photoacoustic effect. The 1064-nm wavelength is selectively absorbed by chromophores such as melanin and ink particles.^[1]


The most frequently encountered adverse reactions with this laser are hypopigmentation and hyperpigmentation, and rarely textural changes and scarring.^[2] These complications are more common in darker skin types. Hypopigmentation in a dark skin patient causes much anxiety and its treatment is challenging. Phototherapy has been reported to be helpful in such a scenario.^[3] We are presenting a case report of successful reversal of Qs 1064 nm Nd: YAG laser-induced hypopigmentation with ultraviolet B (UVB) targeted phototherapy (TPT).

CASE REPORT

A 29-year-old male patient of Fitzpatrick skin type V approached us for tattoo removal treatment. He had a 6-month-old black tattoo of size 3 × 7 cm on the dorsum of his left hand [Figure 1]. He was treated with Qs 1064 nm Nd: YAG () (Dual-pulsed Q-switched Nd: YAG SPECTRA Laser, Lutronic Corporation) laser machine. The parameters used were 3 mm spot size, 2 Hz pulse rate and 3J fluence in the first session. The subsequent sessions were scheduled at 1 month interval and the fluence was gradually increased to 8J. Patient had a very good response to the treatment with 85% clearance of the tattoo but reported to us with depigmentation at 4 weeks after the 6th session of laser treatment [Figure 2]. Patient was then subjected to targeted UVB phototherapy twice a week starting on the same day, using TPT device (Lumera: Targeted Phototherapy, Daavlin Company), which delivered UVB radiations at a dosage of 100 mJ/s, at a full lamp output of 100 mW/cm². The starting duration of therapy was 4 s and gradually increased by 1 s at every session, depending on the response to previous session. Patient started showing re-pigmentation after two sessions and a very good response was seen after six sessions at 9 s duration of phototherapy [Figure 3]. The energy delivered at 9 s with the Lumera system was 275 mJ/cm².

DISCUSSION

Pigmented lesions of skin respond to laser and light of wavelength ranging from 290 nm to 1200 nm, as

Access this article online	
Quick Response Code:	Website: www.jcasonline.com
	DOI: 10.4103/0974-2077.112677

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Original Research Article

A study of clinical profile and quality of life in patients with scabies

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Received: 20 May 2021

Revised: 30 May 2021

Accepted: 05 June 2021

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ABSTRACT

Background: Scabies is an ectoparasitic dermatosis caused by *Sarcoptes scabiei* and is a public health issue in all countries regardless of socioeconomic status. Scabies can lead to stigmatization, depression, insomnia, and may significantly affect the quality of life. The aim of the study was to find the demographic profile, clinical morphology and quality of life in patients suffering from scabies.

Methods: This was a prospective, non-interventional, hospital-based cross-sectional study. Adult patients with scabies reporting to the dermatology department were enrolled in the study. Demographic details, clinical findings, past history and family history was recorded in a proforma. Questionnaire about quality of life was given to the patients and a detailed analysis was done.

Results: A total of 120 cases of scabies were enrolled in this clinical study. The most affected age group was between 18 and 30 years. Most common site involved was interdigital spaces (83%) followed by genitalia (48%) and abdomen (42%). The most common lesion was excoriation (91%) followed by papule (88%) and nodules (33%). Out of 120 patients, 111(92%) patients experienced difficulty in working at the work place, 83.3% of patients had feeling of embarrassment, social relationship was affected in 82.5% of patients. Majority of the patients (38.5%) had mild impairment of quality of life.

Conclusions: Feeling of embarrassment, difficulty in work place, social stigmata and depression were frequently observed in patients with scabies. In our study scabies mildly affected the quality of life.

Keywords: Scabies, *Sarcoptes scabiei*, Quality of life, Embarrassment

INTRODUCTION

Scabies is an ectoparasitic highly contagious dermatosis caused by *Sarcoptes scabiei* and is a public health issue in all countries regardless of socioeconomic status. In developed countries, delay in diagnosis can lead to institutional outbreaks whereas in developing countries, poor access to health care contributes to disease under-treatment and long-term systemic sequelae.¹ Scabies affects an estimated 300 million people around the world every year. Although it can affect individuals at any socioeconomic level, individuals who live in poverty or in overcrowded conditions are at much higher risk for scabies.² Infestation with the scabies mite results in an

intensely itchy skin eruption consisting of papules, nodules and vesicles.³ While the pruritis itself causes significant distress, break in the epidermis due to burrowing of the mite, and the skin damage caused by the excoriation serve as portals of entry for pathogenic bacteria. The clinical consequences of secondary bacterial infection, especially with group A streptococci results in significant and frequently unrecognized morbidity.⁴ Skin diseases like scabies has detrimental effect on the quality of life of patients. This psychosocial aspect of skin disease has important implications for optimal management of patients with scabies. Although dermatologists and other clinicians have long recognized the impact of skin disease on a patient's life, it is only recently that quality of life measures have been used as assessment parameters in the

Original Research Article

A clinico-aetiological study of diaper area dermatoses in children

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Received: 08 January 2018

Revised: 04 March 2018

Accepted: 05 March 2018

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ABSTRACT

Background: Diaper area dermatoses is a broad term used to describe various skin conditions that can occur in diaper area. Dermatoses in diaper area can occur as primary disease, as part of a generalised inflammatory skin disease, or as part of a systemic disease.

Methods: One hundred and thirty children below five years with eruptions involving the diaper area were enrolled in the study. A detailed history, general physical examination and dermatological examination was done and recorded in a proforma. Tests such as Tzanck smear, skin biopsy, KOH preparation, culture sensitivity, Gram staining and appropriate hematological investigations were done whenever necessary depending on the presenting condition.

Results: A total of twenty three (23) various dermatoses were encountered. Irritant contact dermatitis (22.3%) was the most common dermatoses, followed by scabies (14.6%), impetigo (13.8%) and papular urticaria (11.5%). Aetiological analysis revealed that majority (28.5%) of dermatoses belonged to infection group followed by inflammatory (26.15%) and arthropod bite (26.15%) groups. Amongst the infective dermatoses, bacterial infection (14.61%) was most common entity followed by viral (10.76%) and fungal infection (3.1%).

Conclusions: Our study emphasizes various dermatoses in diaper area in paediatric population and proves that aetiology is multifactorial and is not because of diaper alone.

Keywords: Diaper area dermatoses, Irritant contact dermatitis, Scabies

INTRODUCTION

Diaper area dermatoses is a broad term used to describe various skin conditions that can occur in diaper area.¹ Eruptions in the diaper region have diverse origins. Many lesions like vesicles, pustules, bullae, erosions and ulcerations may arise in the diaper area.² The anatomical area for diaper dermatoses encompasses the lower abdomen, lower lumbar region, gluteal area, genitalia and inner aspects of thigh. Eruptions in the diaper area are the most common dermatological problem in infancy.³ There are many diseases that may also involve other areas of the body and coincidentally affect the diaper area. These

eruptions can be subdivided into primary diaper area dermatitis, an acute inflammation of skin in diaper area with an ill-defined and multifactorial aetiology, and secondary diaper area dermatitis, a term which encompasses eruption in diaper area with defined aetiologies. The most important factors in development of primary diaper area dermatitis are water, moisturizer, friction, urine, feces, microorganism. Secondary diaper area dermatitis includes a variety of other inflammatory and infectious processes that can occur in the diaper area.³ Diaper area dermatoses can be directly related to the wearing of diapers, those aggravated by wearing diapers, and those that occur in the diaper region

Autoimplantation – An Immunological Treatment For Multiple Warts

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UDC 616.5-006-08:615.37

Abstract

Introduction. Warts are benign epithelial lesions that involve skin and mucosa. Successful management depends on the patient's immunity, site and type of wart. In spite of huge therapeutic armory available, no treatment has been found to be effective so far. **Objective.** To evaluate the effectiveness of autoimplantation in the management of multiple warts. **Material and Methods.** This is a hospital based prospective study of forty patients with multiple warts. A prospective, hospital-based study included forty cases of multiple warts for autoimplantation. Resolution of warts within three months was taken as complete clearance; the follow up of any recurrence lasted six months. **Results.** The majority of patients were males (69.7%), belonging to 21–30 years age group (57.6%). Complete resolution was observed in 25 patients, partial response was achieved in 5 patients and there was no response in 3 patients. The majority of patients did not have any complication or recurrence. **Conclusion.** Autoimplantation is a simple, daycare, effective procedure. It provides resistance by inducing cell mediated immunity and also prevents recurrence to a great extent.

Key words: Warts; Transplantation, Autologous; Skin Transplantation; Recurrence; Treatment Outcome; Immunotherapy

Introduction

Viral warts are benign lesions involving epithelium of skin and mucus membrane caused by different strains of Human Papilloma Virus (HPV) (1). The clinical presentation of warts is variable and depends on HPV strain, site of infection and immunity of the patient. The most common clinical presentations are verruca vulgaris, verruca plana, palmo-plantar warts and genital warts (condylo-ma acuminata). This is a common dermatologic complaint, which spreads by direct skin-to-skin contact, fomites or autoinoculation (2).

The virus enters through abrasions on the skin surface and remains latent in the basal cell layer of the epidermis cell for 1 to 8 months (3). The process of virus replication produces proliferation of prickle cells which alters the character of the epidermis, resulting in the visible warty appearance of the verrucae. However, unlike many viruses, HPV infection spreads through shedding of infected epithelial cells from the surface of the skin. So, there is limited release of viral proteins to the circulating dendritic cells, causing inadequate antigen presentation to the immune system.

Furthermore, HPV proteins also encode specific functions to inhibit immune responses by inducing specific anti-inflammatory mechanisms by activating T suppressor cells (3, 4). Due to the above pathomechanism warts are usually multiple and recalcitrant causing psychological distress to the patients and a therapeutic challenge for the dermatologists (5).

Previous literature has stated that warts resolve spontaneously in 40% of cases and others need medical or surgical intervention (5). Multiple treatment modalities are available for treating warts which destroy conspicuous infected tissue but there is no one such treatment which targets inconspicuous infected lesions to ward off further recurrence. Majority of treatments are direct, such as cryotherapy by liquid nitrogen, electrosurgery, lasers and photodynamic therapy. Numerous modes have been used to activate the immunological response such as oral levamisole, topical imiquimod and 5-FU, and intralesional immunotherapy with tuberculin antigen, MMR vaccine, BCG vaccine (6).

Rapid proliferation of wart in HIV-infected patients, solid organ transplant recipients and

Identification and Speciation of *Malassezia* Isolated from Tinea Versicolor Cases in a Tertiary Care Hospital in Karnataka

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Abstract

Background: The fungi belonging to genus *Malassezia* are lipophilic in nature and are known to cause infection of Stratum corneum. It is implicated in Pityriasis Versicolor, which is a chronic dermatological infection. Patients present with hypo &/or hyperpigmented patches on skin. Speciation of *Malassezia* helps in selection of specific antifungal drugs, as resistance is known in some of these species. **Aim:** To study the epidemiological characteristics of *Malassezia* in this region and to speciate them. **Material and Method:** This study was conducted over a period of 8 months. Skin scrapings from 100 patients with suspected Pityriasis versicolor were the samples considered. KOH positive samples were subjected for culture on Sabouraud Dextrose agar with Olive oil overlay. Positive samples were speciated using biochemical reactions. **Results:** Most common site was back (48%). 66% patients were below 30 yrs of age. Hypopigmented lesions were maximum. KOH was positive in 68 samples, 20 were negative and 12 were positive for other forms of fungal elements. Totally 88 samples (68+20 KOH negative samples) were selected for culture. Out of 88, 30(47%) were *M.symphodialis*, 24(38%) were *M.furfur*, 8(12%) were *M.globosa* and 2(3%) were *M.slooffiae*. **Conclusion:** Clinicomycological profile was very much similar to the earlier studies. Culture methods used in this study offers a simple and effective method of speciation in resource limited settings.

Keywords: Pityriasis Versicolor, *Malassezia*, Sabouraud Dextrose agar, Hypopigmentation.

Introduction

Pityriasis versicolor (PV), a chronic superficial dermatomycosis presents as scaly lesions with pigmentary changes on the skin. It is a prototype disease of *Malassezia* infection^[1]. There are currently 14 species of *Malassezia* which have been studied in detail^[1]. Lipid dependent species known to cause human infection are *Malassezia globosa*, *Malassezia restricta*, *Malassezia obtusa*, *Malassezia slooffiae*, *Malassezia sympodialis* and *Malassezia furfur*. Most patients approach the doctor for cosmetic reasons with complaints of altered pigmentation, like hypo &/or hyperpigmentation.

Some may have itching and associated lesions like Seborrheic dermatitis. It is also implicated in lesions like Pityriasis folliculitis, Onychomycosis, Blepharitis etc^[2]. Invasive infections are seen, more so, in patients who are on IV lipids or on central venous catheters^[3]. The lesions of Pityriasis can be recurring and chronic in nature, sometimes disfiguring as well. Speciation of *Malassezia* helps in selection of specific antifungal drugs as some species are known to be resistant. As there are not many studies done on *Malassezia* in this particular area of Karnataka, this study was undertaken in a tertiary care hospital to determine the common species in this region, to get information regarding the epidemiology and ecology of *Malassezia* and also to get information about the burden of Pityriasis versicolor infection in this area.

Materials and Method

This study was conducted in a tertiary care hospital in Karnataka over a period of eight months duration.

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A cross sectional hospital-based study of intimate partner violence and psychiatric comorbidity in pregnancy

Rupa Iyengar, Swapna Bondade, Raghul Raj

Summary

Purpose: To assess Intimate partner violence and psychiatric co-morbidities in pregnant women.

Methods: Hundred and twenty consecutive patients who were pregnant attending the Ante natal clinic between 18-45 years were included in study. They were administered a semi structured proforma to collect socio demographic details, Intimate Partner Violence (IPV) was assessed by WHO violence against women instrument. Psychiatric diagnosis was made according to Diagnostic and Statistical Manual-5 criteria (DSM-5), anxiety was assessed using Hamilton Anxiety Rating scale (HAM-A), depression was assessed using Hamilton Depression Rating Scale (HAM-D).

Results: About 15% of the patients had psychiatric comorbidities and 35% of the patients had history of intimate partner violence. Eighteen (42.85%) of the 42 had psychological violence and 24 (57.15%) had physical sexual violence. When we compared the females, who did not have IPV (group 1) and who had IPV (group 2) – suicidal ideas, MTPs more than one, stress, depressive disorder and anxiety disorder was more in group 2 and this difference was statistically significant. Substance abuse was observed more in group 2 spouses than group 1 spouses and was statistically significant.

Conclusion: A significant number of pregnant women reported IPV. This emphasizes the importance of screening for IPV in these women. It is observed that women with IPV had higher psychiatric comorbidity and may require psychotherapeutic intervention.

pregnancy, intimate partner violence, risk factors, psychiatric comorbidity

INTRODUCTION

Pregnancy and childbirth are major milestones in the lives of many couples and their families. The transition to parenthood brings joy as well

as new challenges to couple relationships [1,2]. Pregnancy can be a time of particular vulnerability to Intimate Partner Violence (IPV) because of changes in physical, emotional, social and economic demands and needs. This vulnerable period, however, is not limited to the time between conception and birth. Researchers have clearly demonstrated that the risk factors for IPV associated with pregnancy encompass the timeframe of one year before conception until one year after childbirth [3-7].

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Quality of life in Bipolar affective disorder: Relationship with demographic and clinical variables

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Abstract

Background and Objectives: Bipolar Affective Disorder (BPAD) is a complex, episodic and heterogeneous condition leading to impairment of Quality of life (QoL). The current study was undertaken with the aim to assess the Quality of Life of patients with Bipolar Affective Disorder, compare it with general population and to examine the correlation of socio-demographic and clinical variables with the Quality of Life.

Methodology: This was a cross-sectional case-control study. Hundred consecutive patients diagnosed to have BPAD as per ICD-10 currently euthymic who fulfilled the inclusion and exclusion criteria and gave informed consent were included for the study. Fifty healthy controls were selected from the general population after clinical interview. Subjects were administered YMRS and HAM-D followed by assessment of QoL using WHOQOL-BREF (World Health Organization Quality of Life –Brief version). The data was analysed using SPSS package version 15.0.

Results: Comparison of the four domain scores of WHOQOL-BREF showed that BPAD patients QoL was significantly impaired than the healthy controls (Physical health, $p < 0.0001$; Psychological, $p < 0.0001$; Social relationships, $p < 0.0003$ and Environmental, $p < 0.0004$). In comparison to healthy controls, the overall perception of QoL (Q1) and overall perception of health (Q2) was significantly lower in the BPAD patients (Q1, $p = 0.003$ and Q2, $p < 0.001$). Socio-demographic variables like marital status, type of family, educational status and place of residence had a significant impact on the QoL. Among the clinical variables assessed, early age of onset, number of depressive episodes, HAM-D scores, number of previous hospitalizations and suicidal attempts had a significant negative correlation with QoL. The time elapsed since the last episode had a significant positive correlation with the QoL indicating that longer euthymic period was associated with better QoL.

Conclusion: The emerging body of research has shown that the BPAD has a negative effect on the QoL even during periods of euthymia and remission. A number of socio-demographic and clinical variables have a bearing on the QoL of patients with BPAD.

Keywords: Bipolar affective disorder, Quality of life, Remission.

Introduction

The term Quality of Life (QoL) has become an important construct for all clinicians who are concerned about measuring functional recovery of patients. QoL is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment. According to the definition proposed by WHO "Quality of Life is an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns".¹ It has been suggested that psychiatric disorders are associated with greater impairment in QoL than medical disorders and that there is a distinct pattern of impairment associated with various mental disorders.

The episodic nature of Bipolar Affective Disorder (BPAD) with its many remissions and symptom rich periods of exacerbation, can affect an individual's physical, emotional, social and functional well-being and significantly impact their overall quality of life.² A person suffering from BPAD, apart from facing the symptoms and complications of the illness and the resulting psychosocial impairments also has to contend with stigma and discrimination due to the illness. Due to these reasons many clinicians are

increasingly concerned about the QoL of patients with BPAD beyond mere abatement of symptoms. BPAD is responsible for the loss of more disability-adjusted life years than all forms of cancer or major neurologic conditions such as epilepsy and Alzheimer disease, primarily because of its early onset and chronicity across the life span.³

A gamut of demographic and clinical variables can influence QoL in patients with BPAD. Gutierrez-Rojas L et al examined quality of life in BPAD and found that increasing age was significantly associated with lower QoL.⁴ Sierra P et al analysed demographic variables of patients with BPAD and found no difference in QoL with respect to marital status, sex, or employment situation.² Earlier studies found women scoring lower on the quality-of-life subscales.^{4,5} While Kebede D et al demonstrated that male sex, rural residence and being married were associated with better functional outcome.⁶ Research has shown that patients with bipolar disorder experience loss of productivity, loss of income due to few paid working hours and unemployment due to morbidity.^{7,8} Romans and McPherson found that BPAD patients have impoverished social relationships and increased rates of marital failure.⁹ All these demographic factors greatly impact the QoL of patients with BPAD.



Mean Platelet Volume in Depression and Anxiety Disorder- a Hospital Based Case-control Study

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Authors' contributions

This work was carried out in collaboration between all authors. Author SB designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors Supriya and HSS managed the analyses of the study. Author BKS managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/INDJ/2018/42988

(1) Pasquale Striano, Pediatric Neurology and Muscular Diseases Unit, University of Genoa, G. Gaslini Institute, Genova, Italy.

Reviewers:

(1) Lolita Rapoliene, Klaipeda University, Lithuania.

(2) Martina Corsi, University of Pisa, Italy.

(3) Coker Ayodele Olurotimi, Lagos State University College of Medicine, Nigeria.
Complete Peer review History: <http://www.sciencedomain.org/review-history/26031>

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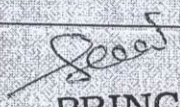
Received 12th June 2018
Accepted 15th August 2018
Published 28th August 2018

ABSTRACT

Introduction: Depression and anxiety disorder are the common mental disorders. Serotonin (5-hydroxytryptamine [5-HT]) is a well-established neurotransmitter in the central nervous system (CNS). It has a role in the anxiety, depression, appetite, motor, cognitive and autonomic functions, platelet aggregation and regulation of vascular tone. As the CNS is difficult to access, peripheral platelet models are widely used as the indicators of central 5-HT metabolism; moreover, they are known to reflect central serotonergic function. Mean platelet volume (MPV) is contemplated as the marker of platelet function. It is a measure of platelet size and a good indicator of platelet activity. In this backdrop the current study was carried out to evaluate the MPV in depression and anxiety disorders.

Methods: Consecutive 90 depressive disorder patients, 76 anxiety disorder patients, diagnosed according to DSM 5 criteria and 49 healthy control subjects were selected for the study. Hamilton

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Stressful life events and psychiatric comorbidity in acne—a case control study

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Abstract

Introduction: Possibility of a causal influence of emotional stress, on the course of various skin diseases, has been postulated. However, it is still inconclusive about the role of stressful life events in acne. In this background, the present study was carried out to know its role in acne.

Methods: Consecutive one hundred patients who were diagnosed with acne vulgaris in the age group of 12 to 45 years were included. Age and sex matched controls were taken. A semistructured proforma was used to collect sociodemographic details. Stressful life events were assessed using presumptive stressful life event scale. Anxiety was evaluated using Hamilton Anxiety Rating scale and Depression by Hamilton Depression Rating Scale.

Results: There was no difference in total stressful life events in past one year between patients and controls. The undesirable life event was present in 65 patients and 50 controls, this difference was statistically significant. Getting married or appearing for exams were the most common stressful life event in patients. Forty patients had comorbid psychiatric illness whereas in controls comorbidity was in 24 and this difference was statistically significant.

Discussion: The undesirable stressful life events and psychiatric comorbidity were more in acne patients than in controls.

KEYWORDS

acne, psychiatric co morbidity, stressful life events

1 | INTRODUCTION

Skin plays a pivotal role as a sensory organ in the socialization process throughout the life cycle. It is the cardinal organ of communication, being responsive to a variety of emotional stimuli. It greatly affects an individual's body image and self-esteem, and has serious psychological implications. Several dermatological conditions have been reported in association with psychological stress such as psoriasis, alopecia areata, atopic dermatitis, lichen planus, pruritus, and rosacea. In a study, it was observed that females are more embarrassed, self-conscious, upset, and sad because of atopic dermatitis (Chernyshov et al, 2016). Atopic dermatitis in children is associated with negative

family impact (Ho et al, 2010). The skin and central nervous system are embryologically related, the epidermis and neural plate are derived from the embryonic ectoderm. Further, both organs share several hormones, neurotransmitters, and receptors (Gupta & Voorhees, 1990; Koblentzer, 1983).

Acne vulgaris is the most common skin disease treated by dermatologists, affecting an estimated 85% of the population at some time in their life (Lookingbill & Mars, 1993). Psychological stress from major life events has been recognized as a precipitating factor for dermatological disorders. Research shows that stress significantly delay wound healing, and increases pain intensity (Kiecolt-Glaser, Marucha, Malarkey, Mercado, & Glaser, 1995; Kiecolt-Glaser, Page, Marucha,

Original Article

Intimate Partner Violence and Psychiatric Comorbidity in Infertile Women - A Cross-Sectional Hospital Based Study

Swapna Bondade, Rupa S. Iyengar¹, B. K. Shivakumar, K. N. Karthik

ABSTRACT

Background and Aim: In Asian countries, child bearing is a social obligation. Experience of infertility profoundly affects the personal well-being of women. Women with infertility are at a higher risk of anxiety, depression, and Intimate partner violence (IPV). In this background the present study was carried out to determine IPV and psychiatric comorbidity in women with infertility. **Methods:** Hundred consecutive women with primary infertility in the age group of 18 years to 45 years were included in the study. Psychiatric diagnosis was made according to DSM-5. Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D) were used to assess the severity of the anxiety and depressive symptoms. IPV was assessed using WHO violence against women instrument. **Results:** The mean age of the 100 women was 26.73 ± 4.23 years, duration of marriage was 7.11 ± 4.177 years and duration of infertility treatment in years was 5.56 ± 3.89 . The prevalence of IPV among patients was 50% and psychiatric comorbidity was 45%. When we compared the women who experienced IPV and who did not, the prevalence of anxiety disorder and depressive disorder was high among IPV group. Anxiety, depressive scores in HAM A, HAM D were higher in IPV group compared to the other group and was statistically significant. **Conclusion:** A significant number of women who had infertility reported IPV. This emphasizes the importance of screening for IPV in these women. It is observed that women with IPV had higher psychiatric comorbidity and may require psychotherapeutic intervention.

Key words: Infertility, intimate partner violence, psychiatric comorbidity

INTRODUCTION

"Infertility is the inability of a sexually active, non-contracepting couple to achieve pregnancy in one year."^[1] The World Health Organization (WHO) estimates that 60 to 80 million couples worldwide suffer

from infertility. Infertility has dissimilar prevalence across regions of the world and is estimated to affect 8 to 12% of couples worldwide, and in India, the prevalence of primary infertility is 3.9-16.8%.^[2-4] Intimate partner violence (IPV) is defined by WHO

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How to cite this article: Bondade S, Iyengar RS, Shivakumar BK, Karthik KN. Intimate partner violence and psychiatric comorbidity in infertile women - A cross-sectional hospital based study. Indian J Psychol Med 2018;40:540-6.

Access this article online

Website:
www.ijpm.info

DOI:
10.4103/IJPSYM.IJPSYM_158_18

Quick Response Code



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Indian Psychiatric Society - South Zonal Branch | Published by Wolters Kluwer - Medknow

ORIGINAL ARTICLE

Trends of utilization of government disability benefits among chronic mentally ill

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ABSTRACT

Background: Mentally retarded and chronic mentally ill are being certified using IQ Assessment and Indian Disability Evaluation and Assessment Scale (IDEAS). They have been granted various benefits including monthly pension, from Ministry of Social Welfare, Government of India. The monthly pension appears to be the strongest reason for seeking certification and applying for government benefits. The caregivers appear to have only partial information and awareness about the remaining schemes.

Objective: The study aims to assess the severity of disability in the mentally retarded and mentally ill who are certified for disability benefits, as well as to assess the trends of utilization of disability benefits over a 3 year period.

Materials and Methods: This was a retrospective, file review based study of certificates of patients certified for mental disability in the period of January 2006 to December 2008. Certificates of a total of 1794 mentally retarded and 285 mentally ill were reviewed. The data regarding utilization of disability benefits was assessed.

Results: Patients from rural areas did not avail any benefits other than the disability pension. Among Mentally Ill, Schizophrenia accounted for highest certifications. Males had higher disability compared to females, and Dementia showed highest disability as per IDEAS.

Conclusion: Though initial hurdles due to disability measurement have been crossed, disability benefits are still elusive to the vast majority of the disabled. Proper awareness and education will help in reducing the stigma and in the effective utilization of benefits.

Key words: Chronic mentally ill, disability benefits, psychiatric disability, IDEAS scale

INTRODUCTION

In India, majority of the 125 million mental ill require intensive rehabilitation services.^[1,2] The transient nature of the disabilities of mental illnesses and the nature of the socio-occupational impairment posed a challenge for the measurement of the disability. As this was the major hurdle in including mental illnesses into the government's social welfare benefits under the Persons with Disability Act of 1995,^[3] the Rehabilitation Committee of the Indian Psychiatric Society developed the Indian disability evaluation and assessment scale (IDEAS),^[2] which is now

recommended by the Government of India to measure psychiatric disability.^[4]

The disabled are eligible for the following welfare schemes from the government:^[5-9]

1. Disability pension/unemployment pension
2. Disabled person's scholarship
3. Insurance scheme for the mentally challenged
4. Adhara scheme helping to set up small shops
5. Telephone booth
6. Free education up to 18 years

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How to cite this article: Kashyap K, Thunga R, Rao AK, Balamurali NP. Trends of utilization of government disability benefits among chronic mentally ill. Indian J Psychiatry 2012;54:54-8.

Access this article online

Website:
www.indianjpsychiatry.org

DOI:
10.4103/0019-5545.94648

Quick Response Code



Prevalence, nature and severity of psychiatric morbidity among suicide attempters

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Abstract

Background: The link between attempted suicide and psychiatric illnesses has been very inconsistent. The severity of depression has been noted an indicator of long term suicidal risk. Understanding the trends in suicidal behavior can aid in identifying potential targets for prevention of suicides. **Aim:** To study the prevalence, nature and severity of psychiatric morbidity among suicide attempters. **Material and Methods:** This cross sectional study included 75 consecutive referrals of attempted suicide. Assessment was done as early as possible during the hospital stay. Socio Demographic Profile, MINI Plus Version 5.0 and Beck's Depression Inventory were used for assessment. **Results:** The mean age of the study sample was 29.73±10.6. The majority of the suicide attempters were from the rural areas, males, single, with primary education. Manual laborers formed the highest group (24%). 69.5% of the subjects did not have family history of any psychiatric illness. Out of the 75 subjects, 73 (97.33%) had a psychiatric diagnosis. Principal among the psychiatric diagnosis were mood/affective disorders, accounting for 36% of the diagnoses. **Conclusion:** All patients presenting with a suicide attempt have to be thoroughly evaluated, especially for psychiatric morbidity, including substance abuse, personality disorders, life events and family and social networks. Management of patients of self harm should include careful screening for psychiatric symptoms.

Key Words: Psychiatric morbidity, Suicide attempters, Intentional self-harm, Prevalence of Psychiatric disorders.

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Received Date: 14/04/2018 Revised Date: 03/05/2018 Accepted Date: 27/05/2018

DOI: <https://doi.org/10.26611/107626>

Access this article online

Quick Response Code:



Website:

www.medpulse.in

Accessed Date:

30 May 2018

INTRODUCTION

Each Suicide is a personal tragedy which not only takes the life of the individual, but also affects the lives of families, friends and the society at large. Among the patients who attempted suicide, the suicide rate in the subsequent 12 months was reported to be about a 100 times greater than in the general population.¹ The link between attempted suicide and psychiatric illnesses has been very inconsistent. Though some Indian studies

reported 9% to 10.4% cases of attempted suicide to be having psychiatric illnesses, the authors themselves say that the standard psychiatric nomenclature at that time (1970) was ill suited for classifying those that attempted suicide.^{2,3} A family history of suicide has been found to be significantly associated with suicide in psychiatric patients, and is found to increase the risk of attempts in patients with a wide variety of diagnoses including unipolar and bipolar affective disorders, schizophrenia, depressive neurosis and personality disorders.⁴ The severity of depression as an indicator of long term suicidal risk has been pointed out by several authors.^{5,6} Hence, assessment of the depressed mood assumes great significance in suicide prevention. Prior suicide attempts are among the strongest risk factors for completed suicide. For an individual who has engaged in self harm, especially multiple attempts, the risk of dying by suicide is significantly higher than for the general population, especially during the first 12 months following self harm.^{7,8} Understanding the trends in self harm can aid in identifying potential targets for prevention, therefore, this

06 Sep 2016 11:31 AM

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ISSN: 2229- 3809 (online); 2

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Initiated 2016-08-31		IMPACT FACTOR <ul style="list-style-type: none">Impact Factor (UIF): 0.5660Impact factor: 0.404 (GIF-2012)IC Value: 4.57 (2010), 5.07 (2011), 5.20 (2012), 82.48 (2014) NewCODEN: IJBABNFrequency: Month	
Last modified 2016-09-02			
Submission Metadata			
EDITORIAL METADATA			
Authors			
Name SHASHIKALA V			
Affiliation BANGALORE MEDICAL COLLEGE AND RESEARCH INSTITUTE, BANGALORE- 560002			
Country India			
Competing interests —			
Bio statement —			
Name SONIA RANI P.B			
Affiliation BANGALORE MEDICAL COLLEGE AND RESEARCH INSTITUTE, BANGALORE- 560002			
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File: None

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3. Final Copyedit

File: None

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COMPARATIVE STUDY OF TZANAKIS
SCORE VS ALVARADO SCORE IN
THE EFFECTIVE DIAGNOSIS OF
ACUTE APPENDICITIS

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None

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- **CODEN:** IJBABN
- **Frequency:** Monthly (12 Issues/Year)
- **DOI:** 10.7439/ijbar
- **NLM ID:** 101655242 [Serial]

Right iliac fossa mass: A prospective study

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Abstract

Patients presenting with mass in the right iliac fossa is common for a surgeon. The causes differ based on the organ of origin. The common conditions include appendicular mass, appendicular abscess, ileocecal tuberculosis and ascending colon carcinoma. Rare conditions include Non-Hodgkin's lymphoma, cecal carcinoma, amoeboma, lymph node mass, iliopsoas mass, retroperitoneal mass and Crohn's disease. This makes it difficult to diagnose and manage these patients. Hence a prospective study on right iliac fossa masses was conducted. Out of a total of 50 patients, the most common cause was of appendicular origin, mainly appendicular mass followed by ileocecal tuberculosis. Pain, fever and leucocytosis were predominantly noted in inflammatory conditions whereas weight loss, anaemia and painless mass were noted in neoplastic causes. Appendicular mass patients were treated conservatively followed by interval appendectomy. Appendicular abscess was drained extra-peritoneally. Right hemi-colectomy was done for carcinoma in the cecum and ascending colon. Tubercular patients with intestinal obstruction also underwent right hemi-colectomy. Intra-venous antibiotics were administered to all infective cases. Tubercular masses were started on anti-tubercular drugs. Carcinoma patients received adjuvant therapy. Crohn's disease and non-specific lymphadenitis were treated medically. Hence our study shows that managing right iliac fossa mass patients can be challenging and requires vigilance.

Keywords: Right iliac fossa mass; appendicular, ileocecal TB

1. Introduction

Mass in the right iliac fossa (RIF) is a common clinical condition that a surgeon faces in one's day to day practice. Various structures from which RIF masses can arise include the terminal ileum, appendix, cecum, ascending colon, iliopsoas region, mesenteric lymph nodes and the retroperitoneal structures [1,2]. They can be inflammatory, infective, neoplastic, etc. Hence it is a diagnostic challenge to the treating surgeon. The common conditions include appendicular mass, appendicular abscess, ileocecal tuberculosis [3] and ascending colon carcinoma. Rare conditions include Non-Hodgkin's lymphoma, cecal carcinoma [4], amoeboma, lymph node mass, iliopsoas mass, retroperitoneal mass and Crohn's disease [1,5]. Urologic and gynaecologic masses can also present in RIF.

Most of the above mentioned conditions present with pain in the abdomen, more in the right lower quadrant. It might be associated with fever, nausea, vomiting, constipation, diarrhoea, weight loss etc. Obesity and tenderness make clinical examination difficult leading to diagnostic difficulties. Also those who present with atypical manifestations [6] and associated comorbidities like diabetes

mellitus, hypertension, cardiac illness, etc make the management tougher.

Hence this prospective clinical study was conducted at our institute to evaluate the clinical presentation and management of patients with RIF mass.

2. Materials and methods

A prospective study was conducted in Victoria Hospital, affiliated to Bangalore Medical College and Research Institute, Bangalore, India. The study was approved by the Institutional Ethical Review Board. Written informed consent was obtained from each study subject at the time of enrolment.

A total of 50 patients who presented with RIF mass were included. Patients below 18 years of age were excluded. Patients who were eventually diagnosed to have RIF mass of urologic or gynaecologic origin and those with extra-abdominal pathology were excluded.

After taking detailed history and clinical examination; relevant blood, radiological investigations [7,8] and colonoscopy (if needed) were done to arrive at the final

A clinico-pathological study of Thyroiditis

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Abstract

Thyroiditis is the inflammation of the thyroid gland due to various causes like autoimmune disorders, infections, drugs, exposure to physical agents, radiation and without any apparent predisposing factors. This leads to progressive inflammation and replacement of gland by fibrous tissue, if it is chronic. Hence the patient might have initial thyrotoxic phase followed by progressive hypothyroidism. Hence this study was conducted to describe the common causes of thyroiditis in day to day practice. Hashimoto thyroiditis was the most common cause followed by lymphocytic thyroiditis. It was commonly seen in young females. The commonest complaint was swelling, followed by pain. The thyroid was enlarged and tender on palpation in majority of the cases. At the time of presentation, 4 had recurrent laryngeal nerve palsy and 1 had dyspnoea. On investigating, 4 patients had Hashi-thyrotoxicosis. Hashimoto patients had hypothyroidism. Those with intractable pain, pressure symptoms, cosmetic reason and lymphoma underwent thyroidectomy. Most common post-operative complications were recurrent laryngeal nerve palsy and hypocalcaemia.

Keywords: Thyroiditis; Hashimoto; Hypothyroidism; Riedel.

1. Introduction

Thyroiditis, long recognised as a clinical entity, may develop in association or as a complication of autoimmune disorders, variety of infections, after exposure to certain physical agents, radiation, drugs (amiodarone, interferons) and also without apparent predisposing factors. The recent increase in the reported incidence of thyroiditis is unexplained, but an enhanced awareness on the part of treating doctor together with more definitive diagnostic procedures may account in part for the current frequent recognition of the disorder. Although the clinical and laboratory manifestations of thyroiditis vary considerably, these data often correlate well with the type and severity of the inflammatory process affecting the thyroid gland [1-3]. Thyrotoxicosis (transient) is the term used with thyroiditis, since the thyroid gland is not overactive, as in the case of hyperthyroidism [4,5]. Most of the thyroiditis patients eventually end up in hypothyroidism.

Forms of the disease are Hashimoto thyroiditis (the most common cause of hypothyroidism), postpartum thyroiditis, subacute thyroiditis, silent thyroiditis, drug-

induced thyroiditis, radiation-induced thyroiditis, acute thyroiditis and Riedel thyroiditis [6].

2. Materials and methods

A prospective study was conducted in Victoria Hospital, affiliated to Bangalore Medical College and Research Institute, Bangalore, India. The study was approved by the Institutional Ethical Review Board. Written informed consent was obtained from each study subject at the time of enrolment.

A total of 50 patients who presented with thyroiditis were included. Patients below 18 years of age were excluded. After taking detailed history and clinical examination; relevant blood, radiological and pathological investigations were done to arrive at the final diagnosis. The patients were managed appropriately based on the diagnosis and surgical indications.

Data was collected, compiled, tabulated and analysed using Microsoft Excel.

3. Results

This was a prospective study of 50 patients diagnosed to have thyroiditis.

Table 1: Diagnosis

	Hashi-toxicosis	Lymphocytic thyroiditis	Hashimoto thyroiditis	De Quervain thyroiditis	Total
Frequency	4	12	33	1	50 ^a
Percentage	8	24	66	2	100

Evaluation of Factors Predicting Fatal Outcome in Acute Pancreatitis

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Abstract

Introduction: With greater accessibility to computed tomography (CT) and its increasing utility to determine the severity and complications in patients with pancreatitis, various CT-based radiological scoring systems have been put into practice. Various studies demonstrate the usefulness of one score over the other. Nevertheless, worsening organ dysfunction is a matter of concern in acute pancreatitis.

Aims and Objectives: The present study evaluates the factors that predict mortality in patients of acute pancreatitis.

Materials and Methods: A prospective study involving 150 patients with acute pancreatitis admitted from January 2018 to July 2019 in Victoria Hospital, attached to Bangalore Medical College and Research Institute. A comparison of the performance of radiological CT scores, CT severity index (CTSI), extrapancreatic inflammation on CT (EPIC) score, and onset of organ failure (OF) in predicting the mortality in acute pancreatitis patients was assessed.

Results: Leukocytosis and thrombocytopenia are predictors of severe pancreatitis ($P = 0.03$ and 0.00 , respectively). In 12% of patients, CT scan could not be done either due to deranged renal profile or hemodynamic instability. The mean CTSI score was 4.91 ± 2.72 and EPIC score was 3.5 ± 1.61 , respectively. In 17.3% of patients, there was permanent OF. The occurrence of permanent OF in pancreatitis patients had a positive correlation with the mortality ($P = 0.00$). The area under receiver operator curve was 0.921 for OF, 0.733 for EPIC score, and 0.490 for CTSI, respectively, in predicting mortality in patients of acute pancreatitis.

Conclusion: The onset of permanent OF was the most important indicator of mortality in acute pancreatitis patients. EPIC score was more sensitive and specific compared to conventionally used CTSI in predicting the severity of pancreatitis and mortality in acute pancreatitis patients.

Key words: Acute pancreatitis, Computed tomography severity index, Extrapancreatic Inflammation on computed tomography score, Organ failure

INTRODUCTION

Acute pancreatitis is a gastroenterological emergency of varying severity characterized by inflammation of glandular parenchyma leading to injury or destruction of acinar components. The pathological spectrum can range from a self-limited disease without sequelae to catastrophic autodigestion activity with life-threatening systemic cytotoxic effects and pancreatic necrosis.

Revised Atlanta Criteria (2012) for the diagnosis of acute pancreatitis requires two of the three features consisting of abdominal pain consistent with acute pancreatitis, elevation of serum lipase or amylase three times or more their upper limit, characteristic findings of acute pancreatitis on contrast-enhanced computed tomography (CECT) and less commonly transabdominal ultrasonography or magnetic resonance imaging.^[1]

The pathophysiology of acute pancreatitis has been attributed to abnormal activation of pancreatic enzymes within the acinar cells followed by release of pro-inflammatory cytokines that propagate the damage systemically and locally.^[2,3] Acute pancreatitis can be subdivided into two types: Interstitial edematous pancreatitis and necrotizing pancreatitis. According to the severity, acute pancreatitis is classified into mild, moderate, and severe.

Access this article online



www.surgeryijss.com

Month of Submission : 11-2019

Month of Peer Review: 12-2020

Month of Acceptance : 01-2020

Month of Publishing : 02-2020

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Sequential Organ Failure Assessment Scoring in Assessing the Incidence and Severity of Organ Dysfunction in Sepsis

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Abstract

Introduction: The Sequential Organ Failure Assessment (SOFA) score is a simple and objective score that allows for calculation of both the number and the severity of organ dysfunction in six organ systems. It is a six-organ dysfunction score measuring multiple organ failure daily. Each organ is graded from 0 (normal) to 4 (the most abnormal). **Methodology:** Patients which are included in the study are perforation peritonitis with Septicemia, Diabetic ulcer foot with gangrene, Necrotizing fascitis of limbs and abdomen, Burns, Mesenteric ischemia with bowel gangrene, Intestinal Obstruction, Carcinoma, Blunt injury abdomen with solid organ injury. **Results:** SOFA score of 12 and above at 48 hours of admission shows an increase in the number of non survivors. The minimum SOFA score of the study population at 48 hours is 8. Among the 47 non survivors, 3 patients had these minimum score. Patients who had a score of 12 and above were 40. **Conclusion:** So using SOFA scoring we can improve the overall prognosis and prevent the mortality to some extent.

Keywords: SOFA; Sepsis; Organ Dysfunction.

Introduction

Multi-organ dysfunction syndrome (MODS) is the leading cause of morbidity and mortality for patients admitted with sepsis, and develops in about 15% of

all admissions. Over the past years many scoring models have been developed to describe the severity of illness in patient admitted with sepsis. As an example, the first Sepsis-related Organ Failure Assessment score, later called the Sequential Organ Failure Assessment (SOFA) score, was introduced in 1994 [1]. The aim was to quantify the severity of the patient's illness based on the degree of organ dysfunction, serially over time. Although severity of illness scoring systems such as the Acute Physiology and Chronic Health Evaluation (APACHE) II and the Simplified Acute Physiology Score (SAPS) II are based on the first 24hrs of admission, the SOFA scoring system takes into account the time course of a patient's condition during the entire stay in the hospital. This enables surgeons to follow the evolving disease process [1,2].

The Sequential Organ Failure Assessment (SOFA) score is a simple and objective score that allows for calculation of both the number and the severity of organ dysfunction in six organ systems. It is a six-organ dysfunction score measuring multiple organ failure daily. Each organ is graded from 0 (normal) to 4 (the most abnormal) [3].

Although SOFA was developed primarily to describe and quantify organ function, it has been demonstrated in several studies to predict mortality and morbidity of critically ill patients. Early prediction of outcome in surgical to aid suitable modification of management strategies [2]. This may improve prognosis in such patients and prevent mortality to some extent. This scoring system also guides the efficient utilization of hospital resources, especially in a resource starved setting. This helps in preventing dumping of valuable drugs and treatment modalities in a patient, who may not survive in spite of all efforts. On the contrary they can be utilized for a person, who may improve well with such costly

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Received on 23.06.2017, Accepted on 03.07.2017

Management and Outcome of Sepsis Cases in a Hospital

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Abstract

Introduction: Septic shock is a medical condition as a result of severe infection and sepsis, though the microbe may be systemic or localized to a particular site. It can cause multiple organ dysfunction syndrome (formerly known as multiple organ failure) and death. Its most common victims are children, immuno-compromised individuals, and the elderly, as their immune system cannot deal with infection as effectively as those of healthy adults. **Methodology:** All patients with suspected/confirmed sepsis admitted in the surgical unit were included in the study. This included operated, non-operated and trauma patients (eg: perforation peritonitis, Diabetic ulcer foot with gangrene Necrotizing fasciitis). Patients had to fulfill two or more criteria of systemic inflammation. The parameters involved in calculating the SOFA score were collected on a daily basis. **Results:** Among the 41 patients ventilated 33 (80.5%) expired and among the 59 patients who did not require ventilator support 14 (23.7%) expired. **Conclusion:** Out of 32 patients whose SOFA score on admission was low (less than 8), 8 patients died. This data depicts, even with low SOFA score on admission, few patients died, because so many other factors are also contributing to the death of critically ill patients.

Keywords: Sepsis; Management; SOFA.

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Received on 23.06.2017, Accepted on 03.07.2017

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Introduction

Multi - organ dysfunction syndrome (MODS) is the leading cause of morbidity and mortality for patients admitted with sepsis, and develops in about 15% of all admissions. Over the past years many scoring models have been developed to describe the severity of illness in patient admitted with sepsis. As an example, the first Sepsis-related Organ Failure Assessment score, later called the Sequential Organ Failure Assessment (SOFA) score, was introduced in 1994 [1].

In 1992, Bone and colleagues convened a consensus conference on the problem of organ damage caused by excessive activation of the endogenous inflammatory response. They defined four sepsis-related clinical syndromes. These four syndromes were defined in pathophysiologic terms as a hierarchy corresponding to four steps of increasingly exaggerated inflammatory responses- SIRS, sepsis, severe sepsis and septic shock [2]. The first category of SIRS is caused by inflammatory mediators released by lymphocytes, macrophages, granulocytes, and vascular endothelial cells. These activated immune cells release cytokines, enzymes, and oxygen radicals that are beneficial because they can destroy invading microorganisms. These immune mediators also initiate coagulation pathway, amplify the release of additional cytokines and vasoactive agents, and increase capillary membrane permeability.

Infection is defined as presence of microorganism in the body tissue or in blood stream associated with inflammatory response to that organism. At the site of infection the classic findings of rubor, calor, and dolor in areas like the skin or subcutaneous tissue are common.

SIRS can be caused by a variety of disease

International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2020; 4(1): 287-290
Received: 01-11-2019
Accepted: 05-12-2019

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A clinical study of benign breast diseases

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DOI: <https://doi.org/10.33545/surgery.2020.v4.i1.f.350>

Abstract

Benign breast diseases constitute a heterogeneous group of lesions which include developmental abnormalities, inflammatory lesions, epithelial and stromal proliferations, and neoplasms. The importance of benign breast disease lies in the fact that some of them are indistinguishable from breast carcinoma and some of these disease themselves increase the chances of the women developing breast cancer in future. Though benign breast diseases are very common with nearly 1/3rd of women suffering during their life time, not many studies have focused on this entity. The study of benign breast disease was undertaken in AH&RC which has patient clientele mostly of rural background. 50 patients admitted with benign breast disease were followed up for a period of 3-8 months with the mean of 8 months. They were checked for recurrence of symptoms and any signs of early breast cancer. The main investigations consisted of USG, FNAC and Mammography apart from thorough clinical breast examination. Among all the cases, fibroadenoma (50%) was the most common benign breast disease found mainly in patients who were in second and third decade of life. The next commonest was fibrocystic disease (18%) found in less than 40 years of age. All of our patients presented with lump in the breast, 54% on right side, 30% on left side and 16% bilateral. Lump breast was the main presentation in all (100%) of our patients along with mastalgia in 74% of them.

Keywords: Benign breast disease, fibroadenoma, FNAC, mastalgia, phyllodes tumour

Introduction

In the class Mammalia, the Breast is a distinguishing feature in the female. Throughout life period of female, breast is subjected to constant physical and physiological alterations that are related to menstrual cycle, pregnancy, lactation and menopause.

ANDI (aberrations of normal development and involution) includes variety of benign breast disorders occurring at different stages of reproductive periods in females. The pathogenesis of ANDI involves disturbances in the breast physiology extending from a perturbation of normality to well defined disease processes, very often with little correlation between the histological appearances of the breast tissue and the symptoms. It is based on change in normal three phases of physiology of breast- lobular, cyclical and involution. These changes commonly occur in pre-menopausal woman, presenting with an area of lumpiness and mastalgia, which may be more often cyclical than non-cyclical^[1].

With increased risk of developing carcinoma in the involved or other breast, the changes may be most trivial and self-limiting varying from mild inflammatory to cellular changes with atypia. Almost one third of women in child bearing age develop some of these changes sometime or the other during their lifetime. The importance of early recognition of benign breast disease from those of carcinoma cannot be overemphasized. Public awareness about breast carcinoma has increased the use of screening modalities. With increasing use of imaging studies such as USG and mammography, there is a rapid increasing trend in their diagnosis worldwide. And also with addition of tissue studies it has become easier to diagnose benign breast disease and to differentiate them from breast carcinoma. Benign lesions of the breast are ten times most common than malignant ones^[2, 3].

Benign breast diseases constitute a heterogeneous group of lesions which include developmental abnormalities, inflammatory lesions, epithelial and stromal proliferations, and neoplasms. They may present with a wide range of symptoms or may be detected incidentally. The incidence of benign breast lesions begins to rise during the second decade of life and peaks in the fourth and fifth decades, as opposed to malignant diseases, the incidence of which continues to increase after menopause, although at a less rapid pace^[4].

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International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2020; 4(1): 283-286
Received: 15-11-2019
Accepted: 18-12-2019

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Management of benign breast diseases at a tertiary care hospital

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DOI: <https://doi.org/10.33545/surgery.2020.v4.i1e.349>

Abstract

Fibroadenoma is the most common lesion of the breast; it occurs in 25% of asymptomatic women. They are benign, spherical, well-demarcated tumors of varying size. They arise from the epithelium and stroma of the terminal duct-lobular unit. It is usually a disease of early reproductive life; the peak incidence is between the ages of 15 and 35 years. About 50 cases of benign breast diseases were selected, only inpatient cases are considered for the study. Outpatient cases, males, malignant cases and cases which were operated early were excluded from the study. Majority of our cases were managed surgically (90%). Only 5 out of 50 i.e. 10% cases were managed conservatively. All the 5 cases which were managed conservatively are Fibroadenosis. Conservative line of management included.

Keywords: Fibroadenoma, fibroadenosis, management

Introduction

Many pathologists label most of the benign epithelial lesions with variety of terminologies such as cystic disease, fibrocystic disease, cystic mastitis, cystic mastopathy, epithelial hyperplasia, mammary dysplasia, benign breast disease.

Many of the breast lesions are clinically suspected as malignant lesions but diagnosed as benign after Histopathological examination.

Fibroadenoma is the most common lesion of the breast; it occurs in 25% of asymptomatic women. They are benign, spherical, well-demarcated tumors of varying size. They arise from the epithelium and stroma of the terminal duct-lobular unit. It is usually a disease of early reproductive life; the peak incidence is between the ages of 15 and 35 years ^[1].

Macroscopically, the lesion is a well-circumscribed, firm mass, <3cm in diameter, the cut surface appears lobulated and bulging. If the tumor assumes massive proportions (>5cm), it is called "giant fibroadenoma". Microscopically, fibroadenoma consists of a proliferation of epithelial and mesenchymal elements. The stroma proliferates around tubular glands (pericanalicular growth) or compressed cleft-like ducts (intracanalicular growth) ^[2].

The lesion is a hormone-dependent neoplasm that lactates during pregnancy and involutes along with the rest of the breast in perimenopause. A direct association has been noted between oral contraceptive use before age 20 and the risk of fibroadenoma. The Epstein-Barr virus might play a causative role in the development of this tumor in immunosuppressed patients.

Juvenile fibroadenoma is a variant of fibroadenoma that presents between 10 and 18 years of age, usually as a painless, solitary, unilateral mass >5cm. It can reach up to 15 or 20cm in dimension, so although it is an entirely benign lesion ^[3].

Phyllodes tumor is a fibroepithelial tumor of the breast with a spectrum of changes. Benign phyllodes tumor is usually difficult to differentiate from fibroadenoma. Hypercellular stroma with cytologic atypia, increased mitoses, and infiltrative margins of the lesion are the most reliable discriminators to separate lesions with recurrence and malignant behavior.

Mammography and ultrasonography are the mainstay of routine imaging of breast lumps. Wurdinger *et al* show that round or lobulated shape, well-defined margins, heterogeneous internal structure, and non-enhancing internal septation are more common findings in phyllodes tumors than in fibroadenomas.

As both phyllodes tumors and fibroadenomas belong to a spectrum of fibroepithelial lesions. Cytologically, it is often easier to differentiate benign from malignant phyllodes tumors than to separate benign phyllodes tumors from fibroadenomas. The presence of both epithelial and

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International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2021; 5(4): 130-133
Received: 07-07-2021
Accepted: 09-09-2021

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A clinical study of benign breast diseases at a tertiary care hospital

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DOI: <https://doi.org/10.33545/surgery.2021.v5.i4c.773>

Abstract

Benign breast diseases constitute a heterogeneous group of lesions which include developmental abnormalities, inflammatory lesions, epithelial and stromal proliferations, and neoplasms. The importance of benign breast disease lies in the fact that some of them are indistinguishable from breast carcinoma and some of these disease themselves increase the chances of the women developing breast cancer in future. After treatment they were followed up for a period of 3–8 months with the mean of 8 months. They were checked for recurrence of symptoms and any signs of early breast cancer. The main investigations consisted of USG, FNAC and Mammography apart from thorough clinical breast examination. Among all the cases, fibroadenoma (50%) was the most common benign breast disease found mainly in patients who were in second and third decade of life. The next commonest was fibrocystic disease (18%) found in less than 40 years of age. All of our patients presented with lump in the breast, 54% on right side, 30% on left side and 16% bilateral. Lump breast was the main presentation in all (100%) of our patients along with mastalgia in 74% of them. Fibroadenoma and fibrocystic disease together formed the main chunk of our patients (68%) and were found to occur in females of second, third and fourth decade.

Keywords: Benign breast disease, fibroadenoma, FNAC, mastalgia, phylloides tumour

Introduction

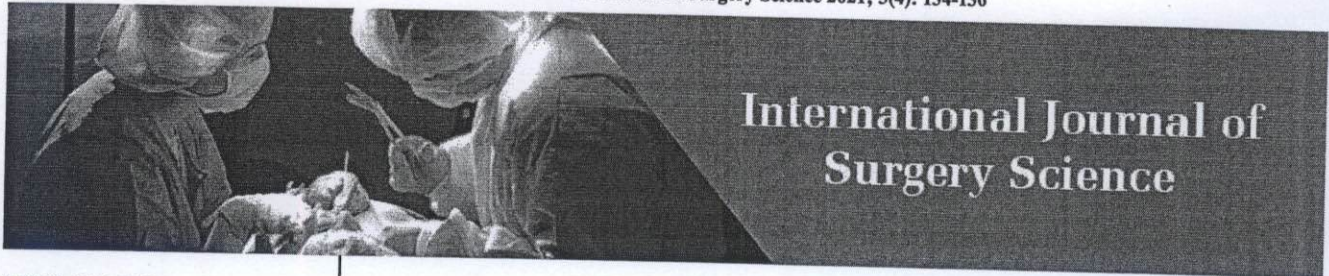
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Benign breast diseases constitute a heterogeneous group of lesions which include developmental abnormalities, inflammatory lesions, epithelial and stromal proliferations, and neoplasms. They may present with a wide range of symptoms or may be detected incidentally. The incidence of benign breast lesions begins to rise during the second decade of life and peaks in the fourth and fifth decades, as opposed to malignant diseases, the incidence of which continues to increase after menopause, although at a less rapid pace [4].

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International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2021; 5(4): 134-136
Received: 09-07-2021
Accepted: 13-09-2021

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Benign breast diseases: Correlation of clinical findings with those of FNAC, ultrasound and histopathology

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DOI: <https://doi.org/10.33545/surgery.2021.v5.i4c.774>

Abstract

Fibroadenoma is the most common lesion of the breast; it occurs in 25% of asymptomatic women. They are benign, spherical, well-demarcated tumors of varying size. They arise from the epithelium and stroma of the terminal duct-lobular unit. It is usually a disease of early reproductive life; the peak incidence is between the ages of 15 and 35 years. All the patients were examined systematically including breast examination and systematic examination and assessment of nutritional status. All underwent routine investigations which included blood counts- Hb%, BT, CT, Blood sugar levels(RBS), Blood urea, Serum creatinine, Urine routine and ECG. Investigations like USG and Mammography were done in some number of required cases. 34 out of 50 of our patients underwent USG examination of the breast. 15 of these i.e. 30% had features of fibroadenoma, 6(12%) had features of Abscess, 7(14%) had features of benign breast disease and the remaining 5 had other features suggestive of galactoceles, benign cyst, phylloides, lipoma of the breast. One patient had bilateral fibroadenoma of the breast.

Keywords: Benign breast diseases, FNAC, histopathology

Introduction

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Phylloides tumor is a fibroepithelial tumor of the breast with a spectrum of changes. Benign phylloides tumor is usually difficult to differentiate from fibroadenoma. Hypercellular stroma with cytologic atypia, increased mitoses, and infiltrative margins of the lesion are the most reliable discriminators to separate lesions with recurrence and malignant behavior [4].

Methodology

About 50 cases of benign breast diseases were selected, only inpatient cases are considered for the study. Outpatient cases, males, malignant cases and cases which were operated early were excluded from the study.

Detailed history of all the fifty cases were taken according to the proforma approved by the guide. Information regarding age, religion, socio-economic status, nature of symptoms, duration, menstrual status, marital status, breast feeding were taken.

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Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-2902.isj20174897>

An analysis of injury patterns of abdominal trauma in patients attending surgical emergency department of rural hospital, Karnataka, India

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Received: 12 September 2017

Accepted: 03 October 2017

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ABSTRACT

Background: Globally, abdominal trauma is a major public health problem irrespective of socioeconomic levels. Severe blood loss and infection are the serious complication of any abdominal trauma. A detailed assessment for early identification and prompt management is required to reduce the mortality and morbidity in any abdominal trauma. Hence this study was designed to assess the incidence and patterns of abdominal injuries in trauma patients.

Methods: It was assorted and identified the incidence and sub type of abdominal injuries and associated trauma, and identified variables related to morbidity and mortality.

Results: A total of 150 abdominal trauma cases were analyzed; 103 patients with blunt abdominal trauma and 47 with penetrating. The most frequent type of abdominal trauma was blunt trauma; its most common cause was motor vehicle accident. Most abdominal trauma patients presented with other injuries, especially patients with blunt abdominal trauma. Mortality was higher among penetrating abdominal trauma patients.

Conclusions: Type of abdominal trauma, associated injuries, and Revised Trauma Score are independent risk factors for mortality in abdominal trauma patients.

Keywords: Abdominal injuries, Mortality, Patterns, Trauma

INTRODUCTION

Adolescents and adults commonly die of trauma. The abdomen is one of the most common injured regions and surgery is required in about one in four cases.¹

Abdominal trauma is conventionally categorized as either blunt type or penetrating type. Penetrating abdominal trauma can be diagnosed with no difficulty, while blunt abdominal trauma is frequently missed because clinical signs are less apparent.² Blunt abdominal injuries are

more common in rural areas, while penetrating ones are more frequently encountered in urban situations¹. Penetrating abdominal trauma is often subdivided into stab wounds and gunshot wounds, which require different methods of treatment.²

The principal causes of blunt trauma abdomen are road traffic accidents followed by fall from height or fall of object over body and assault. In order to reduce mortality in cases of abdominal trauma, risk factors for mortality need to be consistently identified and analyzed. In recent

Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-2902.isj20175896>

Role of dilatation of intramural ureter in patients with lower urinary tract symptoms (LUTS) in UVJ and pre UVJ calculus: an observational study

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Accepted: 02 December 2017

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ABSTRACT

Background: Various literature sources describe three narrowest anatomic spots in the ureter as the most potential points for ureteric calculi to form and these are: the pelvi-ureteric junction (PUJ), the point where the ureters cross over the iliac vessels and the ureterovesical junction (UVJ).

Methods: This study included patients who presented with symptomatic obstructing ureteric calculi and who required uretero renoscopic lithotripsy (URSL). The procedure was selected according to stone size, location and degree of impaction.

Results: Of the total of 100 patients, 43 were females and 57 were males. 69 patients had Lower Urinary Tract Symptoms and 31 patients had no Lower Urinary Tract Symptoms with the calculi. The age of the patients ranged from 17 years to 65 years and the stone size ranged from 7mm to 15mm. Lower ureteric calculi with LUTS are good indicators.

Conclusions: We can approach lower ureteric calculi without use of dilators or 6/7.5ureteroscope in patients with LUTS.

Keywords: Dilators UVJ, LUTS, Pre UVJ calculi, URSL

INTRODUCTION

Watchful waiting and minimally invasive interventional (e.g., ESWL and ureteroscopy) treatment are the two modalities for the management of lower ureteric calculi. The choice of the best method to be done largely depends on the availability of different type of equipments, type and size of calculi, requirements of the patient and the skills of the surgeon. After open stone surgery recuperation lasts about 4 to 6 weeks and repetitive surgery is more difficult. Recovery with extracorporeal

shock wave lithotripsy frequently is unimportant and some extracorporeal shock wave lithotripsy units are run on an outpatient basis.¹

The stone load continues to be the primary factor in determining the appropriate treatment for a patient with ureteral calculi.² Where a failed expectant treatment may be complicated with hydronephrosis, impaired renal function or uro-sepsis, interventional methods are not always devoid of complications. Precise diagnosis of underlying condition is crucial to successful management

Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-2902.isj20192976>

Clinical utility of diabetic ulcer severity score in surgical practice

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Accepted: 01 June 2019

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ABSTRACT

Background: In surgical practice we come across many diabetic foot ulcer patients who often present late, leading to limb loss and even death. In the search for an effective screening tool to assess the severity of the disease and predict the outcome we have adopted the DUSS.

Methods: Prospective study from October 2016 to April 2018 including 200 patients with diabetic foot ulcers conducted at Surgery Department in KIMS, Bangalore. DUSS was applied at the time of admission. DUSS comprises 4 clinical parameters: 1) pedal pulses, 2) probing to bone, 3) ulcer site and 4) ulcer number. These wounds were graded into score 0, 1, 2, 3, 4. Standard management was given to all patients according to a protocol. The outcome of treatment was recorded as healed ulcer, minor amputations, (toe or forefoot) or major amputations (below or above knee). Co-relation between the DUSS scores and final outcome was done.

Results: Healing rates were higher in those with lower DUSS scores (88.9% in score 0 compared to 0% in Score 4). Minor amputation rates for scores 0, 1, 2, 3 were 11.1%, 30.5%, 28.3% and 44.1% respectively. Major Amputation rates were higher in patients with high DUSS scores i.e. 3 (41.8%) and 4 (100%).

Conclusions: DUSS is an effective clinical tool to assess the severity of diabetic foot ulcers. DUSS scores help in predicting the outcome of treatment hence it can be used to counsel the patient regarding the disease and its prognosis. Patients with higher DUSS scores should require a more aggressive approach to minimise morbidity and mortality.

Keywords: Amputation, Diabetic foot ulcers, DUSS, Screening

INTRODUCTION

Diabetes mellitus (DM) is a major health problem that has increased dramatically over the past two decades.^{1,2} The global prevalence of diabetes has risen from 4.7% in 1980 to 8.5% in 2014.³

In India, diabetes has risen to epidemic proportions. In urban areas the estimated prevalence is thought to be 9% and in rural areas is approximately 3% of the total population. This means that India actually has the highest number of diabetics in any one country. The WHO estimates that by 2025 India will be the 'diabetic capital of the world' with more than 300 million diabetics.

Surgical scenario

A majority of diabetic patients develop foot ulcers in one point of time or other during the course of their illness.⁴ The etiopathogenesis of diabetic foot lesions is multifactorial: diabetic neuropathy, vasculopathy, poor control of diabetes and bacterial infection are some of them.⁵ In our surgical practice we are seeing a rise in foot problems in diabetics such as ulceration, infections and gangrene. This results in frequent and prolonged hospitalisation. Many patients present at a late stage where limb salvage is impossible resulting in major amputations and even death. According to the International Working Group on the Diabetic Foot, a classification system appropriate for clinical practice

Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-2902.isj20195133>

The effect of cholecystectomy on the lipid profile of patients with gallstone disease: a prospective study

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Received: 10 September 2019

Accepted: 17 October 2019

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ABSTRACT

Background: Gallstones are a common cause for abdominal pain and discomfort. Laparoscopic cholecystectomy is the 'gold standard' for the treatment of gallstone disease. The association of gallstones in patients with altered lipid profiles is well documented. Recent studies have shown that there is an improvement in the lipid profile following cholecystectomy. The aim of the study was to study the effect of cholecystectomy on lipid profile and to study the relation between lipid profile and the nature of gallstones.

Methods: Prospective study involving 100 patients admitted to the surgery department for cholecystectomy at Kempegowda Institute of Medical Sciences (KIMS) hospital, Bangalore. Study period was on between October 2016 to July 2018. The pre-operative lipid profile was compared to the post-operative lipid profile done 6 months after cholecystectomy. Gallstone analysis was done with the extracted specimen.

Results: There was a significant improvement in the lipid profiles of study subjects post cholecystectomy. The total cholesterol, low density lipoprotein (LDL) cholesterol, very low density lipoprotein (VLDL) cholesterol and triglycerides decreased significantly ($p < 0.001$) post cholecystectomy. Simultaneously, there was a significant increase ($p < 0.001$) in the high density lipoprotein (HDL) cholesterol levels post-surgery. Majority of the stones were cholesterol stones (51%) followed by pigment stones (6%) and mixed stones (43%).

Conclusions: Cholecystectomy has a favourable effect on the lipid profile of patients. However, we found no correlation between lipid profile and nature of gallstones.

Keywords: Cholecystectomy, Gallstones, Lipid profile

INTRODUCTION

Gallstone disease is one of the most commonly encountered disorders in clinical practice. However, most of the patients are asymptomatic and are diagnosed incidentally during abdominal scans for unrelated diseases. The prevalence of the disease in India ranges from 6% to 9% of the adult population.^{1,2} Gallstone disease is more prevalent in Northern India due to a diet rich in saturated fats and decreased fibre intake. Other risk factors include age, gender, ethnicity and sedentary lifestyle.³⁻⁵ Symptomatic cholelithiasis is usually treated

with cholecystectomy. Laparoscopic cholecystectomy has become the 'gold standard' for the treatment of gallstone disease.⁶ It is estimated that most cholecystectomies are performed laparoscopically because of the significant advantages i.e. early return of bowel function, less postoperative pain, improved cosmesis, shorter length of hospital stay, earlier return to full activity.⁷⁻¹¹ The association of gallstones in patients with altered lipid profiles is well known. More than 50% of patients with gallstone disease have some sort of lipid disorder.¹² During routine pre-operative check-up, we often encounter many patients with deranged lipid profiles.¹³

CERVICAL RIB -UPPER LIMB ISCHEMIARavikumar B. L¹, Jose V. Francisco Menezes²**HOW TO CITE THIS ARTICLE:**

Ravikumar B.L, Jose V. Francisco Menezes. "Cervical RIB - Upper Limb Ischemia". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 07, February 17; Page: 1732-1738.
DOI: 10.14260/jemds/2014/2050

INTRODUCTION: Cervical rib occurs in 1% of the general population.¹ It is an uncommon cause for thoracic outlet syndrome (TOS). Less than 10% are symptomatic.² This is because of the compression on the neurovascular bundle of the upper limb i.e. the brachial plexus and the subclavian artery. The main complaint is pain and treatment is conservative, but in case of vascular symptoms and signs of ischemia then surgery is the treatment of choice.

METHODS: We present a prospective study done at the department of vascular surgery at Kempegowda Institute of Medical Sciences and Research Centre, Bangalore. The period of study was from January 2005 to June 2011. In this study only those patients presenting with vascular symptoms were included. Diagnosis was done based on clinical examination, X- ray of neck, CT/MRI angiography and Doppler ultrasound. All patients were operated by the same vascular surgeon through the supraclavicular approach. Scalenotomy followed by excision of the cervical rib was done with exploration and repair of the artery, Embolectomy was done in case of distal thromboembolism. Post operatively patient was on low molecular weight heparin for 3 days with oral anticoagulants which was continued for 6 months and ecosprin lifelong.

RESULTS: Total number of patients (n) =18. Sex distribution; 12 females, 6 males. (F: M =2:1). Age distribution: Most patients were in the 2nd to 4th decade with a median age of 35.83.3% of the patients were between the age group of 20 to 60 years. 10 patients presented with right upper limb symptoms and 8 patients involving left upper limb. Clinical presentation: All patients presented with pain or numbness (100%), Pre-gangrene was seen in 44% and gangrene in 28%. The incidence of rest pain was 28%. 11 patients (61%) had compression of subclavian artery, 5 patients (28%) had compression with post stenotic dilatation and 2 patients (11%) with distal artery thromboembolism. 16 of the 18 patients had no post-operative complications. 1 patient (5%) had supraclavicular hematoma which was treated conservatively, 1 patient (5%) that presented late had to undergo above elbow amputation as the limb could not be salvaged.

DISCUSSION: The cervical rib is a supernumerary rib arising from the costal element of the seventh cervical vertebra. It is an uncommon anomaly which is usually detected as an incidental finding on radiographic films. The incidence of cervical rib being 0.6-0.7%.³ Symptomatic cervical ribs are due to the compression of the subclavian artery causing ischemia of the arm and on the brachial plexus causing neurogenic symptoms.

Cervical ribs may compress the subclavian artery at the point where the vessel crosses the first rib. This is most often the case with complete cervical ribs that join the first rib lateral to the subclavian artery.⁴ Post-stenotic dilatation leads to aneurysmal changes, which begin in the distal subclavian artery and extend into the proximal axillary artery. This leads to intimal damage and

ORIGINAL ARTICLE

OUR EXPERIENCE IN THE MANAGEMENT OF VARICOSE VEINS OF THE LOWER LIMB

Ravikumar B. L¹, Satish Kumar R², Jose V. Francisco Menezes³, Ayush Jain⁴

HOW TO CITE THIS ARTICLE:

Ravikumar B. L, Satish Kumar R, Jose V. Francisco Menezes, Ayush Jain. "Our Experience in the Management of Varicose Veins of the Lower Limb". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 16, April 21; Page: 4137-4144, DOI: 10.14260/jemds/2014/2409

ABSTRACT: Varicose veins of the lower limb are a common problem. It is known as the 'penalty against gravity'. The prevalence has been variously reported from as little as 2% to over 20% in population studies. This enormous variation results from the different populations studied, different definitions applied and the different assessment or examination techniques used. Western studies have shown that 20% population suffers from varicose vein and 1% has skin changes proceeding to venous ulceration. In India incidence of varicose veins seems to be far less common because in India most patients present late with complications of varicose veins such as pain, edema, pigmentation and ulceration. We present our experience in the management of varicose veins of the lower limb over 2 years at our institution. **AIMS AND OBJECTIVES:** 1. To study the incidence of varicose veins according to age, sex and occupation. 2. To study spectrum of clinical presentation in varicose veins. 3. To study effect of surgery in healing of varicose ulcers if present. **MATERIALS AND METHODS:** A total of 50 patients admitted to our institution between 2010 and 2012 were included in this study. It is found that varicose veins and their associated symptoms and complications constitute the most common chronic vascular disorders leading to surgical treatment. The incidence is on rise. It is more common in middle-aged group. The majority of the patients were males in the study. Patients presented with spectrum of symptoms and signs, with pain being more common presenting symptom with or without venous ulcer. The study revealed increased incidence of varicosity in the left lower limb as compared to the right lower limb. Most of the patients presented to the hospital for one of the other complications, not for the cosmetic purpose. Long saphenous system is the most common venous system affected. **CONCLUSION:** Operative line of treatment is the primary procedure in the management of varicose veins of lower limb and venous ulcer. Saphenofemoral junction ligation with Stripping of LSV with perforators ligation is good approach. There is need of general health education and awareness about varicose veins in society in order to achieve timely treatment, good outcome and decrease morbidity.

KEY WORDS: Varicose Veins, Vascular surgery.

INTRODUCTION: "Varicosity is the penalty against gravity". This saying is very apt as this disease is associated with those occupations that involve standing upright for long durations. The varicose vein and their associated symptoms and complications constitute the most common vascular disorder of the lower extremities. According to western countries it affects more than 5 % of adult population but in India incidence of varicose veins seems to be far less common because in India most patients never come for varicose veins as such, but for complications of varicose veins such as pain, edema, pigmentation and ulceration.



THE EFFICACY OF NEW SCORING SYSTEM TO PREDICT BURST ABDOMEN.

General Surgery

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ABSTRACT

INTRODUCTION: The frequency of burst abdomen in the international data ranged from 0.4% to 3.5%.1-3 and in India it is about 4.8-6.6% 4-5. Wound dehiscence is the partial or complete disruption of an abdominal wound closure with or without the protrusion or evisceration of abdominal contents. Dehiscence of the wound occurs before the cutaneous healing. It is associated with the mortality of-19-45%6. Because of its high mortality, it is essential to use preventive steps in the peri-operative period.

The major risk factors for burst abdomen are-Malnutrition, obesity, anemia, infection, cough, distention of abdomen, malignancy, diabetes mellitus and immunocompromised state. Frequency of burst abdomen is higher following emergency laparotomies (14.89%) than elective laparotomy (2.7%). Prophylactic reinforced tension suturing prevents burst abdomen.

MATERIALS AND METHODS: The study conducted includes 144 patients who underwent laparotomy under emergency and elective basis. Pre-operative and post-operative examination was done and scoring was done for 13 indices. Patients were followed up for 11 days post-operatively and daily examination of the operated site was done.

RESULT- In the study of 144 patients 122 were operated on emergency basis and 22 on elective basis. Out of total cases 84 patients had score of more than 10 (high risk) and 60 patients with low risk. Out of the high risk cases 18 had burst abdomen.

KEYWORDS

Burst abdomen, causes, high risk, emergency laparotomy.

INTRODUCTION-

Burst abdomen is partial/complete post-operative separation of a wound closure with protrusion/evisceration of the abdominal contents between days 7-14 post operatively. Burst abdomen is one of the most serious post-operative complications and is associated with high morbidity and mortality. It presents as a mechanical failure of wound healing of surgical incisions. Burst abdomen is a devastating incident that can cause pain, mental burden for the patient as well as complications including evisceration and re-operation. Burst abdomen occurs between post-operative day 4-11, most commonly on day-7.

MAJOR RISK FACTOR FOR BURST ABDOMEN-

Malnutrition, Obesity, Anemia, infection, Cough, Distention of abdomen, Malignancy, Diabetes mellitus and Immunocompromised state.

The two scoring systems for predicting burst abdomen- VAMC Scoring system and ROTTERDAM's scoring system.

AIMS AND OBJECTIVES OF THE STUDY-

To find out the efficacy of new scoring system to predict burst abdomen.

MATERIALS AND METHODS-

Sample size-144

Study design-Prospective study

Duration of the study-1 year (October 2017 to October 2018)

Study place-Dept. of General Surgery -KIMS Hospital and Research Centre Bengaluru

INCLUSION CRITERIA-

All patients admitted in the Dept. of General Surgery-KIMS Hospital, undergoing Emergency and Elective Laparotomy with midline incision.

EXCLUSION CRITERIA-

Patients below 18 years of age.

METHODS OF COLLECTING DATA-

- Detailed history taking.
- General physical examination.
- Systemic examination.

- Investigations.
- Assessing the risk by score variables.
- Post-operative score.
- Follow up for 6 months.

NEW SCORING SYSTEM-
PATIENT FACTORS-

SL.NO	INDICES	SCORE
1	Age	
	<40 yrs	0
	40-60 yrs	1
	>60 yrs	2
2	Co-morbidities	
	COPD	1
	Diabetes mellitus	1
	Chronic steroid intake	1
	Hypoalbuminemia	1
3	BMI	
	<29.5	0
	>29.5	1

BIO-CHEMICAL FACTORS-

SL.NO	INDICES	SCORE
1	Hemoglobin(mg/dL)	
	>11	0
	9-11	1
	<9	2
2	Serum albumin-(mg/dL)	
	>3.5	0
	<3.5	1
3	Serum creatinine (mg/dL)	
	<1.3	0
	>1.3	1
4	Total bilirubin-mg/dL)	
	<1.2	0
	>1.2	1

OPERATIVE PARAMETERS-

SL.no	INDICES	SCORE
1	Peritonitis	



Incidence of Adenocarcinoma Prostate and Correlation with S.PSA and Digital Rectal Examination and Bone Scintigraphy in Our Hospital

Authors

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Abstract

Serum prostate specific antigen (PSA) has been used as an accurate means of detecting and monitoring prostate cancer. An analysis of PSA levels, digital rectal examination and bone scan findings was carried out in a group of patients with a view to determine whether PSA can accurately predict bone metastases in carcinoma prostate and its correlation with digital examination and bone metastasis status. In 32 case series, 30 cases on followed-up after treatment of the primary, 2 of total 32 cases received hormonal therapy. one out of three with normal PSA had bone metastases. In 25 cases with positive bone scans, 23 had elevated PSA levels (mean 79.9 ng /ml). In an untreated patient with elevated PSA, a bone scan may be required to exclude bone metastases, whereas during follow-up after treatment, a normal PSA level may obviate a "routine" bone scan.

Keywords: Serum prostate specific antigen (PSA), adenocarcinoma prostate, bone scintigraphy, hormonal therapy, metastases.

Introduction

Serum prostate specific antigen (PSA) assay has been suggested as an accurate means of monitoring prostate cancer patients ^[1, 2]. PSA, a glycoprotein produced by epithelial cells of both normal and cancerous prostatic tissues is valuable in assessing the disease status before treatment and during follow-up ^[2,3]. Studies comparing PSA levels i.e., the conventional tumour marker for carcinoma prostate, have shown better correlation of serum PSA levels and disease activity and

metastasis status ^[4]. Serial bone scintigraphy has been accepted as a routine step in the pretreatment and follow-up identification of patients with metastases in the bone. It has been reported recently that this does not need to be performed as frequently as it is at present^[5], PSA helps in identifying the metastatic status prior to bone scintigraphy. However, there are published reports contradicting the above information. Leo et al have shown that despite clinical and scintigraphic evidence of the progression of bone metastases,

Dr. Deepak K.L.

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ORIGINAL ARTICLES TENDON TRANSFER | VOLUME 30, ISSUE 2, P267-272 MARCH 01, 2005

Functional outcome of extensor carpi radialis longus transfer for finger flexion in posttraumatic flexor muscle loss

S. Raja Sabapathy, MCh • Deepak K.L. Gowda, MCh • A.B. Ranade, MS • Hari Venkatramani, MCh •Sandeep J. Sebastin, MCh DOI: <https://doi.org/10.1016/j.jhsa.2004.11.017>

PlumX Metrics

Purpose

The purpose of this study was to assess the functional outcome after extensor carpi radialis longus (ECRL) transfer for restoration of finger flexion in patients with flexor muscle loss after direct trauma.

Methods

We evaluated 8 patients who had ECRL transfer between 1995 and 2003. Flexion gained was assessed by measuring the wrist-to-palm distance (DPD). The grip strength was compared with that of the opposite normal limb. The average follow-up period was 41 months. We compared the results obtained with other modalities of restoration of finger flexion, namely a pedicled latissimus dorsi muscle transfer or a free functioning muscle transfer (FFMT) using the series available in the literature.

Results

Four patients had a good result with a DPD of 0 cm in all fingers and an average grip strength of 65% of the opposite hand. Two patients had an average result with a DPD of 1.5, 2, 1.7, and 1.5 cm for the index, middle, ring, and small fingers, respectively, and an average grip strength of 58%; 2 patients had a poor result with a DPD of 5.0, 5.5, 5.0, and 3.0 cm for the index, middle, ring, and small fingers, respectively, and with an average grip strength of 21% of the opposite hand.

Conclusions

ECRL transfer yields good results if the intrinsic muscles of the hand are functioning, the extensor compartment is relatively unscarred, and the lower third of the forearm where the tendon junction is performed is relatively unscarred. In :

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International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2020; 4(2): 250-252
Received: 29-02-2020
Accepted: 31-03-2020

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A Study on thyroid profile among cases of Hashimoto's thyroiditis

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DOI: <https://doi.org/10.33545/surgery.2020.v4.i2d.451>

Abstract

In autoimmune thyroiditis animal models, genetically determined immune defects have been suggestively linked to the breakdown of immunological self-tolerance that results in the presentation of host autoantigens and expansion of autoreactive lymphocyte clones. These immune and immune regulatory genes (i.e., CTLA-4 and others) are also involved. 100 consecutive patients with diagnosis of Hashimoto's thyroiditis were included in this study. Detailed clinical history and physical examination of the patients was done. Suspected patients were subjected to thyroid function test, FNAC, USG neck. The diagnosis was confirmed with serology. 69 percent of patients (65 females: 4 males) presented with hypothyroidism. 1 patient with associated orbitopathy had subclinical hyperthyroidism. 10 patients presented in euthyroid state. Most of them had associated goiters and many of them had associated pathologies of MNG or malignancy in them. 10 patients had subclinical hypothyroidism.

Keywords: Thyroid Profile, Hashimoto's thyroiditis, MNG

Introduction

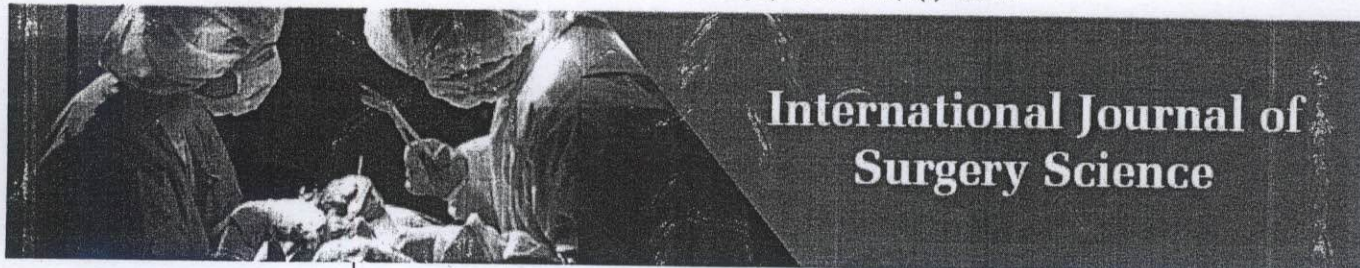
The development of the autoimmune failure of the thyroid is a multistep process, requiring several genetic and environmental abnormalities to converge before full blown disease develops. At the onset of disease, major histocompatibility complex (MHC) class II-positive antigen – Presenting cells (APC), particularly dendritic cells, and different subclasses of macrophages, accumulate in the thyroid. APC present thyroid-specific autoantigens to the native T cells, leading to activation and clonal expansion of the latter. Thus, the initial stage of the disease is followed by a clonal expansion phase and maturation of autoreactive T and B lymphocytes in the draining lymph nodes [1,2].

In an initial stage, antigen-presenting cells (APC), mostly dendritic cell and macrophage (Mφ) derived, infiltrate the thyroid gland. The infiltration can be induced by an environmental triggering factor (dietary iodine, toxins, virus infection, etc.) which causes insult of thyrocytes and releasing of thyroid-specific proteins. These proteins serve as a source of self-antigenic peptides that are presented on the cell surface of APC after processing. Taking up relevant autoantigens, APC travel from the thyroid to the draining lymph node. A central phase occurs in the draining lymph node in which interaction between APC, autoreactive (AR) T cells (that survive as result of dysregulation or breakage of immune tolerance) and B cells result in inducing production of thyroid autoantibodies. In the next step, antigen-producing B lymphocytes, cytotoxic T cells and macrophages infiltrate and accumulate in the thyroid through expansion of lymphocyte clones and propagation of lymphoid tissue within the thyroid gland. This process is preferentially mediated by T helper type 1 (TH1) cells which secrete regulatory cytokines (interleukin-12, interferon-γ and tumor necrosis factor-α). In a final stage, the generated autoreactive T cells, B cells and antibodies cause massive depletion of thyrocytes via antibody-dependent, cytokine mediated and apoptotic mechanisms of cytotoxicity that leads to hypothyroidism and Hashimoto's disease [3].

In autoimmune thyroiditis animal models, genetically determined immune defects have been suggestively linked to the breakdown of immunological self-tolerance that results in the presentation of host autoantigens and expansion of autoreactive lymphocyte clones. These immune and immune regulatory genes (i.e., CTLA-4 and others) are also involved.

Breakdown of the immune tolerance might occur in several ways including interrupting central tolerance (e.g. deletion of autoreactive T cells in the thymus), defects in maintaining peripheral

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International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2020; 4(1): 470-472
Received: 20-11-2019
Accepted: 22-12-2019

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Clinical profile of patients with Hashimotos thyroiditis

Dr. Chandrasekhara Reddy and Dr. AV Kulkarni

DOI: <https://doi.org/10.33545/surgery.2020.v4.i1h.450>

Abstract

Autoimmune responses against specific antigens are primary determinants in thyroid autoimmunity. Other molecular mechanisms including cell apoptosis may play a role in determining the opposite phenotypic outcomes of AITD such as thyroid destruction in HT and thyroid hyperplasia in GD. T-helper lymphocytes produce cytokines that influence both immune and target cells at several levels. 100 consecutive patients with diagnosis of Hashimoto's thyroiditis were included in this study. Detailed clinical history and physical examination of the patients was done. Suspected patients were subjected to thyroid function test, FNAC, USG neck. The diagnosis was confirmed with serology. Age of the patients varied between 12yrs. The mean age of the patients in this study was 39 yrs. Of all the patients with Hashimotos thyroiditis, 6 patients were male and 94 patients were female. The maximum number of patients presented with lethargy, weakness and other non-specific features of hypothyroidism a significant cohort resented with menorrhagia as their chief complaint about 9% patients had goiter and 06 of them also had pressure symptoms.

Keywords: Clinical profile, Hashimotos thyroiditis, Goiter

Introduction

Autoantibodies against other thyroid-specific antigens such as thyrotropin receptor and sodium iodide symporter were also found in serum of HT patients. However, these antibodies occur at low frequency and do not appear to contribute any diagnostic power.

In a final, destructive step of Hashimoto's thyroiditis, the auto reactive T cells diffusely accumulate in large numbers and infiltrate thyroid parenchyma (Fig. 2). In the BB-DP rat model, T-helper type 1 (TH1)-mediated mechanisms involving production of IL-12, tumor necrosis factor- α (TNF- α) and interferon- γ play a major role in the destruction of thyrocyte, rather than TH2 type mechanisms. Fas and Fas ligand (FasL) expression was higher in rats with lymphocytic thyroiditis indicating a role of these apoptotic molecules in thyrocyte death [1].

Autoimmune responses against specific antigens are primary determinants in thyroid autoimmunity. Other molecular mechanisms including cell apoptosis may play a role in determining the opposite phenotypic outcomes of AITD such as thyroid destruction in HT and thyroid hyperplasia in GD. T-helper lymphocytes produce cytokines that influence both immune and target cells at several levels. The predominance of TH1 or TH2 cytokines might regulate thyrocyte survival through the induction of pro-apoptotic and anti-apoptotic proteins. TH1-mediated mechanisms lead to thyrocyte [2].

Depletion in Hashimotos's through the involvement of death receptors and cytokine-regulated apoptotic pathways. The normal thyroid gland has been shown to act as an immune privileged site having carefully regulated mechanisms of cell death and self-protection against attack by infiltrating activated T-cells induces by apoptosis. Cell apoptosis occurs in the normal thyroid at a low level. As new thyrocytes are produced, old cells are destroyed in order to maintain normal thyroid volume and function. Deregulation of apoptosis, which is weakly determined by genetic susceptibility, can lead to destructive processes. Initiation of an out-of control apoptotic mechanism in thyroid cells may be caused by various non-genetic injuries that affect expression of apoptosis inhibitor molecule Bcl-2 or membrane ligand FasL. Thyrocytes from HT thyroid glands are able to *heeb produce* Fas and FasL on their surfaces thus inducing fratricide apoptosis. IL-16, abundantly produced in HT glands, induces Fas expression in normal thyrocytes, the cross-linking of Fas resulting in massive thyrocyte apoptosis. This can play a role in the progression of Hashimoto's thyroiditis [3,4].

Immune-mediated apoptosis of thyrocytes is directed by CD8+ cells. Receptors on the target cell are triggered by lymphocyte ligands and/or released soluble factors are delivered to the target

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International Journal of Orthopaedics Sciences

ISSN: 2393-1958
IJOS 2017; 3(1): 33-39
© 2017 IJOS
www.orthopaper.com
Received: 08-11-2016
Accepted: 09-12-2016

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Functional outcome of management of infected non-union of humerus by limb reconstruction system (LRS)

Hiranya Kumar, Siddalingeshwar Vithoba Honnur and Manoj Kumar Shukla

DOI: <http://dx.doi.org/10.22271/ortho.2017.v3.i1a.08>

Abstract

Introduction: The infected non-union of humerus resulting from surgical intervention to achieve bone healing are very difficult to manage by traditional methods.

Materials & methods: We treated 20 infected non-union of diaphyseal fracture of humerus by LRS between 2009-15. All had prior surgical management, infected nonunion followed plating in 14 cases, 1 nailing case & 5 cases of external fixator. All patients had pain, atleast one sinus discharging pus and severe functional impairment of affected arm. There are 15 men and 5 women with a mean age of 39.7 years (range 23-60yrs).

Results: Bone healing achieved in 19 cases (95%). The eradication of infection was achieved in all cases. The mean time of union was 3.5 months (range 2-8 months). Good functional improvement was present. There were no major pin tract problems requiring removal of Schanz pins. 1 developed radial nerve palsy who recovered spontaneously. No patient required bone grafting and corticotomy procedure.

Conclusion: The LRS alternative to the ring fixator in the treatment of infected non-union of humeral shaft, because of good patient compliance, decreased surgical learning curve, shortened duration of hospitalisation and immobilisation with good functional recovery.

Keywords: Infected non-union, humerus, LRS

1. Introduction

The incidence of non-union after operative treatment of humeral diaphyseal fracture has been reported to range between 2.5% to 13% [1-4]. The failure of fixation results from various factors like personality of fracture, poor patient compliance, osteoporosis, surgical techniques and infection. The hallmark of infected non-union consists of nonviable tissue, sequestrum and sinus discharge. Local ischaemia renders non-union more vulnerable to superimposed infection and resistant to systemic antibiotics. The infection hampers bone healing, loosening of implant, causes soft tissue atrophy, joint stiffness and leading disuse osteoporosis. The option of managing the problem by external fixator either by illizarov or LRS. But enthusiasm for illizarov technique has been tempered by its complexity and technical difficulty, the commitment of time and resources required for a good result and potential numerous complication [5, 6].

We have used the limb reconstruction system (LRS) to stimulate union by stabilisation and compression after radical excision of infected bone. We report the results of 20 patients with infected non-union of humeral shaft that were managed at our hospital using limb reconstruction system.

2. Materials & methods

20 consecutive patients with infected non-union of humerus shaft treated at our hospital between 2009-15. The 20 patient consist of 15 men and 5 women with mean age of 39.7 years (range 23-60 years). The infected non-union middle third 8 patients and distal third in 12 patients. The patient undergone average of 1.7 previous surgical procedure (range 1-4). These injuries from road traffic accidents in 15 patients and from fall in 5 patients. The initial treatment was operative in all cases. The initial fracture was open in 5 cases and closed in 15 cases.

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Results of limb reconstruction system in failed osteosynthesis of long bones

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Received: 18 December 2016

Revised: 28 December 2016

Accepted: 31 December 2016

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ABSTRACT

Background: The LRS is an excellent option treating the failed osteosynthesis in long bone fractures, because of failure in healing due to loosening of implant, infection, nonunion, poor bone quality and bone loss associated with deformities, limb length discrepancy, soft tissue problems, functional and financial issues.

Methods: we prospectively treated 30 cases of failed osteosynthesis of long bones (7 plating, 22 nailing & 1 k-wire with plaster) between April 2009 to October 2015 with LRS. Initially we managed by implant removal, freshening of fracture site or radical debridement followed by LRS application.

Results: Union occurred in 93% cases. The eradication of infection was seen in 96.5% cases. Average lengthening done was 4.2 cms. We had 93% excellent and 7 % poor bony result. Functional result was excellent in 45%, good in 48% and failure in 7% cases using ASAMI scoring system.

Conclusions: LRS is an excellent option in the management of failed osteosynthesis especially associated with infection, nonunion, deformities, limb length discrepancy, soft tissue problems, functional and financial issues and also where re-osteosynthesis is challenging with poor bone quality and bone stock. It is simpler technically, patient friendly and short learning curve.

Keywords: Failed osteosynthesis, Long bones fracture, LRS

INTRODUCTION

The high energy trauma is causing much open and complex fracture of long bones in this era. Most of fractures are treated by osteosynthesis. Various forms of osteosynthesis like plates, nails, screws, pins, wires etc. are used to treat most of these fractures. In 5 to 10 % of osteosynthesis may fail due to loosening of implant, infection, nonunion, poor bone quality and bone loss making re-osteosynthesis difficult.¹ In approximately 1% to 10%, depending on various factors, the implanted osteosynthesis may become infected during or after surgery. Infected osteosynthesis is serious complication and requires early and often combined medico-surgical

treatments.² The difficulties and challenges are infection, nonunion, deformities, limb length discrepancy, soft tissue problems, functional and financial problems.^{3,4} So failed osteosynthesis is one of the most challenging orthopaedic situation to manage. External fixation is able to address these problems simultaneously.^{5,6} Traditionally complex nonunions are managed by the Ilizarov ring fixators. But, it is cumbersome, heavy and complicated, both for the surgeon and the patient.⁷ The limb reconstruction system is uniplanar and less bulky. It has the advantage of allowing distraction and compression at fracture site. It also allows dynamisation of the fracture site which is the essential principle in the treatment of nonunions.⁸ The management by implant removal,



International Journal of Orthopaedics Sciences

E-ISSN: 2395-1958
P-ISSN: 2706-6630
IJOS 2021; 7(2): 270-274
© 2021 IJOS
www.orthopaper.com
Received: 09-02-2021
Accepted: 18-03-2021

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Surgical outcome of intra-articular fractures of distal end of radius managed by external fixator - our experience

**Siddalingeshwar Vithoba Honnur, Mohammed Tauheed and Mohammed
Shahid**

DOI: <https://doi.org/10.22271/ortho.2021.v7.i2d.2642>

Abstract

Background & Objectives: Preservation of the articular congruity is the principle prerequisite for successful recovery following distal radius fractures. The best method of obtaining and maintaining an accurate restoration of articular anatomy however, remains a topic of considerable controversy. External fixation as a method of treatment for distal end of radius fracture has more than 60 yrs of documented clinical experience. The main aim of this study is to evaluate the results obtained by treatment of distal end radius fractures by external fixation.

Methods: In a prospective controlled study, 30 cases of intra-articular fractures of distal end radius in adult patients were treated with uniplanar bridging type of external fixation using the principle of ligamentotaxis and augmentation by K wires. Mean age of the patients was 37.3 years, External fixator was applied for a mean duration of 6 weeks and cases were followed up for an average of 37.0 weeks post operatively.

Results: Assessed as per De merit point system of Gartland and Werley (modified by Sarmiento 1975) for functional results at the end of 6 months of follow up. Excellent to good functional result was noted in 83.3%.

Conclusion: External fixation and ligamentotaxis provides better functional and anatomical results in intra-articular fractures of distal end radius. The success not only depends on the anatomical restoration of the articular surface. It also depends on the associated soft tissue injuries and articular damage.

Keywords: External fixator, ligamentotaxis, intra-articular fractures, distal end radius

Introduction

Fractures involving the distal end of radius are one of the most common injuries encountered in orthopaedics. In fact these injuries are the most common fractures of the upper extremity and account for approximately 1/6th (16%) of all fractures seen and treated in emergency rooms [1-3]

Intra-articular fractures can jeopardize the integrity of the articular congruence and kinematics of these articulations. Distal radius fractures especially the high energy fractures are often associated with poor results and high complication rates. In order to treat these fractures optimally, we must understand the extent of displacement, the degree of articular disruption [4, 5], the stability and reducibility of each fracture as well as any concurrent injury to adjacent nerves, tendons or carpal structures, must be assessed carefully.

For an optimal result to occur there must be an accurate restoration of skeletal anatomy and most importantly supervised rehabilitation by skilled physiotherapy. Preservation of the articular congruity is the principle prerequisite for successful recovery. The best method of obtaining and maintaining an accurate restoration of articular anatomy however, remains a topic of considerable controversy.

The successful use of external fixation in the management of unstable intra-articular fractures necessitates careful assessment of the fracture pattern, appropriate patient selection, meticulous surgical technique, appropriate choice of fixation devices, careful post operative monitoring and aggressive early rehabilitation [7].

Ligamentotaxis alone regardless of the method is prone for failure in cases where articular congruity cannot be restored by closed reduction.

International Journal of Orthopaedics Sciences

E-ISSN: 2395-1958
P-ISSN: 2706-6630
IJOS 2021; 7(2): 275-282
© 2021 IJOS
www.orthopaper.com
Received: 11-02-2021
Accepted: 20-03-2021

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Results of locking compression plate in closed diaphyseal forearm fractures in adults

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DOI: <https://doi.org/10.22271/ortho.2021.v7.i2d.2643>

Abstract

Introduction: Diaphyseal fracture of ulna and radius present specific problems in Addition to those common to all fractures of shaft of long bones due to their anatomical Characteristics and conservative treatment of these fractures lead to poor functional outcome. Stoffel *et al* showed that plate osteosynthesis with rigid fixation has shown a high complication Rate including delayed or nonunion, infection, hardware failure and most importantly refracture after plate removal, primarily due to necrosis of bone under the plate.

To evaluate results of locking compression plate in closed diaphyseal Forearm fractures in adults.

Methods: In prospective study, 22 adults with (38 forearm bones= Radius-20 & Ulna-18) acute closed diaphyseal fractures were treated by open reduction and internal fixation with Locking Compression Plate. Follow up was obtained on all 22 patients. The average duration of follow up was 12 months.

Results: The functional outcome was assessed with the grading system of Anderson *et al*. We had excellent results in all patients.

Conclusion: Locking compression plate with a combi-hole provides fixation of fractures in a single implant with vast application according to the situation and useful in wedge or complex or osteoporotic or comminuted fractures because it preserves periosteal blood supply and provides a stable fixation ensuring early mobilisation. Studies having a larger number of fractures treated with different modes are needed to evaluate the outcome of locking compression plate osteosynthesis in forearm bones fractures, but the early results are promising.

Keywords: Diaphyseal forearm fractures, locking compression plate, results

Introduction

Diaphyseal fracture of ulna and radius present specific problems in addition to those common to all fractures of shaft of long bones due to their anatomical characteristics and conservative treatment of these fractures lead to poor functional outcome.

In other long bones some shortening and loss of axial and rotary alignment do not greatly compromise the result. This is not so in case of the forearm. In addition to regaining length, apposition, and axial alignment, achieving normal rotational alignment and the radial bow is necessary to restore good range of supination and pronation of the forearm^[1].

However, Stoffel *et al*.^[2] showed that plate osteosynthesis with rigid fixation has shown a high complication rate including delayed or nonunion, infection, hardware failure and most importantly refracture after plate removal, primarily due to necrosis of bone under the plate.

The locking compression plate is latest in a long sequence of basic improvements in AO technology. The treatment goal was mainly to achieve painless function and "undisturbed" healing^[3].

The LCP can be used in three ways^[4]:

- As a **Conventional Plate** using only dynamic compression unit of the combination hole and standard cortex screws,
- As a Pure Internal Fixator using locking head screws only,
- As a Combination of the two above principles.

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Original Research Article

Clinical, magnetic resonance imaging and arthroscopic findings in diagnosis of meniscal tears: a prospective study

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Received: 07 July 2019

Revised: 22 July 2019

Accepted: 23 July 2019

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ABSTRACT

Background: In developing countries like India the need for cost conscious medical practice has a major role in the economy of the country. The extensive use of costly investigative modalities puts huge burden on the patient needing proper medical care. This study is undertaken to assess the role of different diagnostic tools like clinical diagnosis, magnetic resonance imaging (MRI) and arthroscopy in diagnosis of meniscal tears.

Methods: A prospective study was conducted among 90 individuals with knee injuries due to various causes attending orthopaedic department of The Oxford Medical College and research centre, Bangalore from October 2018 to May 2019. All patients aged 18 to 60 years with history of knee injury who underwent clinical examination, radiographic examination, MRI and arthroscopy. The data was entered in MS Excel and analysed using SPSS.

Results: The study consisted of patients aged between 18-60 years (mean age 32.5 years). Out of which 59 were male and 31 were female. There were 54 patients with suspect diagnosis of medial meniscal tear and 36 with lateral meniscal tear. The difference in diagnostic values between the clinical and MRI findings in diagnosing the medial and lateral meniscal injuries were minimal.

Conclusions: Ligament injuries of knee are more common with sports injuries and high velocity trauma. A well-trained surgeon can be more reliable than MRI in diagnosing the ligament injuries. Since MRI is expensive, it can be skipped and used only in more doubtful and complex knee injuries.

Keywords: Arthroscopy, Clinical diagnosis, Meniscal tear, MRI

INTRODUCTION

Knee is a complex joint with many components, making it vulnerable to a variety of injuries. The knee joint is commonly involved due to road traffic accidents and sport activities. One of the most common knee injuries is meniscal tears. The menisci are essential and play a fundamental role in the knee joint. These are responsible for lubrication, increase the contact area between femur and tibia, decrease the load bearing on the articular cartilage, and increase the stability of the knee.^{1,2} Tears in the meniscus can occur when twisting, cutting, pivoting or even as a result of arthritis or aging. Hence it is

essential to make accurate diagnosis of meniscal tear for appropriate management.

Magnetic resonance imaging (MRI) and clinical examination are tools commonly used in the diagnosis of meniscus tears. While arthroscopy and open surgery are the gold standard to diagnose the intra-articular knee pathology. But in today's era of cost-conscious medical environment MRI is considered the most accurate non-invasive method to diagnose meniscal tears and the routine use of MRI before arthroscopy will reduce the incidence of unnecessary invasive procedures but on the other hand, some of the clinicians suggest that a thorough

A Clinical Study on Intra-Operative and Delayed Complication in Surgical Management following Peri-trochanteric Fracture of Femur Using Proximal Femoral Nail

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ABSTRACT

Background: Peritrochanteric fractures are devastating injuries that most commonly affect the elderly population. Peritrochanteric fracture is a leading cause of hospital admissions in elderly people. Conservative methods of treatment results in malunion with shortening and limitation of hip movement as well as complications of prolonged immobilization like bed sores, deep vein thrombosis and respiratory infections.

Aim: This study is done to analyze the surgical management of Peritrochanteric fractures using Proximal Femoral Nail.

Methods: This was a prospective study of 30 cases of fresh inter -trochantric and subtrochanteric fractures admitted at Navodaya Medical College Hospital and Research Centre, Raichur, between July 2011 to October 2012.

Results: Our study consisted of 33 cases of peritrochanteric fractures of femur treated surgically by Proximal Femoral Nail (PFN) between July 2011 to October 2012. 30 patients were available for follow-up. The number of male patients in our series were 21(70%) and female patients were 9(30%) in number. Intra-operative complications were seen in 7 cases and delayed complications were seen in 9 cases. Inter - trochanteric and subtrochanteric fracture were 15 in each group. Complications were more common with inter-trochanteric fracture, but it was not statistically significant. There was no difference between direct and indirect mode of injury. Result following operation was classified into excellent, good, fair and poor. When result was compared with complication p value was found to be 0.02, which is statistically significant.

Conclusion: From this study, we consider that proximal femoral nail is an excellent implant for the treatment of Peritrochanteric fractures.

Key Words: Proximal femoral nail; Peritrochanteric; Subtrochanteric; Inter-trochanteric

Introduction

Peritrochanteric fractures of femur are devastating injuries that most commonly affect the elderly. In the elder age group most of the fractures are due to osteoporotic bone, resulting from a trivial fall^[1]. These fractures have a tremendous impact on both the health care system and society in general. Peritrochanteric fractures comprise

fractures of intertrochanteric and subtrochanteric region. In 1996, the Arbeitsgemeinschaft für Osteosynthesefragen (AO/ASIF) developed the Proximal Femoral Nail (PFN) as an intramedullary device for the treatment of unstable intra- and subtrochanteric femoral fractures.

Intertrochanteric fractures can be managed by conservative methods, but malunion and

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A Study of External Nasal Splints used in Nasal Bone Fractures and Rhinoplasties

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ABSTRACT

Background/Objectives: Plaster of Paris (POP), thermoplastic splints and self-adhesive padded aluminium splints are the most common splinting methods used after reduction of fractured nasal bones and rhinoplasty. All these methods have their proponents but may have one or more disadvantages in the way of being cumbersome, time-consuming, bulky, conspicuous and expensive.

Design: A retrospective study at KVG Medical College and Hospital, department of ENT and head and neck surgery.

Intervention: 94 cases of splinting done for nasal bone fractures and rhinoplasties were included in our study. POP and adhesive aluminium splints were used to stabilize the nasal framework.

Results: Eleven cases of nondislocated nasal fractures and 10 cases of internal augmentation rhinoplasties were stabilized by aluminium nasal splints. 69 cases of displaced nasal fractures and 4 cases of external rhinoplasties were stabilized by POP splints.

Conclusions: POP splints give the best stabilization for nasal bone fractures as well as for rhinoplasties but are bulky and conspicuous. Aluminium nasal splints are not bulky and conspicuous but cannot be used for fractures with lacerations and external rhinoplasties.

Keywords: Plaster of Paris splint, Aluminium splints, Nasal bone fractures, Rhinoplasty.

INTRODUCTION

An external dressing is often used to provide stability to the bony nasal framework following the reduction of nasal bone fractures and rhinoplasties.¹ The external dressing keeps the nasal bridge in alignment for one to two weeks, while the fractured bones set in place.¹

Common splinting methods include the use of Plaster of Paris (POP), thermoplastic splints,² self-adhesive padded aluminium splints³ and many other designs.^{4,5} All these methods have their proponents but may have one or more disadvantages in the way of being cumbersome, time-consuming, bulky, conspicuous and expensive.⁶

Fractures of the nasal bones are usually a result of trauma and is suggested by external nasal deformity, crepitus or palpable mobile bony segments (Fig. 1).⁷ Pain, swelling and epistaxis are common symptoms and these may be accompanied by ecchymosis of the periorbital soft tissues.⁷ Nasal obstruction is seen if the septum has been displaced.⁷ Nasal fractures are most common fractures of the facial skeleton and accounts for 40 to 50% of all the facial fractures.⁷ The incidence is more compared to that in females.⁸⁻¹⁰ The incidence is more in the 2nd and 3rd decade.⁸⁻¹⁰ Most common etiologic factors in adults are

assaults, sports injuries and less commonly road traffic accidents (Fig. 2).⁸⁻¹⁰

The nasal bones are flat, rectangular and thinner at the caudal end.¹¹ They project from the frontal process of the maxilla and articulate with the upper lateral cartilages and nasion (Fig. 3).¹¹ Nearly 80% of the nasal fractures occur at transition zone between the thicker proximal and thinner distal fragments, which corresponds to lower 1/3 to 1/2 of nasal bones.¹¹ The goals of nasal fracture reduction and splinting should be to achieve a cosmetic result similar to the preinjury appearance, and to obtain good nasal airway patency.¹²

Nasal fracture reduction and splinting may be performed under local anesthesia with or without sedation or general anesthesia.¹³ The target of treatment in nasal bone fracture is to restore the appearance and function of the nose to their pretrauma state.¹³ It is generally accepted that the final result of treatment cannot be properly evaluated until 1 or 2 years have passed since treatment.¹³ The reason is that both the trauma and the reduction might cause fibrosis that can lead to a secondary deformity of the nasal pyramid.¹³ In rhinoplasties, splinting is done to fix the nose to a desired cosmetic appearance.¹³

Nasal Septal Abscess: A Retrospective Study of 20 Cases in KVG Medical College and Hospital, Sullia

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Abstract

Objective: Twenty patients who presented to the ENT, head and neck department with nasal septal abscess were retrospectively studied.

Design: Retrospective study.

Setting: KVG Medical College and Hospital, Sullia.

Study period: January 2006 to June 2010 (54 months)

Patients: Twenty patients (17 males and 3 females), aged between 7 to 45 years (average age 25.25 years), with nasal septal abscess were studied.

Intervention: All patients were admitted and posted for emergency incision and drainage under antibiotic cover. In 13 cases the destroyed septal cartilage was repaired with autologous conchal cartilage in the same sitting of incision and drainage. In two cases the same procedure was done in two different sittings.

Results: Sixteen patients were implanted autologous conchal cartilage at time of incision and drainage and most of them doing well at 6 months of follow-up.

Conclusion: Nasal septal abscess promptly treated under antibiotic cover total reconstruction of abscess-induced destruction of nasal septal cartilage with patients own conchal cartilage grafts so far, resulted in normal dorsum of the nose being retained during follow-up.

Keywords: Septal abscess, Nasal airway spilitis, Supratip deformity, Autologous conchal cartilage.

INTRODUCTION

The nasal septum is an essential structure maintaining the external framework of the nose.¹⁻³ Destruction of septal cartilage, partial or complete, can affect the function and shape of the nose.^{2,3} The normal development of the nose and maxilla is disturbed, if the nasal septal cartilage is destroyed in children and results in external deformity of the nose in adults.⁴⁻⁶

Complete destruction of the cartilaginous septum will result in an underdeveloped nose with varying degree of depression of dorsum of the nose.^{1,5} Severe depression of the dorsum may result in saddle nose deformity with columellar retraction and deformity of dorsum of nose and midface.^{1,5} Therefore, loss of septal cartilage in childhood is a serious condition that requires adequate surgical therapy to prevent functional and structural deformities in the future.^{1,5} Usually, the destruction and loss of septal cartilage in childhood is a complication of post-traumatic septal hematoma forming abscess.^{1,5} In adults complications of septal surgery is also a rare possible etiology.^{1,5}

In normal circumstances, the metabolism of septal cartilage depends on the perichondrial blood supply.⁷⁻⁹ However, the formation of a hematoma between the cartilage surface and the perichondrium can result in insufficient oxygenation and sterile necrosis.⁷⁻⁹ Frequently, the process of necrosis and liquefaction is intensified by collagenases that are produced by *Staphylococcus aureus*, *Pseudomonas aeruginosa*, Coagulase negative staph and *Streptococcus* species strains.⁷⁻⁹ These microorganisms can contaminate the hematoma, resulting in an abscess through microlesions in the mucoperichondrium or hematogenously.⁷⁻⁹

MATERIALS AND METHODS

This is a retrospective study conducted from January 2006 to June 2010. A total of 20 patients who presented to our OPD with nasal septal abscess were included in the study.

A full history was recorded and a thorough examination including the systemic and ENT examination (Fig. 1) was done for all these patients.

Kikuchi's Disease: A Rare Clinical Entity of Cervical Lymphadenopathy with Review of Literature

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ABSTRACT

Background and objectives: Kikuchi disease is an uncommon, idiopathic, generally self-limited cause of lymphadenitis. The disease runs a self-limiting course usually resolving in 6 to 8 months of occurrence, with the usual clinical manifestations being cervical lymphadenopathy, with or without systemic manifestations.

Materials and methods: A retrospective study was done in three cases of Kikuchi disease reported over 2 years. All three females had cervical lymphadenopathy not responding to empirical treatment. All had excision of the lymph nodes with immunohistochemistry, which suggested the necrotizing lymphadenopathy. Other similar diagnoses, like systemic lupus erythematosus, non-Hodgkin's lymphoma, Kawasaki, tuberculous, metastatic lymphadenopathy, were excluded.

Conclusion: The rare possibility of cervical lymphadenopathy being Kikuchi's disease should be thought if empirical therapy fails. So, a meticulous effort by the pathologist and surgeon helps in diagnosing the self-limiting, little understood disease of Kikuchi in young patients with cervical lymphadenopathy and fever.

Keywords: Cervical lymphadenopathy, Computed tomography scan, Fine-needle aspiration cytology, Immunohistochemistry.

How to cite this article: Naik SM, Kumar BLY, Ravishankara S, Shashikumar T, Navya R, Sathya P. Kikuchi's Disease: A Rare Clinical Entity of Cervical Lymphadenopathy with Review of Literature. *Int J Otorhinolaryngol Clin* 2016;8(3):101-105.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Kikuchi disease, also called as Kikuchi-Fujimoto disease or histiocytic necrotizing lymphadenitis, is an

uncommon, idiopathic, generally self-limited cause of lymphadenitis.^{1,2} The disease runs a self-limiting course usually resolving in 6 to 8 months of occurrence, with the usual clinical manifestations being cervical lymphadenopathy, with or without systemic manifestations.³⁻⁶ Earlier, the disease was misdiagnosed as lymphoma or systemic lupus erythematosus (SLE) with minimal recurrences and complications.¹⁻⁶

MATERIALS AND METHODS

We report three cases of this disease reported in our department over the past 5 years. All the three were females around the 5th to 6th decade (mean age—51 years). They presented with cervical lymphadenopathy not subsided by two courses of antibiotics and anti-inflammatory drugs. Two had left-sided and the other right-sided cervical lymph nodes enlargement. All had posterior group enlarged, while one had the left-sided level III also enlarged (Fig. 1). Constitutional symptoms, like intermittent fever, fatigability, were present for a couple of months. Two had hysterectomy done for dysfunctional uterine bleeding and no other significant medical history. The nodes were nontender and were palpable with no increase in size. Baseline investigations were done with all the blood and urine parameters being normal with an increase in erythrocyte sedimentation rate. Fine-needle aspiration cytology (FNAC) was done in all cases, which showed a reactive picture. Chest X-ray and sputum for acid fast bacilli were negative.

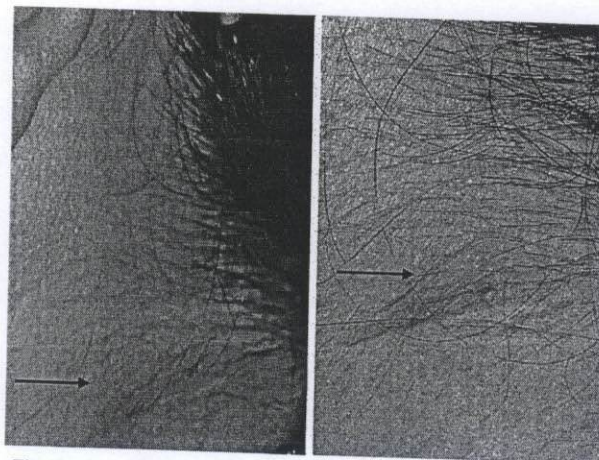


Fig. 1: Scar after excision of the posterior cervical lymph nodes

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Advantages of Tonsillectomy done under Local Anesthesia compared to General Anesthesia in Adults

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Nonthombam Pinky Devi, Annapurna S Mushannavar

ABSTRACT

Background/Objectives: Tonsillectomy using local anesthesia (local tonsillectomy) is a safe and effective alternative to general anesthesia in the healthy cooperative teenage or adult patients. Blood loss, morbidity, complications and patient satisfaction were better in some studies with tonsillectomies done under general anesthesia.

Design: Comparative case series analysis study of two groups of patients who underwent tonsillectomies under local and general anesthesia during the study period of 57 months from March 2007 to December 2011.

Materials and methods: Overall 1,349 cases of tonsillectomies done for chronic tonsillitis were included under the study. Three hundred and sixty-seven cases operated under general anesthesia and 982 cases operated under local anesthesia were compared. The parameters compared were duration of surgery, blood loss and the mean pain visual analog score.

Results: Significant difference in duration of surgery, blood loss during surgery and visual analog scale (VAS) pain scores were seen in the two groups with local anesthesia scoring over general anesthesia.

Conclusion: Tonsillectomy under local anesthesia is a good alternate for the procedure under general anesthesia with limited resources and in cooperative adults.

Keywords: Tonsillectomy, Local anesthesia, General anesthesia, Scalpel cautery method.

How to cite this article: Naik SM, Naik SS, Ravishankara S, Appaji MK, Goutham MK, Devi NP, Mushannavar AS. Advantages of Tonsillectomy done under Local Anesthesia compared to General Anesthesia in Adults. *Int J Head Neck Surg* 2013;4(1):13-18.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Tonsillectomy is one of the most frequently performed procedures in the Department of Otolaryngology.¹ Chronic tonsillitis is the most common indications for tonsillectomy followed by peritonsillar abscess and sleep apnea syndrome.^{2,3}

In India, chronic tonsillitis remains the most common indication and the dissection method of tonsillectomy is considered the most common and safest method widely practiced.⁴ The classical dissection snare tonsillectomy has been modified over the years and alternate procedures like electrocautery, laser, coblation, bipolar scissors tonsillectomy and radiofrequency ablation have been introduced.⁵

Tonsillectomy using local anesthesia (local tonsillectomy) is a safe and effective alternative to general anesthesia in the healthy cooperative teenage or adult patient.⁶ In India most of the tonsillectomies are done under general anesthesia but cases under local anesthesia are also widely practiced because of economic considerations and long waiting lists.⁴

It is widely accepted that local tonsillectomy needs lesser time, lesser blood loss and lesser costs to the patient.⁶ In our study, we have performed 1,114 tonsillectomies under general and local anesthesia and the results in term of duration, blood loss and pain were compared. All these surgeries under local anesthesia were performed in cooperative adults. Postoperative opinion of many patients revealed they were satisfied by the procedure and would recommend and choose local anesthesia again.

MATERIALS AND METHODS

This is a comparative case series analysis study of two groups of patients who underwent tonsillectomies under general and local anesthesia. Overall, 1,349 tonsillectomies done for chronic tonsillitis were included under the study with 367 cases done under general anesthesia and 982 cases done under local anesthesia. The cases were operated during the study period of 57 months from March 2007 to December 2011. Ethical committee clearance was obtained from the institution.

The study included 771 males and 578 females. General anesthesia group had 192 males and 175 females with the youngest being 18 years female and the oldest being 47 years male. Local anesthesia group included 579 males and 403 females with the youngest being 19 years male and the oldest being 47 years female. Patients younger than 18 years, tonsillectomies done for other indications than chronic tonsillitis were excluded from the study (Graph 1).

Twenty-three patients were operated using newer tissue welding method, three using harmonic scalpel, seven using coblation method were also excluded. All apprehensive patients were operated under general anesthesia and the rest under local anesthesia. A detailed history was taken and the procedure of surgery was explained to the patients with written consent. A week long antibiotics orally were given to reduce the acute infection in the tonsil if present. All cases were taken for surgery 1 week after antibiotics.

The procedures were done under local and general anesthesia under dissection scalpel cautery method by a

Acute Accidental Formic Acid Poisoning: A Common Problem Reported in Rubber Plantations in Sullia

Sudhir M Naik, S Ravishankara, Mohan K Appaji, MK Goutham, Nonthombam Pinky Devi
Annapura S Mushannavar, Sarika S Naik

ABSTRACT

Background: Ingestion of formic acid, accidentally or with suicidal intention is a common problem among the workers in rubber plantations in Sullia. The diluted form of formic acid is used in coagulation of rubber latex. Sullia, a small town in South India, is well known for its rubber plantations. Easy accessibility to formic acid makes it susceptible to be used for committing suicide in this region. Also accidental ingestion are very common in these workers.

Aim: To study a case report of accidental formic acid poisoning and its management.

Intervention: The patient was managed successfully by medical line of treatment. No gastric lavage or antidote was used in treatment and no vomiting induced. Nasogastric tube feeding was done and electrolyte imbalance was corrected.

Conclusion: Easy availability of formic acid should be curtailed by enforcing statutory limitations in its distribution and the complication of formic acid poisoning should be educated to these rubber workers. Patients with hematemesis or melena, after successful treatment, should be followed up with serial esophagogastroduodenoscopy for diagnosis and early treatment of strictures.

Keywords: Formic acid, Hematemesis, Esophagogastroduodenoscopy, Metabolic acidosis.

How to cite this article: Naik SM, Ravishankara S, Appaji MK, Goutham MK, Devi NP, Mushannavar AS, Naik SS. Acute Accidental Formic Acid Poisoning: A Common Problem Reported in Rubber Plantations in Sullia. *Int J Head Neck Surg* 2012;3(2):101-105.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Sullia is a small town situated in the southern region of the Indian subcontinent and has a total population of nearly 1 lakh. The economy is predominantly agricultural. Arecanut farming and growing rubber are the major agricultural produce. The labor is family-based and those engaged in rubber production collect the latex from the trees by tapping, harden it at once by admixture with formic acid and then bring it to the homestead for further processing prior to sale in sheet form.

The formic acid required for this purpose is readily available commercially, with the minimum of control of sale and supply. So, it is easily accessible to all members of those families working with rubber industry, as well as to

their friends and neighbors. In this territory, the common methods of suicide are by hanging, drowning, ingestion of pesticides and different corrosives. As formic acid is easily available to the rubber growing population suicidal ingestion and accidental ingestion is commonly seen in this region.

Apart from its use in rubber industry as a latex coagulating agent, formic acid is also used in electroplating, tanning and paper industries. It is also used in production of disinfectants and decalcifying agents.¹ Formic acid is pungent and corrosive, so it is rarely swallowed accidentally.¹ It is mixed with alcohol and consumed while committing suicide.¹

Complications of ingestion of formic acid, the diluted form of which is used in coagulation of rubber latex, are common in this rubber growing belt.² This is a case study of a patient who had accidental formic acid poisoning and was managed successfully in our KVG Medical College Hospital. This case study aims at studying the patterns of presentation and identifying the predictors of morbidity and mortality of acute formic acid poisoning and their successful management.

CASE REPORT

A 40-year-old patient presented to our ENT, Head and Neck OPD with history of accidental consumption of formic acid. He complained of severe pain in the throat with absolute dysphagia. The patient had accidental consumption of nearly 20 ml of concentrated formic acid which is used in preparing rubber latex. The patient immediately felt the mistake and spat it out. Later, he induced vomiting to clear his throat. He cleansed the throat with water and tried to consume cold milk. He could not drink the cold milk because of dysphagia. He immediately came to a doctor where he was given first aid and referred to us. The patient was managed in accident and emergency casualty. The airway of the patient was maintained and saturation was well above 96%.

Oral cavity examination showed intense corrosion of the tongue (Fig. 1) and the oral mucosa (Fig. 2). Indirect laryngoscopic examination was not possible. The serum electrolyte concentration levels were; serum sodium -143.0 meq/liter and serum potassium -4.2 meq/liter. Blood reports showed Hb% - 13.0 gm%, total RBC count 5.56 cells/mm³, total WBC count 18,600 cells/mm³, platelet count -2.68 lakh cells/mm³, polymorphs -94%, lymphocytes -4%,

Endonasal Dacryocystorhinostomy done with and without Silicon Tube Stents: A Comparative Case Series Analysis Study

Sudhir M Naik, Annapurna S Mushannavar, S Ravishankara, Mohan K Appaji, MK Goutham
Nonthombam Pinky Devi, Sarika S Naik

ABSTRACT

Background/objectives: Neo-ostium cicatrization and closure is considered a major factor for surgical failure in endoscopic dacryocystorhinostomy (EnDCR). Wide neo-ostium, mucosal flaps, sac marsupialization with primary healing and silicone tube stent improves surgical outcomes of EnDCR.

Materials and methods: EnDCR were done in 238 patients. Group A included 172 patients where no stents were used and group B included 66 patients where silicon tube stents were used. All the surgeries were done under general anesthesia.

Results: In our study, 89.53% success in syringing patency was seen in group A, 89.39% success in syringing patency was seen in group B at 6 months of follow-up. No significant difference in success rate were seen in the two study groups.

Conclusion: No significant difference in EnDCR success rates were seen with the use of stents in our study. So stenting probing and dilatation are not advocated routinely in all cases and a wide neo-ostium with mucosal flaps and primary healing is the secret to success.

Keywords: Endonasal dacryocystorhinostomy, Silicone tube stent, Nasolacrimal duct obstruction, Neo-ostium.

How to cite this article: Naik SM, Mushannavar AS, Ravishankara S, Appaji MK, Goutham MK, Devi NP, Naik SS. Endonasal Dacryocystorhinostomy done with and without Silicon Tube Stents: A Comparative Case Series Analysis Study. *Int J Head Neck Surg* 2012;3(3):147-153.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

The success of endoscopic dacryocystorhinostomy (EnDCR) are revolutionized by the introduction of high resolution endoscopes.¹ EnDCR over the past decade have replaced conventional external DCR in correcting primary and recurrent lacrimal obstruction.^{2,3}

The advantages of EnDCR over external DCR are (a) improved visualization of lacrimal sac pathology, (b) treating coexisting sinonasal pathology simultaneously,^{2,3} (c) avoiding external skin incision, facial scar, injury to medial palpebral ligament, orbicularis oculi muscle, (d) reduction in operating time, bleeding and morbidity,^{2,3} (e) medial canthal anatomy is intact which reduces angular vein damage,^{2,3} (f) nasolacrimal duct (NLD) pumping action is spared which promotes faster healing,^{2,3} (g) can be performed easily under local anesthesia with equally better results.^{4,5}

In spite of several advantages of EnDCR, there are higher failure rate due to the obstruction of neo-ostium by granulation and synechia that forms postoperatively.⁶ Neo-ostium closure was considered a major factor for surgical failure.¹ In external DCR, several methods such as use of silicone stent, application of mitomycin-C to the neo-ostium and suturing of the mucosal flaps have been suggested for providing permanent neo-ostium opening after completion of mucosal healing.¹

EnDCR enables the surgeon to identify and correct common intranasal causes of DCR failures such as adhesions, an enlarged middle turbinate, or an infected ethmoidal sinus.^{2,3} It has definitive role in failed external DCR cases and revision cases.^{2,3} In EnDCR, insertion of silicone stent is the most commonly preferred procedure as it improves surgical outcomes of EnDCR.¹ Many surgeons advocate the use of silicone stent placed as a loop in the superior and inferior canaliculi, through the common canaliculus and lacrimal sac into nose.¹

Success rates according to various study in EnDCR ranges from 70 to 95%.^{3,7,8} The overall results are significantly higher than with external DCR.^{9,10} The key to the improved success rates achieved with EnDCR is to attempt to replicate the external procedure as closely as possible.^{9,10} The creation of a large bony neo-ostium and mucosal flaps is the key to success.^{11,12}

In order to achieve complete lacrimal sac exposure and correct sitting of the neo-ostium, the understanding of the nasal anatomy and its relationship to the lacrimal sac is vital.^{13,14} The upper half of the sac is behind the thick bone of the frontal recess of the maxilla and so the neo-ostium should be larger and higher than previously done.^{13,14} An accurate understanding of the intranasal surgical anatomy is necessary for the success of the surgery.^{13,14}

Full sac exposure requires extensive dissection of the frontal process of the maxilla either by using a powered drill or 3-mm punch forceps.¹⁵ The neo-ostium size and the mucosal preservation determines the ultimate success of the surgery.¹⁵ Nasal mucosa is preserved so that it can be fashioned to the lacrimal flaps created to achieve mucosal apposition of the marsupialized sac and of the nasal mucosa.^{13,14}

Comparative Study of Intralesional Triamcinolone Acetonide and Hyaluronidase vs Placental Extract in 60 Cases of Oral Submucous Fibrosis

Sudhir M Naik, Mohan K Appaji, S Ravishankara, MK Goutham, Nonthombam Pinky Devi
Annapurna S Mushannavar, Sarika S Naik

ABSTRACT

Background: Oral submucous fibrosis (OSMF) is a common premalignant condition caused by chewing arecanut, betel quid and gutkha with tobacco. Its medical treatment is not yet fully standardized, although the optimal doses of its medical treatment is in the form of triamcinolone acetonide combined with hyaluronidase or intralesional placental extract.

Objectives: We compared the efficacy of intralesional triamcinolone acetonide combined with hyaluronidase in group A vs placental extract in group B.

Design: Comparative case series analysis series study with random allocation of 60 patients equally into two groups.

Materials and methods: Patients of OSMF (60) were randomly allocated into two groups A and B. Group A (n = 30) patients received combination of triamcinolone acetonide (10 mg/ml) + hyaluronidase (1,500 IU) at weekly intervals for 8 weeks. Group B (n = 30) patients received 2 ml of placental extract intralesionally at weekly interval for 8 weeks. Treatment outcome was evaluated on the basis of improvement in trismus, oral mucosal pattern and reduction in burning sensation.

Results: Trismus improvements in group A with combination of triamcinolone acetonide + hyaluronidase were significantly better to that in group B where placental extract was used. No significant difference in results in the two groups were observed as far as improvement in oral mucosal pattern and burning sensation were compared in the two groups.

Conclusion: Combination of triamcinolone acetonide and hyaluronidase intralesionally is more effective than placental extract intralesionally in treatment of OSMF. But placental extract injections are cost-effective. No side effects were seen in both study groups.

Keywords: Oral submucous fibrosis, Triamcinolone acetonide, Placental extract injection, Hyaluronidase injection, Trismus.

How to cite this article: Naik SM, Appaji MK, Ravishankara S, Goutham MK, Devi NP, Mushannavar AS, Naik SS. Comparative Study of Intralesional Triamcinolone Acetonide and Hyaluronidase vs Placental Extract in 60 Cases of Oral Submucous Fibrosis. *Int J Head Neck Surg* 2012;3(2):59-65.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Oral submucous fibrosis (OSMF) is a chronic insidious premalignant condition of the oral mucosa.¹⁻³ It is an insidious, chronic change in fibroelasticity, characterized by a burning sensation in the oral cavity, blanching and stiffening of the oral mucosa and oropharynx and trismus.⁴

Schwartz coined the term atrophica idiopathica mucosa oris to describe an oral fibrosing disease as he discovered in five Indian women from Kenya.⁵ Joshi subsequently termed the condition OSMF.⁵

It is clinically and histopathologically characterized diffusely blanched mucosa, presence of fibrous bands, depapillated tongue, erosions in the mucosa, where the patients chiefly complain of burning mouth and inability to take spicy food.^{1,2} Juxtaepithelial inflammatory reaction, fibroelastic changes in the lamina propria and epithelial atrophy leading to stiffness of oral mucosa, trismus and inability to eat.^{1,2}

It is a precancerous condition common in the Indian subcontinent.⁶ The incidence varies from 0.2 to 0.5% in India with a higher percentage being found in southern areas.⁶ The exact etiology is still obscure, but many factors, such as betel nut, tobacco, smoking, pan masala and chillies, have been thought to be contributory. If untreated, the risk of malignant change in advanced cases of OSMF is relatively high.⁶

The clinical diagnosis is done on the basis of (a) difficulty to take hot and spicy foods, (b) difficulty in opening mouth, (c) inability to protrude the tongue, (d) blanching of oral mucosa, (e) reduced elasticity and mobility of tissues (f) presence of fibrous bands on palpation.⁶

Treatment includes intralesional injections of placental extract which act as biogenic stimulant and use is based on the tissue therapy method.⁶ Also used are intralesional corticosteroid injections with hyaluronidase.⁷

MATERIALS AND METHODS

This is a comparative case series analysis study of 60 OSMF patients managed under two different treatment schedules in Department of ENT Head and Neck surgery done during the study period of 56 months from March 2007 to November 2011. Institutional ethical committee scrutinized the study and clearance was obtained.

Sixty patients, both males and females, were randomly allocated into two groups of 30 each, i.e. group A (n = 30) and group B (n = 30).

All patients in the present study are arecanut, betel quid, gutkha and tobacco chewers in various combinations (Table 1).

ORIGINAL ARTICLE

Acute Dacryocystitis with Abscess: Endonasal Dacryocystorhinostomy, the Primary Treatment of Choice

Sudhir M Naik, Sarika S Naik

ABSTRACT

Background/objectives: Acute dacryocystitis, or inflammation of the lacrimal sac with abscess, is almost always secondary to nasolacrimal duct obstruction. The standard practice for treatment is incision and drainage because of concerns about the risks of exacerbation and spread of infection. Here, we tried to evaluate primary endoscopic dacryocystorhinostomy (EnDCR) as a treatment for acute dacryocystitis with abscess formation.

Materials and methods: This is comparative case series analysis study done during the study period of 54 months from January 2007 to May 2011. A total of 46 cases of acute dacryocystitis with lacrimal abscess managed were included in the study. Twenty-one cases were operated primarily with EnDCR. Rest of the 25 cases was managed conventionally by incision and drainage and later by an external DCR.

Results: Swelling disappeared intraoperatively in all EnDCR cases while medial canthal edema and erythema completely reduced within 2 to 3 days postoperatively. While in incision and drainage swelling disappeared partially intraoperatively and repeated draining was needed on the 2nd and 3rd day.

The mean visual analog scale (VAS) score on first postoperative day was 3.14 in group A and was 4.64 in group B. Group A had faster pain relief with 95.23% improvement in epiphora while group B had slower pain relief but epiphora remained. Mean intraoperative blood was 65 ml in group A and minimal in group B.

Conclusion: Primary EnDCR is successful as a procedure of choice for acute dacryocystitis with abscess preventing further episodes of abscess formation and epiphora in the patients. We recommend EnDCR as the treatment of choice for acute dacryocystitis with lacrimal abscess.

Keywords: Dacryocystitis, Lacrimal abscess, Incision and drainage, Endoscopic dacryocystorhinostomy.

How to cite this article: Naik SM, Naik SS. Acute Dacryocystitis with Abscess: Endonasal Dacryocystorhinostomy, the Primary Treatment of Choice. Clin Rhinol An Int J 2012;5(3):107-113.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Acute dacryocystitis, or inflammation of the lacrimal sac with lacrimal abscess, is almost always secondary to nasolacrimal duct obstruction.¹ It usually results from infection by *Staphylococcus aureus* or β -hemolytic *Streptococcus* and presents as epiphora, swelling and redness at the medial canthus of the eye.² In untreated cases the infection may spread to surrounding tissues causing preseptal or orbital cellulitis or abscess formation.²

Ten percent of adults aged 40 years or older have obstruction of the lacrimal drainage system and this percentage increases with age.³ In India, the incidences are more in females as cosmetics especially kajal may lead to partial or complete blockage of the draining system.^{4,5} Acute dacryocystitis is an extremely painful and a slow to resolve condition even with a systemic antibiotic therapy.⁶ The conventional treatment of acute dacryocystitis with abscess formation includes warm compresses, systemic antibiotics, percutaneous drainage and external dacryocystorhinostomy (ExDCR) after resolution of acute infection.⁷ This may result in fistula formation or the risk of recurrent infection before DCR can be performed and prolonged use of systemic antibiotics.⁸ In addition, ExDCR results in a visible scar and can disrupt the lacrimal pump mechanism.⁸

Primary endoscopic dacryocystorhinostomy (EnDCR) in acute dacryocystitis with abscess has advantages over standard treatment with rapid improvement in pain and inflammation, and economic benefits of reduced patient stay with the need for later readmission and DCR as definitive treatment.⁹ Also, the procedure is difficult as comparatively more bleeding is seen with inflamed nasal mucosal membranes than with elective cases.¹⁰ The present study was done to prospectively evaluate primary endoscopic DCR as a treatment for acute dacryocystitis with abscess formation.¹⁰

The standard practice for the treatment of acute purulent dacryocystitis has not included surgical intervention because of concerns about the risks of exacerbation and spread of infection.¹¹ So ExDCR is usually performed after the resolution of acute infection through the use of warm compresses, systemic antibiotics and percutaneous abscess drainage.⁶ This treatment plan, however, may result in several complications, such as prolonged or recurrent infection, adverse antibiotic effects because of long-term use, cutaneous scar or fistula formation, and failure of lacrimal system reconstruction because of scarring or granuloma formation in the lacrimal sac.¹¹

EnDCR with lasers are also proven alternatives for the conventional incision and drainage but the results are short lived unless a wide rhinostome is created using drills and punches.^{9,12} Even laser-assisted EnDCR are less effective as treatment of chronic dacryocystitis because of the small size of the ostia created and the ostial fibrosis and stenosis resulting from the heat generated by bone and mucosa



Management of fungal sinusitis: A retrospective study in a medical college hospital

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ABSTRACT

Background/ objectives: Fungus balls are extra-mucosal collections of fungal elements, usually localized to a single sinus cavity, commonly the maxillary sinus. They appear as partial or complete heterogeneous opacification of the involved sinus with occasional metal dense opacities on CT scan. Here we report a case series of fungal sinusitis with multiple sinus involvement.

Materials and methods: We report a case series analysis of 46 cases of fungal sinusitis managed in our department for the past 3 years. Mean age in our study group was 32.45 years, with 15 males (mean age – 35.46 yrs) and 31 females (mean age – 31 yrs). All were operated with endoscopic sinus surgery after CT findings positive of fungal sinusitis.

Result: Fungal ball was seen in 36 (78.26%) cases and invasive fungal sinusitis were seen in 8 (17.39%) cases. 4 cases did not yield any growth and only secondary bacterial infection were seen on bacterial culture. 34 cases had disease in the maxillary sinus. 9 cases had bilateral growth and the rest unilateral only. 16 cases had disease in the sphenoid while 6 cases had both maxillary and sphenoid disease. 2 cases had ethmoidal disease.



Complete branchial fistulas managed by combined 'Transcervical', 'Transoral' approach in a medical college hospital.

Ravishankar B Sudhir M Naik Aishwarya K C Navya R Aneesh Sharma Shankarnarayan Bhat

KVGMC Sullia Karnataka

Abstract:

Background/ objectives:

Branchial arch anomalies form 20% of the congenital head and neck lesions and differ in their management depending on the arch involved. As all these anomalies are managed surgically accurate surgical anatomy is essential as it should be tailored to the lesion involved like it being a cyst, sinus or a fistula.

Materials and methods: 11 cases of complete branchial fistula were excised by the combined approach. 6 were females and 5 males, with average age group of 9.09 years and 3 were left sided and 8 right sided. Classical transcervical approach with double incisions at the fistula and hyoid and transoral avulsion of fistula with tonsillectomy done under general anaesthesia in all cases.

Results: The average length of the fistula was 7.27 cms. The patients were followed up monthly for six months and later 6 monthly for 2 years.

No recurrence were seen on 6-94 months of follow-up with an average follow-up of 43 months.

Conclusion: Combined Trans cervical Transoral approach is the conventional procedure of choice for complete branchial fistulas. This approach with no recurrence rates can be made scar less with meticulous tensionless dermal suturing and best skin approximation.



Teflon nasal splints in nasal surgeries: advantages over conventional nasal packing

Sudhir M Naik , Ravishankar B Shashikumar T, Deekshith T , Sherry C , Pooja N , Sathya P

KVGMC Sullia Karnataka

Key word 1: teflon septal splint.

Key word 2: framycetin pack.

Key word 3: septoplasty.

Key word 4: endoscopic sinus surgery.

Key word 5: rhinoplasty.

Abstract:

Background & Objectives: Nasal splints have long been used to prevent post operative nasal adhesions in septal surgery. But its efficacy in reducing adhesions and residual deviations are still controversial. Teflon is an inert material used as septal splints with sieves are used in our study as splints.

Materials and methods: This is a comparative case series study done in 214 cases of septoplasties. 116 postoperative cases were packed with framycetin packs only and the other 98 cases by framycetin packs and teflon septal splints. The groups were compared for postoperative nasal adhesions, residual deviation , pain , septal perforations and subjective patient satisfaction.



Modified Young's procedure: a forgotten procedure in rhinology.

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Karumbiah Rudresh Hiremath

KVG Medical College Sullia Karnataka India

Abstract:

Background: Modified Young's procedure (MYP) was a popular procedure for primary atrophic rhinitis. The classical Young's procedure was not tolerated well since its inception and a modification popularly known as the "Modified Young's procedure" was introduced. The complete closure of the nostrils were not well tolerated as most of the patients disliked mouth breathing and also the nasal voice.

Material and methods: We report a case series of MYP done in 17 cases of primary atrophic rhinitis under general anaesthesia. Bilateral procedures were done in all patients who tolerated it well. The polythene tube buttons were removed after 7 days.

Results: Mean duration of follow up was 15.11 months, with good symptoms improvement. Recanalization was done in 6 cases with 3 cases had concurrent multisinusitis with severe headaches and CECT PNS confirming it. The 3 patients were operated with endoscopic sinus surgeries after recanalization with minimal decongestant measures and microdebrider drill to remove the sclerosed walls of the maxillary sinuses.

Conclusion: Modified Young's procedure is a forgotten entity in rhinology as the incidences are decreasing and the modes of delivery of medications intranasally are becoming easier and compliant. However in resistant and noncompliant patients MYP with periodic nasal endoscopy can be very rewarding.

A Case of Plummer-Vinson Syndrome Esophageal Web Dysphagia treated by Dilatation with Cuffed Endotracheal Tube

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ABSTRACT

Background/objectives: Plummer-Vinson syndrome also known as sideropenic dysphagia is a disease characterized by chronic iron-deficiency anemia, dysphagia and esophageal web. It commonly affects white female in the 4th to 7th decade. Most of the dysphagia and iron deficiency can be treated by iron supplementation and rarely web dilatation is needed.

Setting: Department of ENT, Head and Neck Surgery and Anesthesia, KVG Medical College, Sullia, Karnataka, India.

Case report: A 36-year-old female with dysphagia of 10 months and iron-deficiency anemia with a small upper esophageal web seen on upper GI endoscopy and barium swallow.

Intervention: Conservative line of management with blood transfusion and dilatation of the web with cuffed endotracheal tube.

Results: A good symptomatic and radiological improvement was seen after blood transfusion and web dilatation with cuffed endotracheal tube.

Conclusion: Cuffed endotracheal tube dilatation is a better way of managing upper esophageal webs with minimal complications under general anesthesia.

Keywords: Plummer-Vinson syndrome, Dysphagia, Iron-deficiency anemia, Koilonychia, Carcinoma.

INTRODUCTION

Plummer-Vinson syndrome (PVS) was first described by Patterson and Kelly in 1919.¹ The syndrome consist of dysphagia, atrophic oral mucosa, glossitis and anemia and most of the patients affected are postmenopausal women.² The triad consists of dysphagia, iron-deficiency anemia and esophageal webs.³

This can be treated effectively with iron supplementation and if necessary by dilatation by webs.³ The disease is rare nowadays, but its important because it identifies the risk of squamous cell carcinoma of the postcricoid pharynx and the upper esophageal region.³ Other presenting symptoms may include cracks or fissure at the corners of the mouth along with painful tongue.^{4,5} Koilonychia (spoon-shaped finger nails) or nails that are brittle which break easily and other classical features of iron deficiency are evidently seen.^{4,5}

In approximately 10% of cases, this uncommon syndrome is associated with hypopharyngeal or esophageal cancers and rarely oral cavity carcinoma which arises from the degenerative changes in the mucosae of the pharynx, esophagus and oral cavity rarely.⁶⁻⁸ Here, we report a case of dilatation of the esophageal web done using the cuffed

endotracheal tube used for microlaryngeal surgery under general anesthesia along with the clinical features of this rare syndrome.

CASE REPORT

A 36-year-old female presented with difficulty in swallowing since 10 months duration. The patient was a short stratured female of 135 cm. The patient gave history of easy fatigability and physically looked emaciated, severely dehydrated, pale and lethargic.

She weighed 35 kg and her temperature (oral) was 39.8°C. Blood pressure was 100/60 mm Hg, pulse 98/minute and respiration was 22/minute. There was bilateral angular stomatitis with epithelial crust on the lips and bald tongue. The skin appeared generally dry and the finger nails of hands and feet were spoon shaped. Chest auscultation revealed a normal heart sounds and minimal bilateral basal crepitation in the lungs.

The abdomen was soft, nontender and liver, spleen and kidneys were not palpably enlarged. Intraorally, the oral mucosa was dry with blanched mucosa all round and bald tongue with absent papillae. Hematologic parameters



Paediatric refractory rhinosinusitis secondary to hypertrophied adenoids: management and review of literature.

Goutham M K Ravishankara S Sudhir M Naik Sathya P Mohan Appaji Shankar Narayanan
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Abstract:

Background /Objectives: Hypertrophied adenoids are the most common cause of refractory sinusitis in paediatric age. We study 42 cases of patients of chronic adenoiditis with adenoid facies and refractory chronic rhinosinusitis managed by endoscopic assisted adenoidectomy (EAA) and conventional adenoidectomy (CA).

Materials and method: 42 cases of chronic refractory sinusitis with adenoid facies secondary to hypertrophied adenoids were randomized into 2 groups during the study period of 12 months from August 2012 to July 2013. Group A (n=21) underwent endoscope assisted adenoidectomy and Group B(n=21) underwent conventional adenoidectomy.

Result: Endoscopic assisted adenoidectomy proves to be more effective in managing adenoid facies and chronic refractory rhinosinusitis with adenoid hyperplasia.

Conclusion: Visualization of the adenoid mass using endoscope helps complete removal of the diseased adenoids. Endoscopic assisted adenoidectomy is treatment of choice in adenoid facies and chronic refractory rhinosinusitis with adenoid hyperplasia and more effective than conventional adenoidectomy.

Key word 1: adenoidectomy

Key word 2: refractory rhinosinusitis.

Key word 3: mouth breathing.



Inanimate foreign bodies in the nasal cavity: a challenge in pediatric rhinology

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ABSTRACT

Background: Nasal cavities foreign bodies are common emergencies in pediatric rhinology, sometimes leading to life threatening complications of broncho-aspiration.^{1,2} Diagnosis is often made by anterior rhinoscopy, but sometimes nasal endoscopy and imaging may be needed for deep seated foreign bodies.^{1,2}

Objectives: To evaluate 79 cases of inanimate nasal foreign bodies removed in our ENT OPD & type of foreign body and complications.

Materials and method: 79 cases of nasal foreign bodies removed in the ENT OPD between February 2008 and June 2010 were evaluated.

Result: We found higher incidence between 0 and 2 years of age, and the most frequently found foreign bodies were small plastic objects in 21 cases (26.25%), food grain in 18 cases (22.78%), stone pieces in 9 cases (11.39%), sponge pieces in 7 cases (8.86%), dress buttons in 6 cases (7.59%), seeds in 7 cases (8.86%), button battery cells in 5 cases (6.32%), parts of toys in 4 cases (5.06%) & chalk pieces in 2 cases (2.53 %).

Conclusion: Nasal foreign bodies are especially found between the ages of 0 and 2 years. In our study, small plastic objects, food grain, stone pieces were the most frequent foreign bodies found.^{2,3} 75 cases were removed successfully in OPD & 4 cases needed general anesthesia for removal.



Congenital accessory tongue: a rare case of non syndromic tongue anomaly.

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Abstract:

Background/objectives: Congenital malformations of the tongue are rare and an accessory tongue is extremely uncommon and its incidence is not quoted in literature.

Setting: Department of ENT, Head and Neck Surgery, KVG Medical College, Sullia.



Post viral unilateral isolated hypoglossal nerve palsy with cervical lymphadenitis: a case report.

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Keyword 1: unilateral hypoglossal nerve palsy.

Keyword 2: viral infections.

Keyword 3: magnetic resonance imaging.

Keyword 4: computerised tomography scan.

Abstract:

Background/objectives: Unilateral hypoglossal nerve palsy is not an uncommon finding in neurological diseases. It is a rare condition in childhood where the mononeuropathies of the facial nerve are the commonest reported.

Setting: Department of Head and Neck oncosurgery, Kidwai Memorial Institute of Oncology, Bangalore.

Case report: A 12yr old boy was referred to our outpatient clinic with history of deviation of the tongue to the right and small enlarged lymph nodes in the right neck since 3 years. The deviation was seen after an episode of viral infection with rashes. Contrast enhanced CT and MRI scans were negative for any organic pathology. Excision biopsy revealed reactive lymphadenitis in the lymph nodes.

Conclusion: Isolated unilateral hypoglossal nerve palsy represents a formidable challenge and indepth patient history accompanied with good knowledge of hypoglossal nerve anatomy and a rational selection of diagnostic tests is necessary for making the diagnosis.



***Anterior nasal packing in nasal surgeries and epistaxis:
advantages of nasal tampon over conventional framycetin
ribbon packs.***

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Abstract:

Background: Nasal packs in the form of conventional framycetin ribbon guaze pack and nasal tampons have been used since a long time. Both are very effective in nasal packing for epistaxis and post nasal surgery packing.



Foreign bodies in otorhinolaryngology: a study of 860 cases managed in medical college hospital.

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Key word 1: foreign bodies.

Key word 2: ear.

Key word 3: nose.

Key word 4: pharynx.

Key word 5: esophagus.

Abstract:

Background: Foreign bodies (FB) are the commonest emergencies in otorhinolaryngology. The most common incidences are in the nasal cavity, ears and oropharynx. FB in the nose, ears and oropharynx have characteristic symptoms and their removal does not represent a great difficulty to the otorhino-laryngologist unless



*Interval tonsillectomy: 27 cases of peritonsillar abscesses
managed in medical college hospital.*

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Keyword 1: peritonsillar abscess.

Keyword 2: Interval tonsillectomy.

Keyword 3: quinsy tonsillectomy.

Keyword 4: incision and drainage.

CASE REPORT

Asymptomatic Occipital Area Infarction following Carotid Body Paraganglioma Excision

¹Vishal Rao, ²Sudhir M Naik, ³MK Goutham, ⁴Mohan Appaji, ⁵Shankarnarayan Bhat, ⁶Rudresh Hiremat
⁷Navya Rangnath, ⁸Ravi Shankar S Bhat

ABSTRACT

Background: Vascular complications are seen in 2 to 13% of cases with internal carotid artery (ICA) injuries with or without reconstruction. The hypoglossal and vagus appeared most vulnerable for permanent paralysis due to traction or resection. Mortality with surgical excision of carotid body tumor (CBT) has become negligible with newer vascular surgical techniques and the morbidity has fallen to minimal 2.56%.

Case report: We report a case of 24-year-old female with symptomatic CBT excision with external carotid artery (ECA) ligation. She developed asymptomatic infarction of the occipital lobe. All the cranial nerves were intact with a follow-up uneventful for the past 2 years.

Conclusion: Minimizing complications in CBT surgery include an accurate preoperative imaging assessment of the tumor with comorbidities and evidence-based management.

Keywords: Paraganglioma, Shamblin classification, Magnetic resonance angiography, Cerebrovascular accident.

How to cite this article: Rao V, Naik SM, Goutham MK, Appaji M, Bhat S, Hiremat R, Rangnath N, Bhat RSS. Asymptomatic Occipital Area Infarction following Carotid Body Paraganglioma Excision. *Int J Head Neck Surg* 2014;5(3):148-151.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Mortality with surgical excision of carotid body tumors (CBTs) has become negligible with newer vascular surgical techniques and the morbidity has fallen to minimal 2.56%.¹ The neural damage in larger tumors may be around 10 to 44% but is lesser considering the complex operative anatomy and adhesion to these neural elements.¹ Permanent neural damages are lesser (12%) and considering the invasive nature of the tumor, the tumor should be excised at the time of diagnosis.¹ Internal carotid artery (ICA) shunting plays a major role in maintaining cerebral circulation and shrink the tumor by excluding the external carotid artery (ECA) thus creating the cleavage planes where dissection becomes difficult.² Shunt insertion, when used with appropriate anticoagulation, reduces severe cerebrovascular complications.²

Vascular complications are seen in 2 to 13% of cases with ICA injuries with or without reconstruction.^{3,4} The hypoglossal and vagus appeared most vulnerable for permanent paralysis due to traction or resection.^{3,4} We report a case of asymptomatic occipital area infarction following CBT resection in Shamblin IIIa tumor with ECA ligation and no damage or reconstruction of the ICA.

CASE REPORT

We report a case of 24-year-old female with symptomatic carotid body paraganglioma operated at our institute. A small pulsatile palpable mass in the left lateral neck at the level of the hyoid was investigated. It appeared as a hyperechoic mass at the carotid bifurcation. Contrast enhanced computed tomography (CECT) reported an enhancing lesion at the carotid bifurcation with a provisional diagnosis as carotid body paraganglioma (Fig. 1).

Magnetic resonance contrast angiogram confirmed it as Shamblin IIIa carotid body paraganglioma. No luminal infiltration was seen on axial sections in ICA. The upper, lower extent of the tumor, the volume of the tumor, level of encircling of the ICA and common carotid artery (CCA), the continuity of the circle of Willis was all noted. No embolization was done. The case was operated under general anesthesia under anticoagulation. A curvilinear transverse incision was taken and the flap elevated, exposing the carotid sheath, and the tumor defined. The hypoglossal nerve was retracted up and the vagus was dissected well away laterally (Fig. 2).

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Acinic Cell Carcinoma of the Minor Salivary Glands of the Tongue: A Case Study with Review of Literature

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ABSTRACT

Background: Acinic cell carcinoma (ACC) is a relatively rare and slowly growing tumor of the major salivary glands, usually arising from the parotid and rarely from the submandibular and sublingual salivary glands. ACC accounts for 3 to 4% of parotid tumors, 2 to 6% of all salivary gland tumors and 10 to 17% of all malignant salivary gland tumors.

Case report: A 40-year-old woman reported a slow growing mass in the oral cavity. The transoral aspiration biopsy was reported as pleomorphic adenoma arising from the minor salivary glands of the junctional zone of base of tongue. Rest of the neck examination was normal and magnetic resonance imaging (MRI) revealed the mass confined to the superficial layers of the tongue without invasion.

Intervention: The tumor was resected transorally with adequate margins. The tumor histology was typical of ACC with the margins free and wide on all the sides. The patient was kept on monthly follow-up where palpable nodes developed during the course of 6 months. The neck was addressed with supraomohyoid dissection and followed up without irradiation.

Conclusion: ACC is a low-grade malignant salivary neoplasm rarely diagnosed in minor salivary glands of the oral cavity. The overall prognosis after surgical resection depends on the extent of lesion and the adequacy of the initial resection. Hence, keeping in mind the malignant potential of the disease careful long-term follow-up is advised.

Keywords: Acinic cell carcinoma, Minor salivary gland, Wide excision, Neck dissection, Radiotherapy.

How to cite this article: Naik SM, Kudpaje A, Gupta S, Nanjundappa A, Halkud R, Prashanth V, Biswas S. Acinic Cell Carcinoma of the Minor Salivary Glands of the Tongue: A Case Study with Review of Literature. Int J Head and Neck Surg 2013; 4(1):24-28.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Acinic cell carcinoma (ACC) is a relatively rare and slowly growing tumor of the major salivary glands, usually arising from the parotid and rarely from the submandibular and sublingual salivary glands.^{1,2} ACC accounts for 3 to 4% of parotid tumors, 2 to 6% of all salivary gland tumors and 10 to 17% of all malignant salivary gland tumors.^{3,4}

The incidence of malignant tumors arising from the minor salivary glands is around 2 to 3% of all malignant neoplasms of upper aerodigestive tract.⁵ In minor salivary glands palate is most common site, buccal mucosa, lips,

tongue, retromolar trigone and paranasal sinuses are rarely involved.⁵

ACC of the minor salivary glands usually develops beneath the epithelium, the most common presenting symptom is a slow growing mass or swelling under a normal covering mucosa.¹ These tumors are usually single, soft masses that, grossly, may be round or lobulated and frequently appear encapsulated and has postulated that these tumors are less aggressive than that originating in the parotid gland.⁶ The origin of these tumors from minor salivary glands is rare, and tumor arising from the junctional tongue zone, i.e. between the junction of the anterior two-third and posterior one-third is not reported in literature.⁵

We report a case of ACC of the junctional part of the posterior tongue and our approach to its management.

CASE REPORT

A 40-year-old female patient presented to us with a history of a mass in the oral cavity of 6 months duration, insidious in onset and progressive in nature.

History of change in voice and mild discomfort for swallowing was also noted. On examination of the oral cavity and oropharynx, the patient had a firm to hard exophytic tumor with a broad peduncle measuring 4 × 4 cm arising from the junctional tongue; tongue mobility was normal (Fig. 1). The rest of head and neck examination was normal.

A preoperative FNAC of the tongue mass was suggestive of pleomorphic adenoma. The tongue movements were

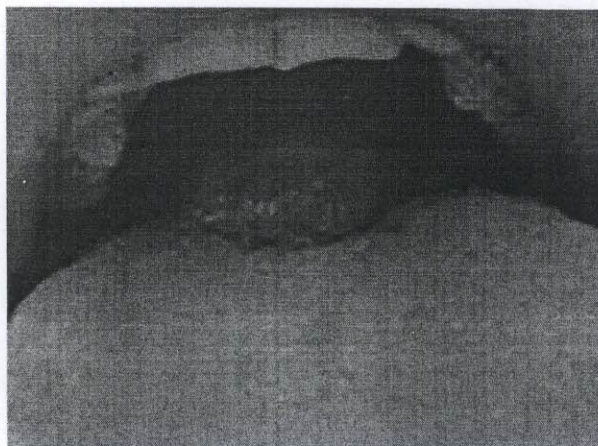


Fig.1: Clinical appearance of tumor in the junctional tongue

RESEARCH ARTICLE

Blocked Voice Prosthesis: A Common Complication Reducing the Prosthesis Longevity

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⁷Purshottam Chavan, ⁸KT Siddappa, ⁹Akshay Shivappa, ¹⁰Sudhir M Naik

ABSTRACT

Background/Objectives: Mechanical prosthetic valve rehabilitation after total laryngectomy have a success rates of 90% in restoring voice. The effective speech is achieved better with mechanical voice prosthesis when compared to esophageal speech and electrolarynx. Candidal growth and tubal blockage are the commonest cause of peri and endotubal leakage causing prosthesis failure.

Case report: A 50-year-old male who had undergone wide field laryngectomy with primary tracheoesophageal puncture (TEP) with voice prosthesis 18 months back complained of blocked voice prosthesis and peritubal leakage. The tip of the cleaning brush which had blocked the opening was removed in the outpatients under topical anesthesia and the peritubal block reduced.

Conclusion: Mechanical valve prosthesis rehabilitation after primary tracheoesophageal puncture is the standard voice rehabilitation of laryngectomized patients. Patient education regarding maintenance of the prosthesis and the care for the tracheostoma is important in reducing the complications.

Keywords: Voice prosthesis, Tracheoesophageal puncture (TEP), Prosthesis brush, Peritubal leak.

How to cite this article: Halkud R, Shenoy AM, Sunil KC, Samskruthi M, Sarvadyna J, Biswas S, Chavan P, Siddappa KT, Shivappa A, Naik SM. Blocked Voice Prosthesis: A Common Complication Reducing the Prosthesis Longevity. Int J Head Neck Surg 2014;5(2):66-71.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Surgical procedures for obtaining pulmonary voice came to the rescue of total laryngectomy patients who had complete voice loss.¹ These procedures had high complication rates with aspirations of pharyngeal contents into the airways.¹

To overcome these complications mechanical valve devices inserted into the tracheoesophageal mucosa began to be used with the aim of obtaining an acceptable voice and also to prevent to prevent aspiration of saliva and food particles.²⁻⁴ Mechanical prosthetic voice rehabilitation after total laryngectomy has proven to be successful in restoring proper speech function in over 90% of patients and is nowadays the method of choice in most developed countries.^{5,6}

Mechanical voice prosthesis is a silicone device placed in a fistula created through the tracheoesophageal wall either at the time of the primary operation or later as a second stage independent procedure.⁷ Effective speech production using the voice prosthesis is superior to the esophageal speech and electrolarynx.^{8,9}

The average life of the prosthesis is 3 to 14 months and the common problems recommending a prosthesis replacement are incompetence of the prosthesis or tracheoesophageal puncture, the deterioration of the prosthesis due to fungal colonization, the emergence of mucoid crusts that impede a correct functioning and granulomas in the fistular path or tracheal mucosa.^{1,10} Also noted are persistent fistula inadequate to prosthesis diameter, cervical cellulitis, necrosis of the tracheoesophageal mucosa, stomal stenosis and dysphagia and granulomas in the orifice of the fistulas are seen in 5 to 10%.¹

Prosthesis speech is rated to be of enhanced quality with better intelligibility, higher restoration and longer phonatory time which seem to be unaffected by age or radiotherapy.¹¹ These factors make TEP with prosthesis speech superior over the mechanical intonation of electrolarynx speech and the simplicity of training is preferred over the largely complex rehabilitation using esophageal speech.¹¹ TEP prosthesis speech was initially advocated for esophageal or electrolaryngeal speech failed patients.¹¹

Later it has evolved as a current standard in voice rehabilitation of alaryngeal patients performed at the time of total laryngectomy.¹¹ Primary TEP introduction is more widely preferred over secondary as the provision of voice much earlier after the laryngectomy whereas reacquisition in secondary TEP is delayed after completion of subsequent adjuvant treatment like radiotherapy or chemoradiotherapy.¹¹ We report a case of blockage of the prosthesis by the broken

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Original Research Article

DOI: <http://dx.doi.org/10.18203/issn.2454-5929.ijohns20181868>

A comparative study of effect of deviated nasal septum on nasal mucociliary clearance and to comprehend the effect of septal and turbinate surgeries on restoring the mucociliary clearance

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Received: 14 February 2018

Revised: 29 March 2018

Accepted: 30 March 2018

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ABSTRACT

Background: One of the important functions of nose is mucociliary transport by its epithelium. Any structural abnormalities of nose like deviated nasal septum, turbinate hypertrophy and polyps can easily damage the mucociliary clearance. This can lead to increased inflammation leading to osteomeatal complex obstruction and sinusitis. The purpose of the study is to determine the nasal mucociliary clearance time (NMC) in patients with deviated nasal septum. And to compare the changes in nasal mucociliary clearance time before and after septoplasty and septoplasty with turbinectomy.

Methods: Nasal mucociliary clearance time was measured preoperatively in patients with deviated nasal septum on concave and convex side. Post operatively it was again recorded after septoplasty in group A and septoplasty with turbinectomy in group B. These values were compared with the control group C.

Results: Postoperatively group A patients NMC time was 11.11 ± 2.76 on convex side, 14.01 ± 2.39 on concave side. In group B patients NMC time was 11.18 ± 1.91 on convex side and 12.62 ± 1.42 on concave side.

Conclusions: Nasal septal deviation and hypertrophied inferior turbinates can cause considerable impairment of nasal mucociliary clearance. Septoplasty combined with partial inferior turbinectomy of compensatory hypertrophied inferior turbinate on concave side preserves the normal NMC mechanism on both the sides of nasal cavity than just septoplasty.

Keywords: Deviated nasal septum, Inferior turbinate hypertrophy, Nasal mucociliary clearance time, Septoplasty, Partial inferior turbinectomy

INTRODUCTION

The nasal septum is an important structure of nose which supports the nasal framework and also regulates the airflow inside the nose. The turbinates along with the septum help in maintaining the normal nasal physiology of nose, by humidification, filtration, temperature alteration to suit the body temperature and creating the pressure variation by offering resistance to the airflow which would aid in proper nasal circulation.¹⁻³

Another important function of nose is mucociliary transport, which is by the pseudo stratified ciliated columnar epithelium. This mucosa is the first line of defense in aerodigestive tract. Each cell bears 300 – 400 microvilli which increase the surface area of nasal mucosa to propel mucous backward into nasopharynx. The beat frequency of these cilia is between 7 to 16 Hz at body temperature.⁴ The normal mucociliary clearance time measured by various studies is between 5 to 16 minutes.⁵⁻⁸ This mucociliary activity depends on number

Duration of mobile phone usage and its measurable audiological effect

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Abstract

Background: Mobile phone usage is ubiquitous that communicates through electromagnetic (EM) fields, which interact differently with the biological systems of our body. The inner ear is the direct recipient of these EM waves, making it the most affected organ. Our study was to assess the effects of mobile phone usage on hearing and to quantify the symptoms with duration of its usage. **Methods and Material:** This observational study was conducted on 105 staff of our college. Based on hours of usage per day they were grouped into three groups. Their symptoms were recorded. Hearing assessment was done with Pure tone audiometry followed by to acoustic emission (OAE). **Statistical analysis used:** Descriptive and inferential statistical analysis has been carried out in the present study. Analysis of variance (ANOVA) has been used to find the significance of study parameters between three or more groups of patients. Chi-square/ Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups. **Results:** Hearing loss of 10 to 15dB and absent OAE was noted at high frequency in subjects in group III and group II. **Conclusions:** Usage of mobile phone for more than 1 hour a day for consecutive three years has detrimental effect on inner ear function and the loss of hearing is directly related to duration of usage.
Key Words: Mobile Phone, Hearing Loss, Pure Tone Audiometry, OAE.

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Received Date: 23/11/2017 Revised Date: 18/12/2017 Accepted Date: 10/01/2018

DOI: <https://doi.org/10.26611/1016512>

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Accessed Date:
12 January 2018

INTRODUCTION

Mobile phones have been an amazing and great invention in the history of mankind. It has become one of the basic needs of the day, used by almost all the age group. Its usage is over 5.6 billion worldwide and India ranks second with about 885 million users accounting to 74% of Indian population.¹ Over time number of cell phone, number of calls per day, the length of each call has increased. Especially in health care professional the usage of mobile phones are increased for communicating messages. Mobile phones use non-ionizing electromagnetic radiofrequency waves ranging from 800-

2000 MHz. These waves excites rotation of water molecules and some organic molecules, causing thermal and non-thermal effects on humans². There is increased concern regarding the deleterious effect of these radiations on our health, as they can penetrate skull and effect brain electrical activity,³ permeability of blood brain barrier,⁴ and brain glucose metabolism⁵. It has detrimental effects on eye, testis and other organs also.⁶ Carcinogenic effect of these waves are controversial yet have drawn special attention. Ear is probably the first and main organ that receives the full impact of the Electromagnetic radiation. It is most susceptible due to its close proximity to the mobile phones and the delicacy of hair cells. The thermal and non-thermal effects of these waves are reported to cause pain or warmth in ear,⁷ tinnitus,⁸ altered hearing,⁹ headache, sleep disturbance and memory loss.¹⁰ These deleterious effect on ear can be objectively detected by measuring the hearing threshold by Pure Tone Audiometry (PTA) and changes in the Otoacoustic emission (OAE). The present study was designed to investigate the symptoms experienced after using mobile phone, the hearing loss associated with its use and its relationship with the duration of usage. And

ORIGINAL ARTICLE

COMPARISON OF PARTIAL INFERIOR TURBINECTOMY AND SUBMUCOSAL DIATHERMY FOR HYPERTROPHIED INFERIOR TURBINATE IN ALLERGIC RHINITIS PATIENTS

Smitha Chandra B. C¹, Kiran B², Stanly John³, Chethan Kumar⁴

HOW TO CITE THIS ARTICLE:

Smitha Chandra B. C, Kiran B, Stanly John, Chethan Kumar. "Comparison of Partial Inferior Turbinectomy and Submucosal Diathermy for Hypertrophied Inferior Turbinate in Allergic Rhinitis Patients". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 54, July 06; Page: 9457-9467, DOI:10.14260/jemds/2015/1369

ABSTRACT: BACKGROUND: The inferior turbinate is the first point of contact of allergen in the nose. In patients with allergic rhinitis the turbinate hypertrophies and its mucosa becomes purplish edematous. This leads to significant obstruction of airway. Hence reduction of this hypertrophied inferior turbinate is essential. **AIM:** To analyze & evaluate the efficacy of sub mucosal diathermy and partial inferior turbinectomy in the treatment of symptomatic hypertrophied inferior turbinates in allergic rhinitis patients in a rural setup. **METHODS AND MATERIALS:** A prospective clinical study of 132 patients between age group of 15-55 years of either sex were enrolled in the study with bilateral Inferior. Turbinate Hypertrophy who had history of failed medical line of treatment. After informing, the patients were randomized into two groups to eliminate bias by allotting them alternately into the groups. Patients in Group I underwent Submucosal diathermy and Group II patients underwent Partial Inferior. Turbinectomy. Postoperative follow up was done at regular intervals by objective & subjective assessment. **STATISTICAL ANALYSIS USED:** Friedman test and Chi Square test were used for statistical analysis. **RESULTS:** In group I significant improvement of nasal airflow was seen in 14% patients & 85.9% had moderate improvement. In group II 41.3% of patients had significant improvement & 58.6% had moderate improvement. Statistically by analyzing the ranks of subjective nasal obstruction and objective nasal obstruction of Group-I & Group-II we conclude that Group-II subjects showed more improvement than Group I. **CONCLUSIONS:** Various surgical methods have been tried for enlarged inferior turbinate secondary to allergic rhinitis. Of them the well-known techniques are submucosal Diathermy & Partial Inferior Turbinectomy. In this study Partial Inferior Turbinectomy was found to be more effective in relieving nasal obstruction in allergic rhinitis patients for longer duration. The procedure was simple, cost effective and with no major complications. **KEYWORDS:** Inferior turbinate hypertrophy, Allergic rhinitis, Nasal obstruction, Submucosal diathermy and partial inferior turbinectomy.

INTRODUCTION: Allergic rhinitis has been known for over 150 years. The first recorded case of Allergic rhinitis (Catarrhus aestivus) was described by Sir John Bostock, who presented himself as a case report to the Medical and Surgical Society of London in 1819. He described classical symptoms of Allergic rhinitis in England.¹

Allergic rhinitis is acknowledged as a significant health challenge on a global scale affecting 20% of total population, which can significantly impair quality of life and lead to a number of indirect costs.² It results in 3.5 million lost work days & 2 million lost school days annually in U.S.³ Nasal obstruction due to inferior turbinate hypertrophy (ITH) in long standing cases is one of the most common symptoms in these patients. The medial mucosa in the turbinate enlarges by 82% & adds 64.4% to total increase in width of the turbinate.⁴

Ophthalmic surgical training in Karnataka and Southern India: Present status and future interests from a survey of final-year residents

K Ajay, R Krishnaprasad¹, D S Divya

Settings and Design: This study documents a survey of final-year ophthalmology postgraduates on the subject of their surgical training and their future plans after residency. **Purpose:** This survey aimed to answer the question, "What is the present status of surgical training in ophthalmic training centers?" by obtaining information from students about (1) various methods used in surgical training (2) numbers and types of surgeries performed by them in the training centers (3) their plans after residency. **Materials and Methods:** A questionnaire containing 21 questions was distributed to 155 students attending an intensive 4-day teaching program. The questions related to orientation training, wet lab training, facilities for training, free surgical camps and detailed information about numbers and types of surgeries observed and performed. Completed questionnaires were collected, and responses analyzed. **Results:** One hundred and seven completed responses were analyzed. The majority had not received formal orientation training. More than half had undergone wet lab training. Most residents performed their first ophthalmic surgery during the 1st year of residency and went to the operation theatre multiple times a week. Most of the students planned to undergo further training after residency. More than half of the students found their surgical training to be fair or satisfactory. **Conclusions:** The number and frequency of ophthalmic surgeries done by residents appear satisfactory, but further efforts from trainers on enhancing the quality and range of surgical training would benefit students and improve their satisfaction.

Key words: Ophthalmology, residents, surgical training, survey

Ophthalmology is a subject where surgical techniques are continuously changing and advancing rapidly.^[1-3] Passing on the knowledge and skills of new techniques to succeeding generations of ophthalmological trainees is both a responsibility and necessity of teachers and trainers in the field.^[4] Trainers usually make sincere efforts to improve the skills of their students. In this context, obtaining frank feedback from students regarding present skills and future plans would be helpful to improve training programs.

Prior surveys of ophthalmology residents have discussed feedback and satisfaction of residents with their residency training as a whole.^[5,6] This article presents the results of a survey concentrating on surgical training in ophthalmology residency.

The survey was conducted on final-year residents in ophthalmology and had three purposes. Firstly, to solicit information from students about various methods used in their surgical training. Secondly, to obtain information about numbers and types of surgeries performed in the training centers, and by the residents. Thirdly, to know the future plans after finishing residency. From this information, our study intended to answer the question, "What is the present status of surgical training in ophthalmic training centers?"

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Manuscript received: 31.08.14; Revision accepted: 21.03.15

Access this article online

Website:
www.ijo.in

DOI:
10.4103/0301-4738.158067

Quick Response Code:



Materials and Methods

The study was conducted at an intensive 4-day teaching program for final-year ophthalmology residents, held at Hubli, Karnataka state, South India, in January 2014. The questionnaire used in this survey was developed and validated in consultation with the division of research and patents of the parent institute of the chief author.

The questionnaire contained 21 questions (Appendix 1), eliciting information from the students about orientation and wet lab training received, operation theatre (OT) facilities for training, free surgical camps and detailed information about numbers and types of surgeries observed and performed; also, questions about what factors influenced the student to pursue ophthalmology residency, about future plans after finishing residency, and if considering fellowship training after residency, which sub-specialties were preferred.

Identity information like name was not solicited, and the students were free to not participate in the survey by simply not returning the form.

To ensure increased response rate, the students were counseled about the objectives and importance of the survey during the training program. Repeated announcements were made on each day of the training program requesting students to return completed forms.

Completed forms were collected on or before the last day of the teaching program.

Results

One hundred and fifty-five ophthalmology residents participated in the teaching program. One hundred and

Pearl necklace sign in diabetic macular edema: Evaluation and significance

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Purpose: (1) The purpose of this study was to describe significance and prevalence of the newly reported pearl necklace spectral domain optical coherence tomography (SDOCT) sign, in diabetic macular edema (DMO), (2) to track the course of this sign over a period of at least 10 months. **Materials and Methods:** The pearl necklace SDOCT sign refers to hyperreflective dots in a contiguous ring around the inner wall of cystoid spaces in the retina, recently described for the first time in 21 eyes with chronic exudative maculopathy. A retrospective analysis was performed of SDOCT images of all patients presenting to the DMO referral clinic of a tertiary eye care center, over a period of 24 months. Images of patients displaying this sign were sequentially analyzed for at least 10 months to track the course of the sign. **Results:** Thirty-five eyes of 267 patients (13.1%) were found to display the pearl necklace sign. Twenty-eight eyes responded to intravitreal ranibizumab treatment with resolution of edema. In 21 eyes, the dots coalesced to form a clump, visible in the infrared fundus photograph as hard exudates; in seven eyes, dots disappeared without leaving visible exudates. In three eyes, the sign was seen in subfoveal cystoid spaces, with subsequent development of hard exudates, and drop in visual acuity of 20 letters or more. **Conclusion:** Pearl necklace SDOCT sign is not infrequent in DMO. This sign is a precursor to hard exudates in the majority of cases. If this sign is seen subfoveally, drop in visual acuity can be expected, despite treatment.

Key words: Diabetic macular edema, hard exudates precursor, pearl necklace sign

Hyperreflective dots on macular optical coherence tomography (OCT) scan of eyes with diabetic macular edema (DMO) have been observed across all retinal layers and within the walls of intraretinal microaneurysms.^[1,2] In existing literature, there has been a debate about the nature and origin of these dots. Some authors have attributed these dots to subthreshold hard exudates.^[2-4]

Gelman *et al.*^[5] reported a series of 21 eyes with chronic exudative maculopathy where these hyperreflective dots were arranged as a contiguous ring along the inner wall of cystoid spaces in the retina (pearl necklace sign). They speculated that this sign indicated the presence of lipoproteins or lipid-laden macrophages in patients with exudative maculopathy and chronic cystoid macular edema.^[5]

We conducted this study to estimate the prevalence of this "pearl necklace" sign seen on spectral domain OCT (SDOCT) in eyes with DMO and study the evolution of this sign following intravitreal therapy with ranibizumab. This would help confirm or refute the speculation of these dots being subthreshold hard exudates and could throw light on the visual prognosis in such eyes.

Materials and Methods

This study was conducted at a tertiary eye care center, catering to a population of approximately a million. All patients on

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Manuscript received: 07.07.16; Revision accepted: 09.10.16

the diabetes mellitus register held at general practices in the catchment population were screened by a national diabetic eye screening program, and all patients with referable diabetic retinopathy (DR) were seen in dedicated DR clinics. In these clinics, all patients underwent a comprehensive ophthalmic examination, including visual acuity evaluation, slit-lamp examination, and dilated fundus examination, along with SDOCT imaging and infrared fundus photography, and those patients who met the NICE guidelines for intravitreal treatment with ranibizumab were referred to a dedicated DMO clinic. All patients received intravitreal treatment in a "one-stop" setting as per the treatment protocol.

We retrospectively reviewed SDOCT images of all eyes that were initiated on intravitreal ranibizumab treatment for DMO with central subfield thickness (CST) more than 400 μ , as per NICE guidelines,^[6,7] between April 2013 and March 2015. Each OCT was carefully observed for the presence of hyperreflective dots in a contiguous ring around the inner wall of cystoid spaces ("pearl necklace" sign); the location of these cystoid spaces was noted for each case. Images of patients displaying this sign were singled out and these were sequentially followed up for a minimum of 10 months to track the course of this sign. SDOCT images were acquired at every clinic visit as part of the established standard of care

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Cite this article as: Ajay K, Mason F, Gonglore B, Bhatnagar A. Pearl necklace sign in diabetic macular edema: Evaluation and significance. Indian J Ophthalmol 2016;64:829-34.

Access this article online

Website:
www.ijo.in

DOI:
10.4103/0301-4738.195597

Quick Response Code:



Original Article

Efficacy and safety of intraoperative intracameral mydriasis in manual small incision cataract surgery - A randomized controlled trial

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Purpose: The purpose of this study is to assess the efficacy and safety of intracameral mydriatic solution, as compared to preoperative topical mydriatics, in patients undergoing manual small incision cataract surgery (MSICS) under peribulbar anesthesia. To assess the sustainability of intracameral mydriasis in MSICS by monitoring pupil size at specific junctures during the surgery. **Methods:** This trial recruited 127 patients, who underwent MSICS under peribulbar block. Mydriasis in topical group was achieved with preoperative topical dilating drops while patients in intracameral group were taken up for surgery without dilation, and mydriasis was achieved intraoperatively with intracameral solution. Pupil sizes were measured serially, at six different junctures during surgery. Time duration of surgery, any intraoperative complications and first postoperative day visual acuity, corneal edema score, and anterior chamber inflammation score were noted in all patients. **Results:** Mean pupil size just before peribulbar block was 7.3 mm in topical group and 3.3 mm in intracameral group ($P < 0.001$). Mean pupil size in intracameral group increased to 7.3 mm 30 s after injecting intracameral dilating solution. Mean pupil size in both groups progressively reduced, reaching 5.5 mm (topical group) and 6.2 mm (intracameral group) just before intraocular lens implantation ($P = 0.001$), and measured 5.1 mm and 5.5 mm, respectively, at the end of surgery ($P = 0.048$). On first postoperative day, there was no significant difference in distribution of corneal edema scores, AC inflammation scores, and in median logMAR visual acuity between the two groups. **Conclusions:** MSICS can be performed effectively and safely utilizing intracameral mydriatic solution, without the use of preoperative dilating drops.

Key words: Intracameral, manual small incision cataract surgery, mydriasis
Trial registration: CTRI/2016/06/007036

Adequate pupillary dilation is crucial for safe and effective cataract surgery. A study performed by Gupta *et al.*^[1] reported that intracameral solution containing 0.5% lignocaine and 0.001% epinephrine provided rapid mydriasis which was adequate for safe topical phacoemulsification cataract surgery, and the dilation achieved was unaffected by other parameters. The mydriasis required for phacoemulsification cataract surgery in this study was achieved by the surgeon himself, using intraoperative intracameral solution, without preoperative topical administration of mydriatics.

In India and the developing world, manual small incision cataract surgery (MSICS) is hugely popular^[2-4] and is probably the most commonly performed method of cataract surgery in community-based high-volume surgical campaigns (camp surgeries).^[5-7] Yet, studies evaluating the efficacy and safety of intracameral mydriatic solution for MSICS have not been reported.

We report the results of this randomized controlled trial, wherein intracameral mydriatic solution as prepared by Gupta

et al.,^[1] was compared with preoperative topical mydriasis, with respect to efficacy, sustainability, and safety for the performance of MSICS under peribulbar anesthesia.

Methods

This study was conducted at a medical college hospital in South India. Institute Ethics Committee approval was obtained before commencement of the study. The study was designed as a prospective, randomized comparative controlled trial, and registered with Clinical Trials Registry-India. Patients scheduled for elective MSICS were screened for exclusion criteria and were recruited for the study after obtaining informed consent. Exclusion criteria were pregnancy/breastfeeding, uveitis, intake of alpha blockers, use of topical or systemic nonsteroidal anti-inflammatory drugs/prostaglandins/miotics, presence of corneal opacities, pupillary deformities, history of surgery in same eye, and hypersensitivity to any component of medicines used. In addition, any eye not dilating to at least 6 mm

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Manuscript received: 08.04.17; Revision accepted: 20.05.17

Cite this article as: Ajay K, Saranya S, Sundaresh DD, Hithashree HR, Hemalatha BC, Krishnaswamy M, *et al.* Efficacy and safety of intraoperative intracameral mydriasis in manual small incision cataract surgery - A randomized controlled trial. Indian J Ophthalmol 2017;65:584-8.

Access this article online

Website:

www.ijo.in

DOI:

10.4103/ijo.IJO_262_17

Quick Response Code:



Impact of accreditation on documentation and staff perception in the ophthalmology department of an Indian medical college

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Purpose: National Accreditation Board for Hospitals and Healthcare Providers operates the health-care accreditation program in India. Research on impact of accreditation on eye-care centers is scarce. This article was conceptualized to scientifically evaluate the changes in documentation brought about by accreditation and its effects on staff in the Ophthalmology Department of an Indian Medical College. **Methods:** This was conducted as a quasi-experimental study in four steps. First, a point-based evaluation of case sheets in both pre-accreditation and postaccreditation phase, along with statistical analysis of the results, was done. Step two involved analysis of quality indicators and patient safety indices in successive years from inception of data to post-accreditation phase. Step three comprised a survey of staff employing a validated tool, and finally, face-to-face semistructured interviews with designated authorities, including finance departmental head, completed the study. **Results:** A statistically significant difference was seen in scores achieved by the pre and postaccreditation case sheets, with the postphase case sheets achieving 15% increased scores over the prephase case sheets. Quality indicator indices displayed improvements post-accreditation. There was an accompanying increase in quantity of documentation. Financial data analysis showed increased expenditure for accreditation under multiple heads. Staff believed that accreditation led to increased workload but did not express decreased satisfaction and felt that accreditation was eventually beneficial. However, staff believed rewards for improving quality can be enhanced. **Conclusion:** Accreditation increases quality and quantity of documentation, and staff workload. Increased financial costs also ensue. Staff believe that accreditation improves quality, is beneficial, but desire enhanced rewards.

Key words: Accreditation, impact, ophthalmology

Accreditation has been defined by the World Health Organization as a comprehensive evaluation of the key systems that make up a health-care establishment and is an increasingly projected method for enhancing quality at the health-care delivery level.^[1,2] Developed countries, especially in the western hemisphere, were early adopters of health-care accreditation.^[3-5] Developing countries such as India and many Asian countries have started aggressively promoting accreditation in the past decade.^[6-8] There have been multiple publications on the impact of accreditation on health care organizations,^[9-11] but research on the effect of accreditation in ophthalmology, particularly in a teaching institution, is sparse. This article was conceived with the objective of evaluating the impact of National Accreditation Board for Hospitals and Healthcare Providers (NABH) accreditation on documentation in the ophthalmology department of a teaching hospital at an Indian medical college. The study included a survey of all staff in the department with a validated questionnaire and interviews were conducted with relevant authorities to obtain a "human" perspective in this project.

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Received: 05-Apr-2020
Accepted: 14-Jul-2020

Revision: 14-Jul-2020
Published: ***

Access this article online

Website:
www.ijo.in

DOI:
10.4103/ijo.IJO_848_20

PMID:

Quick Response Code:



Materials and Methods

This study was conducted in a medical college hospital in South India, over a period of 7 months between May and December 2019. Institute Ethics Committee approval, dated 21st February 2019, was obtained before the commencement of the study.

The study was designed as a quasi-experimental study and conducted in four steps:

- (1) Comparison of clinical document (in-patient [IP] case sheets) compliance in the pre- and post-accreditation phase
- (2) Comparison of Quality indicator registers and Patient safety data indices in the pre- and post-accreditation phase
- (3) Survey of staff employing a validated survey tool
- (4) Face-to-face semistructured interviews with designated authorities

The first step done was an analysis of case sheets of pre-accreditation phase (pre-phase). The pre-phase was taken as July to September 2014 as the decision to get institutional accreditation with NABH was taken in October 2014, and

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Cite this article as: Ajay K, Poka A, Narayan M. Impact of Accreditation on documentation and staff perception in the ophthalmology department of an Indian medical college. Indian J Ophthalmol 2020;XX:XX-XX.

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Cancer pain management in developing countries: a mosaic of complex issues resulting in inadequate analgesia

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Abstract Cancer pain is often undertreated even in developed countries with abundant resources and easy access to oral, parenteral, and transdermal opioids. The problems in developing nations are more complex, and as a result, these medications are not available to the vast majority of patients in Latin and South America, Eastern Europe, Asia, and Africa. Some of the reasons for this are reviewed, with India cited as a case example. In spite of serious efforts by the World Health Organization and other bodies to make oral opioids available and to educate government officials and physicians, little progress has been made in relieving pain in cancer patients in the developing world. Novel approaches that ad-

dress fundamental concerns regarding opioid availability in these countries are desperately needed. One such approach, which is currently under development, is presented in this manuscript. This has the potential to make opioids available to patients in rural areas, improve compliance in the poorly educated patient, reduce the number of follow-up visits necessary for medication refills, and reduce the risk that opioids will be diverted to illicit channels. The potential for relieving cancer pain and the magnitude of this problem worldwide make it imperative that innovative approaches be tailored to the complex social issues and limited resources common to developing nations.

Introduction

Barriers to effective cancer pain management exist in countries around the world [1]. Even in countries with abundant health care resources, such as the United States, inadequate training of health care professionals and poor communication between physicians and patients often lead to significant undertreatment of cancer pain. Developing countries face additional challenges to providing optimal cancer pain management. In this paper, we have chosen one country as an example to review geographic, demographic, cultural, economic, political, and medical conditions that shape and complicate the management of cancer pain in developing nations. These include poverty, illitera-

cy, language barriers, arduous travel for rural patients to reach specialists, limited health care resources and facilities, lack of provider training in pain management, government restrictions, and the limited availability of opioids for patients with cancer pain. The nature and scope of these issues, which each have a significant impact on the treatment of cancer pain, make it obvious that any single intervention is unlikely to be successful. However, approaches can be designed that may provide significant benefits to the large number of patients in these settings with currently unrelieved cancer pain, by paying attention to the special problems and issues in developing countries. One example of a novel approach to these problems is presented.

Social support among the Caregivers of Persons Living with Cancer

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Abstract: The social support emphasize as the support given to any person in a troublesome or burdensome situation by family members, relatives as well as resources exerted by social connections, is effective in promoting physical health and feeling oneself good. The present study consisted of 300 caregivers of persons with cancer was selected based on simple random sampling, and with inclusion and exclusion criteria. Those patients satisfying the inclusion and exclusion criteria and attending both outpatient and inpatient services of cancer specialty hospital in KIDWAI Bangalore, Karnataka were selected randomly. The data was collected from the patients & caregivers of persons living with cancer who fulfill the inclusion/exclusion criteria were taken up for the study after their consent. Multidimensional Scale of Perceived Social Support (Zimet et al, 1998) was administered to understand Perceived Social Support. The interviews and the instruments were administered by research experts. The Results suggest that there were poor social support found in caregivers of married, female, belong to rural domicile, illiterate, and, caregivers who were not heard about the treatment of cancer.

Keywords: Social support, Caregivers, Cancer

INTRODUCTION

Social support of caregivers of person living with cancer

Social difficulties may persist into adulthood. Establishing relationships can be perceived as problematic for people who are uncomfortable about their appearance. In addition, once a relationship has been established, concerns about the visible difference may cause ongoing difficulties, for example in relation to intimacy. These problems usually relate more to the affected person than the partner. Influence of social support, depression, and self esteem on the burden of care among 278 informal caregivers of oncology survivors, Nigeria was carried out. The cross sectional correlational study showed a significant main effect of self esteem and interaction effect of social support and depression on caregivers' burden. Caregivers with high levels of depression and others with high levels of social support recorded significantly higher levels of caregivers' burden. This suggests the need for improving the psychological well-being of informal caregivers of oncology survivors in the expanding role of family and community members in caring for cancer survivors (Adejumo, 2009). From the oncology out survivor clinic of the Marmara Medical School Hospital in Istanbul, Fifty one caregivers of adult cancer survivors were recruited to investigate the relations among the psychological well-being (i.e depression and state/trait anxiety levels), attachment patterns (i.e secure, ambivalent, avoidant), and the perceived social support from family/friends/significant others of caregivers of cancer survivors. Caregivers were assessed with the Adult Attachment scale, the Beck Depression Inventory, State-trait Anxiety Inventories, and the Multidimensional Scale of perceived social support. Stepwise multiple regression analysis indicated that depression was predicted by ambivalent attachment and the perceived social support from family (Kuscu et al., 2009). In a study conducted at University of Nebraska College of Nursing, predictors of and trajectories for evening and morning fatigue were evaluated in family care givers of oncology survivors using hierarchical linear modelling. Evening fatigue trajectory fit a quadratic model. Predictors included baseline sleep disturbances in family caregivers and baseline fatigue in survivors. Morning fatigue trajectory fit a linear model. Predictors were baseline trait anxiety, levels of perceived family support, and baseline morning fatigue in survivors. Evaluating family caregivers for sleep disturbance, anxiety and poor family support, as well as high levels of survivor fatigue, could identify those family caregivers at highest risk for sustained fatigue trajectories (Fletcher et al., 2009).

Stigma and Family reaction among Caregivers of Persons Living with Cancer

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Abstract: Cancer stigma refers to a negative or undesirable perception of a person affected by cancer. Stigma can be internal—it can affect self-perception of survivors, causing guilt, blame or shame. It can also be enacted, causing discrimination, loss of employment or income, or social isolation. It can come from misinformation, lack of awareness and deeply-engrained myth. The present study consisted of 300 caregivers of persons with cancer was selected based on simple random sampling, and with inclusion and exclusion criteria. Those patients satisfying the inclusion and exclusion criteria and attending both outpatient and inpatient services of cancer specialty hospital in KIDWAI Bangalore, Karnataka were selected randomly. The data was collected from the patients & caregivers of persons living with cancer who fulfill the inclusion/exclusion criteria were taken up for the study after their consent. Semi structured interview schedule were used to understand the stigma and family reaction. The interviews and the instruments were administered by research experts.

Key Words: Stigma, Family reaction, Caregivers, cancer

I. Introduction

Cancer can affect the patients' and caregivers' family and social well-being, especially in areas related to talking about the illness, sexual well-being, changing family roles and responsibilities, and maintaining individuals' social support systems (Badr&Manne, 2009). Problems occur when patients and caregivers hide worries from one another, and avoid talking about sensitive issues associated with cancer and its treatments. Family caregivers experience role overload when they take on patients' household or family responsibilities, in addition to their own (Kuijer&Vess, 1985). Difficulty communicating and negotiating family roles can hinder patients' and caregivers' ability to support one another, can decrease couples' intimacy, and have a detrimental effect on marital and family relationships (Manne&Porter, 2005).

Cancer is a class of diseases in which a cell, or a group of cells display uncontrolled growth, invasion and sometimes metastasis. These three malignant properties of cancer differentiate them from being tumors, which are self-limited and do not invade or metastasize. Most cancers form a tumor but some like leukemia do not. The branch of medicine concerned with study diagnosis, treatment and prevention of cancer is oncology. Cancer can affect people of all ages with the risk for most types increasing with age cancers are primarily an environmental disease due to lifestyle and environmental factors and due to genetics. Caregivers usually define the onset of caregiving as the time of patients first cancer diagnosis; ideally interventions for the caregiver should begin then. The interventions for the caregiver includes Education and information, Counseling and psychotherapy, Home care services for the cancer patient, Hospice care for the cancer patient, The family meeting, Psychoeducation.

Modern hospital care has led to increase in home based palliative care services, with informal caregivers assuming responsibility for the majority of care. In response, health policy emphasizes the provision of palliative care services in which both patient and care receive adequate support throughout illness and death. While the emotional needs of carers have been extensively researched, their practical needs with respect to the provision of physical care are yet to receive systematic attentions. Home based palliative care services have been insufficiently focused on assisting informal caregivers adequate-practical nursing skills. Professional advice represents a potentially effective method of increasing carers confidence and their ability to undertake practical aspects home-based care. Evidence suggests that nurses and other health providers may better assist home based carers by providing the information and skills training necessary to facilitate this. This may necessitate the involvement of carers in the design and testing of new educational interventions. In India there is a vast amount of cancer patients, they suffer due to stigma. So there is need for educating their caregivers about the vast promising developments in the cancer treatments and this can bring up their pleasure again. Families often



COPING PATTERN AMONG THE CAREGIVERS OF PERSONS LIVING WITH CANCER

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ABSTRACT

Cancer is a class of diseases in which a cell or a group of cells displays uncontrolled growth, invasion and sometimes metastasis. These three malignant properties of cancer differentiate them from being tumors, which are self-limited and do not invade or metastasize. Most cancers form a tumor but some like leukemia do not. The branch of medicine concerned with study diagnosis, treatment and prevention of cancer is oncology. Cancer can affect people of all ages with the risk of most types increasing with age cancers are primarily an environmental disease due to lifestyle and environmental factors and due to genetics. The present study consisted of 300 caregivers of persons with cancer was selected based on simple random sampling, and with inclusion and exclusion criteria. Those patients satisfying the inclusion and exclusion criteria and attending both outpatient and inpatient services of cancer specialty hospital in KIDWAI Bangalore, Karnataka were selected randomly. The data was collected from the patients & caregivers of persons living with cancer who fulfill the inclusion/exclusion criteria were taken up for the study after their consent. The Coping Check List (Rao et al, 1989) was administered to understand the coping pattern. The interviews and the instruments were administered by research experts. This study concluded that there was poor coping were found in female caregivers, illiterate caregivers, caregivers of cancer patients underwent surgery, the person's not hearing about cancer, and other religion caregivers. So, it is imperative to design suitable intervention strategies to enhance the coping and other psychosocial issues of caregivers of patients living with cancer.

Keywords:

Coping pattern, Caregivers, Cancer.

Cite This Article: Dr. Thirumoorthy, Dr. P. Saraswati Devi, and Dr. K. Thennarusu, "COPING PATTERN AMONG THE CAREGIVERS OF PERSONS LIVING WITH CANCER" International Journal of Research – Granthaalayah, Vol. 4, No. 2 (2016): 75-86.

Quality Of Life among the Caregivers of Persons Living With Cancer

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Abstract: The term quality of life (QOL) references the general well-being of individuals and societies. The term is used in a wide range of contexts, including the fields of international development, healthcare, and politics. Quality of life should not be confused with the concept of standard of living, which is based primarily on income. Instead, standard indicators of the quality of life include not only wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, and social belonging also frequently related are concepts such as freedom, human rights, and happiness. However, since happiness is subjective and hard to measure, other measures are generally given priority. It has also been shown that happiness, as much as it can be measured, does not necessarily increase correspondingly with the comfort that results from increasing income. As a result, standard of living should not be taken to be a measure of happiness. The present study consisted of 300 caregivers of persons with cancer was selected based on simple random sampling, and with inclusion and exclusion criteria. Those patients satisfying the inclusion and exclusion criteria and attending both outpatient and inpatient services of cancer specialty hospital in KIDWAI Bangalore, Karnataka were selected randomly. The data was collected from the patients & caregivers of persons living with cancer who fulfill the inclusion/exclusion criteria were taken up for the study after their consent. WHO Quality of Life-BREF was administered to understand quality of life. The interviews and the instruments were administered by research experts. This study concluded that there was poor quality of life found in female caregivers, caregivers who belong to rural domicile, illiterate caregivers, and caregivers not heard about treatment of cancer.

Key Words: Cancer, Caregivers Quality of Life,

I. Introduction

The term quality of life (QOL) references the general well-being of individuals and societies. The term is used in a wide range of contexts, including the fields of international development, healthcare, and politics. Quality of life should not be confused with the concept of standard of living, which is based primarily on income. Instead, standard indicators of the quality of life include not only wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, and social belonging. Also frequently related are concepts such as freedom, human rights, and happiness. However, since happiness is subjective and hard to measure, other measures are generally given priority. It has also been shown that happiness, as much as it can be measured, does not necessarily increase correspondingly with the comfort that results from increasing income. As a result, standard of living should not be taken to be a measure of happiness. Also sometimes considered related is the concept of human security, though the latter may be considered at a more basic level, and for all people. (According to ecological economist Robert Costanza). Within the field of healthcare, quality of life is often regarded in terms of how it is negatively affected, on an individual level, a debilitating weakness that is not life-threatening, life-threatening illness that is not terminal, terminal illness, the predictable, natural decline in the health of an elder, an unforeseen mental/physical decline of a loved one, chronic, end-stage disease processes. Researchers at the University of Toronto's Quality of Life Research Unit define quality of life as "The degree to which a person enjoys the important possibilities of his or her life" (UofT). Their Quality of Life Model is based on the categories "being", "belonging", and "becoming", respectively who one is, how one is not connected to one's environment, and whether one achieves one's personal goals, hopes, and aspirations.

Safety and Efficacy of Oral Transmucosal Fentanyl Citrate Compared to Morphine Sulphate Immediate Release Tablet in Management of Breakthrough Cancer Pain

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ABSTRACT

Aim: To compare the efficacy and safety of oral transmucosal fentanyl citrate (OTFC) and oral morphine in Indian patients with breakthrough episodes of cancer pain.

Materials and Methods: In this randomized, open label, active controlled, clinical study, total 186 patients who regularly experienced 1-4 episodes of breakthrough cancer pain (BTCP) daily, over the persistent pain controlled by taking oral morphine 60 mg/day or its equivalent were randomized to receive either OTFC 200 mcg or oral morphine 10 mg for the treatment of BTCP for 3 days. Improvement in pain as determined by numerical rating scale (NRS) at 5, 15, 30, and 60 minutes of drug administration and percentage of BTCP episodes showing reduction in pain intensity by >33% at 15 minutes were primary efficacy endpoints. Secondary efficacy endpoints were requirement for rescue analgesia and global assessment by physician and patient. Data of both treatment groups were analysed by appropriate statistical test using software, STATISTICA, version 11.

Results: Patients treated with OTFC experienced significantly greater improvement in pain intensity of breakthrough episodes compared to those treated with oral morphine at all assessment time points ($P < 0.0001$). 56% of breakthrough pain episodes treated with OTFC showed a greater than 33% reduction in pain intensity from baseline at 15 minutes compared to 39% episodes treated with oral morphine ($P < 0.0001$). Patient's and physician's global assessment favoured OTFC than oral morphine ($P < 0.0001$). Requirement of rescue analgesia in both the study groups was similar ($P > 0.05$). Both study drugs were well tolerated.

Conclusions: OTFC was found to provide faster onset of analgesic effect than immediate release oral morphine in management of breakthrough cancer pain.

Key words: Breakthrough cancer pain, Morphine, Numeric rating scale, Oral transmucosal fentanyl citrate

INTRODUCTION

Pain is one of the most common and troublesome symptoms of cancer.^[1] At least two thirds of patients with advanced cancer report pain. Some degree of persistent pain is typically experienced most of the time which requires round the clock opioid treatment. Almost one half to two thirds of patients also experience breakthrough cancer pain (BTCP).^[2]

Access this article online	
Quick Response Code:	Website: www.jpalliativecare.com
	DOI: 10.4103/0973-1075.138386

Ankylosing Spondylitis: Challenges in Anesthetic Management for Elective Orthopedic Surgeries

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ABSTRACT

Ankylosing spondylitis (AS) is a chronic inflammatory disease of the axial skeleton in which the inflammatory process starts from the sacroiliac joints and spreads cephalad to affect the spine up to the cervical level along with costovertebral joints. These changes make administration of both general and regional anesthesia difficult. Patients with chronic diseases of the spine and altered anatomy pose technical challenges to the anesthesiologist. Hence, airway management and achieving central neuraxial blockade may be impossible. Complications of difficult intubation can be avoided by regional anesthesia with an added advantage of postoperative analgesia and faster recovery of the patient.

Keywords: Ankylosing spondylitis, Caudal epidural block, Central neuraxial block, Lumbar plexus block.

How to cite this article: Naik SS, Patil C, Devi S. Ankylosing Spondylitis: Challenges in Anesthetic Management for Elective Orthopedic Surgeries. *Res Inno in Anesth* 2018;3(1):18-21.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Ankylosing spondylitis is a chronic inflammatory disease of the axial skeleton in which the inflammatory process starts in the sacroiliac joints and spreads cephalad to affect the spine up to the cervical level along with costovertebral joints.¹ There may be stiffness of the axial skeleton with ossification of axial ligaments and sacroiliac joints, along with decreased intervertebral spaces causing spinal rigidity.^{1,2} The formation of bony bridges (syndesmophytes) between vertebrae results in a classic "bamboo spine" appearance.^{1,2} These changes make the administration of both general and regional anesthesia challenging.^{1,2}

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MATERIALS AND METHODS

We report the challenges encountered due to the varied anatomy of the spine in our institution posted for elective orthopedic surgeries. We managed two cases of AS posted for total hip replacement. The first patient was a 31-year-old male and the second was a 35-year-old female. Both patients presented with lower backache with progressive stiffness of the knee joint progressing gradually to hip joint and lumbar spine with no family history and extraskeletal manifestations. On examination, both patients were moderately built and nourished with adequate mouth opening ruling out temporomandibular joint pathology and the other systems were within normal limits.

The classical "bamboo spine" appearance was seen in both cases with varying amount of syndesmophytes seen on radiography (Fig. 1). The first case had 2 cm chest expansion with pulmonary function test showing severe restrictive lung disease with minimal improvement on postbronchodilator therapy. The other case had 5 cm chest expansion with pulmonary function test and reported moderate restrictive lung disease which improved on postbronchodilator therapy. We planned an elective regional anesthesia in both cases to avoid complications of general anesthesia. The procedure was explained in detail to the patients and written informed consent was taken. The first case was planned under combined spinal and epidural anesthesia. After attaching standard monitors, intravenous fluid was started and patient was

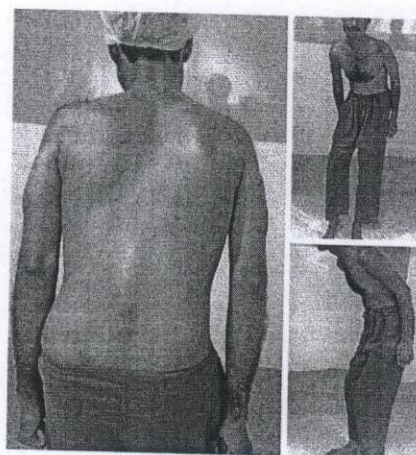


Fig. 1: Altered anatomy of ankylosing spondylitis

Research & Reviews: Journal of Medical and Health Sciences

Comparative Evaluation of Intravenous Dexmedetomidine and Oral Clonidine in Attenuating Rise in Intra Ocular Pressure during Laryngoscopy and Endotracheal Intubation

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Research Article

ABSTRACT

Introduction: Administration of Suxamethonium, laryngoscopy and intubation is associated with rise in intraocular pressure (IOP). The need to attenuate rise in IOP is of utmost importance, especially in patients with perforating injury of the eyeball. The present study was undertaken to compare the effectiveness of intravenous Dexmedetomidine 0.4 µg/kg and oral Clonidine 3 µg/kg in attenuating the rise in IOP following administration of suxamethonium, laryngoscopy and intubation.

Materials and methods: 150 patients of ASA (American Society of Anaesthesiologists) I or II, aged between 18-60 years, who were posted for elective non-ophthalmic surgery requiring general anaesthesia were included in this study. Patients were randomly divided into 3 groups with 50 patients in each group.

Group-D: Received 0.4 µg/kg IV dexmed in 10 ml sterile water, over 10 min before induction.

Group-C: Received 3 µg/kg oral clonidine two hours prior to surgery.

Group-S: Control group.

Results: IOP (Intra ocular pressure), MAP (Mean Arterial Pressure) and HR (Heart Rate) were recorded at baseline, before induction, after induction, 1min, 3 min and 5 min after administration of suxamethonium. Although Suxamethonium laryngoscopy and intubation increased IOP in all the 3 groups there was significant reduced rise in IOP noted in dexmed group and clonidine group compared to study group ($p < 0.001$). Furthermore, patients in dexmed group had lesser rise in IOP compared to clonidine group ($p < 0.001$).

Conclusion: We concluded that both intravenous dexmedetomidine 0.4 µg/kg and oral clonidine 3 µg/kg, significantly attenuated the rise in IOP associated with administration of suxamethonium, laryngoscopy and intubation. However intravenous dexmedetomidine proved better than oral clonidine in attenuating the rise in IOP.

INTRODUCTION

Anaesthesiology and ophthalmology have made remarkable advance in the past three decades. The development of stable intravenous and inhalational anaesthetic agents, muscle relaxants and monitoring devices provide safe environment for patients. Although many ophthalmic procedures can be performed under local anaesthesia, general anaesthesia is required for children, patients who are mentally challenged and with senility, tremors and deafness, for certain procedures and patients preference. Control of intraocular pressure is very vital to the operative outcome in an ophthalmic surgery. In patients posted for non ophthalmic

Intraoperative Midazolam Induced Myoclonus - A Case Report

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ABSTRACT

Myoclonus has been defined as sudden, brief, jerks, twitching or spasm of a muscle or a group of muscles that can be generated by any area in the central nervous system. Drugs administered through intrathecal and epidural routes and sedatives like benzodiazepines and opioids intravenously can occasionally cause myoclonus. The differential diagnoses of myoclonus following IV administration of midazolam are many. Inj midazolam may be responsible for acute myoclonus in our patient. The exact mechanism is not known. Extensive studies of the cause of myoclonus with midazolam have remained an enigma.

Keywords: Midazolam, Myoclonus, Spinal Anaesthesia

INTRODUCTION

Sedation is an important component for patients under regional anaesthesia. Proper sedation reduces stress during procedures and also reduces their anxiety intra-operatively. Midazolam, a short-acting benzodiazepine, is widely administered as a sedative in regional anaesthesia. One of our patient developed myoclonic-like abnormal movements after receiving midazolam.

Midazolam is a water-soluble benzodiazepine with sedative, amnesic, anxiolytic, muscle-relaxant, and anticonvulsant properties. It has a faster onset and shorter duration of action than lorazepam. However, because of adverse effects occasionally reported there are concerns about its safety. Adverse effects include hypotension, myoclonic activity, and a paradoxical behavioural reaction.

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CASE REPORT

A 45 years old male was posted for elizarov technique of the right lower limb for fracture tibia. Patient did not have any co-morbidity like epilepsy, diabetes, hypertension or COPD. He was an alcoholic since 19 years and smoker for 20 years (8 pack years), did not give any history of allergy. Injury was because of road traffic accident. There is no history of any loss of consciousness or ENT bleeding at the time of accident. He was operated 45 days back and implant was put to tibia under spinal anaesthesia with 0.5% bupivacaine heavy. Both intraoperative and postoperative period was uneventful. Patient was operated to put elizarov implant on the same limb for implant failure 7 days back under spinal anaesthesia with 0.5% bupivacaine heavy. Perioperative period was uneventful. Basic investigations were within normal limits. Patient was accepted under ASA 1. Informed consent was obtained. Patient was pre-medicated orally with tab Rantac 150mg and tab Diazepam 5mg on previous night.

On the day of surgery patient was comfortable and free of anxiety. Iv line started with 18g cannula. Preloaded with ringer lactate 10ml/kg. All monitor were connected. Basal readings were recorded. Patient was given spinal anaesthesia with 0.5% inj bupivacaine

A Comparative Study of Analgesic Efficacy of Nalbuphine with Hyperbaric Bupivacaine and Pentazocine with Hyperbaric Bupivacaine

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ABSTRACT

Study Objective: To compare the clinical effects of 3.2ml of 0.5% hyperbaric bupivacaine and nalbuphine 0.8mg and 3.2ml of 0.5% hyperbaric bupivacaine and pentazocine 3mg intrathecally.

Design: A prospective randomized controlled open study.

Materials and Method: 100 patients belonging to ASA physical status I & II of both sexes (each group 50 patients n=50) were randomly selected for the study. The time of onset of sensory and motor block, hemodynamic status, duration of analgesia, visual analogue score and adverse effects if any were compared in both the groups.

Group I patients received 3.2ml of 0.5% hyperbaric bupivacaine and nalbuphine 0.8mg intrathecally.

Group II patients received 3.2ml of 0.5% hyperbaric bupivacaine and pentazocine 3mg intrathecally.

Results: The time of onset of sensory and motor block was significantly longer in group II than group I ($P < 0.05$). Hemodynamic changes did not differ in patients of either group ($p > 0.05$). The duration of analgesia in group I was 414.80 ± 15.10 minutes and in group II was 339.30 ± 51.06 minutes which was statistically significant ($p < 0.001$). The visual analogue scores were significantly less in group I at 6 hours ($p < 0.001$), 12 hours ($p < 0.001$), and 24 hours ($p < 0.001$) compared to group II. The side effects were minimal in both the groups.

Conclusion: Intrathecal administration of 0.8mg of nalbuphine in combination with hyperbaric bupivacaine 0.5% produces rapid onset of anesthesia, longer duration of analgesia, with good sedation and minimal side effects thus reducing post-operative analgesic requirement.

Key words: Bupivacaine, nalbuphine, pentazocine, intrathecal, lower limb and lower abdominal surgeries, duration of analgesia.

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INTRODUCTION

Spinal anesthesia is popular and commonly used worldwide. Spinal anesthesia is advantageous in that it uses small dose of anesthetic, is simple to perform and offers a rapid onset of action, reliable surgical analgesia and good muscle relaxation. These advantages are sometimes offset by a relatively short



INTRATHECAL FENTANYL VERSUS DEXMEDETOMIDINE AS ADJUVANTS TO HYPERBARIC BUPIVACAINE IN INFRAUMBILICAL SURGERIES

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ABSTRACT

The study evaluated and compared the efficacy of intrathecal fentanyl 25µg and dexmedetomidine 5µg with 0.5% hyperbaric bupivacaine. Each study group consisted of 25 patients. Patients were randomly divided to receive intrathecally either 0.5% hyperbaric bupivacaine 3ml+0.5 ml of normal saline (control Group B) or (Group F) 0.5% hyperbaric bupivacaine 3ml+25µg fentanyl or (Group D) 0.5% hyperbaric bupivacaine 3ml+5µg dexmedetomidine. Peak sensory level achieved, time to reach Bromage 3, time to two segment regression, regression to Bromage 0, hemodynamic stability, time to rescue analgesia, total analgesic consumption in first 24hrs were recorded.

Results: The peak sensory level reached were T6-T7 (32%) in Group B, whereas T4-T5 (44%) in Group F and T4-T5 (72%) in Group D. The mean time to regression to Bromage 0 in Group B was 119.60±11.72 min, 159.20±9.09 min in Group F, 402.00±18.71 min in Group D. The mean time to rescue analgesia in Group B was 136.00±5.00 min, 182.40±8.79 min in Group F and 396.40±17.77 min. Total dose of analgesic consumption in Group B was 228±34.10mg, 105±37.50mg in Group F and Group D was 81±20.77mg.

Side effects among the groups were found to be not significant statistically (P=0.935).

KEYWORDS : Intrathecal bupivacaine, fentanyl, dexmedetomidine, postoperative analgesia.

INTRODUCTION

Central neuraxial blockade using only local anaesthetics has limited duration of postoperative analgesia. Addition of small doses of opioids with bupivacaine for spinal anesthesia reduces postoperative analgesic requirements. Fentanyl is preferred as an adjuvant in spinal anaesthesia because of its faster onset and short duration of action with lesser incidence of respiratory depression^{1,2}.

Intrathecal α_2 agonists are used as adjuvants to local anaesthetics. They potentiate the effect of local anaesthetics^{3,4}. They produce analgesia by hyperpolarization of post-synaptic dorsal horn neurons⁵. Dexmedetomidine, a new highly selective α_2 -agonist under evaluation as an adjuvant to spinal anaesthesia as it provides stable hemodynamic conditions, good quality of intraoperative and prolonged postoperative analgesia with less side effects^{14,17}.

PATIENTS AND METHODS

Prospective, randomized, controlled clinical study was conducted following permission from Institutional Ethics Committee. The study participants included 75 patients of ASA grade I and II, aging from 18 to 75 years, weighing 40-70 kgs scheduled for elective infra umbilical surgical procedures under subarachnoid block. Patients with heart block, dysrhythmia, drug therapy with adrenergic receptor antagonists, calcium channel blocker, ACE inhibitors, hypersensitivity to local anaesthetics and adjuvants, uncontrolled / labile hypertension, spine deformities/spinal surgeries, coagulation disorders, H/o of epilepsy/neurological disorders, psychiatric illnesses were all excluded from the study^{6,7}.

On arrival of the patients to the operating theatre, intravenous access was established with 18 gauge venflon cannula on the dorsum of the non-dominant hand after local infiltration. Patients were prehydrated with 15ml/kg of Lactated Ringer's solution, infused over 15 minutes. Standard baseline monitoring included pulse oximetry, 5 lead electrocardiography (ECG), non invasive automated blood pressure (NIBP). Baseline values were noted.

Patients were randomly divided using computer generated list of random numbers to three groups. The sample size required for correctly rejecting the null hypothesis with the power of 80% and 95% confidence interval was calculated and was determined that 25 participants were required in each of the three groups receiving-

Control group (group B) received a premixed solution of 0.5% hyperbaric bupivacaine 3ml (15mg) and 0.5 ml of normal saline
Group fentanyl (group F) received premixed solution of 0.5%

hyperbaric bupivacaine 3ml (15mg) and 0.5 ml of fentanyl (25µg)

Group dexmedetomidine (group D) received a premixed solution of 0.5% hyperbaric bupivacaine (15mg) and 0.5ml of dexmedetomidine (5µg).

Total volume of the mixture is 3.5 ml in all groups.

Under aseptic precautions, subarachnoid block was performed with 25g Quinckeback spinal needle at L3 - L4 space through a midline approach in lateral position. After confirming free flow of cerebrospinal fluid (CSF), drug was injected. In case of a discrepancy in the dermatomal level between the right and the left side, the higher level was considered for the statistical analysis⁸. The following data were measured- peak sensory level, time to two dermatome regression. Surgery was permitted after T8 sensory block was achieved⁹.

Motor block was assessed using modified Bromage score⁹.

B = 0 No motor loss.
B = 1 Inability to flex the hip
B = 2 Inability to flex the knee
B = 3 Inability to flex the ankle

Motor block data included onset of motor block- time to reach Bromage score 3, time to regression to Bromage score 0.

Hypotension, defined as a decrease in systolic blood pressure by 20% from the baseline was treated with boluses of 6mg mephentermine intravenously and bolus administration of 250ml Lactated Ringer's solution over 10min.

Bradycardia-defined as heart rate < 50 beats per min, treated with boluses of 0.3 - 0.5mg intravenous atropine. Hypoxia was defined as an oxygen saturation value < 90%.

Pruritis^{10,11}

Pruritis graded as
0 = None
1 = Mild
2 = Severe

Intravenous ondansetron 4mg was given as for vomiting and severe pruritis.

Pain was assessed using Visual Analogue Scale between 0 and 10. VAS was assessed immediately postoperatively and at 2, 4, 6, 8, 12 and 24 hours. (0 = No pain, 10 = Most severe pain). Injection diclofenac 75mg was given as rescue analgesic when VAS ≥ 4 or if the patient requested additional analgesics. The time for the first request of analgesia and the



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Comparison between Classic™ LMA and AMBU® Auraonce™ LMA in Patients Undergoing General Anaesthesia for Short Surgical Procedures

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Received date: 02/02/2017; Accepted date: 26/03/2018; Published date: 02/04/2018

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Abstract

Background: Both Classical and AMBU® Auraonce™ LMA act as an alternate to endotracheal intubation and standard mask anaesthesia in general anaesthesia. Newer devices are being developed to increase the ease of the insertion and reduce the complications. Methodology: This study was undertaken to compare the ease of insertion, intracuff pressure and oropharyngeal leak pressure the Classic™ LMA and AMBU® Auraonce™ LMA with 50 patients in each group. Results: In Group A the time for insertion ranged from 5 s to 40 s and in Group C it ranged from 8 s to 70 s. In Group A in 43 patients the LMA was inserted in first attempt and in 7 patients the LMA was inserted in second attempt while in Group C the LMA was inserted in first attempt in 36 patients, in second attempt in 11 patients, in three attempts in 3 patients. The oropharyngeal leak pressure in Group A ranged from 18 to 28 mm Hg and in Group C the oropharyngeal leak pressure ranged from 12 to 19 mm Hg. The mean cuff pressure in Classical LMA rose from 59.96 cm H₂O to 86.73 cm H₂O, whereas in AMBU LMA raised from 55.06 cm H₂O to 80.92 cm H₂O. Conclusion: Time needed and number of attempts for AMBU LMA insertion was significantly less than classical LMA. Oropharyngeal leak pressure was significantly higher in AMBU LMA group which shows that AMBU LMA has less oropharyngeal leak. The intracuff pressure changed significantly in classical LMA compared to AMBU LMA, with more complications.

Keywords

Classic™ LMA, AMBU® Auraonce™ LMA, Intracuff pressure, Oropharyngeal leak pressure

Introduction

Recently many devices have been introduced for intubation and maintenance of airway in an unconscious patient and for general anaesthesia. An alternate airway device to endotracheal intubation and standard mask anaesthesia in general anaesthesia is Laryngeal mask airway (LMA) [1-3]. LMA, when inserted at the inlet of the larynx at hypo pharynx without intubating it forms a airtight seal which allows spontaneous or positive pressure ventilation [1-3].

Classic™ LMA is an autoclavable, reusable LMA, which consists of an airway tube connected to an inflatable mask with silicon rim which has high chances of transmission of infection like prion disease [3-5]. The AMBU® AuraOnce™ LMA is a single use disposable LMA with a rigid curve in the main tube which replicates the human anatomical airway to better confirm to the oropharyngeal anatomy with extra soft 0.4 mm PVC cuff with lesser internal pressure [6]. Hence the present clinical study was undertaken to compare the ease of insertion between classical and AuraOnce™ LMA, changes in intra cuff pressure and oropharyngeal leak pressure.

Leave a message

**EVALUATION OF ADDUCTOR CANAL BLOCK FOR POST OP ANALGESIA AFTER
ARTHROSCOPIC ACL RECONSTRUCTION UNDER SPINAL ANAESTHESIA.**

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Article Received on 06/11/2017

Article Revised on 26/11/2017

Article Accepted on 16/12/2017

ABSTRACT

Background: Arthroscopic ACL repair (ACLR) is a common surgery among young productive adults. These adults need to be rehabilitated and discharged back to home at the earliest. Good post-op analgesia without muscle weaknesses plays a very important role in this early mobilization and rehabilitation. Adductor Canal Block (ACB) is fast becoming a mainstay among the various modes of analgesia employed by Anaesthesiologists in such cases. This study was undertaken to evaluate effectiveness of ACB as a post-op analgesia technique in these cases and its usefulness in reducing post-op opioid consumption. **Methods:** In a zonal government hospital, 100 patients were selected prospectively for ACLR. They were randomly divided in two groups SAB and ACB. SAB group received Sub Arachnoid Block (SAB) with Hyperbaric Bupivacaine with ACB group received SAB followed by ACB under ultrasound guidance with Bupivacaine with Dexamethasone. Post-operatively they were evaluated at hourly intervals for pain score with VAS from 0 to 10 for 6 hours, two hourly for next 6 hours and four hourly for next 12 hours. They all received intravenous (IV) Paracetamol 1000 mg eight hourly. If the pain score crossed 4 they were given intramuscular (IM) Pethidine 50 mg. The time to requirement/demand of rescue analgesia was noted and total doses of opioids given were noted. **Results:** Mean time to first analgesic rescue was significantly prolonged in Group ACB as compared to Group S. Mean time to rescue analgesia was 978.34 min and 426.57 min in group ACB and SAB respectively. All the patients of the SAB group required at least one opioid dose and 46% needed two doses. **Conclusion:** ACB is a very effective modality for post-op pain relief after ACLR.

KEYWORDS: Adductor canal block; Knee Arthroscopy; ACL Repair; Sub Arachnoid Block; Spinal Anaesthesia; regional anesthesia.

INTRODUCTION

Knee Arthroscopy is a very common orthopaedic surgery required generally by young adults. This is an active and productive age group. They need to get back to their productive life as soon as possible. They need aggressive rehabilitation program after the surgery. As with most of the orthopaedic surgeries post-op pain relief is a very important concern especially in case of Anterior Cruciate Ligament (ACL) and Posterior Cruciate Ligament (PCL) repairs where drilling of tibia and femur are involved. Post-op analgesia is very important contributing factor in the quality and speed of rehabilitation and return to productive life. Femoral nerve block was a very popular method of achieving an excellent post-op analgesia but along with this technique came the concerns about quadriceps weakness leading to delay in mobilization and possible chances of fall and injuries.^[1] With

popularization of use of ultrasound in regional blocks, a number of blocks are coming to forefront which were hitherto either not in the ambit of Anaesthesiologists or were difficult to perform or the success rate were not good enough to make them consistent and reliable. Adductor canal block (ACB) is one such block which is fast becoming popular.^[2] The main reason is that it is mainly a sensory block with some element of nerve to Vastus medialis getting blocked. This is an excellent block for knee surgery with almost equivalent analgesia as Femoral nerve block sans the quadriceps weakness.^[2,3] This technique mainly blocks the saphenous nerve which is purely sensory but there is a strong belief that the geniculate branches of Obturator nerve also traverse the Adductor canal which also get blocked leading to a much superior and wider area of analgesia than expected out of mere Saphenous

**EFFECT OF INTRATHECAL DEXMEDETOMIDINE AS ADDITIVE FOR
SUBARACHNOID BLOCK IN ARTHROSCOPIC ANTERIOR CRUCIATE LIGAMENT
RECONSTRUCTION: A PROSPECTIVE RANDOMIZED DOUBLE BLIND STUDY*****Dr. Pradeep Brijkishor Sharma, ^bDr. Rajesh Kumar Singh, ^cDr. S Naveen and ^dDr. H. S. Agrawal**^aMD (Anaesthesiology), Graded Specialist (Anaesthesiology), Military Hospital Kirkee, Range Hills, Khadki, Pune, Maharashtra 411020 India.^{b,c}MD (Anaesthesiology) Senior Adviser (Anaesthesiology), Military Hospital Kirkee, Range Hills, Khadki, Pune, Maharashtra 411020 India.^dMS (Gen Surgery), D Ortho Commandant and Consultant (Surgery and Orthopaedics), Military Hospital Kirkee, Range Hills, Khadki, Pune, Maharashtra 411020 India.***Corresponding Author: Dr. Pradeep Brijkishor Sharma**

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Article Received on 26/10/2017

Article Revised on 16/11/2017

Article Accepted on 06/12/2017

ABSTRACT

Background and Aim: Dexmedetomidine, a highly selective α_2 agonist has gained popularity as adjuvant in all modes of regional anaesthesia. We studied the characteristics of subarachnoid block with dexmedetomidine 5mcg added to hyperbaric bupivacaine in arthroscopic anterior cruciate ligament (ACL) reconstruction. **Methodology:** 50 ASA I & II patients were randomly allocated into two groups of 25 patients each. Group GS received 17.5mg 0.5% hyperbaric bupivacaine with 0.5ml normal saline, GDXM received 17.5mg hyperbaric bupivacaine with 5mcg dexmedetomidine with normal saline in total 4ml volume. The onset and duration of sensory block, motor block, hemodynamics, postoperative analgesia and side effects were recorded. **Results:** The mean onset time for the sensory block to reach T8 dermatome and motor block to reach Bromage 3 grade was significantly less in GDXM than GS group. Time to regression of sensory block, motor block and time to rescue analgesia were significantly prolonged by addition of dexmedetomidine. GDXM required less number of rescue analgesic doses. **Conclusion:** Intrathecal use of dexmedetomidine 5mcg with 0.5% heavy bupivacaine provides a faster onset and prolonged duration of sensory as well as motor block along with prolonged postoperative analgesia.

KEYWORDS: Subarachnoid block, dexmedetomidine, adjuvant.**INTRODUCTION**

Subarachnoid block is the most commonly used anaesthetic technique for lower limb and abdominal surgeries. Ever since its introduction, anaesthesiologists have used various adjuvants to prolong the duration of anaesthesia and provide good pain relief in postoperative period.^[1,2] Intrathecal opioids such as morphine and fentanyl have been the most commonly used adjuvants in subarachnoid block. However, opioids are associated with respiratory depression, pruritus, nausea, vomiting and urinary retention.^[3] Dexmedetomidine is a highly selective alpha 2 agonist with analgesic, sedative and amnesic properties. It has wide range of uses in perioperative period and critical care settings. It is also emerging as a valuable adjunct in regional anaesthesia including peripheral nerve blocks.^[4-6] Based upon the earlier human studies involving various dosages of dexmedetomidine we hypothesized that 5mcg of dexmedetomidine shall provide prolonged intraoperative anaesthesia and postoperative analgesia.^[7]

MATERIALS AND METHODS

Hospital ethics committee approval was obtained. 50 ASA I and II adults scheduled for arthroscopic ACL reconstruction surgery under subarachnoid block were enrolled for this prospective, randomized double blind study. Patients with coronary artery disease, uncontrolled hypertension, allergy to study drug and infection at site of dural puncture were excluded. All patients were examined a day prior to the scheduled surgery and familiarized with numerical pain scale along with its relevance to postoperative pain relief protocol. Written informed consent was obtained from all of the patients. They were instructed to be nil orally after midnight and given alprazolam 0.25mg along with ranitidine 150mg per orally on the night prior as well as morning of surgery.

In our study we included MRI confirmed cases of ACL tear posted for arthroscopic reconstruction performed by the same surgeon to eliminate selection bias and surgical

Original Article

I-Gel for Day Care Diagnostic Laparoscopic Gynecological Surgery: A Comparison of Two Regimes of IV Propofol with Dexmedetomidine or Butorphanol

Abstract

Background: Insertion of I-gel requires adequate depth of anesthesia and jaw relaxation in an unparalyzed patient. Propofol with adjuvants is commonly used to facilitate I-gel insertion. This study was conducted to compare ease of insertion by addition of either dexmedetomidine or butorphanol added to propofol for insertion of I-gel in gynecological laparoscopic surgeries. **Materials and Methods:** About 120 female patients, the American Society of Anesthesiologists (ASA) Grade I-II, 18-40 years, and body mass index (BMI) $<30 \text{ kg/m}^2$ were allocated randomly either to receive dexmedetomidine 0.5 mcg/kg IV (Group I) or butorphanol 0.02 mg/kg IV (Group II). Ease of insertion score was determined by jaw mobility grading, number of attempts, need of manipulation, limb movement and bucking, use of laryngoscope and muscle relaxant, and time taken for insertion. Adverse events like expiratory stridor, lacrimation, breath holding, and audible air leak after insertion were also noted. Intraoperative monitoring included heart rate (HR), mean arterial pressure (MAP), and oxygen saturation at 0-15 min of I-gel insertion. Post-operative side effects like coughing, laryngospasm, hiccups, and sedation were also noted. **Results:** The efficacy of successful insertion of I-gel was significantly higher in propofol-dexmedetomidine (Group I) as compared to propofol-butorphanol (Group II) ($P < 0.001$). Significant fall in HR from baseline to 15 min after I-gel insertion (88.65 ± 14.84 to $71.90 \pm 12.15 \text{ bpm}$) was found in Group I as compared to Group II (87.60 ± 12.71 to $83.52 \pm 10.91 \text{ bpm}$, $P < 0.001$). There was a fall in MAP from baseline values after induction upto 15 min following insertion in Group I (96.72 ± 13.54 to 86.96 ± 11.03), while in Group II fall in MAP from baseline was observed only upto 1 and 2 min of I-gel insertion (96.27 ± 9.53 to 89.42 ± 9.03) ($P < 0.001$). **Conclusion:** Addition of dexmedetomidine to propofol provided significantly better insertion characteristics for I-gel and adequate hemodynamic stability with minimal complications compared to butorphanol.

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Keywords: Butorphanol, dexmedetomidine, gynecological laparoscopy, I-gel, propofol

Introduction

Supraglottic airway devices (SAD) like I-gel have been introduced over the past decade to protect the airway in both elective as well as in emergency situations.^[1-4] Relaxation of jaw muscles and suppression of upper airway reflexes such as coughing, gagging, and laryngospasm to provide sufficient depth of anesthesia is required for its insertion.^[5-7] This can be achieved either by intravenous or inhalational induction, but as the time required for attaining adequate depth is longer for inhalational agents, intravenous route of induction is generally preferred. Propofol provides rapid onset and offset and is commonly used as an induction agent for the insertion of

SAD because it provides smooth induction and its depressant effect on airway reflexes allows easier insertion.^[8] However, when used as a sole anesthetic for successful insertion of SAD, larger doses are required which may lead to cardiovascular depression and prolonged apnea. Pain on injection and involuntary movements due to intravenous propofol provides less satisfactory conditions for SAD insertion. In order to decrease these adverse events, it is combined with opioids or neuromuscular blockade, but their use is associated with increased risk of pulmonary aspiration during insertion of I-gel in patients at risk.^[9]

Opioids such as fentanyl is commonly used in combination with propofol and provides good SAD insertion conditions, but side

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How to cite this article: Chhabra A, Gupta A, Gupta S, Chauhan K, Gupta S. I-gel for day care diagnostic laparoscopic gynecological surgery: A comparison of two regimes of IV propofol with dexmedetomidine or butorphanol. J Obstet Anaesth Crit Care 2019;9:18-23.

Access this article online

Website: www.joacc.com

DOI: 10.4103/joacc.JOACC_65_18

Quick Response Code:



A prospective randomised double blind clinical study comparing ropivacaine and fentanyl with bupivacaine and fentanyl for labour epidural analgesia

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Received: 12th December, 2018

Accepted: 2nd January, 2019

Abstract

Introduction: The ideal labour analgesia technique should dramatically reduce the pain of labour, while allowing the parturient to actively participate in the birthing experience. In addition, it should have minimal effect on the fetus and the progress of labour. A randomised prospective comparative clinical study using epidural Inj ropivacaine hydrochloride (0.125%) with Inj fentanyl citrate 2µg/ml was compared with Inj Bupivacaine hydrochloride (0.125%) with Inj fentanyl citrate 2µg/ml for onset and quality of analgesia, incidence of motor block, progress, duration and outcome of labour, incidence of instrumental deliveries and neonatal outcome.

Materials and Methods: A total of 65 Full term labouring parturients of ASA I and II grade with cephalic singleton pregnancy from 36 to 42 weeks of gestation having cervical dilatation of 4-5 cm were enrolled in this study. Group R (Ropivacaine): received epidural Inj ropivacaine hydrochloride (0.125%) with Inj fentanyl citrate 2µg/ml as a continuous infusion at 6 ml/h after a bolus dose of 15ml of the above drug combination. Group B (Bupivacaine): received epidural Inj bupivacaine hydrochloride (0.125%) with Inj fentanyl citrate 2 µg/ml as a continuous infusion at 6 ml/h after a bolus dose of 15ml of the above drug combination. Hemodynamic parameters, onset of analgesia, modified bromage scale for motor blockade, pain scores were documented and compared between the two groups.

Results: The mean time for onset of analgesia after the bolus dose via the epidural catheter was also similar in both the groups. It was 16.03 m in ropivacaine group and 15.33 m in bupivacaine group. Verbal pain score and Visual analogue scale were also comparable between the two groups. Motor block was mild (0 to 1) in most of the parturients and did not differ with ropivacaine or bupivacaine treatment. Neonatal outcome was similar in both the groups in our study. All the infants had Apgar score more than 7 at 5 minutes after delivery.

Conclusion: We found the combination of ropivacaine (0.125%) with fentanyl (2 µg/ml) when compared to bupivacaine (0.125%) with fentanyl (2 µg/ml) as a good alternative drug for labour analgesia with minimal side effects.

Keywords: Bupivacaine, Ropivacaine, Fentanyl, Labour analgesia, Epidural.

Introduction

The pain of labour in an untrained primipara is said to be comparable to amputation of a digit. Preserving the active participation of the parturient in the birthing experience along with effective reduction in pain of labour with minimal effects on progress of labour and fetal outcome should be the ideal characteristic of labour analgesia.

Reviewing the literature suggested that regional analgesia has minimum to no alterations in progress and outcome of labour.¹ With epidural analgesia there is neither a need for labour augmentation with oxytocics, nor the rates of vaginal delivery differs. Maternal satisfaction was significantly increased in parturients administered epidural analgesia.¹

Injection (Inj) Bupivacaine hydrochloride has been frequently used in epidural analgesia for many years. Inj fentanyl citrate or Inj sufentanyl have been used as adjuvants to Inj. Bupivacaine to hasten the onset and increase the duration of analgesia. The risk of placental transfer of bupivacaine is minimal as the drug is highly protein bound. Although lidocaine and 2-chloroprocaine have shorter latencies than bupivacaine, their duration of analgesia is significantly shorter, thus limiting their usefulness for routine labour analgesia. Additionally,

lidocaine is less protein bound than bupivacaine, and therefore has a higher umbilical vein to maternal vein ratio.²

Inj ropivacaine hydrochloride is a single levorotatory enantiomer, which is a homologue of Inj bupivacaine hydrochloride. It has similar duration of action as bupivacaine³ however, it is reported to be 40% less potent⁴ with reduced cardiotoxicity. The previous studies using low concentrations of ropivacaine and bupivacaine for labour analgesia reported that both drugs were equipotent with respect to sensory blockade for labour analgesia.^{5,6} Ropivacaine was also associated with less motor blockade when compared to bupivacaine.^{5,7}

However, the available literature is not very clear about the comparative advantages of using the ropivacaine in labour analgesia. Especially so when the low dose technique is adopted along with opioid adjuvant like fentanyl. By the virtue of its direct action on opioid receptors,³ opioids exhibit a synergistic effect.

Hence a prospective clinical study comparing epidural Inj ropivacaine hydrochloride (0.125%) and Inj fentanyl citrate 2µg/ml with Inj Bupivacaine hydrochloride (0.125%) and Inj fentanyl citrate 2µg/ml was conducted. The onset of analgesia, quality of analgesia, motor blockade incidence, duration of labour, progress and outcome of labour and neonatal outcome were compared.

A STUDY OF IMAGING SIGNS OF THORACIC LESIONS AND COMPARISON OF IMAGING DIAGNOSIS BY COMPUTED TOMOGRAPHY (CT) WITH FINAL DIAGNOSIS BASED ON HISTOPATHOLOGY/CYTOLOGY

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ABSTRACT

BACKGROUND

CT has been one of the greatest inventions of the 21st century. In the right pair of hands, it can do wonders to a suffering patient. The time is not far where CT diagnosis will be considered a gold standard for the diagnosis of the thoracic lesions. Presently, the final diagnosis as a rule should be considered after taking histopathological confirmation. This study puts in a sincere effort to study and understand the signs of thoracic lesions and compare this data with that of the histopathological confirmation.

MATERIALS AND METHODS

The study was done in the Department of Radiodiagnosis at The Oxford Medical College Hospital and Research Centre. The duration of the study is for a period of 18 months from November 2015 to May 2017.

RESULTS

16 lesions were as being 61.54% of the total cases were diagnosed malignant. Two lesions were considered as being indeterminate.

CONCLUSION

The study satisfactorily proves the worthiness of CT in screening as well as its accuracy in proving the diagnosis of the thoracic lesions.

KEYWORDS

Imaging Signs, Thoracic Malignancy, Histopathology, Cytology.

HOW TO CITE THIS ARTICLE: Suresh P. A study of imaging signs of thoracic lesions and comparison of imaging diagnosis by computed tomography (CT) with final diagnosis based on histopathology/cytology. J. Evid. Based Med. Healthc. 2017; 4(48), 2925-2930. DOI: 10.18410/jebmh/2017/580

BACKGROUND

As the progression of pulmonary malignancy is high, pulmonary lesions need to be diagnosed early. Granulomas and bronchogenic cancers constitute the vast majority of pulmonary nodules. The incidence of malignant disease ranges from 10 to 70% with an average of 40%.¹ Other common causes of pulmonary nodules are hamartomas, metastases, infarcts, vascular malformations, focal inflammatory masses and lipoid pneumonia, etc. in decreasing order of frequency.²

A Solitary Pulmonary Nodule (SPN) is a round or oval opacity smaller than 3 cm in diameter that is completely surrounded by pulmonary parenchyma and is not associated with lymphadenopathy, atelectasis or pneumonia. Lung lesions greater than 3 cm in size are defined as lung masses.³ A SPN is noted on up to 0.2% of chest

radiographs.³ Bronchogenic carcinoma is the commonest cancer in men and in women it comes after breast, colon and skin cancers. The single most important aetiological factor is cigarette smoking.

Metastatic lung disease in adults are usually from cancers of the breast, gastrointestinal tract, kidney, testes, head and neck tumours or from a variety of bone and soft tissue sarcomas. Haematogenous pulmonary metastases occur in the form of one or more discrete pulmonary nodules located usually in the outer portions of the lungs, a distribution that is most evident on CT.⁴ The nodules are usually spherical and well defined, but they may be almost of any shape and can also have an irregular edge occasionally. Such irregular edges are seen particularly with metastases from adenocarcinomas. Cavitation is occasionally seen in pulmonary metastases, which is a particular feature of squamous cell carcinoma. Calcification is very unusual except in osteosarcoma and chondrosarcoma.⁵ Even if the primary tumour shows calcification, e.g. in breast and colon, visible calcification in pulmonary metastases is rare. The rate of growth of metastases is highly variable in some choriocarcinomas and osteosarcomas; for example, it may be explosive and the lesions double in volume in less than 30 days.⁶

Financial or Other, Competing Interest: None.

Submission 25-05-2017, Peer Review 01-06-2017,

Acceptance 12-06-2017, Published 14-06-2017.

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DOI: 10.18410/jebmh/2017/580



A STUDY OF YIELD OF CT-GUIDED INTERVENTIONS (CORE NEEDLE BIOPSY AND FINE NEEDLE ASPIRATION CYTOLOGY) IN THORACIC LESIONS AND THE COMPLICATIONS FACED DURING THE INTERVENTIONS

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ABSTRACT

BACKGROUND

The quest for accurate diagnosis of lung pathology has been there all through the history of medicine. The pathologist is the person who makes the final diagnosis, but submission of the lesion to the pathologist involves procedures, both invasive and noninvasive like Open Lung Biopsy (OLB), Percutaneous Transthoracic Needle Biopsy (PTNB) and Fine-Needle Aspiration Cytology (FNAC). Percutaneous nonoperative procedures in the chest were performed even before the advent of imaging. Leyden performed the first transthoracic needle lung biopsy in 1882 to confirm pulmonary infection.

MATERIALS AND METHODS

This is a hospital-based observational study of CT-guided interventional procedures in patients with thoracic lesions diagnosed by imaging methods like chest radiograph, CT or MRI scans. These patients were referred to the Department of Radiodiagnosis for CT-guided thoracic interventions from the Chest Medicine Department and other clinical departments of our hospital (The Oxford Medical College, Hospital and Research Centre). The duration of the study was for a period of 18 months from November 2015 to May 2017.

RESULTS

Yield of CT-guided fine needle aspiration cytology of thoracic lesions in this study was 28.57% with a failure rate of 71.43%.

Yield of CT-guided core needle biopsy of thoracic lesions in this study was 100% with no failure rate.

CONCLUSION

Percutaneous CT-guided interventions like core biopsy and fine needle aspiration cytology are relatively simple minimally-invasive procedures with good patient acceptance, low morbidity and almost negligible mortality.

KEYWORDS

Yield of CT, FNAC, Core Needle Biopsy, Complications.

HOW TO CITE THIS ARTICLE: Suresh P. A study of yield of CT-guided interventions (core needle biopsy and fine needle aspiration cytology) in thoracic lesions and the complications faced during the interventions. J. Evid. Based Med. Healthc. 2017; 4(49), 3002-3007. DOI: 10.18410/jebmh/2017/594

BACKGROUND

CT-guided interventional procedures are the most preferred procedures in thoracic lesions. Thoracic interventions like CT-guided fine-needle aspiration cytology and core biopsy are minimally-invasive procedures. They can be done quickly on patients without causing significant morbidity when compared to open surgical interventions.

In oncology practice, pathological diagnosis of the disease is of paramount importance and is always considered the standard for diagnosis. CT scan is the most popular guiding modality for thoracic interventions. CT offers

exquisite anatomical display of the thoracic structures and allows percutaneous access. Intravenous contrast medium injection is mandatory for identification of necrosis, fluid content, normal vascular structures and also contributes to precise delineation of a lesion with regard to the anatomical environment.^{1,2} CT is particularly useful for guiding puncture of mediastinal lesions and intrapulmonary lesions that are difficult to localise. CT allows determination of an optimal cutaneous entry point in such a way as to avoid transgression of a pleural fissure or puncture of large vessels, bronchi, oesophagus and other structures.^{1,2} Post-procedural complications like pneumothorax and pulmonary haemorrhage, if any are readily recognised on CT scan.²

MRI for the evaluation of lung disease is limited by degradation of the images by respiratory motions. Techniques of MRI-guided thoracic interventions need further developments.^{2,3} Ultrasound on the other hand is more cost effective and also free from ionising radiation. The needle is advanced and sample is obtained under real time visualisation. However, ultrasound suffers from limitation of visualisation in some areas such as intrapulmonary or bone

Financial or Other, Competing Interest: None.

Submission 30-05-2017, Peer Review 05-06-2017,

Acceptance 16-06-2017, Published 17-06-2017.

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DOI: 10.18410/jebmh/2017/594



A Study to Diagnose Ligament Injuries of Talo-crural Joint by Plain X-rays

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Abstract: The ankle joint is one of the most frequently injured joints. The ankle injuries usually occur in the plantar flexed position of the foot. The lateral ligament is injured more often when compared to the medial. A sprained ankle results due to tear of the anterior talofibular and calcaneofibular ligaments when the foot is twisted in lateral direction. In forcible eversion of the foot the deltoid ligament may be torn. At times the deltoid ligament pulls the medial malleolus thereby causing avulsion fracture of the malleolus. Pott's fracture occurs when the foot is caught in a hole in the ground and the foot is forcibly everted. In this condition, at first there is an oblique fracture involving the shaft and lateral malleolus of the fibula. The strong eversion pull on the deltoid ligament causes a transverse fracture of the medial malleolus as well. If the tibia is carried anteriorly, the posterior margin of the distal end of the tibia is also broken, thereby producing a trimalleolar fracture. Although in our country the advancement in medicine is progressing greatly, the sophisticated imaging modalities like MRI and CT are still out of reach especially in the rural areas. Therefore although X-Rays have been the ideal imaging modality to identify fractures, in ligament sprain the injuries need to be evaluated so as to provide adequate treatment. So this study uses plain X-rays of the ankle to diagnose the abnormalities resulting from injuries to the ankle ligaments.

Keywords: Ligaments, Sprain, X-Ray, Talo-crural Angle.

1. Introduction

Dorsiflexion and plantar flexion are the two main actions that are permitted at the talo-crural joint. The empirical axis of the ankle joint passes distal to the tips of both malleoli, i.e. at 5 mm \pm 3 mm range (0 to 11 mm) distal to the tip of the medial malleolus and at 3 mm \pm 2 mm range (0 to 12 mm) distal to and at 8 mm \pm 5 mm anterior to the tip of the lateral malleolus⁸. The axis is inclined downwards and laterally in the frontal plane and is rotated posterolaterally in the horizontal or transverse plane. In the frontal plane, the angle between empirical axis of the ankle and midline of the tibia is 82.7 degrees \pm 3.7 degrees, with a range of 74 to 94 degrees in the transverse plane. The angle of ankle axis with transverse axis of the knee is 20 to 30 degrees. Some workers recognized two axis to the ankle joint^{4,5,6,7}. A dorsiflexion axis inclined downwards and laterally and a plantar flexion axis inclined downward and medially. The changeover occurs within a few degrees of the neutral position of the talus.

The ankle joint is one of the most frequently injured joints¹. The ankle injuries occur in the plantar flexed position of the foot. The lateral ligament is injured more often when compared to medial. A sprained ankle results due to tear of the anterior talofibular and calcaneofibular ligaments when the foot is twisted in lateral direction. In forcible eversion of the foot the deltoid ligament may be torn. At times the deltoid ligament pulls the medial malleolus thereby causing avulsion fracture of the malleolus. Pott's fracture occurs when the foot is caught in a hole in the ground and the foot is forcibly everted. In this condition, at first there is an oblique fracture involving the shaft and lateral malleolus of the fibula. The strong eversion pull on the deltoid ligament causes transverse fracture of the medial malleolus as well. If the tibia is carried anteriorly, the posterior margin of the distal end of the tibia is

also broken thereby producing a trimalleolar fracture. Conventionally X-ray techniques have been used to diagnose ligament injuries. Magnetic resonance (MR) imaging has opened new horizons in the diagnosis and treatment of many musculoskeletal diseases of the ankle and foot. It demonstrates abnormalities in the bones and soft tissues as well before these become evident at other imaging modalities.

Chen Yan-Xi et al.³ in 2011 on a study of three-dimensional morphological characteristic measurements of ankle joint based on computed tomography (CT) image post-processing, commented that the mean talocrural angle (10.01 ± 0.38)° measured 10.1 degrees with a standard deviation of 0.38 degrees. Tibiofibular clear space mean measurements were 2.78 mm, with a standard deviation of 0.19 mm. There was no significant correlation with gender, height and weight ($P > 0.05$) in 100 cases, (50 males and 50 females).

Patil MS et al.² in 2012 in their study on anthropometric measurements of ankle mortise for evaluating mortise fracture reductions with an aim to develop contoured implants measured the talocrural angle, tibiofibular clear space, tibiofibular overlap and compared joint clear space at two places. Anteroposterior radiographs, of both ankles in 20 adult individuals formed the material. They agreed that the talocrural angle of two ankles of a given individual does not vary by more than 2 degrees. Tibiofibular clear space on anteroposterior radiographs measured a mean value of 2.4 mm with a standard deviation of 1.3 mm. Tibiofibular overlap on anteroposterior radiographs measured a mean value of 11.2 mm with a standard deviation of 4.4 mm. Joint spaces at two levels were almost equal.

Although in our country the advancement in medicine is progressing greatly, the sophisticated imaging modalities like

Volume 6 Issue 8, August 2017

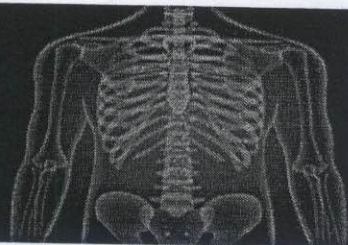
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Paper ID: ART20175963

1535

International Journal of Radiology and Diagnostic Imaging



E-ISSN: 2664-4444
P-ISSN: 2664-4436
www.radiologypaper.com
IJRDI 2020; 3(1): xx-xx
Received: 20-11-2019
Accepted: 24-12-2019

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A study of hemodynamics and complications when radiographic contrast media are used

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DOI: <http://dx.doi.org/10.33545/26644436.2020.v3.i1c.76>

Abstract

Visualising soft tissues is always challenging in the field of radiology. Majority of times the task is made easy by using radio-opaque contrast media. They are used to improve the contrast of the internal organs that are usually not visualised. Many articles are published regarding the side effects. The side effects are reported to range from a simple itch to life threatening conditions like contrast medium induced nephropathy. Although rare, its effects cannot be neglected. This study is one such attempt to understand the effects of radiographic contrast media on the hemodynamic factors and also to report the most common complications.

Keywords: Complications, Hemodynamics, contrast, radiology

Introduction

Visualising soft tissues is always challenging in the field of radiology. Majority of times the task is made easy by using radio-opaque contrast media. They are used to improve the contrast of the internal organs that are usually not visualised otherwise. Many articles are published regarding the side effects. The side effects are reported to range from a simple itch to life threatening conditions like contrast medium induced nephropathy¹. Although rare, its effects cannot be neglected.

The currently used contrast media are based on 2,4,6-tri-iodinated benzene ring and are used mainly for diagnostic as well as therapeutic purposes. Iodine-based contrast media are usually classified as ionic or non-ionic and as monomeric and dimeric and are commonly used to visualize vessels, tissues, organs, and the urinary tract. They are helpful in differentiating between normal and pathological areas. They are usually safe but sometimes it can be very harmful and many have reported that it would be more adverse when the patient has already been sensitised for the same drug before.² Hypersensitivity reactions, thyroid dysfunction, and contrast-induced nephropathy are the major adverse effects that can be seen in patients undergoing the contrast study. Skin allergy can be acute or delayed and has been reported for upto 48 hours after the procedure.³⁻⁸

The contrast medium is rich in iodine and sometimes can result in iodine induced hypothyroidism^{9,10}. The mechanisms that leads to Contrast Induced Nephrotoxicity (CIN) have not been fully explained and may be due to several factors. The generally held view is that CIN is caused by a combination of a reduction in medullary blood flow leading to hypoxia and direct renal tubular damage due to toxicity of contrast media upon the kidneys. Hypoxia may lead to the formation of reactive oxygen species (ROS) and it has been argued that these in turn are responsible for contrast media toxicity.^{9,10,11}. This study is one such attempt to understand the effects of the contrast media on the hemodynamic factors and also to report the most common complications.

Aims and Objectives

To study the hemodynamics and complications when radiographic contrast media are used in Computed Tomography (CT) and Radiography (X-Rays).

Materials and Methods

This study was done in the Department of Radiodiagnosis at The Oxford Medical College, Hospital and Research Centre, Bangalore

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Role of ultrasonography in acute abdominal conditions

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Abstract

Many patients come to hospitals with acute abdominal conditions. These abdominal emergencies can actually range from simple gastritis to life threatening causes like intestinal obstruction and perforation of a hollow abdominal organ. Hence in such conditions the investigation and diagnosis should be accurate. This study puts a real effort to find the role of Ultrasonography in patients with acute abdominal conditions.

Key Words: USG, Abdomen, Acute, Role.

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Received Date: 04/11/2019 Revised Date: 02/12/2019 Accepted Date: 18/01/2020

DOI: <https://doi.org/10.26611/101313211>

Access this article online

Quick Response Code:



Website:

www.medpulse.in

Accessed Date:
06 February 2020

from simple gastritis to life threatening causes like intestinal obstruction, perforation and rupture of a hollow abdominal organ like the stomach^{1,2}. So the investigation and diagnosis should be spot on. The region of the abdomen involved should also give the information pertaining to what should be the mode of investigation. It's popularly believed that for the right upper quadrant of the abdomen ultrasonography is the preferred choice and in the right and left lower quadrants CT is the preferred choice³. However it should also be understood that clinical diagnosis, laboratory investigations and the imaging diagnosis together will be more accurate in majority of the cases rather than believing and burdening on the imaging diagnosis alone⁴. CT and MRI can be accurate but USG is still the most sought after imaging technique because of its basic simple nature and also cost effectiveness particularly in a country like ours^{4,5,6}. This study puts a real effort to find the role of USG in patients presenting with acute abdominal conditions.

INTRODUCTION

Acute abdomen is a condition in which there is a sudden onset of abdominal pain and the patient reveals the signs and symptoms that has something to do with the viscera of the abdomen. It is a medical emergency because such patients in majority of cases are frightened and apprehensive. But as a physician we should understand the fact that only about 20 to 30 percent of such cases that present to us actually need a surgical intervention immediately. So the best alternative is to have a radiological opinion. Although Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) are options, the common man rarely has that kind of financial freedom to undergo these investigations. So the best alternative investigation is Ultrasonography (USG) which is cost effective. These emergencies can actually range

AIMS AND OBJECTIVES

To study the role of Ultrasonography in patients presenting with acute abdominal conditions.

MATERIALS AND METHODS

This study was done in the Department of Radiodiagnosis at The Oxford Medical College, Hospital and Research Centre, Bangalore.

Variants of Coeliac Trunk, Hepatic Artery and Renal Arteries in Puducherry Population

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ABSTRACT

Introduction: In the modern era of surgery where we have increased number of hepatic, biliary, pancreatic and renal surgeries we should be aware of the variations in anatomy of coeliac axis, hepatic arteries and renal arteries to prevent injuries and ischaemic complications that can happen at the time of surgery.

Aim: To study the normal anatomy and variations in the anatomy of coeliac axis, hepatic arteries and renal arteries with the help of CT angiography which could help hepatobiliary surgeons, renal surgeons and interventional radiologists at the time of surgery.

Materials and Methods: A retrospective study was performed in which CT images of 200 patients who had undergone CECT of abdomen for various causes in our institute in last one year were studied. The coeliac axis, hepatic arteries and renal arteries were individually

evaluated for anatomical variations. Data was entered into Microsoft Excel data sheet and was analysed using SPSS 22.0 version software. Data was represented in the form of percentage.

Results: There was normal anatomy of coeliac axis seen in 181 patients (90.5%) and 19 (9.5%) patients showed coeliac axis variations. Hepatic artery normal anatomy was seen in 153 patients (76.5%) and 47 patients (23.5%) showed variations in hepatic arterial anatomy. Normal renal arterial anatomy i.e., one renal artery on each side was seen in 158 patients (79%) and 42 patients (21%) showed variation in renal arterial anatomy.

Conclusion: It is common to see the variations in coeliac axis, hepatic arteries and renal arteries in day to day practice the thorough knowledge of which is necessary. With the use of MDCT these variations can be easily seen and understood.

Keywords: Abdominal aorta branches, Anatomical variations, Hiatt's classification, Michel's classification, Uflacker's Classification

INTRODUCTION

In the modern era of imaging and interventions and with advancement and increase in hepatic and pancreatic surgeries, hepatic transplants, renal transplants, laparoscopic operations and radiological interventions there is an utmost importance of knowing the variations in hepatic artery, coeliac axis and renal arteries to avoid iatrogenic injuries to the vessels during the operation. The variations in the anatomy of the coeliac axis and hepatic artery carry a significant importance in procedures such as transplant of liver, laparoscopic surgery, abdominal radiological interventions and surgical treatment of abdominal injuries [1,2].

Identification of renal artery variations holds considerable importance in renal transplantation surgeries, surgical or interventional radiological treatment of reno-vascular hypertension and nephrectomy [3].

Although, the gold standard procedure for evaluating vascular

structures is Digital Subtraction Angiography (DSA), due to its invasive nature it has limited role. Now a days Multidetector CT (MDCT) is used in place of DSA for evaluation of vascular structures due to its less invasive nature and excellent image quality.

The study is aimed towards the examination of anatomical variations of coeliac trunk, hepatic arterial system and renal arteries along with their prevalence. For this purpose we examined the vascular systems of patients in whom CT angiography of abdominal aorta was done for any reason.

MATERIALS AND METHODS

In this study a retrospective analysis of 200 patients, who have undergone CECT abdomen in last one year (June 2016 to June 2107) was done. This study was conducted in the Department of Radiology at Sri Manakula Vinayagar Medical College and Hospital, Puducherry, India. Patients of all the

A comparative study of conventional and magnetic resonance hysterosalpingography in assessing tubal patency at a tertiary care center

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Abstract

Background: Infertility is defined as the inability to conceive after 12 months of regular unprotected sexual intercourse. Evaluation of uterotubal factors is an essential step in infertility management. Hysterosalpingography (HSG) is the most widely used method but this method is invasive and inconvenient to women. MRI-hysterosalpingography (MR-HSG) in addition to conventional MRI (with or without contrast) is effectively used in diagnosing the tubal and uterine cause of infertilities. Present study was aimed to compare conventional HSG and magnetic resonance hysterosalpingography in assessing tubal patency in patients with infertility. **Material and Methods:** Present study was prospective, observational study conducted in patients, referred for evaluation of tubal patency as a workup for infertility (primary or secondary) or for postoperative evaluation, following reversal of tubal ligation. **Results:** After applying inclusion and exclusion criteria total 48 patients were included in present study. 29 patients had primary infertility, while 19 patients had secondary infertility. Sensitivity, specificity, positive predictive value, negative predictive values of MR HSG in comparison with X-ray HSG were 100%, 96.9%, 93.5%, 100% respectively. **Conclusion:** In evaluation of tubal patency MR-HSG is a simple, safe, sensitive tool, which also helps to assess uterus, ovaries and extra-uterine structures, important for evaluation of female infertility. Better assessment of this promising technique will be possible after wide-spread availability and use.

Key Words: female infertility, tubal patency, X-ray HSG, MR-HSG.

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Received Date: 04/10/2019 Revised Date: 17/11/2019 Accepted Date: 02/12/2019

DOI: <https://doi.org/10.26611/10131232>

Access this article online

Quick Response Code:



Website:

www.medpulse.in

Accessed Date:
07 December 2019

INTRODUCTION

Infertility is defined as the inability to conceive after 12 months of regular unprotected sexual intercourse. A variety of factors may affect normal fertility including patient age, anatomy, ovulatory status, and sperm quality.

Potential causes of infertility can be divided into male and female causes and include endocrine, anatomic, genetic, and behavioural conditions. Approximately 15 % of couples have infertility¹. Some common causes of infertility are male factor (45 %), ovulation disorders (37 %) and tubal damage (18 %)². Tubal factors affect fertility in 18% to 81% of female infertile patients, depending on population³. Hence, evaluation of tubal patency is essential in investigation of female infertility. The prevalence of pelvic inflammatory disease, genital tract tuberculosis, and chronic infection is increasing and hence higher incidence of tubal factor is noted in infertile women⁴. Evaluation of uterotubal factors is an essential step in infertility management. There are various invasive and noninvasive diagnostic procedures to evaluate uterine and/or tubal pathology. The noninvasive or minimally invasive modalities are ultrasonography,

How to cite this article: Purushothama Raju N. A comparative study of conventional and magnetic resonance hysterosalpingography in assessing tubal patency at a tertiary care center. *MedPulse – International Journal of Radiology*. December 2019; 12(3): 104-107.
<http://www.medpulse.in/Radio%20Diagnosis/>