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List of publications of AIIMS, New Delhi
for the month of JANUARY, 2015
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1: Abdulkader RS, Kant S, Rai SK, Goswami K, Misra P. Prevalence and determinants of sexually transmitted infections (STIs) among male migrant factory workers in Haryana, North India. *Indian J Public Health*. 2015 Jan-Mar;59(1):30-6. doi: 10.4103/0019-557X.152854. PubMed PMID: 25758728.

BACKGROUND: Male migrant workers display high risk sexual behavior and have been shown to have higher prevalence of sexually transmitted infections (STIs), which make them more vulnerable to HIV infection. We aimed to estimate the prevalence of self-reported STIs and delineate their determinants among male migrant factory workers in Faridabad, Haryana.

MATERIALS AND METHODS: Male workers in two selected factories, who were aged ≥ 18 years, were born outside Haryana (destination), and who had migrated to Haryana after the age of 15 years were eligible. Socio-demographic information, HIV/AIDS knowledge and behavior, and self-reported STI symptoms in the last 1 year were ascertained by face-to-face interview. Determinants of STIs were identified by regression analysis.

RESULTS: Totally 755 eligible workers participated. Mean \pm SD age was 31.4 ± 8.2 years and migration duration was 9.5 ± 6.7 years. At least one STI symptom was reported by 41.7% of the participants (burning micturition- 35%, inguinal bubos-5.2%, genital ulcers- 2.6%, urethral pus discharge- 1.3%). Factors associated with STIs were higher age at migration, lower HIV/AIDS knowledge, paid sex in the last year, non-use of condoms during the last non-spousal sex, and unfavorable intention to use condom.

CONCLUSION: Prevalence of self-reported STIs among these migrant men was high. Targeted Interventions among migrant workers need to be strengthened for control and prevention of STIs.

PMID: 25758728 [PubMed - in process]

2: Acharya SK. General Anil Chandra Anand, incoming President, Indian Society of Gastroenterology 2014- 2015. *Indian J Gastroenterol*. 2015 Jan;34(1):1-2. doi: 10.1007/s12664-014-0517-4. PubMed PMID: 25744284.

3: Agarwal KK, Singla S, Arora G, Bal C. (177)Lu-EDTMP for palliation of pain from bone metastases in patients with prostate and breast cancer: a phase II study. *Eur J Nucl Med Mol Imaging*. 2015 Jan;42(1):79-88. doi: 10.1007/s00259-014-2862-z. Epub 2014 Jul 29. PubMed PMID: 25070686.

PURPOSE: The purpose of this study was to evaluate the efficacy and safety of (177)Lu-EDTMP for pain palliation in patients with bone metastases from castration-resistant prostate and breast cancer. The secondary objective was to compare low-dose and high-dose (177)Lu-EDTMP in bone pain palliation.

METHODS: Included in the study were 44 patients with documented breast carcinoma (12 patients; age 47 ± 13 years) or castration-resistant prostate carcinoma (32 patients; age 66 ± 9 years) and skeletal metastases. Patients were randomized into two equal groups treated with (177)Lu-EDTMP intravenously at a dose of 1,295 MBq (group A) or 2,590 MBq (group B). Pain palliation was evaluated using a visual analogue score (VAS), analgesic score (AS) and Karnofsky performance score (KPS) up to 16 weeks. Toxicity was assessed in terms of haematological and renal parameters.

RESULTS: The overall response rate (in all 44 patients) was 86 %. Complete, partial and minimal responses were seen in 6 patients (13 %), 21 patients (48 %) and 11 patients (25 %), respectively. A favourable response was seen in 27 patients (84 %) with prostate cancer and in 11 patients (92 %) with breast cancer. There was a progressive decrease in the VAS from baseline up to 4 weeks ($p < 0.05$). Also, AS decreased significantly from 1.8 ± 0.7 to 1.2 ± 0.9 ($p < 0.0001$). There was an improvement in quality of life of the patients as reflected by an increase in mean KPS from 56 ± 5 to 75 ± 7 ($p < 0.0001$). The overall response rate in group A was 77 % compared to 95 % in group B ($p = 0.188$). There was a significant decrease in VAS and AS accompanied by an increase in KPS in both groups. Nonserious haematological toxicity (grade I/II) was observed in 15 patients (34 %) and serious toxicity (grade III/IV) occurred in 10 patients (23 %). There was no statistically significant difference in haematological toxicity between the groups.

CONCLUSION: $(^{177}\text{Lu})\text{-EDTMP}$ was found to be a safe and effective radiopharmaceutical for bone pain palliation in patients with metastatic prostate and breast carcinoma. There were no differences in efficacy or toxicity between patients receiving low-dose and high-dose $(^{177}\text{Lu})\text{-EDTMP}$.

PMID: 25070686 [PubMed - in process]

4: Agarwal MB, Malhotra H, Chakrabarti P, Varma N, Mathews V, Bhattacharyya J, Seth T, Gayathri K, Menon H, Subramanian PG, Sharma A, Bhattacharyya M, Mehta J, Vaid AK, Shah S, Aggarwal S, Gogoi PK, Nair R, Agarwal U, Varma S, Prasad SV, Manipadam MT. Myeloproliferative neoplasms working group consensus recommendations for diagnosis and management of primary myelofibrosis, polycythemia vera, and essential thrombocythemia. *Indian J Med Paediatr Oncol.* 2015 Jan-Mar;36(1):3-16. doi: 10.4103/0971-5851.151770. PubMed PMID: 25810569; PubMed Central PMCID: PMC4363847.

According to the 2008 revision of the World Health Organization (WHO) classification of myeloid malignancies, Philadelphia chromosome (Ph)-negative myeloproliferative neoplasms (MPNs) include clonal, hematologic disorders such as polycythemia vera, primary myelofibrosis, and essential thrombocythemia. Recent years have witnessed major advances in the understanding of the molecular pathophysiology of these rare subgroups of chronic, myeloproliferative disorders. Identification of somatic mutations in genes associated with pathogenesis and evolution of these myeloproliferative conditions (Janus Kinase 2; myeloproliferative leukemia virus gene; calreticulin) led to substantial changes in the international guidelines for diagnosis and treatment of Ph-negative MPN during the last few years. The MPN-Working Group (MPN-WG), a panel of hematologists with expertise in MPN diagnosis and treatment from various parts of India, examined applicability of this latest clinical and scientific evidence in the context of hematology practice in India. This manuscript summarizes the consensus recommendations formulated by the MPN-WG that can be followed as a guideline for management of patients with Ph-negative MPN in the context of clinical practice in India.

PMCID: PMC4363847

PMID: 25810569 [PubMed]

5: Agarwal N, Singh S, Kriplani A, Bhatla N, Singh N. Safety and efficacy of gabapentin in management of psychosomatic and sexual symptoms in postmenopausal women: A pilot study. *J Midlife Health.* 2015 Jan-Mar;6(1):10-5. doi: 10.4103/0976-7800.153605. PubMed PMID: 25861202; PubMed Central PMCID: PMC4389378.

OBJECTIVE: To evaluate safety and efficacy of gabapentin in management of psychosexual symptoms in postmenopausal women.

MATERIALS AND METHODS: Fifty symptomatic postmenopausal females were randomly allocated into two groups; Group I received gabapentin 900 mg/day along with calcium 500 mg and Group II was given only calcium for 6 months and followed-up at 1,3, and 6 months. Data was analyzed in terms of percentage reduction of psychosomatic and sexual symptoms. Change in lipid profile and other blood parameters by the end of study were measured.

RESULTS: Maximum improvement was seen in insomnia (90-98%) in gabapentin group. Improvement in anxiety was noted by 40.5, 49.5, and 53.8% at 1, 3, and 6 months, respectively, in Group I. While in Group II, maximum improvement noted was 18.6, 19.7, and 20% at 1, 3, and 6 months, respectively. Similarly for depression, improvement was 40.4, 47, and 49.5% at 1, 3, and 6 months, respectively, in Group I; while it was 15.4, 16.6, and 17% at 1, 3, and 6 months, respectively, in Group II. No significant improvement in vaginal dryness and dyspareunia noted at all follow-ups in either group. Somatic symptoms reduced by 33, 36.8, and 40% at 1, 3, and 6 months, respectively, in Group I compared to 18% improvement at all follow-up in Group II. Low density lipoprotein (LDL) was raised in Group I significantly more than Group II. Other blood parameters were comparable in both groups.

CONCLUSION: Gabapentin can lead to improvement in postmenopausal psychosomatic symptoms, while sexual symptoms show no improvement. Gabapentin can lead to increase in serum LDL, hence, precaution should be taken in patients with deranged lipid profile before starting therapy and it should be monitored during course of therapy. This drug can cause minor side effects like somnolence and dizziness.

PMCID: PMC4389378

PMID: 25861202 [PubMed]

6: Aggarwal S, Sharma SC, Das SN. Galectin-1 and galectin-3: plausible tumour markers for oral squamous cell carcinoma and suitable targets for screening high-risk population. Clin Chim Acta. 2015 Mar 10;442:13-21. doi: 10.1016/j.cca.2014.12.038. Epub 2015 Jan 9. PubMed PMID: 25578395.

BACKGROUND: Galectins are a family of carbohydrate binding proteins that regulate several cellular functions such as growth, migration, adhesion and apoptosis.

METHODS: We investigated the expression of galectin (gal)-1 and galectin (gal)-3 in patients with oral squamous cell carcinoma (OSCC) and observed their effects on growth and survival of OSCC cell lines.

RESULTS: OSCC patients expressed significantly higher levels of gal-1 and gal-3 in circulation ($p < 0.0001$) and at the tumour sites ($p < 0.01$) as compared to controls. Patients with higher tumour load showed significantly higher expression of both galectins than those with lower tumour load. In ROC analysis, serum levels of gal-1 and gal-3 at cut-off values of 4.875 and 0.871ng/ml respectively, discriminated between healthy subjects and patients with more than 80% sensitivity and specificity. Similarly, logistic regression analysis revealed about 3-times higher risk of OSCC in subjects over expressing these proteins. Further, exogenous gal-1 and gal-3 significantly increased survival, proliferation and angiogenesis in OSCC cell lines.

CONCLUSIONS: Serum levels of gal-1 and gal-3 may serve as plausible markers for oral squamous cell carcinoma and may be useful in screening population at a higher risk.

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PMID: 25578395 [PubMed - in process]

7: Agrawal D, Naik V. Postoperative cerebral venous infarction. *J Pediatr Neurosci*. 2015 Jan-Mar;10(1):5-8. doi: 10.4103/1817-1745.154314. PubMed PMID: 25878733; PubMed Central PMCID: PMC4395947.

8: Alphonsa A, Sharma KK, Sharma G, Bhatia R. Knowledge regarding oral anticoagulation therapy among patients with stroke and those at high risk of thromboembolic events. *J Stroke Cerebrovasc Dis*. 2015 Mar;24(3):668-72. doi: 10.1016/j.jstrokecerebrovasdis.2014.11.007. Epub 2015 Jan 7. PubMed PMID: 25577429.

BACKGROUND: Apart from atrial fibrillation, indications for oral anticoagulation common in our clinical practice include rheumatic heart disease and mechanical heart valve replacement. Evaluation of current patient knowledge regarding oral anticoagulation therapy (OAT) is the first step in improving the quality of anticoagulation therapy and patient care. The aim of the present study was to assess the knowledge regarding OAT among patients with stroke and those at high risk of thromboembolic events in a tertiary care hospital in India.

METHODS: A descriptive cross-sectional design was used; 240 patients on OAT because of various indications (mechanical heart valve replacement, rheumatic heart disease, atrial fibrillation, and stroke) attending the neurology and cardiology outpatient clinics and inpatient services were recruited. A structured self-developed questionnaire was used to assess the knowledge in these patients.

RESULTS: Most patients (62.9%) were ignorant about the target prothrombin time/international normalized ratio (PT/INR) levels with only 30% having their recent INR within the target range; 50% of the patients had a poor knowledge score, and the knowledge gap was most prominent in the domains of dietary interactions followed by drug interactions, adverse effects, and PT/INR monitoring. Knowledge score also had a significant association with gender, education, monthly income, and place of residence ($P < .05$).

CONCLUSION: Patient's knowledge about OAT was suboptimal. The findings support the need for educational interventions to improve the knowledge regarding OAT and, thereby, achieve an appropriate and safe secondary prevention of stroke.

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PMID: 25577429[PubMed - in process]

9: Ambekar A, Rao R, Mishra AK, Agrawal A. Type of opioids injected: does it matter? A multicentric cross-sectional study of people who inject drugs. *Drug Alcohol Rev*. 2015 Jan;34(1):97-104. doi: 10.1111/dar.12208. Epub 2014 Oct 10. PubMed PMID: 25302827.

INTRODUCTION AND AIMS: Injecting pharmaceutical opioids for non-medical purposes is a major concern globally. Though pharmaceutical opioids injection is reported in India, the exact proportion of people who inject drugs (PWID) using pharmaceutical opioids is unknown. The objectives of this study were to describe the various types of drugs that are injected by people in India and to analyse the differences between the commonly injected drugs.

DESIGN AND METHODS: A cross-sectional, multicentric study covering 22 harm-reduction sites from different regions of the country was conducted. First 50 subjects, chosen randomly from a list of PWIDs accessing services from each site and fulfilling study criteria, were interviewed using a structured questionnaire. Data from 902 male subjects are presented here.

RESULTS: Pharmaceutical opioid injectors (POI) accounted for 65% of PWIDs

(buprenorphine: 30.8%, pentazocine: 21.8% and dextropropoxyphene: 11.9%). Heroin, injected by 34.3%, was prevalent in most states surveyed. Buprenorphine and pentazocine were not injected in the north-east region, whereas dextropropoxyphene was injected in the north-east alone. Univariate and multivariate logistic regression showed that, compared with heroin injectors, the POI group was more likely to consume alcohol and pharmaceutical opioids orally, inject frequently, share needle/syringes and develop injection-site complications. Among individual POIs, buprenorphine injectors had significantly higher proportion of subjects injecting frequently, sharing needle/syringes and developing local complications. Irrespective of the opioid type, majority of subjects were opioid dependent.

DISCUSSION AND CONCLUSIONS: Pharmaceutical opioids are the most common drugs injected in India currently and have greater injection-related risks and complications. Significant differences exist between different pharmaceutical opioids, which would be important considerations for interventions.

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PMID: 25302827 [PubMed - in process]

10: Arora T, Sharma S, Sharma N, Titiyal JS. Bilateral recurrent ocular surface squamous cell cancer associated with epidermodysplasia verruciformis. *BMJ Case Rep.* 2015 Jan 30;2015. pii: bcr2014207495. doi: 10.1136/bcr-2014-207495. PubMed PMID: 25636630.

A 17-year-old boy, presented with a 2-year history of bilateral, recurrent ocular surface mass. Dermatological evaluation revealed the presence of multiple hypopigmented macules over his body. Skin biopsy showed features typical of epidermodysplasia verruciformis. Topical mitomycin C (0.02%) was administered in both eyes for 6 weeks (three 1-week cycles over 6 weeks). While the mass in the left eye regressed, the mass in the right eye was excised under guidance of intraoperative frozen section. Triple-freeze thaw cryotherapy of the surrounding conjunctiva along with placement of amniotic membrane graft was performed. Postoperative mitomycin C (0.02%) was administered for another 6 weeks (three 1-week cycles over 6 weeks) in both eyes. At 4 years of follow-up, no recurrence has been noted.

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PMID: 25636630 [PubMed - in process]

11: Bahl A, Sharma A, Raina V, Kumar L, Bakhshi S, Gupta R, Kumar R. Long-term outcomes for patients with acute myeloid leukemia: A single-center experience from AIIMS, India. *Asia Pac J Clin Oncol.* 2015 Jan 30. doi: 10.1111/ajco.12333. [Epub ahead of print] PubMed PMID: 25639656.

AIM: To analyze clinicopathological characteristics of acute myeloid leukemia (AML) patients and to evaluate long-term outcome of these patients presented to single tertiary care center in India.

METHODS: We evaluated outcomes of 480 patients (age 8-60 years), classified into good, intermediate and poor risk according to cytogenetic results. Standard "3+7" induction therapy with dose of daunorubicin ranging from 45 to 90mg/m² followed by two to three courses of high-dose cytarabine (12-18g/m²) as consolidation therapy was given to majority.

RESULTS: The complete remission rate of the treated population (407 patients) was 70% with 84.8% in good risk, 67.9% in intermediate risk and 54.2% in poor risk (P=0.0001). Induction mortality was 18.4%. One hundred twenty-nine patients relapsed with median treatment free interval of 10.4 months. At a median

follow-up of 34.5 months, the median overall survival (OS) was 20.6 months with an estimated 5-year survival rate of 35.5%. No difference was found in OS between the three risk groups; however, patients with intermediate risk had a better leukemia-free survival (LFS) in comparison to good risk. Multivariate analysis showed age, performance status, treatment completion and hematopoietic stem cell transplant affecting OS, while only treatment completion affected LFS.

CONCLUSION: This is one of the largest single-center studies reflecting more accurately the outcome of AML in India. These results are likely due to uniform treatment protocols, intensification of induction and post-remission treatments with comprehensive supportive care.

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PMID: 25639656 [PubMed - as supplied by publisher]

12: Baidya DK, Chandralekha, Darlong V, Pandey R, Goswami D, Maitra S. Comparative Sonoanatomy of Classic "Short Axis" Probe Position with a Novel "Medial-oblique" Probe Position for Ultrasound-guided Internal Jugular Vein Cannulation: A Crossover Study. J Emerg Med. 2015 Jan 24. pii: S0736-4679(14)01012-9. doi: 10.1016/j.jemermed.2014.07.062. [Epub ahead of print] PubMed PMID: 25630474.

BACKGROUND: Ultrasound (US)-guided short-axis approach for internal jugular vein (IJV) cannulation does not fully protect patients from inadvertent carotid artery (CA) puncture. Carotid puncture is not rare (occurring in up to 4% of all IJV cannulations) despite the use of US.

OBJECTIVES: Compare the sonoanatomy of the "medial-oblique approach" probe position with the classic US-guided "short-axis" probe position, specifically: relation of internal CA and IJV; vertical and horizontal diameter of IJV; and degree of overlapping of IJV with CA.

METHODS: One hundred consecutive patients between the ages of 18 and 50 years, both male and female, and American Society of Anesthesiologists Physical Status classification system (ASA PS) I-II undergoing elective surgery under general anesthesia were recruited in this prospective, randomized, crossover, parallel-group study.

RESULTS: The transverse diameter of the IJV was found to be significantly higher in the medial-oblique probe position ($p = 0.000$, mean difference 0.43 cm; 95% confidence interval [CI] 0.34-0.52). The percentage of overlap was also significantly lower in the medial-oblique probe position ($48.7 \pm 10.7\%$ in short-axis vs. $36.3 \pm 13.2\%$ in medial-oblique probe position; $p = 0.000$; mean difference 12.4%, 95% CI 9.1-15.8). However, there was no statistically significant difference in the anteroposterior diameter of the IJV between the two probe positions (1.11 ± 0.26 cm in short axis vs 1.07 ± 0.25 cm in medial oblique; $p = 0.631$).

CONCLUSION: The medial-oblique probe position for IJV cannulation provides sonoanatomic superiority over the classic short-axis probe position. Further randomized, controlled trials may confirm the medial-oblique view's clinical benefit in the future.

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PMID: 25630474 [PubMed - as supplied by publisher]

13: Balhara YP, Mishra A. A study exploring attributes and nature of the retracted literature on mental disorders. *Indian J Med Ethics*. 2015 Jan-Mar;12(1):30-7. Epub 2014 Oct 1. PubMed PMID: 25376921.

This study was aimed at assessing the retracted medical literature on mental disorders. Another aim was to test the hypothesis that the weak research infrastructure in certain countries and the rising pressure to publish in Asia due to the progress of science in that continent may have contributed to the increase in the number of retractions. A bibliometric search was carried out using the PubMed database. The data were analysed using SPSS version 21. The retraction rate for articles on mental disorders (number of retracted articles per 100,000 published articles on mental disorders) varied from a low of 3.56 (for 2005) to a high of 49.25 (for 2012). Of the 38 articles for which the reasons for retraction could be accessed, 10 (26.31%) were retracted for fraud. Overall, 0.0138% of all articles on the biomedical sciences were retracted. Of the articles on mental disorders, 0.0095% were retracted. There was a disproportionately greater number of retractions in the case of articles originating from low- and middle-income countries than high-income countries. Similarly, there was a disproportionately greater number of retractions in the case of articles originating in Asian countries than non-Asian countries.

PMID: 25376921 [PubMed - in process]

14: Balhara YP, Gupta R. Revised Size of Pictorial Warning on Cigarette Packages-A Step in Right Direction. *Nicotine Tob Res*. 2015 Jan 29. pii: ntv023. [Epub ahead of print] PubMed PMID: 25634933.

15: Basheer A, Padhi S, Boopathy V, Mallick S, Nair S, Varghese RG, Kanungo R. Hemophagocytic Lymphohistiocytosis: an Unusual Complication of Orientia tsutsugamushi Disease (Scrub Typhus). *Mediterr J Hematol Infect Dis*. 2015 Jan 1;7(1):e2015008. doi: 10.4084/MJHID.2015.008. eCollection 2015. PubMed PMID: 25574367; PubMed Central PMCID: PMC4283929.

BACKGROUND: Hemophagocytic lymphohistiocytosis (HLH) is an uncommon, potentially fatal, hyperinflammatory syndrome that may rarely complicate the clinical course of Orientia tsutsugamushi disease (scrub typhus).

METHODS: Here we describe the clinicopathological features, laboratory parameters, management, and outcome of three adult patients (1 female, 2 males) with scrub typhus associated HLH from a tertiary center. A brief and concise review of international literature on the topic was also added.

RESULTS: All three patients satisfied the HLH-2004 diagnostic criteria; one had multi-organ dysfunction with very high ferritin level (>30,000 ng/ml), and all had a dramatic recovery following doxycyclin therapy. Literature review from January 1990 to March 2014 revealed that scrub typhus associated HLH were reported in 21 patients, mostly from the scrub endemic countries of the world. These included 11 females and 10 males with a mean age of 35 years (range; 8 months to 81 years). Fifteen of 17 patients (where data were available) had a favorable outcome following early serological diagnosis and initiation of definitive antibiotic therapy with (N=6) or without (N=9) immunosuppressive/immunomodulator therapy. Mutation analysis for primary HLH was performed in one patient only, and HLH-2004 protocol was used in two patients.

CONCLUSION: We suggest that HLH should be considered in severe cases of scrub typhus especially if associated with cytopenia (s), liver dysfunction, and coagulation abnormalities. Further studies are required to understand whether an immunosuppressive and/or immunomodulator therapy could be beneficial in those patients who remain unresponsive to definitive antibiotic therapy.

PMCID: PMC4283929

PMID: 25574367 [PubMed]

16: Basu S, Kumar R, Ranade R. Assessment of treatment response using PET. *PET Clin.* 2015 Jan;10(1):9-26. doi: 10.1016/j.cpet.2014.09.002. Epub 2014 Oct 14. PubMed PMID: 25455877.

This article reviews the major treatment response evaluation guidelines in the domain of cancer imaging and how the potential of PET imaging, particularly with fluorodeoxyglucose, is increasingly explored in this important aspect of cancer management. Certain disease-specific response criteria (such as in lymphoma) are also reviewed with emphasis on the changes made over time and the main areas of concern in PET interpretation. The major present clinical applications are illustrated and potential new areas are discussed with regard to clinical applications in the future. Finally, the evolving role of newer and novel PET metrics, which hold promise in treatment response evaluation, is illustrated with examples.

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PMID: 25455877 [PubMed - in process]

17: Bhad R, Hazari N. Combining pharmacological treatments in geriatric population: weighing the balance. *J Postgrad Med.* 2015 Jan-Mar;61(1):57-8. doi: 10.4103/0022-3859.147061. PubMed PMID: 25511227.

18: Bhakuni T, Sharma A, Rashid Q, Kapil C, Saxena R, Mahapatra M, Jairajpuri MA. Antithrombin III Deficiency in Indian Patients with Deep Vein Thrombosis: Identification of First India Based AT Variants Including a Novel Point Mutation (T280A) that Leads to Aggregation. *PLoS One.* 2015 Mar 26;10(3):e0121889. doi: 10.1371/journal.pone.0121889. eCollection 2015. PubMed PMID: 25811371; PubMed Central PMCID: PMC4374914.

Antithrombin III (AT) is the main inhibitor of blood coagulation proteases like thrombin and factor Xa. In this study we report the identification and characterization of several variants of AT for the first time in Indian population. We screened 1950 deep vein thrombosis (DVT) patients for AT activity and antigen levels. DNA sequencing was further carried out in patients with low AT activity and/or antigen levels to identify variations in the AT gene. Two families, one with type I and the other with type II AT deficiency were identified. Three members of family I showed an increase in the coagulation rates and recurrent thrombosis in this family was solely attributed to the rs2227589 polymorphism. Four members of family II spanning two generations had normal antigen levels and decreased AT activity. A novel single nucleotide insertion, g.13362_13363insA in this family in addition to g.2603T>C (p.R47C) mutation were identified. AT purified from patient's plasma on hi-trap heparin column showed a marked decrease in heparin affinity and thrombin inhibition rates. Western blot analysis showed the presence of aggregated AT. We also report a novel point mutation at position g.7549 A>G (p.T280A), that is highly conserved in serpin family. Variant protein isolated from patient plasma indicated loss of regulatory function due to in-vivo polymerization. In conclusion this is the first report of AT mutations in SERPINC1 gene in Indo-Aryan population where a novel point mutation p.T280A and a novel single nucleotide insertion g.13362_13363insA are reported in addition to known variants like p.R47C, p.C4-X and polymorphisms of rs2227598, PstI and DdeI.

PMCID: PMC4374914

PMID: 25811371 [PubMed - in process]

19: Bhalla K, Chugh M, Mehrotra S, Rathore S, Tousif S, Prakash Dwivedi V, Prakash P, Kumar Samuchiwal S, Kumar S, Kumar Singh D, Ghanwat S, Kumar D, Das G, Mohammed A, Malhotra P, Ranganathan A. Host ICAMs play a role in cell invasion by Mycobacterium tuberculosis and Plasmodium falciparum. Nat Commun. 2015 Jan 14;6:6049. doi: 10.1038/ncomms7049. PubMed PMID: 25586702.

Intercellular adhesion molecules (ICAMs) belong to the immunoglobulin superfamily and participate in diverse cellular processes including host-pathogen interactions. ICAM-1 is expressed on various cell types including macrophages, whereas ICAM-4 is restricted to red blood cells. Here we report the identification of an 11-kDa synthetic protein, M5, that binds to human ICAM-1 and ICAM-4, as shown by in vitro interaction studies, surface plasmon resonance and immunolocalization. M5 greatly inhibits the invasion of macrophages and erythrocytes by Mycobacterium tuberculosis and Plasmodium falciparum, respectively. Pharmacological and siRNA-mediated inhibition of ICAM-1 expression also results in reduced M. tuberculosis invasion of macrophages. ICAM-4 binds to P. falciparum merozoites, and the addition of recombinant ICAM-4 to parasite cultures blocks invasion of erythrocytes by newly released merozoites. Our results indicate that ICAM-1 and ICAM-4 play roles in host cell invasion by M. tuberculosis and P. falciparum, respectively, either as receptors or as crucial accessory molecules.

PMID: 25586702 [PubMed - in process]

20: Bhatnagar S, Gupta M. Future of palliative medicine. Indian J Palliat Care. 2015 Jan-Apr;21(1):95-104. doi: 10.4103/0973-1075.150201. PubMed PMID: 25709197; PubMed Central PMCID: PMC4332140.

A 'need-supply' and 'requirement-distribution mismatch' along with a continuing need explosion are the biggest hurdles faced by palliative medicine today. It is the need of the hour to provide an unbiased, equitable and evidence-based palliative care to those in need irrespective of the diagnosis, prognosis, social and economic status or geographical location. Palliative care as a fundamental human right, ensuring provision throughout the illness spectrum, global as well as region-specific capacity building, uniform availability of essential drugs at an affordable price, a multidisciplinary team approach and caregiver-support are some of the achievable goals for the future. This supplanted with a strong political commitment, professional dedication and 'public-private partnerships' are necessary to tackle the existing hurdles and the exponentially increasing future need. For effectively going ahead it is of utmost importance to integrate palliative medicine into medical education, healthcare system and societal framework.

PMCID: PMC4332140

PMID: 25709197 [PubMed]

21: Bhatnagar S. Palliative medicine and people. Indian J Palliat Care. 2015 Jan-Apr;21(1):1-2. doi: 10.4103/0973-1075.150143. PubMed PMID: 25709175; PubMed Central PMCID: PMC4332113.

22: Bomanji JB, Gupta N, Gulati P, Das CJ. Imaging in Tuberculosis. Cold Spring Harb Perspect Med. 2015 Jan 20. pii: a017814. doi: 10.1101/cshperspect.a017814. [Epub ahead of print] PubMed PMID: 25605754.

Despite many advances in both diagnosis and treatment, tuberculosis still remains one of the commonest causes of morbidity and mortality from any infectious cause in the world. Although the overall incidence and mortality rate for tuberculosis has

decreased over the years, timely and accurate diagnosis of tuberculosis is essential for the health of the patient as well as the public. For the diagnosis of tuberculosis, a high degree of clinical suspicion is required, and this becomes much more important in high-risk populations. Tuberculosis may masquerade as any disease; therefore, tissue and microbiological assessment is sometimes important for establishing the diagnosis. However, in daily practice, the clinician and radiologist should be familiar with the imaging features of pulmonary and extrapulmonary tuberculosis, as well as manifestations of tuberculosis in immunocompromised patients. Imaging provides a very important role in the diagnosis and management of tuberculosis. Although chest X rays remain the basic imaging modality for pulmonary tuberculosis, computed tomography, magnetic resonance imaging, and nuclear medicine techniques, including positron emission tomography/computed tomography, are extremely helpful in the assessment of both pulmonary and extrapulmonary tuberculosis.

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PMID: 25605754 [PubMed - as supplied by publisher]

23: Chadha MS, Potdar VA, Saha S, Koul PA, Broor S, Dar L, Chawla-Sarkar M, Biswas D, Gunasekaran P, Abraham AM, Shrikhande S, Jain A, Anukumar B, Lal RB, Mishra AC. Dynamics of influenza seasonality at sub-regional levels in India and implications for vaccination timing. PLoS One. 2015 May 4;10(5):e0124122. doi: 10.1371/journal.pone.0124122. eCollection 2015. PubMed PMID: 25938466.

BACKGROUND: Influenza surveillance is an important tool to identify emerging/reemerging strains, and defining seasonality. We describe the distinct patterns of circulating strains of the virus in different areas in India from 2009 to 2013.

METHODS: Patients in ten cities presenting with influenza like illness in out-patient departments of dispensaries/hospitals and hospitalized patients with severe acute respiratory infections were enrolled. Nasopharyngeal swabs were tested for influenza viruses by real-time RT-PCR, and subtyping; antigenic and genetic analysis were carried out using standard assays.

RESULTS: Of the 44,127 ILI/SARI cases, 6,193 (14.0%) were positive for influenza virus. Peaks of influenza were observed during July-September coinciding with monsoon in cities Delhi and Lucknow (north), Pune (west), Allaphuza (southwest), Nagpur (central), Kolkata (east) and Dibrugarh (northeast), whereas Chennai and Vellore (southeast) revealed peaks in October-November, coinciding with the monsoon months in these cities. In Srinagar (Northern most city at 34°N latitude) influenza circulation peaked in January-March in winter months. The patterns of circulating strains varied over the years: whereas A/H1N1pdm09 and type B co-circulated in 2009 and 2010, H3N2 was the predominant circulating strain in 2011, followed by circulation of A/H1N1pdm09 and influenza B in 2012 and return of A/H3N2 in 2013. Antigenic analysis revealed that most circulating viruses were close to vaccine selected viral strains.

CONCLUSIONS: Our data shows that India, though physically located in northern hemisphere, has distinct seasonality that might be related to latitude and environmental factors. While cities with temperate seasonality will benefit from vaccination in September-October, cities with peaks in the monsoon season in July-September will benefit from vaccination in April-May. Continued surveillance is critical to understand regional differences in influenza seasonality at regional and sub-regional level, especially in countries with large latitude span.

PMID: 25938466 [PubMed - in process]

24: Chakraborty PS, Karunanithi S, Dhull VS, Kumar K, Gupta R, Tripathi M. An

uncommon case showing three different pathologies on (99m)technetium-methylene diphosphonate bone scintigraphy. Indian J Nucl Med. 2015 Jan-Mar;30(1):80-1. doi: 10.4103/0972-3919.147555. PubMed PMID: 25589816; PubMed Central PMCID: PMC4290076.

(99m)Technetium-methylene diphosphonate bone scintigraphy (BS) has an important role in evaluating skeletal pathology, especially its extent. Incidental extra-osseous uptake may sometimes be seen in soft-tissue pathologies. We present a 64-year-old female with skull base osteomyelitis referred for BS which revealed involvement of the skull base on the left side, uptake was also noted in bilateral lungs secondary to hypercalcemia of renal failure and in the D12-L1 vertebrae as the patient had a history of Pott's spine. This is perhaps a unique case showing three findings each of a different etiology in the same scan.

PMCID: PMC4290076

PMID: 25589816 [PubMed]

25: Chikkanayakanahalli Narasimhaiah P, Gupta S, Khokhar S, Vanathi M, Dada T, Pandey RM, Agarwal T. Corneal Polishing After Pterygium Excision With Motorized Diamond Burr: A Randomized Control Trial. Eye Contact Lens. 2015 Jan 19. [Epub ahead of print] PubMed PMID: 25603442.

PURPOSE:: To evaluate outcomes of motorized diamond burr polishing versus manual polishing after pterygium excision.

SETTING:: Dr. Rajendra Prasad Center for Ophthalmic Sciences, New Delhi.

DESIGN:: A randomized, interventional observer-masked controlled trial.

METHODS:: Forty consecutive eyes underwent pterygium excision with fibrin, glue-assisted conjunctival autograft. In group 1 (20 eyes), polishing of the corneal bed was done using a crescent blade, and in group 2 (20 eyes), using a motorized diamond burr.

RESULTS:: There was no difference in the 2 groups with respect to mean age (P=0.08), gender (P=0.3), preoperative uncorrected visual acuity (UCVA) (P=0.45), best spectacle-corrected visual acuity (BCVA) (P=0.52), spherical equivalent (P=0.5), mean astigmatism (P=0.7), tear function tests like tear break-up time, tear film meniscus height, Schirmer I and II (P=0.6, 0.5, 0.7, 0.9 respectively), pterygium dimension (P=0.4), and conjunctival autograft size (P=0.24). Mean intraoperative surgical time was significantly more in group 1 (16.9±2.85 min) as compared with 12.25±1.88 min in group 2 (P=0.0001). Postoperatively, there was a statistically significant reduction in astigmatism and improvement in UCVA, BCVA, spherical equivalent in all eyes. No difference was found in mean epithelial defect healing time, UCVA, BCVA, astigmatism, tear film break-up time, Schirmer I and II, and tear meniscus height at 6 months between 2 groups; however, significantly better UCVA was found in group 2 at 3 months (P=0.04). Surgically induced astigmatism (SIA) was significantly more in group 2 as compared with group 1 at 6 months (P=0.0006).

CONCLUSIONS:: Motorized diamond burr polishing of the corneoscleral bed during primary pterygium excision in comparison with manual polishing requires significantly lesser surgical time with better UCVA, decreased astigmatism, and greater SIA at 6 months, which indicates greater astigmatic correction.

PMID: 25603442 [PubMed - as supplied by publisher]

26: Dalal AB, Ranganath P, Phadke SR, Kabra M, Danda S, Puri RD, Sankar VH, Gupta N, Patil SJ, Mandal K, Tamhankar P, Aggarwal S, Agarwal M. Prenatal diagnosis in India is not limited to sex selection. *Genet Med*. 2015 Jan;17(1):88. doi: 10.1038/gim.2014.149. PubMed PMID: 25356971.

27: Das S, Nair VV, Airan B. Double aortic arch as a source of airway obstruction in a child. *Ann Card Anaesth*. 2015 Jan-Mar;18(1):111-2. doi: 10.4103/0971-9784.148336. PubMed PMID: 25566726.

Double aortic arch (DAA) is a congenital vascular anomaly. The diagnosis was difficult till the child was symptomatic, and other causes were ruled out. We present the interesting images of a child of respiratory distress because of tracheal compression from DAA.

28: Dhamija E, Madhusudhan KS, Shalimar, Das P, Srivastava DN, Gupta AK. Primary hepatic diffuse large B-cell lymphoma: unusual presentation and imaging features. *Curr Probl Diagn Radiol*. 2015 May-Jun;44(3):290-3. doi: 10.1067/j.cpradiol.2014.12.002. Epub 2015 Jan 2. PubMed PMID: 25765233.

Primary hepatic lymphoma is an uncommon malignancy affecting the liver, with limited reports and series in the literature. Imaging appearance is not well described, with no definite features suggesting a diagnosis, and it may mimic other focal hepatic lesions. However, biopsy is needed in most of the cases for confirmation. We report a case of 22-year-old pregnant woman who on ultrasonography showed a large heteroechoic solitary liver mass mimicking focal nodular hyperplasia. Further evaluation after parturition with contrast-enhanced magnetic resonance imaging showed a large mass with central scar and peripheral diffusion restriction and contrast enhancement, which was atypical. Biopsy confirmed it as lymphoma. The case illustrates unusual presentation and magnetic resonance imaging features, including diffusion-weighted imaging, of primary hepatic lymphoma in a young female.

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PMID: 25765233 [PubMed - in process]

29: Dhamija E, Panda A, Das CJ, Gupta AK. Adrenal imaging (Part 2): Medullary and secondary adrenal lesions. *Indian J Endocrinol Metab*. 2015 Jan-Feb;19(1):16-24. doi: 10.4103/2230-8210.146859. Review. PubMed PMID: 25593821; PubMed Central PMCID: PMC4287762.

Adrenal malignancies can be either primary adrenal tumors or secondary metastases, with metastases representing the most common malignant adrenal lesion. While imaging cannot always clearly differentiate between various adrenal malignancies, presence of certain imaging features, in conjunction with appropriate clinical background and hormonal profile, can suggest the appropriate diagnosis. The second part of the article on adrenal imaging describes adrenal medullary tumors, secondary adrenal lesions, bilateral adrenal lesions, adrenal incidentalomas and provides an algorithmic approach to adrenal lesions based on current imaging recommendations.

PMCID: PMC4287762

PMID: 25593821 [PubMed]

30: Dhull VS, Mukherjee A, Karunanithi S, Durgapal P, Bal C, Kumar R. Bilateral primary renal lymphoma in a pediatric patient: staging and response evaluation with ^{18}F -FDG PET/CT. *Rev Esp Med Nucl Imagen Mol*. 2015 Jan-Feb;34(1):49-52. doi: 10.1016/j.remn.2014.05.004. Epub 2014 Jul 21. PubMed PMID: 25065972.

Primary renal lymphoma (PRL) is a rare disease. We here present the case of an 8-year-old child who presented with bilateral renal masses. On biopsy, it was confirmed to be B-cell non-Hodgkin's lymphoma. ^{18}F -fluorodeoxyglucose (^{18}F -FDG) positron emission tomography-computed tomography (PET/CT) for staging demonstrated ^{18}F -FDG avid bilateral renal masses, with no other abnormal focus. Follow up ^{18}F -FDG PET/CT showed complete resolution of the disease after six cycles of chemotherapy. Here we have highlighted the potential role of ^{18}F -FDG PET/CT in staging and response evaluation of a patient with PRL and presented a brief review.

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PMID: 25065972 [PubMed - in process]

31: Gandhi AK, Laviraj MA, Kashyap L, Purkait S, Sharma DN, Julka PK, Rath GK. Recurrent Bowen's disease of scalp treated with high dose rate surface mold brachytherapy: a case report and review of the literature. *J Contemp Brachytherapy*. 2015 Jan;6(4):389-94. doi: 10.5114/jcb.2014.47704. Epub 2014 Dec 31. PubMed PMID: 25834584; PubMed Central PMCID: PMC4300359.

Our case is a 46-year-old female presenting to us with Bowen's disease of scalp since 5 years. Patient had failed topical therapy with 5% 5-fluorouracil, 0.1% tacrolimus and was intolerant to topical imiquimod. At presentation, she had 15 cm × 10 cm erythematous, hyperpigmented, crusted plaque with irregular border in the superior and lateral aspect of left side of scalp with extension in to forehead. Patient was treated with computed tomography based customized surface mold high dose rate brachytherapy with Iridium-192 to a dose of 35 Gy in 10 fractions (twice daily, 6 hours apart) over 5 days. Patient tolerated the treatment well and showed regression of the lesion with mild dermatitis at the end of treatment. Though dermatitis increased at 2 weeks, at 4 weeks post treatment there was near complete resolution of the lesion with adjacent alopecia. At 8 weeks after completion of the treatment, there was complete resolution of the lesion and patient was asymptomatic. Alopecia in the adjacent area has resolved and the skin pigmentation has begun. Patient is satisfied with both the disease control and the cosmetic outcome of the procedure. Our case report demonstrates successful application of surface mold high dose rate brachytherapy in the treatment of recurrent Bowen's disease of the scalp. Brachytherapy can play an important role in the management of recurrent malignant and premalignant diseases of the complex treatment sites like scalp and its non-hesitant use should be encouraged in appropriately selected patients at the earliest.

PMCID: PMC4300359

PMID: 25834584 [PubMed]

32: Garg A, Chopra S, Ballal S, Soundararajan R, Bal CS. Differentiated thyroid cancer in patients over 60 years of age at presentation: a retrospective study of 438 patients. *J Geriatr Oncol*. 2015 Jan;6(1):29-37. doi: 10.1016/j.jgo.2014.09.182. Epub 2014 Oct 3. PubMed PMID: 25287965.

OBJECTIVES: The aim of this study is to identify the prognostic factors predicting remission and subsequent disease relapse in patients with differentiated thyroid cancer (DTC) greater than 60years of age.

MATERIALS AND METHODS: The institute thyroid cancer database had 4370 patients with DTC, of which 447 (10%) were aged >60. However, 9 patients were excluded due to follow-up less than 1 year. The prognostic factors in the remaining 438 patients were studied.

RESULTS: Among the 438 patients, 311 (71%) had only loco-regional disease (M0) and 127 (29%) had distant metastases (M1) at the time of initial presentation. The host factors predictive of distant metastases at presentation were female gender, primary tumor size (>4cm), follicular histology, and extra-thyroidal extension. Among M0 patients, 195 (63%) achieved complete remission while only 12 (9%) M1 patients did so. Average number of radioactive iodine (¹³¹I) doses administered to achieve complete remission was 2.3 (range, 1-6) and the mean cumulative dose was 3404MBq (range, 925-46,250MBq). In multivariate logistic regression among M0 patients, follicular histology, nodal metastases, and surgical treatment lesser than total/near-total thyroidectomy and among M1 patients, site of distant metastases (skeletal and multiple sites) were independent factors predicting non-remission. Among the patients (both M0 and M1) who achieved remission, factors associated with disease recurrence were primary tumor size (>4cm), nodal metastases, pulmonary metastases, and non-remission after first dose of radioactive iodine and were associated with greater chances of disease relapse.

CONCLUSION: This study highlights that DTC in older patients behaves more aggressively than in adults age <60 years, and identifies several prognostic factors for remission and subsequent relapse.

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PMID: 25287965 [PubMed - in process]

33: Garg PK, Imrie CW. Severity classification of acute pancreatitis: The continuing search for a better system. *Pancreatology*. 2015 Mar-Apr;15(2):99-100. doi: 10.1016/j.pan.2015.01.005. Epub 2015 Jan 31. PubMed PMID: 25700979.

34: Ghosh A, Dar L. Dengue vaccines: challenges, development, current status and prospects. *Indian J Med Microbiol*. 2015 Jan-Mar;33(1):3-15. PubMed PMID: 25559995.

Infection with dengue virus (DENV) is the most rapidly spreading mosquito-borne viral disease in the world. The clinical spectrum of dengue, caused by any of the four serotypes of DENV, ranges from mild self-limiting dengue fever to severe dengue, in the form dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). Increased rates of hospitalization due to severe dengue, during outbreaks, result in massive economic losses and strained health services. In the absence of specific antiviral therapy, control of transmission of DENV by vector management is the sole method available for decreasing dengue-associated morbidity. Since vector control strategies alone have not been able to satisfactorily achieve reduction in viral transmission, the implementation of a safe, efficacious and cost-effective dengue vaccine as a supplementary measure is a high public health priority. However, the unique and complex immunopathology of dengue has complicated vaccine development. Dengue vaccines have also been challenged by critical issues like lack of animal models for the disease and absence of suitable markers of protective immunity. Although no licensed dengue vaccine is yet available, several vaccine candidates are under phases of development, including live attenuated virus vaccines, live chimeric virus vaccines, inactivated virus vaccines, subunit vaccines, DNA vaccines and viral-vectored vaccines. Although some vaccine candidates have progressed from animal trials to phase II and III in humans, a number of issues regarding implementation of dengue

vaccine in countries like India still need to be addressed. Despite the current limitations, collaborative effects of regulatory bodies like World Health Organization with vaccine manufacturers and policy makers, to facilitate vaccine development and standardize field trials can make a safe and efficacious dengue vaccine a reality in near future.

PMID: 25559995 [PubMed - in process]

35: Gill K, Kumar S, Xess I, Dey S. Novel synthetic anti-fungal tripeptide effective against *Candida krusei*. *Indian J Med Microbiol*. 2015 Jan-Mar;33(1):110-6. doi: 10.4103/0255-0857.148404. PubMed PMID: 25560012.

INTRODUCTION: *Candida* species are the major fungal pathogens of humans. Among them, *Candida krusei* have emerged as a notable pathogen with a spectrum of clinical manifestations and is known to develop resistance against azoles mainly fluconazole. Anti-microbial peptides play important roles in the early mucosal defence against infection and are potent anti-fungal agents since they fight against fungal infection as well as have ability to regulate host immune defence system. The aim of the study was to synthesize a small anti fungal peptide.

MATERIALS AND METHODS: The series of tripeptides were synthesized and screened for antifungal activity against *Candida* strains according to CLSI guidelines. Toxicity effect of peptide was tested with human erythrocytes. The mode of action of peptide on fungus was resolved by scanning electron microscopy (SEM) studies
Results: The tripeptide FAR showed a prominent anti fungal activity among the series. The minimum inhibitory concentration and minimum fungicidal concentration of tripeptide FAR was found to be 171.25 µg/ml and 685 µg/ml, respectively against *Candida krusei*. The therapeutic index was 2.9. The haemolytic experiment revealed that this peptide is non-toxic to human cells. The SEM studies showed disruption of cell wall and bleb-like surface changes and irregular cell surface.

CONCLUSION: The peptide showed a significant antifungal activity against *C. krusei*. Thus, it can set a platform for the design of new effective therapeutic agents against *C. krusei*.

PMID: 25560012 [PubMed - in process]

36: Gupta B, Prasad A, Ramchandani S, Singhal M, Mathur P. Facing the airway challenges in maxillofacial trauma: A retrospective review of 288 cases at a level I trauma center. *Anesth Essays Res*. 2015 Jan-Apr;9(1):44-50. doi: 10.4103/0259-1162.150142. PubMed PMID: 25886420; PubMed Central PMCID: PMC4383121.

BACKGROUND: Maxillofacial trauma is an apt example of a difficult airway. The anesthesiologist faces challenges in their management at every step from airway access to maintenance of anesthesia and extubation and postoperative care.

METHODS: A retrospective study was done of 288 patients undergoing surgery for maxillofacial trauma over a period of five years. Demographic data, detailed airway assessment and the method of airway access were noted. Trauma scores, mechanism of injury, duration of hospital stay, requirement of ventilator support were also recorded. Complications encountered during perioperative anaesthetic management were noted.

RESULTS: 259 (89.93%) of the patients were male and 188 (62.85%) were in the 21-40 year range. 97.57% of the cases were operated electively. 206 (71.53%) patients were injured in motor vehicular accidents. 175 (60.76%) had other associated injuries. Mean Glasgow coma scale score (GCS), injury severity score (ISS) and revised trauma score (RTS) were 14.18, 14.8 and 12, respectively. Surgery was performed almost nine days following injury. The mean duration of

hospitalization was 16 days. ICU admission was required in 22 patients with mean duration of ICU stay being two days. Majority of patients had difficult airway. 240 (83.33%) patients were intubated in the operating room and fiberoptic guided intubation was done in 159 (55.21%) patients. Submental intubation was done in 45 (14.93%) cases.

CONCLUSIONS: Maxillofacial injuries present a complex challenge to the anaesthesiologist. The fiberoptic bronchoscope is the main weapon available in our arsenal. The submental technique scores over the time-honored tracheostomy. Communication between the anaesthesiologist and the surgeon must be given paramount importance.

PMCID: PMC4383121

PMID: 25886420 [PubMed]

37: Gupta D, Yadav DK, Panda SS, Panda M, Bagga D, Acharya SK, Anand N, Naredi BK. Transanal impalement of double J steel bar with colonic and jejunal injury: A unique pediatric case report. *J Nat Sci Biol Med.* 2015 Jan-Jun;6(1):217-9. doi: 10.4103/0976-9668.149186. PubMed PMID: 25810666; PubMed Central PMCID: PMC4367041.

Pediatric transanal impalement injuries are relatively uncommon and most are attributed to accidental fall on offending objects, sexual assault or blunt trauma. There may be difficulty in recognizing or properly treating such injuries because their severity may not be reflected externally. Evaluation of suspected rectal impalement injury involves careful history and physical examination and proper investigation. There are very few reports on pediatric perianal impalement with associated visceral injuries. We report a case of assault transanal impalement injury associated with mesenteric tear and jejunal perforation leading to devitalization of proximal jejunum in a 2 year male child and relevant literatures were reviewed. To the best of our knowledge, such dual proximal and distal gastrointestinal injury in such a small child has not been reported in any of the English literature so far.

PMCID: PMC4367041

PMID: 25810666 [PubMed]

38: Gupta N, Khan R, Kumar R, Kumar L, Sharma A. Versican and its associated molecules: potential diagnostic markers for multiple myeloma. *Clin Chim Acta.* 2015 Mar 10;442:119-24. doi: 10.1016/j.cca.2015.01.012. Epub 2015 Jan 23. PubMed PMID: 25623955.

BACKGROUND: Multiple myeloma (MM) represents a malignancy of B-cells characterized by proliferation of malignant plasma cells in the bone marrow (BM). Versican (VCAN), an extracellular matrix (ECM) protein, appears to be involved in multiple processes in several cancers. Identifying optimum diagnostic markers and delineating its association with disease severity might be important for controlling MM.

METHODS: Expression of VCAN and its associated molecules (β -catenin, β 1 integrin and FAK) were investigated in 60 subjects to evaluate their usefulness as diagnostic marker. Circulatory and molecular levels of above molecules were analyzed in their BM and Blood using ELISA, Q-PCR and western blotting along with their ROC curve analysis.

RESULTS: Circulatory levels of VCAN, β -catenin and FAK were significantly higher in patients with varying significance in each stage. β -Catenin and FAK intracellular levels were significantly elevated in patients. mRNA levels of all molecules were significantly higher in BMMNCs while VCAN and β -catenin also showed increase in PBMCs. Upregulation of these molecules was also observed at

protein level. ROC curve analysis for VCAN showed absolute combination of sensitivity and specificity for diagnosis in serum.

CONCLUSIONS: Significant elevation of VCAN and its associated molecules imply their role in MM. Optimal sensitivity and specificity of VCAN might utilize its importance as potential marker for active disease.

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PMID: 25623955 [PubMed - in process]

39: Gupta N, Vashist P, Malhotra S, Senjam SS, Misra V, Bhardwaj A. Rapid assessment of visual impairment in urban population of delhi, India. PLoS One. 2015 Apr 27;10(4):e0124206. doi: 10.1371/journal.pone.0124206. eCollection 2015. PubMed PMID: 25915659.

PURPOSE: To determine the prevalence, causes and associated demographic factors related to visual impairment amongst the urban population of New Delhi, India. METHODS: A population-based, cross-sectional study was conducted in East Delhi district using cluster random sampling methodology. This Rapid Assessment of Visual Impairment (RAVI) survey involved examination of all individuals aged 40 years and above in 24 randomly selected clusters of the district. Visual acuity (VA) assessment and comprehensive ocular examination were done during the door-to-door survey. A questionnaire was used to collect personal and demographic information of the study population. Blindness and Visual Impairment was defined as presenting VA <3/60 and <6/18 in the better eye, respectively. Descriptive statistics were computed along with multivariable logistic regression analysis to determine associated factors for visual impairment.

RESULTS: Of 2421 subjects enumerated, 2331 (96.3%) were available for ophthalmic examination. Among those examined, 49.3% were males. The prevalence of visual impairment (VI) in the study population, was 11.4% (95% C.I. 10.1, 12.7) and that of blindness was 1.2% (95% C.I. 0.8, 1.6). Uncorrected refractive error was the leading cause of VI accounting for 53.4% of all VI followed by cataract (33.8%). With multivariable logistic regression, the odds of having VI increased with age (OR= 24.6[95% C.I.: 14.9, 40.7]; p<0.001). Illiterate participants were more likely to have VI [OR= 1.5 (95% C.I.: 1.1,2.1)] when compared to educated participants.

CONCLUSIONS: The first implementation of the RAVI methodology in a North Indian population revealed that the burden of visual impairment is considerable in this region despite availability of adequate eye care facilities. Awareness generation and simple interventions like cataract surgery and provision of spectacles will help to eliminate the major causes of blindness and visual impairment in this region.

PMID: 25915659 [PubMed - in process]

40: Gupta P, Khandpur S, VEDI K, Singh MK, Walia R. Xanthoma disseminatum associated with inflammatory arthritis and synovitis--a rare association. Pediatr Dermatol. 2015 Jan-Feb;32(1):e1-4. doi: 10.1111/pde.12388. Epub 2014 Dec 14. PubMed PMID: 25496014.

Xanthoma disseminatum (XD) is a rare, benign, non-Langerhans cell histiocytosis characterized by disseminated xanthomatous lesions with a predilection for the face, flexures, and mucosae. Approximately 100 cases have been reported in the literature. We report XD in an 8-year-old boy with symmetric synovitis and arthritis involving the wrists and knees. This case is interesting in view of the association between arthritis and synovitis and XD, which to our knowledge has

not been reported in the literature. This case has to be differentiated from multicentric histiocytosis, another non-Langerhans cell histiocytosis, in which joint involvement is common.

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PMID: 25496014 [PubMed - in process]

41: Gupta R, Singh P, Kumar R. Should men with idiopathic obstructive azoospermia be screened for genitourinary tuberculosis? *J Hum Reprod Sci.* 2015 Jan-Mar;8(1):43-7. doi: 10.4103/0974-1208.153126. PubMed PMID: 25838748; PubMed Central PMCID: PMC4381382.

OBJECTIVE: Infertility may be the sole manifestation of genitourinary tuberculosis (TB) and men with idiopathic obstructive azoospermia are often screened for TB using semen polymerase chain reaction (PCR) test. We assessed the benefits of such screening.

DESIGN: Totally, 100 infertile men with idiopathic obstructive azoospermia were screened with a kit-based PCR for semen TB. Confirmatory tests for TB were performed in PCR positive men before administering anti-tubercular therapy (ATT) for 6 months. Semen analysis was repeated to assess benefits of treatment.

RESULTS: Seven subjects (7%) had positive semen PCR for TB. Four of them had other clinical evidence of TB (history and physical signs) and were administered ATT. None had any improvement in semen parameters. No subject had any other laboratory evidence of TB and no other subject (96%) was administered ATT.

CONCLUSIONS: Screening for TB using semen PCR did not identify any men who would have been missed on clinical evaluation and is thus not indicated in men with idiopathic obstructive azoospermia.

PMCID: PMC4381382

PMID: 25838748 [PubMed]

42: Gupta RK, Bajpai D, Singh N. Influence of *Morinda citrifolia* (Noni) on Expression of DNA Repair Genes in Cervical Cancer Cells. *Asian Pac J Cancer Prev.* 2015;16(8):3457-61. PubMed PMID: 25921162.

BACKGROUND: Previous studies have suggested that *Morinda citrifolia* (Noni) has potential to reduce cancer risk.

OBJECTIVE: The purpose of this study was to investigate the effect of Noni, cisplatin, and their combination on DNA repair genes in the SiHa cervical cancer cell line.

MATERIALS AND METHODS: SiHa cells were cultured and treated with 10% Noni, 10 µg/dl cisplatin or their combination for 24 hours. Post culturing, the cells were pelleted, RNA extracted, and processed for investigating DNA repair genes by real time PCR.

RESULTS: The expression of nucleotide excision repair genes ERCC1, ERCC2, and ERCC4 and base excision repair gene XRCC1 was increased 4 fold, 8.9 fold, 4 fold, and 5.5 fold, respectively, on treatment with Noni as compared to untreated controls ($p < 0.05$). In contrast, expression was found to be decreased 22 fold, 13 fold, 16 fold, and 23 fold on treatment with cisplatin ($p < 0.05$). However, the combination of Noni and cisplatin led to an increase of 2 fold, 1.6 fold, 3 fold, 1.2 fold, respectively ($p < 0.05$).

CONCLUSIONS: Noni enhanced the expression of DNA repair genes by itself and in

combination with cisplatin. However, high expression of DNA repair genes at mRNA level only signifies efficient DNA transcription of the above mentioned genes; further investigations are needed to evaluate the DNA repair protein expression.

PMID: 25921162 [PubMed - in process]

43: Gupta SK, Dass J, Saxena R. A rare case of double heterozygous state for HbD and HbE. *Indian J Pathol Microbiol.* 2015 Jan-Mar;58(1):126-7. doi: 10.4103/0377-4929.151217. PubMed PMID: 25673618.

44: Gupta SK, Saxena A. A report on 5(th) congress of Asia Pacific Pediatric Cardiac Society, New Delhi, India, 6-9 March 2014. *Ann Pediatr Cardiol.* 2015 Jan-Apr;8(1):88-92. PubMed PMID: 25684899; PubMed Central PMCID: PMC4322413.

The 5(th) Congress of Asia Pacific Pediatric Cardiac Society was held in New Delhi from 6-9 March 2014. This article describes the journey of preparing and hosting one of the largest international events in the specialty of Pediatric Cardiac Care ever held in India. A total of 938 delegates, including 400 from outside India, participated. The scientific program was inclusive keeping in mind the diverse background of delegates from the member nations. Large numbers of research papers were presented, mostly by fellows in training.

PMCID: PMC4322413

PMID: 25684899 [PubMed]

45: Gupta SK, Pandia MP. Anesthetic management of a case of armored brain. *Saudi J Anaesth.* 2015 Jan;9(1):89-90. doi: 10.4103/1658-354X.146323. PubMed PMID: 25558206; PubMed Central PMCID: PMC4279357.

Armored brain is condition, which occurs due to calcification in a chronic subdural hematoma (SDH). Here, we are reporting a case of armored brain due to chronic SDH as a complication of ventriculoperitoneal shunt (VP shunt). Patient had undergone major surgery for removal of calcified hematoma. VP shunt is a simple surgery, but can lead to catastrophic complications like this. In this report, we had described this condition and its aspects.

PMCID: PMC4279357

PMID: 25558206 [PubMed]

46: Gupta V, Khute P, Patel A, Gupta S. Non-healing genital herpes mimicking donovanosis in an immunocompetent man. *Int J STD AIDS.* 2015 Jan 22. pii: 0956462415568983. [Epub ahead of print] PubMed PMID: 25614521.

Although atypical presentations of herpetic infection in immunocompetent individuals are common, they very rarely have the extensive, chronic and verrucous appearances seen in the immunocompromised host. We report a case of genital herpes manifesting as painless chronic non-healing genital ulcers with exuberant granulation tissue in an immunocompetent man. Owing to this morphology, the ulcers were initially mistaken for donovanosis. To the best of our knowledge, such a presentation of genital herpes in an immunocompetent individual has not been described previously.

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PMID: 25614521 [PubMed - as supplied by publisher]

47: Haldar P, Ramesh V, Kant S. Effect of sedentary activity on telomere length

may not be so straightforward. Br J Sports Med. 2015 Jan 8. pii: bjsports-2014-094473. doi: 10.1136/bjsports-2014-094473. [Epub ahead of print] PubMed PMID: 25573617.

48: Harivenkatesh N, Haribalaji N, David DC, Kumar CM. Therapeutic drug monitoring of antiepileptic drugs in a tertiary care hospital in India. Clin Neuropharmacol. 2015 Jan-Feb;38(1):1-5. doi: 10.1097/WNF.000000000000057. PubMed PMID: 25580918.

INTRODUCTION: Therapeutic drug monitoring (TDM) helps to optimize the dose of antiepileptic drugs. Only limited information is available about the clinical utility of TDM of antiepileptic drugs in India. Hence, we aimed to study the clinical utility of antiepileptic TDM in a tertiary care hospital in India and to explore the association between the plasma drug levels and the occurrence of breakthrough seizures and drug toxicity.

METHODS: All patients taking antiepileptic drugs for whom TDM was done from January 2008 to December 2010 were included in the study. All relevant information was obtained from patient medical records. Trough levels were measured for all drugs using chemiluminescence assay. Drug levels were interpreted as within, below, and above the reference range, as recommended by the International League Against Epilepsy guidelines.

RESULTS: Of the 420 samples analyzed during this period, 396 samples were included in this study for analysis. The maximum number of requests was for phenytoin (50%) followed by valproic acid (26%). The most common indication for TDM was dosage adjustment (38%) followed by breakthrough seizures (34%). Among the 135 samples received with breakthrough seizures as indication, more than 50% had drug levels either within or above the reference range. Among the 62 samples referred with clinical symptoms of suspected toxicity, drug levels were above the reference range in only 52% of the samples.

CONCLUSIONS: Therapeutic drug monitoring was found to be useful in practice, in tailoring drug dosage in accordance with the needs of individual patient, in distinguishing nonresponders from noncompliers, and in aiding in making critical decisions. However, the "reference range" of these antiepileptic drugs was not reliable in predicting the occurrence of breakthrough seizures and clinical symptoms of suspected drug toxicity.

PMID: 25580918 [PubMed - in process]

49: Hussain A, Chandel RK, Ganie MA, Dar MA, Rather YH, Wani ZA, Shiekh JA, Shah MS. Prevalence of psychiatric disorders in patients with a diagnosis of polycystic ovary syndrome in kashmir. Indian J Psychol Med. 2015 Jan-Mar;37(1):66-70. doi: 10.4103/0253-7176.150822. PubMed PMID: 25722515; PubMed Central PMCID: PMC4341314.

BACKGROUND: Polycystic ovary syndrome (PCOS) is one of the common endocrine disorders and is associated with reproductive, metabolic, and psychological disturbances affecting one in five women of reproductive age group.

OBJECTIVE: To investigate the prevalence of psychiatric disorders among women in ambulatory treatment with a diagnosis of PCOS.

MATERIALS AND METHODS: One hundred and ten patients of PCOS were evaluated using Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition criteria by means of Mini International Neuropsychiatric Interview, English version 5.0.0. Diagnosis of PCOS was confirmed according to the National Institute of Health/National Institute of Child Health and Human Development, 1990 consensus conference criteria. Forty subjects without PCOS who were matched for age and

body mass index were taken as a comparison group.

RESULTS: About 23% of cases had major depressive disorder as compared to 7.5% of controls, 1.8% had dysthymia, 15.45% had panic disorder compared to 5% of controls, 6.36% had obsessive compulsive disorder compared to 2.5% of controls, 8% cases had suicidality, 2.72% of cases were bipolar affective disorder, and 15.45% had generalized anxiety disorder (GAD).

CONCLUSION: A high prevalence of mental disorders was observed, especially major depression, panic disorder, and GAD in patients with PCOS in our study. The results suggest that screening and appropriate management for psychiatric disorders should be part of the routine evaluation of these patients.

PMCID: PMC4341314

PMID: 25722515 [PubMed]

50: Ingwersen SH, Petri KC, Tandon N, Yoon KH, Chen L, Vora J, Yang W. Liraglutide pharmacokinetics and dose-exposure response in Asian subjects with Type 2 diabetes from China, India and South Korea. *Diabetes Res Clin Pract.* 2015 Apr;108(1):113-9. doi: 10.1016/j.diabres.2015.01.001. Epub 2015 Jan 19. PubMed PMID: 25684604.

AIMS: To investigate the population pharmacokinetics and exposure-response relationship of liraglutide, a human glucagon-like peptide-1 (GLP-1) analogue, in Asian subjects with Type 2 diabetes mellitus.

METHODS: Data were derived from a published 16-week, randomized, double-blind, double-dummy, active-controlled, parallel-group trial of liraglutide in China, India and South Korea. The analysis utilized 2061 pharmacokinetic (PK) samples from 605 subjects exposed to liraglutide 0.6, 1.2 or 1.8mg once daily.

Demographic factors (body weight, age, gender, country) of importance for liraglutide clearance were evaluated. An exploratory exposure-response analysis was conducted to investigate effects on glycated haemoglobin (HbA1c) and body weight.

RESULTS: Estimated liraglutide exposure (area under the curve; AUC) appeared to increase proportionally with increasing liraglutide dose (0.6-1.8mg). The covariate analysis confirmed previous findings in a global clinical trial. Body weight was a predictor of liraglutide exposure; compared to a reference subject of 67kg, exposure was 32% lower for maximum (115kg) and 54% higher for minimum (37kg) observed body weights. Gender, age and country had no relevant effect on exposure. Exposure-response analysis supported the use of 1.2mg as maintenance dose with the option of individual dose escalation to 1.8mg to optimize treatment outcomes.

CONCLUSIONS: Exposure appeared to increase proportionally with increasing liraglutide dose in Asian subjects with Type 2 diabetes mellitus. The only PK relevant predictor of exposure was body weight. The exposure-response relationships for HbA1c and body weight in Asian subjects were similar to observations in global populations.

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PMID: 25684604 [PubMed - in process]

51: Iqbal N, Sharma A, Iqbal N. Clinicopathological and treatment analysis of 13 extragastrointestinal stromal tumors of mesentery and retroperitoneum. *Ann Gastroenterol.* 2015 Jan-Mar;28(1):105-108. PubMed PMID: 25608620; PubMed Central PMCID: PMC4289982.

BACKGROUND: Extragastrointestinal stromal tumors (EGISTs) are extremely rare mesenchymal tumors histologically and immunophenotypically similar to GI stromal

tumors (GISTs). The aim of this study was to analyze the clinicopathological factors and treatment outcome in 13 patients with EGISTs treated at a tertiary care center.

METHODS: Of 109 patients with GISTs treated at our center between April 2002 and December 2012, 13 patients with EGISTs were analyzed for clinicopathological factors and treatment outcome.

RESULTS: Mean age was 45.8 (range 30-61) years, and females constituted 62% with a male:female ratio of 0.6:1. The most common tumor sites were mesentery in 10 patients and retroperitoneum in 3 patients. Mean tumor size was 11.7 (range 5-18) cm. Four (31%) patients were metastatic at presentation, the most common site of metastases being the liver in 3 (75%) patients. Lymph node enlargement was seen in 2 patients. Surgery was performed in 8 (62%) patients, 7 with localized disease, and 1 with metastatic disease. R0 resection was achieved in 3 (38%) patients. Five (71%) patients were considered as high-risk. Recurrences were seen in 3 patients (patient 3, 5 and 13) with localized disease after surgical resection, at 18, 7 and 137 months, respectively. At the last follow up, 7 patients were alive and 6 died of disease progression. The median overall survival was 34 (7-148) months.

CONCLUSIONS: EGISTs present at a younger age in the developing than in the developed countries. Females are more commonly affected than males. Lymph node metastases may be commonly present.

PMCID: PMC4289982

PMID: 25608620 [PubMed - as supplied by publisher]

52: Irshad K, Mohapatra SK, Srivastava C, Garg H, Mishra S, Dikshit B, Sarkar C, Gupta D, Chandra PS, Chattopadhyay P, Sinha S, Chosdol K. A combined gene signature of hypoxia and notch pathway in human glioblastoma and its prognostic relevance. PLoS One. 2015 Mar 3;10(3):e0118201. doi: 10.1371/journal.pone.0118201. eCollection 2015. PubMed PMID: 25734817; PubMed Central PMCID: PMC4348203.

Hypoxia is a hallmark of solid tumors including glioblastoma (GBM). Its synergism with Notch signaling promotes progression in different cancers. However, Notch signaling exhibits pleiotropic roles and the existing literature lacks a comprehensive understanding of its perturbations under hypoxia in GBM with respect to all components of the pathway. We identified the key molecular cluster(s) characteristic of the Notch pathway response in hypoxic GBM tumors and gliomaspheres. Expression of Notch and hypoxia genes was evaluated in primary human GBM tissues by q-PCR. Clustering and statistical analyses were applied to identify the combination of hypoxia markers correlated with upregulated Notch pathway components. We found well-segregated tumor-clusters representing high and low HIF-1 α /PGK1-expressors which accounted for differential expression of Notch signaling genes. In combination, a five-hypoxia marker set (HIF-1 α /PGK1/VEGF/CA9/OPN) was determined as the best predictor for induction of Notch1/Dll1/Hes1/Hes6/Hey1/Hey2. Similar Notch-axis genes were activated in gliomaspheres, but not monolayer cultures, under moderate/severe hypoxia (2%/0.2% O₂). Preliminary evidence suggested inverse correlation between patient survival and increased expression of constituents of the hypoxia-Notch gene signature. Together, our findings delineated the Notch-axis maximally associated with hypoxia in resected GBM, which might be prognostically relevant. Its upregulation in hypoxia-exposed gliomaspheres signify them as a better in-vitro model for studying hypoxia-Notch interactions than monolayer cultures.

PMCID: PMC4348203

PMID: 25734817 [PubMed - in process]

53: Ismail J, Dawman L, Sankar J. Hypocalcemia, parathyroid hormone and calcitonin levels - association in critically ill children. *Indian J Pediatr.* 2015 Mar;82(3):210-1. doi: 10.1007/s12098-015-1690-x. Epub 2015 Jan 22. PubMed PMID: 25604247.

54: Jain BK, Bansal A, Choudhary D, Garg PK, Mohanty D. Centchroman vs tamoxifen for regression of mastalgia: a randomized controlled trial. *Int J Surg.* 2015 Mar;15:11-6. doi: 10.1016/j.ijso.2014.12.033. Epub 2015 Jan 22. PubMed PMID: 25619124.

INTRODUCTION: Several agents have been tried in the management of mastalgia. Centchroman (Ormeloxifene), a novel non-steroidal selective estrogen receptor modulator (SERM), has also been recently used in the management of mastalgia.

METHODS: Eligible patients, who had mastalgia for more than 3 months, were randomized into two groups - Group A received centchroman 30 mg daily and Group B received tamoxifen 10 mg daily. Treatment was continued for a total of 12 weeks; thereafter, patients were followed for another 12 weeks without medication to assess the continuum of relief. Pain severity was measured with VAS score. Patients were considered to have complete pain relief if their VAS score decreased to 3 or less.

RESULTS: Patients, in both the groups, showed gradual improvement in mastalgia with passage of time up to 12 weeks. Following cessation of treatment at 12 weeks, partial relapse of pain was observed at 24 weeks. There was no significant difference between Group A and Group B in terms of mean VAS Score and proportion of women reporting pain relief at 4, 8, 12, and 24 weeks. Fifteen patients in Group A had side effects namely dizziness, menstrual irregularities and development of ovarian cysts. There was no side effect noted in group B.

CONCLUSION: Centchroman and tamoxifen were found to be of similar effectiveness in providing pain relief in mastalgia. High frequency of side effects, particularly development of ovarian cyst, in patients receiving centchroman is a matter of concern.

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PMID: 25619124 [PubMed - in process]

55: Jain D, Mathur SR, Sharma MC, Iyer VK. Cytomorphology of sebaceous carcinoma with analysis of p40 antibody expression. *Diagn Cytopathol.* 2015 Jun;43(6):456-61. doi: 10.1002/dc.23250. Epub 2015 Jan 22. PubMed PMID: 25611456.

BACKGROUND: Sebaceous carcinomas (SBCs) are aggressive tumors with the potential to cause great morbidity and mortality. Poorly-differentiated tumors may at times pose challenges for the correct diagnosis. p40, a new antibody that targets a short isoform of p63 has been shown as a promising squamous cell marker. In this study, we sought to evaluate cytomorphological features of SBC and p40 expression analysis.

METHODS: A total of 29 previously diagnosed cases of SBCs including fine-needle aspirates and histopathology specimens from various sites were reviewed and studied for p40 expression. p40 nuclear expression was semi-quantitatively assessed. Adequate positive and negative controls of non-small cell lung carcinoma were taken for comparison. Expression pattern of normal sebaceous glands was also analyzed.

RESULTS: Of the 29 cases, 13 (44.8%) were from the periocular region. The most common extraocular site was parotid gland. Morphologically tumors were categorized into well- and poorly-differentiated varieties based on extent of sebaceous differentiation. p40 positivity was seen in all cases of cytology aspirates and histology sections with similar intensity. No difference in percentage positivity of cells was recorded in well- and poorly-differentiated tumors.

CONCLUSION: p40 can be a valuable marker when evaluating tumors with possible sebaceous differentiation. Although p40 expression in SBCs is not as useful for the differential diagnosis that includes poorly-differentiated squamous cell carcinoma, this study, for the first time in the literature, highlights an important observation that p40 can be utilized as a marker for sebaceous lineage. *Diagn. Cytopathol.* 2015;43:456-461. © 2015 Wiley Periodicals, Inc.

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PMID: 25611456 [PubMed - in process]

56: Jain P, Shastri S, Gulati S, Kaleekal T, Kabra M, Gupta N, Gupta YK, Pandey RM. Prevalence of UGT1A6 polymorphisms in children with epilepsy on valproate monotherapy. *Neurol India.* 2015 Jan-Feb;63(1):35-9. doi: 10.4103/0028-3886.152631. PubMed PMID: 25751467.

BACKGROUND: Valproate is a commonly used anticonvulsant drug. Uridine 5'-diphospho (UDP)-glucuronosyltransferase (UGT) contributes to around 50% of valproate metabolism and its polymorphisms may be important for explaining the considerable variation in valproate levels in patients with epilepsy.

AIM: This study was aimed to analyze the genetic polymorphisms of UGT1A6 in Indian children with epilepsy and their potential influence on the pharmacokinetics of valproate.

SETTING AND DESIGN: This cross-sectional study was carried out in the Department of Pediatrics, All India Institutes of Medical Sciences (AIIMS), New Delhi, between March 2011 and July 2012.

MATERIALS AND METHODS: Children aged 3-12 years diagnosed with epilepsy on valproate monotherapy for at least 1 month were enrolled. They underwent a detailed clinical examination. The UGT1A6 polymorphisms were detected by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP). Random samples were checked by genetic sequencing. The steady-state plasma concentrations of valproate were measured by High Performance Liquid Chromatography (HPLC) and associated with UGT1A6 polymorphisms.

RESULTS: A total of 80 children were studied. The prevalence of UGT1A6 T19G was as follows: TT (45%), TG (38.8%), and GG (16.3%); that of UGT1A6 A541G was: AA (48.8%), AG (38.8%), and GG (12.5%); and that of UGT1A6 A552C was: AA (43.8%), AC (40%), and CC (16.3%). The association between valproate doses or standardized serum valproate concentration and the various UGT1A6 genotypes could not be studied reliably in this small study population.

CONCLUSIONS: The frequencies of UGT1A6 genotypes and alleles were reported in the study population.

PMID: 25751467 [PubMed - in process]

57: Jain S, Sharma P, Karunanithi S, Bal C, Kumar R. (18)F-FDG PET/CT imaging in a seldom case of primary malignant melanoma of duodenum. *Indian J Nucl Med.* 2015 Jan-Mar;30(1):89-90. doi: 10.4103/0972-3919.147560. PubMed PMID: 25589820; PubMed Central PMCID: PMC4290080.

58: Jajodia A, Kaur H, Kumari K, Gupta M, Baghel R, Srivastava A, Sood M, Chadda RK, Jain S, Kukreti R. Evidence for schizophrenia susceptibility alleles in the Indian population: An association of neurodevelopmental genes in case-control and familial samples. *Schizophr Res.* 2015 Mar;162(1-3):112-7. doi: 10.1016/j.schres.2014.12.031. Epub 2015 Jan 9. PubMed PMID: 25579050.

Schizophrenia is a severe psychiatric disorder with lifetime prevalence of ~1% worldwide. A genotyping study was conducted using a custom panel of Illumina 1536 SNPs in 840 schizophrenia cases and 876 controls (351 patients and 385 controls from North India; and 436 patients, 401 controls and 143 familial samples with 53 probands containing 37 complete and 16 incomplete trios from South India). Meta-analysis of this population of Indo-European and Dravidian ancestry identified three strongly associated variants with schizophrenia: STT3A (rs548181, $p=1.47 \times 10^{-5}$), NRG1 (rs17603876, $p=8.66 \times 10^{-5}$) and GRM7 (rs3864075, $p=4.06 \times 10^{-3}$). Finally, a meta-analysis was conducted comparing our data with data from the Schizophrenia Psychiatric Genome-Wide Association Study Consortium (PGC-SCZ) that supported rs548181 ($p=1.39 \times 10^{-7}$). In addition, combined analysis of sporadic case-control association and a transmission disequilibrium test in familial samples from South Indian population identified three associations: rs1062613 ($p=3.12 \times 10^{-3}$), a functional promoter variant of HTR3A; rs6710782 ($p=3.50 \times 10^{-3}$), an intronic variant of ERBB4; and rs891903 ($p=1.05 \times 10^{-2}$), an intronic variant of EBF1. The results support the risk variants observed in the earlier published work and suggest a potential role of neurodevelopmental genes in the schizophrenia pathogenesis.

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PMID: 25579050 [PubMed - in process]

59: Jat KR, Mathew JL. Continuous positive airway pressure (CPAP) for acute bronchiolitis in children. *Cochrane Database Syst Rev.* 2015 Jan 7;1:CD010473. doi: 10.1002/14651858.CD010473.pub2. PubMed PMID: 25563827.

BACKGROUND: Acute bronchiolitis is one of the most frequent causes of emergency department visits and hospitalisation in infants. There is no specific treatment for bronchiolitis except for supportive therapy. Continuous positive airway pressure (CPAP) is supposed to widen the peripheral airways of the lung, allowing deflation of over-distended lungs in bronchiolitis. The increase in airway pressure also prevents the collapse of poorly supported peripheral small airways during expiration. In observational studies, CPAP is found to be beneficial in acute bronchiolitis.

OBJECTIVES: To assess the efficacy and safety of CPAP compared to no CPAP or sham CPAP in infants and children up to three years of age with acute bronchiolitis.

SEARCH METHODS: We searched CENTRAL (2014, Issue 3), MEDLINE (1946 to April week 2, 2014), EMBASE (1974 to April 2014), CINAHL (1981 to April 2014) and LILACS (1982 to April 2014).

SELECTION CRITERIA: We considered randomised controlled trials (RCTs), quasi-RCTs, cross-over RCTs and cluster-RCTs evaluating the effect of CPAP in children with acute bronchiolitis.

DATA COLLECTION AND ANALYSIS: Two review authors independently assessed study eligibility, extracted data using a structured proforma, analysed the data and performed meta-analyses.

MAIN RESULTS: We included two studies with a total of 50 participants under 12 months of age. In one study there was a high risk of bias for incomplete outcome data and selective reporting, and both studies had an unclear risk of bias for

several domains including random sequence generation. The effect of CPAP on the need for mechanical ventilation in children with acute bronchiolitis was uncertain due to imprecision around the effect estimate (two RCTs, 50 participants; risk ratio (RR) 0.19, 95% CI 0.01 to 3.63; low quality evidence). Neither trial measured our other primary outcome of time to recovery. One trial found that CPAP significantly improved respiratory rate compared with no CPAP (one RCT, 19 participants; mean difference (MD) -5.70 breaths per minute, 95% CI -9.30 to -2.10), although the other study reported no difference between groups with no numerical data to pool. Change in arterial oxygen saturation was measured in only one trial and the results were imprecise (one RCT, 19 participants; MD -1.70%, 95% CI -3.76 to 0.36). The effect of CPAP on the change in partial pressure of carbon dioxide (pCO₂) was also imprecise (two RCTs, 50 participants; MD -2.62 mmHg, 95% CI -5.29 to 0.05; low quality evidence). Duration of hospital stay was similar in both of the groups (two RCTs, 50 participants; MD 0.07 days, 95% CI -0.36 to 0.50; low quality evidence). Both trials reported no cases of pneumothorax and there were no deaths in either study. Change in partial pressure of oxygen (pO₂), hospital admission rate (from emergency department to hospital), duration of emergency department stay, need for intensive care unit admission, local nasal effects and shock were not measured in either study.

AUTHORS' CONCLUSIONS: The effect of CPAP in children with acute bronchiolitis is uncertain due to the limited evidence available. Larger trials with adequate power are needed to evaluate the effect of CPAP in children with acute bronchiolitis.

PMID: 25563827 [PubMed - in process]

60: Kakkar A, Mathur SR, Jain D, Iyer VK, Nalwa A, Sharma MC. Utility of DOG1 Immunomarker in Fine Needle Aspirates of Gastrointestinal Stromal Tumor. *Acta Cytol.* 2015;59(1):61-7. doi: 10.1159/000370057. Epub 2015 Jan 27. PubMed PMID: 25632981.

BACKGROUND: Gastrointestinal stromal tumor (GIST) is the most common mesenchymal tumor of the gastrointestinal tract. DOG1 is a sensitive and specific immunohistochemical marker for the diagnosis of GIST. To date, no study has reported the utility of DOG1 immunocytochemistry on aspirate smears.

METHODS: Aspirates with a cytological diagnosis of GIST were retrieved. DOG1 immunocytochemistry was performed on aspirates with adequate material.

RESULTS: 23 cases were included (11 primary, 2 recurrent, 10 metastatic). Primary tumors were most frequently located in the stomach; most metastatic tumors were in the liver. Tumor cells were arranged in cohesive clusters with high cellularity. Cells were spindle, had a low N:C ratio, and a moderate amount of cytoplasm, which was elongated and tapering. Characteristic nuclear features included elongated nuclei with blunt or tapering ends, fine chromatin, mild anisonucleosis, and longitudinal grooves. The mitotic count was low, including in metastatic tumors. DOG1 immunopositivity was noted in 57% of the cases examined. Histopathology was available in 5 cases, all diagnosed as GIST.

CONCLUSION: Cytology is a sensitive investigative modality for the preoperative diagnosis and confirmation of metastasis of GISTs. In ambiguous cases, DOG1 immunocytochemistry can serve as a valuable adjunct. Cytologic assessment, however, cannot predict malignant potential of GISTs as even metastatic tumors display bland nuclear features. © 2015 S. Karger AG, Basel.

PMID: 25632981 [PubMed - in process]

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BACKGROUND: Uttarakhand state is a known endemic area for iodine deficiency. **OBJECTIVE:** The present study was conducted with an objective to assess the iodine nutritional status amongst pregnant mothers (PMs) in districts: Pauri (P), Nainital (N) and Udham Singh Nagar (USN) of Uttarakhand state.

MATERIALS AND METHODS: Thirty clusters from each district were selected by utilizing the population proportionate to size cluster sampling methodology. A total of 1727 PMs from P (481), N (614) and USN (632) were included. The clinical examination of the thyroid of each PM was conducted. Urine and salt samples were collected from a sub samples of PMs enlisted for thyroid clinical examination.

RESULTS: The total Goiter rate was found to be 24.9 (P), 20.2 (N) and 16.1 (USN)%. The median urinary iodine concentration (UIC) levels were found to be 110 µg/L (P), 117.5 µg/L (N) and 124 µg/L (USN). The percentage of PMs consuming salt with iodine content of 15 ppm and more was found to be 57.9 (P), 67.0 (N) and 50.3 (USN).

CONCLUSION: The findings of the present study revealed that the PMs in all three districts had low iodine nutritional status as revealed by UIC levels of less than 150 µg/L.

PMCID: PMC4287753

PMID: 25593836 [PubMed]

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66: Karunanithi S, Kumar G, Sharma P, Bal C, Kumar R. Potential role of (18)F-2-fluoro-2-deoxy-glucose positron emission tomography/computed tomography imaging in patients presenting with generalized lymphadenopathy. *Indian J Nucl Med.* 2015 Jan-Mar;30(1):31-8. doi: 10.4103/0972-3919.147532. PubMed PMID: 25589803; PubMed Central PMCID: PMC4290063.

Generalized lymphadenopathy is a common and often vexing clinical problem caused by various inflammatory, infective and malignant diseases. We aimed to review briefly and highlight the potential role of (18)F-2-fluoro-2-deoxy-glucose ((18)F-FDG) positron emission tomography/computed tomography (PET/CT) in such patients. (18)F-FDG PET/CT can play an important role in the management of generalized lymphadenopathy. It can help in making an etiological diagnosis; can detect extranodal sites of involvement and employed for monitoring response to therapy.

PMCID: PMC4290063

PMID: 25589803 [PubMed]

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Primary splenic lymphomas (PSL) are rare malignancies which involve spleen with or without splenic hilar lymph nodes. Confirmation of diagnosis depends upon tissue sampling but noninvasive methods are useful in early diagnosis, treatment response monitoring and recurrence detection. Here we describe a case of PSL detected by ¹⁸F-FDG-PET/CT which was histopathologically proven to be diffuse large B-cell lymphoma (DLBCL) treated with CHOP regimen. ¹⁸F-FDG-PET/CT was found to be very useful in all stages (staging, recurrence detection and treatment response monitoring) of PSL with eight years of follow up.

PMID: 25633516 [PubMed - in process]

69: Kaur J, Pandit S, Sharma MC, Julka PK, Rath GK. Intradural extra medullary hemangiopericytoma of dorsal spine. *Childs Nerv Syst.* 2015 Jan;31(1):173-5. doi: 10.1007/s00381-014-2505-5. Epub 2014 Jul 25. PubMed PMID: 25059986.

PURPOSE: Spinal hemangiopericytoma is a rare neoplasm that behaves similar to intracranial hemangiopericytoma, with approximately 60 cases being reported in the literature of which only 10 are located in the intradural extramedullary (IDEM) location.

METHODS: We report a rare case of recurrent IDEM hemangiopericytoma of dorsal spine in a 16-year-old boy treated with surgery and adjuvant radiotherapy.

RESULTS: Patient is disease free at 5 years posttreatment with residual neurological deficit, but is able to carry out his activities of daily living.

CONCLUSION: Gross total resection, if feasible, followed by radiotherapy is the initial treatment of choice as radiotherapy improves recurrence free survival as well as overall survival.

PMID: 25059986 [PubMed - in process]

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Idiopathic pulmonary hemosiderosis (IPH) is a rare cause of recurrent diffuse alveolar hemorrhage (DAH) with no specific treatment. Herein, we discuss a case of hemoptysis, who had IPH and other rare associations. A 19-year-old man presented with recurrent hemoptysis, generalized weakness and progressive dyspnea for 3 years. Earlier, he was diagnosed with anemia and was treated with blood transfusions and hematinics. On examination he had pallor, tachycardia and was

underweight. Investigations revealed low level of hemoglobin (7.8 g/dl) and iron deficiency. An electrocardiography (ECG) showed sinus tachycardia, interventricular conduction delay and T-wave inversion. Echocardiography revealed dilated cardiomyopathy with left ventricular dysfunction. Computed tomography of the chest demonstrated bilateral diffuse ground glass opacity suggestive of pulmonary hemorrhage. Pulmonary function tests showed restrictive pattern with increased carbon monoxide diffusion. Bronchoalveolar lavage and transbronchial lung biopsy showed hemosiderin-laden macrophages. Patient could recall recurrent episodes of diarrhea in childhood. Serum antitissue transglutaminase antibodies were raised (291.66 IU/ml, normal <30 IU/ml). Duodenal biopsy showed subtotal villous atrophy consistent with celiac disease. He was started on gluten-free diet, beta blockers and diuretics. After two years of treatment, he has been showing consistent improvement. Screening for CD is important in patients with IPH. Cardiomyopathy forms rare third association. All three show improvement with gluten-free diet.

PMCID: PMC4298926

PMID: 25624603 [PubMed]

71: Khokhar S, Sharma R, Patil B, Sinha G, Nayak B, Kinkhabwala RA. A safe technique for in-the-bag intraocular lens implantation in pediatric cataract surgery. *Eur J Ophthalmol*. 2015 Jan-Feb;25(1):57-9. doi: 10.5301/ejo.5000502. Epub 2014 Jul 2. PubMed PMID: 25044136.

PURPOSE: To describe a safe technique for in-the-bag intraocular lens (IOL) implantation in pediatric cataract patients who undergo lens aspiration with primary posterior capsulorhexis and anterior vitrectomy.

METHODS: Sixty eyes of 45 consecutive patients with congenital/developmental cataract underwent lens aspiration with primary posterior continuous curvilinear capsulorhexis (PCCC) with anterior vitrectomy and in-the-bag IOL implantation using the described technique of IOL implantation using anterior capsule as support.

RESULTS: All eyes had stable IOL at the end of surgery and none of the eyes had lens decentration/dislocation in posterior vitreous.

CONCLUSIONS: Implantation of in-the-bag IOL is difficult in children who undergo primary PCCC with anterior vitrectomy. Our technique of implanting IOL by pushing it against the back surface of anterior capsule is a safe method and results in no complications related to faulty IOL implantation.

PMID: 25044136 [PubMed - indexed for MEDLINE]

72: Kothari SS, Murugan MK, Chowdhury UK. Spontaneous expectoration of a Blalock-Taussig shunt a decade after operation. *Ann Pediatr Cardiol*. 2015 Jan-Apr;8(1):47-9. doi: 10.4103/0974-2069.149518. PubMed PMID: 25684887; PubMed Central PMCID: PMC4322401.

An eleven-year-old boy expectorated a foreign body in cough that was identified as the prosthetic graft used for a Blalock-Taussig shunt. The shunt procedure was done 10 years earlier, and a definitive repair for tetralogy of Fallot was done a year later. He had no other symptoms, and a computed tomography (CT) angiogram did not reveal any other significant anomaly. The reason for this extremely rare event is unclear.

73: Kumar A, Singh B, Kusuma YS. Counselling services in prevention of mother-to-child transmission (PMTCT) in Delhi, India: an assessment through a modified version of UNICEF-PPTCT tool. *J Epidemiol Glob Health*. 2015 Mar;5(1):3-13. doi: 10.1016/j.jegh.2014.12.001. Epub 2015 Jan 16. PubMed PMID: 25700918.

The study aims to assess the counselling services provided to prevent mother to child transmission of HIV (PMTCT) under the Indian programme of prevention of parent-to-child transmission of HIV (PPTCT). Five hospitals in Delhi providing PMTCT services were randomly selected. A total of 201 post-test counselled women were interviewed using a modified version of the UNICEF-PPTCT evaluation tool. Knowledge about HIV transmission from mother-to-child was low. Post-test counselling mainly helped in increasing the knowledge of HIV transmission; yet 20%-30% of the clients missed this opportunity. Discussion on window period, other sexually transmitted diseases and danger signs of pregnancy were grossly neglected. The PMTCT services during the antenatal period are feasible and agreeable to be provided; however, certain aspects, like lack of privacy, confidentiality of HIV status of the client, counsellor's 'hurried' attitude, communication skills and discriminant behaviour towards HIV-positive clients, and disinterest of clients in the counselling, remain as gaps. These issues may be addressed through refresher training to counsellors with an emphasis on social and behaviour change communication strategies. Addressing attitudinal aspects of the counsellors towards HIV positives is crucial to improve the quality of the services to prevent mother-to-child transmission of HIV.

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74: Kumar A, Pandit AK, Vivekanandhan S, Srivastava MV, Tripathi M, Prasad K. Association between beta-1 adrenergic receptor gene polymorphism and ischemic stroke in North Indian population: a case control study. *J Neurol Sci.* 2015 Jan 15;348(1-2):201-5. doi: 10.1016/j.jns.2014.12.003. Epub 2014 Dec 8. PubMed PMID: 25510377.

Stroke is a multi-factorial disease caused by a combination of genetic and environmental factors. The purpose of this case control study was to determine the relationship of beta-1 adrenergic receptor polymorphism with ischemic stroke in North Indian population. In this study, 224 patients and 224 age- and sex-matched controls were recruited from the outpatient department and neurology ward of All India Institute of Medical Sciences, New Delhi. Genotyping was performed by using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method. PCR results were confirmed by DNA sequencing. Frequency distributions of genotypes and alleles were compared between cases and controls using logistic regression. Mean age of cases and controls was 53.9 ± 13.4 and 53.6 ± 12.9 years respectively. Multivariate logistic regression analysis showed an independent association between Ser49Gly polymorphism and ischemic stroke under a dominant model of inheritance (OR, 2.5; 95% CI, 1.2 to 5) and large vessel disease (LVD) under a recessive model of inheritance (OR, 6.5; 95% CI, 1.7 to 23; $P=0.005$). Independent association of Arg389Gly polymorphism with small vessel disease (SVD) (OR, 7.09; 95% CI, 1.9 to 25; $P=0.003$) under recessive model of inheritance. The findings of the present study Ser49Gly polymorphism of the ADRB1 gene confer higher risk of ischemic stroke in a North Indian population and especially in patients with LVD. Our findings also show that Arg389Gly polymorphism of ADRB1 confers higher risk of SVD in North Indian population.

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75: Kumar A, Lodha R, Kumar P, Kabra SK. Non-cystic fibrosis bronchiectasis in children: clinical profile, etiology and outcome. *Indian Pediatr.* 2015 Jan;52(1):35-7. PubMed PMID: 25638182.

OBJECTIVE: To describe clinical profile, etiology and outcome in children with non-cystic fibrosis bronchiectasis.

METHODS: A chart review of children diagnosed with non-cystic fibrosis

bronchiectasis, attending pediatric chest clinic of tertiary care hospital. RESULTS: The underlying cause was identified in 51 (63.8%) out of 80 children (mean age, 9.6 y). Common causes were post-infectious in 19 (23.8%), suspected primary ciliary dyskinesia in 12 (15%), and allergic bronchopulmonary aspergillosis in 6 (7.5%). One or more complications were observed in 76 (95%) patients; 14 (17.5%) children required surgery and 5 (11.1%) children died. CONCLUSIONS: Common causes of non-cystic fibrosis bronchiectasis are post infectious and primary ciliary dyskinesia. There is a need to create awareness about early diagnosis of bronchiectasis as it is often delayed.

PMID: 25638182 [PubMed - in process]

76: Kumar G, Srivastava A, Sharma SK, Rao TD, Gupta YK. Efficacy & safety evaluation of Ayurvedic treatment (Ashwagandha powder & Sidh Makardhwaj) in rheumatoid arthritis patients: a pilot prospective study. Indian J Med Res. 2015 Jan;141(1):100-6. PubMed PMID: 25857501.

BACKGROUND & OBJECTIVES: In the traditional system of medicine in India Ashwagandha powder and Sidh Makardhwaj have been used for the treatment of rheumatoid arthritis. However, safety and efficacy of this treatment have not been evaluated. Therefore, the present study was carried out to evaluate the efficacy and safety of Ayurvedic treatment (Ashwagandha powder and Sidh Makardhwaj) in patients with rheumatoid arthritis.

METHODS: One hundred and twenty five patients with joint pain were screened at an Ayurvedic hospital in New Delhi, India. Eighty six patients satisfied inclusion criteria and were included in the study. Detailed medical history and physical examination were recorded. Patients took 5g of Ashwagandha powder twice a day for three weeks with lukewarm water or milk. Sidh Makardhwaj (100 mg) with honey was administered daily for the next four weeks. The follow up of patients was carried out every two weeks. The primary efficacy end point was based on American College of Rheumatology (ACR) 20 response. Secondary end points were ACR50, ACR70 responses, change from baseline in disease activity score (DAS) 28 score and ACR parameters. Safety assessments were hepatic function [alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP), bilirubin and β 2 microglobulin], renal function (urea and creatinine and NGAL) tests and urine mercury level.

RESULTS: The study was completed by 90.7 per cent (78/86) patients. Patients with moderate and high disease activity were 57.7 per cent (45/78) and 42.3 per cent (33/78), respectively. All patients were tested positive for rheumatoid factor and increased ESR level. Ashwagandha and Sidh Makardhwaj treatment decreased RA factor. A significant change in post-treatment scores of tender joint counts, swollen joint counts, physician global assessment score, patient global assessment score, pain assessment score, patient self assessed disability index score and ESR level were observed as compared to baseline scores. ACR20 response was observed in 56.4 per cent (44/78) patients (American College of Rheumatology criteria) and moderate response in 39.74 per cent (31/78) patients [European League Against Rheumatism (EULAR) criteria]. Ayurvedic treatment for seven weeks in rheumatoid arthritis patients showed normal kidney and liver function tests. However, increased urinary mercury levels were observed after treatment. INTERPRETATION & CONCLUSIONS: The findings of the present study suggest that this Ayurvedic treatment (Ashwagandha powder and Sidh Makardhwaj) has a potential to be used for the treatment of rheumatoid arthritis. However, due to small sample size, short duration, non randomization and lack of a control group as study limitations, further studies need to be done to confirm these findings.

PMID: 25857501 [PubMed - in process]

77: Kumar G, Jain V, Pandey RK, Gadwal M. Effect of different design preparations

on the flexural and fracture strength of fiber-reinforced composite fixed partial dentures: an in vitro study. *J Prosthodont*. 2015 Jan;24(1):57-63. doi: 10.1111/jopr.12181. Epub 2014 Jul 22. PubMed PMID: 25052502.

PURPOSE: To determine and compare the flexural and fracture strength of three-unit fiber-reinforced composite (FRC) fixed partial dentures (FPDs) using three abutment design preparations.

MATERIAL AND METHODS: The flexural and fracture strength of three-unit FRC FPDs were evaluated using three design preparations of the abutments (conventional full crown [group A], box-shaped [group B], and tub-shaped [group C]). Thirty three-unit FRC FPDs were fabricated (10 specimens per group) for the replacement of missing mandibular first molars and were adhesively luted to extracted human teeth. The flexural and fracture strength were determined using a universal testing machine with a steel loading pin of 20 mm diameter with a 3-mm-diameter hardened circular tip. Each specimen was evaluated under SEM to determine mode of failure.

RESULTS: Mean fracture strength for group A was 820.00 ± 56.51 N, group B was 536.94 ± 65.62 N, and group C was 501.24 ± 66.71 N. The highest mean flexural strength was found in group A (68.33 ± 4.71 MPa), followed by group B (44.74 ± 5.46 MPa) and lowest in group C (41.77 ± 5.56 MPa). The SEM evaluation showed partial or complete debonding of veneering composite from fiber framework, leaving intact fiber frameworks in all the specimens.

CONCLUSION: Full-coverage design had significantly higher flexural and fracture strengths than box and tub-shaped designs. Since both values were noted to be in the order of masticatory stresses, the full coverage design is a good alternative for the replacement of missing molar teeth; however, the framework veneering composite interface was the weakest phase of FRC FPDs, thus indicating that further improvement in veneering composite or fiber framework is needed to improve the compatibility of veneering composite with that of fiber framework for long-term clinical implications.

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PMID: 25052502 [PubMed - in process]

78: Kumar K, Dhull VS, Karunanithi S, Chakraborty PS, Roy SG, Ghosh S, Agarwala S, Tripathi M. Synchronous thoracic and abdominal enteric duplication cysts: Accurate detection with (99m)Tc-pertechnetate scintigraphy. *Indian J Nucl Med*. 2015 Jan-Mar;30(1):59-61. doi: 10.4103/0972-3919.147545. PubMed PMID: 25589809; PubMed Central PMCID: PMC4290069.

Enteric duplication cysts (EDCs) are uncommon congenital anomalies, which can occur anywhere along the gastrointestinal tract and vary greatly in presentation, size, location and symptoms. Ectopic gastric mucosa is reported to be found in 20-30% of these duplications. (99m)Tc-pertechnetate scintigraphy is a useful modality for preoperative localization of the ectopic functioning gastric mucosa in the EDCs. We report a case where (99m)Tc-pertechnetate scintigraphy was useful in detecting synchronous thoracic and abdominal duplication cysts with functioning gastric mucosa thus having an impact on the patient management.

PMCID: PMC4290069

PMID: 25589809 [PubMed]

79: Kumar M, Srivastava G, Kaur J, Assi J, Alyass A, Leong I, MacMillan C, Witterick I, Shukla NK, Thakar A, Duggal R, Roychoudhury A, Sharma MC, Walfish PG, Chauhan SS, Ralhan R. Prognostic significance of cytoplasmic S100A2 overexpression in oral cancer patients. *J Transl Med*. 2015 Jan 16;13(1):8. doi: 10.1186/s12967-014-0369-9. PubMed PMID: 25591983; PubMed Central PMCID: PMC4324434.

BACKGROUND: Oral squamous cell carcinoma (OSCC) patients are at high risk of loco-regional recurrence and 5-year survival rates are about 50%. Identification of patients at high risk of recurrence will enable rigorous personalized post-treatment management. Most novel biomarkers have failed translation for clinical use because of their limited successful validation in external patient cohorts. The aim of this study was to determine the prognostic significance of alterations in sub-cellular expression of S100A2, a pro-tumorigenic calcium binding protein, identified as a candidate biomarker in our proteomic analysis in OSCC and validation of its clinical utility in an external cohort.

METHODS: In a retrospective study, immunohistochemical analysis of S100A2 was carried out in 235 Indian OSCC (Test set) and 129 normal oral tissues, correlated with clinicopathological parameters and disease outcome over 122 months for OSCC patients following the REMARK criteria. The findings were validated in an external cohort (Validation set 115 Canadian OSCC and 51 normal tissues) and data analyzed using the R package.

RESULTS: Significant increase in cytoplasmic and decrease in nuclear S100A2 expression was observed in OSCC in comparison with normal tissues. Cox multivariable regression analysis internally and externally validated cytoplasmic S100A2 association with tumor recurrence. Kaplan Meier analysis of patients stratified to high and low risk groups showed significantly different recurrence free survival (Test set- log rank test, $p=0.005$, median survival 16 and 69 months respectively and Validation set - $p<0.00001$, median survival 9.4 and 59.9 months respectively); 86% and 81% of patients who had recurrence were correctly stratified into the high risk group. Seventy percent and 81% patients stratified into low risk group did not show cancer recurrence within 1 year in Test and Validation sets.

CONCLUSIONS: Our study provided clinical evidence for the potential of cytoplasmic S100A2 overexpression as a predictor of recurrence risk in OSCC patients. A unique translational aspect of our study is validation of S100A2 as prognostic marker in two independent cohorts (Canadian and Indian) suggesting this protein is likely to find widespread utility in clinical practice for identifying oral cancer patients at high risk of disease recurrence.

PMCID: PMC4324434

PMID: 25591983 [PubMed - in process]

80: Kumar M, Baidya DK, Mohan VK, Mamta. Safe anesthesia management protocol of a child with congenital long QT syndrome and deafness (Jervell and Lange-Nielsen syndrome) for cochlear implant surgery. *Saudi J Anaesth.* 2015 Jan;9(1):98-9. doi: 10.4103/1658-354X.146328. PubMed PMID: 25558210; PubMed Central PMCID: PMC4279362.

81: Kumar R. Urological education: Do we need a rethink? *Indian J Urol.* 2015 Jan-Mar;31(1):1-2. doi: 10.4103/0970-1591.148307. PubMed PMID: 25624567; PubMed Central PMCID: PMC4300564.

82: Kusumesh R, Vanathi M. Graft rejection in pediatric penetrating keratoplasty: Clinical features and outcomes. *Oman J Ophthalmol.* 2015 Jan-Apr;8(1):33-7. doi: 10.4103/0974-620X.149862. PubMed PMID: 25709272; PubMed Central PMCID: PMC4333541.

PURPOSE: Early presentation of rejection facilitates early initiation of treatment which can favor a reversible rejection and better outcome. We analyzed the incidence, clinical features including rejection-treatment period and outcomes following graft rejection in our series of pediatric corneal graft.
MATERIALS AND METHODS: Case records of pediatric penetrating keratoplasty (PK) were reviewed retrospectively, and parameters noted demographic profile, indication of surgery, surgery-rejection period, rejection-treatment interval, graft outcome, and complications.
RESULTS: PK was performed in 66 eyes of 66 children <12 years, with an average follow-up of 21.12 ± 11.36 months (range 4-48 month). The median age at the time of surgery was 4.0 years (range 2 months to 12 years). Most of the children belonged to rural background. Scarring after keratitis (22, 33.4%) was the most common indication. Graft rejection occurred in eight eyes (12.12%) (acquired nontraumatic - 3, congenital hereditary endothelial dystrophy [CHED] - 2, nonCHED - 1, congenital glaucoma - 1, re-graft - 1). The mean surgery-rejection period was 10.5 ± 7.3 months and mean rejection-treatment interval was 10.9 ± 7.02 days.
CONCLUSION: This study showed irreversible graft rejection was the leading cause of graft failure of pediatric PK. Though, the incidence (12.1%) of graft rejection in current study was not high, but the percentage of reversal (25%) was one of the lowest in literature because of delayed presentation and longer interval between corneal graft rejection and treatment. In addition, categorization of the type of graft rejection was very difficult and cumbersome in pediatric patients.

PMCID: PMC4333541
PMID: 25709272 [PubMed]

83: Lodha R, Kabra SK. Health & nutritional status of HIV infected children. *Indian J Med Res.* 2015 Jan;141(1):10-2. PubMed PMID: 25857491.

84: Loying P, Manhas J, Sen S, Bose B. Autoregulation and heterogeneity in expression of human Cripto-1. *PLoS One.* 2015 Feb 6;10(2):e0116748. doi: 10.1371/journal.pone.0116748. eCollection 2015. PubMed PMID: 25658584; PubMed Central PMCID: PMC4319928.

Cripto-1 (CR-1) is involved in various processes in embryonic development and cancer. Multiple pathways regulate CR-1 expression. Our present work demonstrates a possible positive feedback circuit where CR-1 induces its own expression. Using U-87 MG cells treated with exogenous CR-1, we show that such induction involves ALK4/SMAD2/3 pathway. Stochasticity in gene expression gives rise to

heterogeneity in expression in genetically identical cells. Positive feedback increases such heterogeneity and often gives rise to two subpopulations of cells, having higher and lower expression of a gene. Using flow cytometry, we show that U-87 MG cells have a minuscule subpopulation with detectable expression of CR-1. Induction of CR-1 expression, by exogenous CR-1, increases the size of this CR-1 positive subpopulation. However, even at very high dose, most of the cells remain CR-1 negative. We show that population behavior of CR-1 induction has a signature similar to bimodal expression expected in a transcriptional circuit with positive feedback. We further show that treatment of U-87 MG cells with CR-1 leads to higher expression of drug efflux protein MDR-1 in the CR-1 positive subpopulation, indicating correlated induction of these two proteins. Positive feedback driven heterogeneity in expression of CR-1 may play crucial role in phenotypic diversification of cancer cells.

PMCID: PMC4319928

PMID: 25658584 [PubMed - in process]

85: Madan K, Ayub II, Mohan A, Jain D, Guleria R, Kabra SK. Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) in mediastinal lymphadenopathy. *Indian J Pediatr.* 2015 Apr;82(4):378-80. doi: 10.1007/s12098-014-1665-3. Epub 2015 Jan 8. PubMed PMID: 25567076.

Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration (EBUS-TBNA) is accepted as a safe and minimally invasive modality for evaluation of mediastinal pathologies in adults. There is scanty literature on the utilization and performance characteristics of Convex probe EBUS-TBNA in children. The authors herein describe two pediatric patients with mediastinal lymphadenopathy wherein the underlying diagnosis was unclear based on the clinico-radiological profile. A possibility of lymphoma was considered in one of the patients. EBUS-TBNA was performed for obtaining tissue samples from the enlarged mediastinal lymph nodes and diagnosis of tuberculosis was established in both the patients. The authors review the available literature on Pediatric EBUS TBNA. EBUS-TBNA is an exciting and promising approach towards safe and accurate evaluation of mediastinal pathologies in children. Pediatric EBUS-TBNA needs further evaluation in prospective studies.

PMID: 25567076 [PubMed - in process]

86: Maitra S, Khanna P, Baidya DK, Pawar DK, Baipai M, Panda SS. Pediatric retroperitoneoscopic nephrectomy: An initial experience of 15 cases. *J Anaesthesiol Clin Pharmacol.* 2015 Jan-Mar;31(1):115-8. doi: 10.4103/0970-9185.150560. PubMed PMID: 25788784; PubMed Central PMCID: PMC4353135.

Retroperitoneoscopic approach of nephrectomy in pediatric patients is a debatable issue from surgical point of view. Experience of anesthetic management of 15 such patients from a tertiary care teaching hospital has been described here. We found that capno-retroperitoneum increases end-tidal carbon-di-oxide, but normocapnea was achieved in the most of the patients. No significant hemodynamic changes were noted in any patients. However, subcutaneous emphysema was common, but self-limiting without any serious consequence. Postoperative pain after this procedure is usually manageable by nonopioid analgesics.

PMCID: PMC4353135

PMID: 25788784 [PubMed]

87: Makharia GK. Celiac disease screening in southern and East Asia. *Dig Dis.* 2015;33(2):167-74. doi: 10.1159/000369537. Epub 2015 Apr 22. PubMed PMID: 25925919.

Until 1970s, celiac disease (CD) was considered to be an uncommon disease except in Western Europe. The global epidemiology of CD continues to evolve with improvement in the diagnostic tests, simplification of the diagnostic criteria and increase in awareness about the disease. The Asian region is currently at the crossroads of the frontier of knowledge and awareness of CD. In many Asian nations, CD is still considered to be either nonexistent or very rare. A notable exception is India, where CD has been well recognized, especially in the northern part, and 2 population-based studies have revealed a prevalence of 0.3-1.04%. Initial reports from Malaysia, China, Japan and Singapore suggest the existence of CD in these countries. Furthermore, a meta-analysis of the predisposing factors predicts a high probability of occurrence of CD in fair numbers in China. There are no formal reports on CD from Malaysia, Indonesia, Korea, Taiwan and many other nations in this region. With the impending CD epidemic in Asia, there are many challenges. Some of the efforts which are required include determination of prevalence of CD across the region, spreading of awareness among physicians and patients, training of dieticians for proper counseling and supervision of patients, creation of gluten-free food infrastructure in the food supply and creation of patient advocacy organizations. Although the absolute number of patients with CD at present is not very large, this number is expected to increase over the next few years/decades. It is thus appropriate that the medical community across Asia define the extent of the problem and get prepared to handle the impending CD epidemic. © 2015 S. Karger AG, Basel.

PMID: 25925919 [PubMed - in process]

88: Mallick S, Benson R, Bhasker S, Mohanti BK. Conformal radiotherapy for locally advanced juvenile nasopharyngeal angio-fibroma. *J Cancer Res Ther.* 2015 Jan-Mar;11(1):73-7. doi: 10.4103/0973-1482.150349. PubMed PMID: 25879340.

PURPOSE: To assess the efficacy of radiation in the treatment of juvenile nasopharyngeal angiofibroma (JNA).

MATERIALS AND METHODS: Data were retrieved for JNA treated with radiotherapy from 1987-2012. The demographics, treatment and outcome data were recorded in predesigned proforma.

RESULTS: Data of 32 patients were retrieved. Median age was 17 years (range: 12-33 years). All patients received radiation because of refractory, residual or unresectable locally advanced disease. All patients were planned with a three-dimensional conformal technique (3DCRT). The median radiation dose was 30 Gray (range: 30-45 Gray). Median follow-up was 129 months (range: 1-276 months). At the last follow-up, 13 patients were found to have a radiological complete response. Two patients progressed 38 and 43 months after completion of treatment and opted for alternative treatment. One patient developed squamous cell carcinoma of the nasal ale 15 years after radiation.

CONCLUSION: Conformal radiotherapy shows promise as an alternative treatment approach for locally advanced JNA and confers long-term disease control with minimal toxicity.

PMID: 25879340 [PubMed - in process]

89: Mandelia A, Agarwala S. Acquired Jejunal Atresia in a 2-Month-old Infant. *J Clin Diagn Res.* 2015 Jan;9(1):PD01-2. doi: 10.7860/JCDR/2015/8979.5358. Epub 2015 Jan 1. PubMed PMID: 25738024; PubMed Central PMCID: PMC4347115.

Acquired intestinal atresia in non-necrotizing enterocolitis affected patients is very rare. We report a 2 month old male infant who presented with bilious vomiting, abdominal distension and constipation. He was exclusively breast fed, gained weight and was asymptomatic till six weeks of age. Exploratory laparotomy

revealed blind-ended, dilated proximal segment and collapsed distal segment of jejunum at approximately 30 cms from duodeno-jejunal flexure, with a V-shaped mesentery defect resembling a type III-a congenital jejunal atresia.

PMCID: PMC4347115

PMID: 25738024 [PubMed]

90: Mankotia DS, Satyarthee GD, Sharma BS. A rare case of thoracic myelocystocele associated with type 1 split cord malformation with low lying tethered cord, dorsal syrinx and sacral agenesis: Pentad finding. *J Neurosci Rural Pract.* 2015 Jan;6(1):87-90. doi: 10.4103/0976-3147.143209. PubMed PMID: 25552859; PubMed Central PMCID: PMC4244798.

Myelocystocele is a rare form of spinal dysraphism. Thoracic myelocystocele is still rarer. The occurrence of thoracic myelocystocele associated with type-1 split cord malformation, low lying tethered cord, dorsal syrinx and spina bifida is extremely rare. Clinical presentation of such a rare case and an early surgical management is discussed briefly.

PMCID: PMC4244798

PMID: 25552859 [PubMed]

91: Maulik SK, Mishra S. Hypertrophy to failure: What goes wrong with the fibers of the heart? *Indian Heart J.* 2015 Jan-Feb;67(1):66-9. doi: 10.1016/j.ihj.2015.02.012. Epub 2015 Mar 14. PubMed PMID: 25820056; PubMed Central PMCID: PMC4382541.

92: Meena NK, Ahuja V, Meena K, Paul J. Association of TLR5 Gene Polymorphisms in Ulcerative Colitis Patients of North India and Their Role in Cytokine Homeostasis. *PLoS One.* 2015 Mar 19;10(3):e0120697. doi: 10.1371/journal.pone.0120697. eCollection 2015. PubMed PMID: 25789623; PubMed Central PMCID: PMC4366177.

BACKGROUND AND AIM: In health, TLR signaling protects the intestinal epithelial barrier and in disease, aberrant TLR signaling stimulates diverse inflammatory responses. Association of TLR polymorphisms is ethnicity dependent but how they impact the complex pathogenesis of IBD is not clearly defined. So we propose to study the status of polymorphisms in TLR family of genes and their effect on cytokines level in UC patients.

METHODS: The genotypes of the six loci TLR1-R80T, TLR2-R753Q, TLR3-S258G, TLR5-R392X, TLR5-N592S and TLR6-S249P were determined in 350 controls and 328 UC patients by PCR-RFLP and sequencing. Cytokine levels were measured by ELISA in blood plasma samples. Data were analyzed statistically by SPSS software.

RESULTS: TLR5 variants R392X and N592S showed significant association ($p = 0.007$, 0.021) with UC patients but TLR 1, 2, 3, 6 variants did not show any association. Unlike other studies carried out in different ethnic groups, TLR 6 (S249P) SNP was universally present in our population irrespective of disease.

Genotype-phenotype correlation analysis revealed that the patients having combination of multiple SNPs both in TLR5 and TLR4 gene suffered from severe disease condition and diagnosed at an early age. The level of TNF α ($p = 0.004$), IL-6 ($p = 0.0001$) and IFN γ ($p = 0.006$) significantly increased in patients as compared to controls having wild genotypes for the studied SNPs. However, there was decreased level of TNF α ($p = 0.014$), IL-6 ($p = 0.028$) and IFN γ ($p = 0.001$) in patients carrying TLR5-R392X variant as compared to wild type patients. Patients carrying two simultaneous SNPs D299G in TLR4 gene and N592S in TLR5 gene showed significant decrease in the levels of TNF α ($p = 0.011$) and IFN γ ($p = 0.016$).

CONCLUSION: Polymorphisms in TLR 5 genes were significantly associated with the UC in North Indian population. The cytokine level was significantly modulated in

patients with different genotypes of TLR4 and TLR5 SNPs.

PMCID: PMC4366177

PMID: 25789623 [PubMed - in process]

93: Meena S, Gangary SK. Tuberculosis of symphysis pubis: A case report. J Res Med Sci. 2015 Jan;20(1):100-2. PubMed PMID: 25767530; PubMed Central PMCID: PMC4354055.

Symphysis pubis is an uncommon site of tuberculosis and only few cases have been reported in the literature. It is important to distinguish it from the more common entities like Osteitis pubis and Osteomyelitis of pubis symphysis to prevent delay in diagnosis and minimize morbidity and prevent complications. We report a rare case of tuberculosis of symphysis pubis in a 50-year-old Indian female from low socioeconomic status. Diagnosis is not difficult if one is aware of the condition. A high index of suspicion along with radiograph and fine needle aspiration led to the diagnosis. The patient had an excellent outcome following a complete course of anti-tuberculous chemotherapy for tuberculosis.

PMCID: PMC4354055

PMID: 25767530 [PubMed]

94: Mishra B, Singhal S, Aggarwal D, Kumar N, Kumar S. Non operative management of traumatic esophageal perforation leading to esophagocutaneous fistula in pediatric age group: review and case report. World J Emerg Surg. 2015 Apr 2;10:19. doi: 10.1186/s13017-015-0012-y. eCollection 2015. PubMed PMID: 25866555; PubMed Central PMCID: PMC4393641.

Management of delayed presenting esophageal perforations has long been a topic of debate. Most authors consider definitive surgery being the management of choice. Management, however, differs in pediatric patients in consideration with better healing of younger tissues. We extensively review the role of aggressive non-operative management in pediatric esophageal perforations, especially with delayed presentation and exemplify with case of a young boy with esophageal perforation and esophago-cutaneous fistula. We also lay down the protocol to manage such patients based on our institutional recommendations.

PMCID: PMC4393641

PMID: 25866555 [PubMed]

95: Mittal D, Agarwala S, Yadav DK, Pramanik DD, Sharma MC, Bagga D. Testicular Tumors in Undescended Testes in Children Below 5 y of Age. Indian J Pediatr. 2015 Jun;82(6):549-52. doi: 10.1007/s12098-014-1667-1. Epub 2015 Jan 11. PubMed PMID: 25575910.

OBJECTIVE: To evaluate the presentation, treatment and outcome of testicular tumors in undescended testes (UDT) in boys below 5 y of age.

METHODS: Case records of boys below 5 y of age, diagnosed to have germ cell tumors (GCT) in the UDT were reviewed.

RESULTS: Seven children in the age range of 05-54 mo (mean 26 mo) were included. While five of these 7 (71 %) presented with abdominal mass [one antenatally detected], 2 (29 %) were detected to have a GCT during orchiopexy. In three of these five with abdominal mass, the alpha-fetoprotein (α FP) was markedly elevated. Two of these three with elevated α FP were endodermal sinus tumors while the third was embryonal carcinoma. The 4th patient with an abdominal mass was diagnosed to have an immature teratoma (IMT) while the patient with antenatally diagnosed mass had a mature cystic teratoma (MT). Both the patients with incidentally detected mass during the orchiopexy had mature teratoma (MT). All the seven children are alive and disease free at last follow-up.

CONCLUSIONS: Though rare, boys with impalpable undescended testes may develop germ cell tumors early in childhood. These can be managed with chemotherapy and resection and have a good disease free outcome.

PMID: 25575910 [PubMed - in process]

96: Mittal R, Kumar N, Yadav C, Kumar A. Direct Repair without Augmentation of Patellar Tendon Avulsion following TKA. Case Rep Orthop. 2015;2015:391295. doi: 10.1155/2015/391295. Epub 2015 Jan 6. PubMed PMID: 25632362; PubMed Central PMCID: PMC4302355.

Complications involving the extensor mechanism after TKA are potentially disastrous. We are reporting a case of patellar tendon rupture from tibial tuberosity following total knee arthroplasty. We managed it by direct repair with fiberwire using Krackow suture technique without augmentation. Our long term result has been very encouraging. Our method is a safe and better method of management of patellar tendon avulsion following TKA when it happens without any tissue loss.

PMCID: PMC4302355

PMID: 25632362 [PubMed]

97: Mukherjee A, Karunanithi S, Singla S, Bal C, Kumar R. Gastrointestinal stromal tumour with unusual sites of metastasis: accurate staging with ¹⁸F-FDG PET/CT. Rev Esp Med Nucl Imagen Mol. 2015 Jan-Feb;34(1):60-1. doi: 10.1016/j.rem.2014.02.002. Epub 2014 Sep 26. PubMed PMID: 25263720.

98: Mukherjee A, Singla S, Das CJ, Bal C, Kumar R. Enchondroma of clivus: appearance on ¹⁸F-FDG PET-CT in contrast with MRI. Clin Nucl Med. 2015 Jan;40(1):e53-4. doi: 10.1097/RLU.0b013e3182a27c1f. PubMed PMID: 25489953.

A 55-year-old man underwent MRI for right hemifacial pain, which demonstrated a heterogeneously enhancing lesion in right clivus. The lesion was characterized as enchondroma on CT images, which demonstrated increased tracer uptake on PET-CT images. The chondroid matrix showed increased glucose metabolism with no significant enhancement on MRI, suggesting a perfusion-metabolism mismatch.

PMID: 25489953 [PubMed - in process]

99: Murugan MK, Jagia P, Saxena A. Crisscross pulmonary arteries with partial anomalous pulmonary venous drainage on multislice cardiac CT. J Cardiovasc Comput Tomogr. 2015 Jan-Feb;9(1):71-3. doi: 10.1016/j.jcct.2014.07.008. Epub 2014 Aug 23. PubMed PMID: 25441871.

Criss cross pulmonary arteries is a rare entity characterized by classic malposition of pulmonary arteries. It may be associated with other conotruncal malformations and genetic syndromes. This report describes a case of crisscross pulmonary arteries associated with anomalous pulmonary venous return, an association which has never been reported before in literature.

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PMID: 25441871 [PubMed - in process]

100: Nadarajah J, Madhusudhan KS, Yadav AK, Gupta AK, Vikram NK. Acute hemorrhagic encephalitis: An unusual presentation of dengue viral infection.

Indian J Radiol Imaging. 2015 Jan-Mar;25(1):52-5. doi: 10.4103/0971-3026.150145. PubMed PMID: 25709166; PubMed Central PMCID: PMC4329688.

Dengue is a common viral infection worldwide with presentation varying from clinically silent infection to dengue fever, dengue hemorrhagic fever, and severe fulminant dengue shock syndrome. Neurological manifestation usually results from multisystem dysfunction secondary to vascular leak. Presentation as hemorrhagic encephalitis is very rare. Here we present the case of a 13-year-old female admitted with generalized tonic clonic seizures. Plain computed tomography (CT) scan of head revealed hypodensities in bilateral deep gray matter nuclei and right posterior parietal lobe without any hemorrhage. Cerebrospinal fluid (CSF) and serology were positive for IgM and IgG antibodies to dengue viral antigen. Contrast-enhanced magnetic resonance imaging (MRI) revealed multifocal T2 and fluid attenuated inversion recovery (FLAIR) hyperintensities in bilateral cerebral parenchyma including basal ganglia. No hemorrhage was seen. She was managed with steroids. As her clinical condition deteriorated, after being stable for 2 days, repeat MRI was done which revealed development of hemorrhage within the lesions, and diagnosis of acute hemorrhagic encephalitis of dengue viral etiology was made.

PMCID: PMC4329688

PMID: 25709166 [PubMed]

101: Nagesh CM, Saxena A, Patel C, Karunanithi S, Nadig M, Malhotra A. The role of 18F fluorodeoxyglucose positron emission tomography (18F-FDG-PET) in children with rheumatic carditis and chronic rheumatic heart disease. Nucl Med Rev Cent East Eur. 2015;18(1):25-8. doi: 10.5603/NMR.2015.0006. PubMed PMID: 25633513.

BACKGROUND: We report the use of positron emission tomography (PET) using 18F-FDG for the diagnosis of carditis in children with rheumatic heart disease (RHD).

MATERIAL AND METHODS: Thirty-six children aged 6-17 years (seventeen males and nineteen females) with isolated rheumatic significant mitral regurgitation (MR) underwent FDG-PET scanning of the heart after fasting for 6 h within a period of 2 years. They were divided into two groups based on Jones criteria - acute rheumatic carditis and chronic RHD. Age- and gender-matched twelve children who underwent whole body ¹⁸F-FDG-PET scan for routine PET scan for oncological evaluation was taken as controls. Nineteen patients had active carditis and 17 were chronic RHD cases.

RESULTS: All 12 controls and all 17 cases with chronic RHD with MR showed diffuse uptake pattern. Of the 19 active cases, 14 showed ¹⁸F-FDG uptake in the myocardium, 5 did not show any uptake. Thus the finding of no uptake pattern on ¹⁸F-FDG-PET scan had a sensitivity of 26% but positive predictive value of 100% for acute carditis cases. This study describes the ¹⁸F-FDG-PET uptake pattern in children with RHD and in 12 age-matched control subjects in the fasting state. Those with chronic RHD with MR showed diffuse myocardial uptake pattern similar to that of the control group. Patients with active carditis showed mixed results; the majority showed diffuse uptake pattern.

CONCLUSION: In view of its poor sensitivity, ¹⁸F-FDG-PET is not recommended as a routine imaging modality for the diagnosis of rheumatic carditis.

PMID: 25633513 [PubMed - in process]

102: Naik N. How to perform transeptal puncture. Indian Heart J. 2015 Jan-Feb;67(1):70-76. doi: 10.1016/j.ihj.2015.02.024. Epub 2015 Mar 12. Review. PubMed PMID: 25820057; PubMed Central PMCID: PMC4382550.

103: Narula J, Tanwar G, Kiran U, Devagourou V. Sutureless left pulmonary vein

augmentation for primary endoluminal pulmonary vein ostial stenosis: role of pulmonary venous Doppler. *Ann Card Anaesth.* 2015 Jan-Mar;18(1):113-4. doi: 10.4103/0971-9784.148337. PubMed PMID: 25566727.

104: Nawaz S, Gupta S, Gogia V, Sasikala NK, Panda A. Trans-epithelial versus conventional corneal collagen crosslinking: A randomized trial in keratoconus. *Oman J Ophthalmol.* 2015 Jan-Apr;8(1):9-13. doi: 10.4103/0974-620X.149855. PubMed PMID: 25709267; PubMed Central PMCID: PMC4333560.

PURPOSE: The purpose was to compare transepithelial versus epithelium off technique of corneal collagen crosslinking (CXL) in patients of keratoconus. **MATERIALS AND METHOD:** Totally, 40 eyes (40 patients) with progressive keratoconus were subjected to transepithelial CXL (20 eyes; Group I), and conventional CXL (20 eyes; Group II). Patients were evaluated for uncorrected distance visual acuity, best corrected visual acuity (BCVA), slit lamp-biomicroscopy, keratometry, 9-point pachymetry, orbscan II, and endothelial cell count at baseline and post CXL at 1, 3, and 6 months.

RESULTS: The two groups were similar with respect to the evaluated parameters both at baseline and at the end of 6 months. There was an improvement in mean BCVA from Log Mar 0.327 ± 0.1 (Group 1), 0.36 ± 0.08 (Group 2) to 0.23 ± 0.08 (Group 1; $P < 0.001$), 0.22 ± 0.06 (Group 2; $P < 0.001$), respectively, at 6 months. Mean Sim K astigmatism decreased from 6.6 ± 1.93 D (Group 1), 6.64 ± 1.93 D (Group 2) to 5.14 ± 1.86 D (Group 1; $P = 0.001$), and 4.77 ± 0.06 (Group 2; $P = 0.001$), respectively, at 6 months. The mean pachymetry increased from 432.05 ± 19.36 μm (Group 1), 429.91 ± 16.66 μm (Group 2) to 447.8 ± 16.09 μm (Group 1; $P < 0.001$), 440.25 ± 11.18 μm (Group 2; $P = 0.002$), respectively, at 6 months. All cases showed stabilization of keratoconus two eyes in epithelium off group developed persistent stromal haze. Most of the patients in Group II experienced pain and photophobia during first 2 days, but not of Group I.

CONCLUSION: Trans-epithelial technique offers visual and topographic outcomes similar to the conventional method with superior patient comfort postintervention.

PMCID: PMC4333560

PMID: 25709267 [PubMed]

105: Nayak B, Gupta S, Kumar G, Dada T, Gupta V, Sihota R. Socioeconomics of long-term glaucoma therapy in India. *Indian J Ophthalmol.* 2015 Jan;63(1):20-4. doi: 10.4103/0301-4738.151458. PubMed PMID: 25686057; PubMed Central PMCID: PMC4363951.

PURPOSE: To determine the socioeconomic impact of long-term glaucoma therapy. **MATERIALS AND METHODS:** One hundred and fifty consecutive glaucoma patients on medical therapy, following up at our glaucoma service for at least 6 months were recruited. A questionnaire regarding monthly income, cost of glaucoma medications prescribed, availability of medications, travel time, time spent in review clinics, compliance, education status, medical insurance and systemic or local side-effects was administered.

RESULTS: The patients seen at the tertiary government hospital had an average monthly income of Rs. 10,912/- (range: Rs. 500/- to Rs. 50,000/-) with approximately 56% of the patients having an income of less than Rs. 5000/month. The expenditure on anti-glaucoma medications ranged from 0.3% in high income group to 123% of their monthly gross income in low income group ($P < 0.0001$). The total expenditure including travel, stay, and loss of wages of patients and accompanying persons ranged from 1.6% in high income group to 137% of the monthly income in low income group ($P < 0.0001$). Mean time required for a glaucoma clinic visit was 15.66 h, (range: 6-96 h/month). About 2.7% experienced systemic side-effects and 21.3% had complaints of ocular adverse effects. About 90% of the

patients were compliant. 92% were not covered by any insurance plan/government reimbursement for their treatment.

CONCLUSIONS: Medical therapy for glaucoma is an economic burden to many patients and should be individualized, according to the socioeconomic status, availability of drugs and the required distance to travel to reach the specialist clinics.

PMCID: PMC4363951

PMID: 25686057 [PubMed - in process]

106: Panda A, Das CJ, Dhamija E, Kumar R, Gupta AK. Adrenal imaging (Part 1): Imaging techniques and primary cortical lesions. *Indian J Endocrinol Metab.* 2015 Jan-Feb;19(1):8-15. doi: 10.4103/2230-8210.146858. Review. PubMed PMID: 25593820; PubMed Central PMCID: PMC4287786.

Adrenal glands can be affected by a variety of lesions. Adrenal lesions can either be primary, of adrenal origin, or secondary to other pathologies. Primary adrenal lesions can further be either of cortical or medullary origin. Functioning adrenal lesions can also give clues to the histologic diagnosis and direct workup. Over the years, various imaging techniques have been developed that have increased diagnostic accuracy and helped in better characterization of adrenal lesions non-invasively. In the first part of the two part series, we review adrenal imaging techniques and adrenal cortical tumors such as adenomas, adrenocortical tumors, adrenal hyperplasia and oncocytomas.

PMCID: PMC4287786

PMID: 25593820 [PubMed]

107: Panda M, Panda SS, Das RR, Mohanty PK. Importance of mediclaim policies covering congenital anomalies in India. *Indian J Public Health.* 2015 Jan-Mar;59(1):67. doi: 10.4103/0019-557X.152877. PubMed PMID: 25758737.

108: Panda SS, Mohanty PK, Panda M, Das RR, Arora A. A crying shame: Battered baby. *Int J Crit Illn Inj Sci.* 2015 Jan-Mar;5(1):65-6. doi: 10.4103/2229-5151.152355. PubMed PMID: 25810975; PubMed Central PMCID: PMC4366839.

109: Panda SS, Bajpai M, Singh A, Chand K. Intra thoracic migration of ureteric stent after exstrophy bladder closure: Unusual complication. *Afr J Paediatr Surg.* 2015 Jan-Mar;12(1):98-9. doi: 10.4103/0189-6725.151006. PubMed PMID: 25659564.

Classic bladder exstrophy is a rare malformation of the genitourinary tract requiring surgical intervention either one-staged or staged fashion. Premature stent dislodgement is a well-known reported complication. We are reporting an unusual case of migration of ureteric stent to thoracic cavity leading to the pleural effusion and respiratory distress in early post-operative period.

PMID: 25659564 [PubMed - in process]

110: Panda SS, Panda M, Das RR, Mohanty PK. The top species will no longer be humans: Robotic surgery could be a problem. *J Minim Access Surg.* 2015 Jan-Mar;11(1):111. doi: 10.4103/0972-9941.147726. PubMed PMID: 25598611; PubMed Central PMCID: PMC4290111.

111: Pandey AK, Patel C, Bal C, Kumar R. Validation of virtual spectrometer created in RADlab1.03. *Indian J Nucl Med.* 2015 Jan-Mar;30(1):9-15. doi: 10.4103/0972-3919.147526. PubMed PMID: 25589799; PubMed Central PMCID:

PMC4290081.

Spectrometer is used to perform various in vitro tests. The ability to successfully perform these tests depends on technologist's skill. Therefore, proper training of technologists is mandatory in gamma spectrometry. During the training, they need to have sufficient practice to gain sound theoretical and practical knowledge. High cost of spectrometer and risk of their damage during independent practice may hamper the process of proper training. Hence, there is a need of cheaper and more feasible option. Virtual spectrometer created in RADlab1.03 can address this issue. The immediate objective of this paper is to validate this virtual spectrometer so as to be used as an educational and research tool for trainees. Virtual spectrometer was calibrated using Cs-137 standard source and Cs-137 spectrum was recorded by positioning 28106 Bq Cs-137 source at 2.35 cm above top surface of the well, 1 cm above from the bottom of the well and at the bottom of the well. Ba-133 and Co-60 spectrum were also recorded. The experiments were repeated with real spectrometer for exactly the same conditions as applied to the virtual spectrometer. The paired t-test was applied to find the difference in mean photopeak at 5% level of significance. The sample data provided satisfactory evidence that mean photopeak obtained with real as well as virtual spectrometer were same at P value of 4.641×10^{-4} , 1.57×10^{-12} , 1.40×10^{-24} , 1.26×10^{-16} , and 8.7×10^{-9} for Cs-137 (photopeak: 664 keV), Co-60 (photopeak: 1181 keV), Co-60 (photopeak: Co-1348 keV), Ba-133 (photopeak: 304 keV) and Ba-133 (photopeak: 364 keV) respectively.

PMCID: PMC4290081

PMID: 25589799 [PubMed]

112: Pandey R, Singh PM, Garg R, Darlong V, Punj J. Perioperative concerns in a beta-ketothiolase-deficient child. *J Anesth.* 2015 Jan 7. [Epub ahead of print] PubMed PMID: 25564361.

113: Parakh N, Mehrotra S, Seth S, Ramakrishnan S, Kothari SS, Bhargava B, Bahl VK. NT pro B type natriuretic peptide levels in constrictive pericarditis and restrictive cardiomyopathy. *Indian Heart J.* 2015 Jan-Feb;67(1):40-4. doi: 10.1016/j.ihj.2015.02.008. Epub 2015 Mar 13. PubMed PMID: 25820049; PubMed Central PMCID: PMC4382553.

BACKGROUND: The differentiation of constrictive pericarditis (CP) from restrictive cardiomyopathy (RCM) may be clinically difficult and may require multiple investigations. Even though brain natriuretic peptide (BNP) is shown to be higher in patients with RCM as compared to CP, the clinical utility is not fully established especially in Indian patients known to have advanced CP and myocardial involvement.

METHODS AND RESULTS: We measured NT-pro-BNP levels in 49 patients suspected of having either CP or RCM, diagnosed on the basis of echocardiography, computed tomography, magnetic resonance imaging, endomyocardial biopsy and cardiac catheterization data as needed. Twenty nine patients (Mean age - 26 yrs, 24 males) had CP and 20 patients (Mean age - 39 yrs, 14 males) had RCM. The median plasma NT-pro-BNP levels were significantly higher in RCM as compared to CP [1775 (208-7500) pg/ml vs 124 (68-718) pg/ml, respectively; $p = 0.001$]. A cut off value of 459 pg/ml had sensitivity, specificity and overall accuracy of 90%, 86% and 88% respectively, for differentiating CP from RCM.

CONCLUSIONS: The NT-pro-BNP levels are significantly elevated in RCM as compared to CP.

PMCID: PMC4382553 [Available on 2016-01-01]

PMID: 25820049 [PubMed - in process]

114: Patil B, Tandon R, Sharma N, Verma M, Upadhyay AD, Gupta V, Sihota R. Corneal changes in childhood glaucoma. *Ophthalmology*. 2015 Jan;122(1):87-92. doi: 10.1016/j.ophtha.2014.07.029. Epub 2014 Sep 4. PubMed PMID: 25200398.

OBJECTIVE: To study the clinical features and topography of the cornea in eyes with childhood glaucoma.

DESIGN: Cross-sectional, observational study.

PARTICIPANTS: Fifty-eight eyes with childhood glaucoma and 28 eyes of age-matched controls.

METHODS: Clinical and topographic corneal changes were evaluated.

MAIN OUTCOME MEASURES: Corneal topographic changes were evaluated on Orbscan (Orbscan Topography System II; Bausch & Lomb, Salt Lake City, UT) in eyes with childhood glaucoma and those changes were compared with the control eyes.

RESULTS: Fifty-eight eyes with childhood glaucoma and 28 eyes of age-matched controls were evaluated. Thirty-six eyes (62.1%) were classified as having primary childhood glaucoma and 22 eyes (37.94%) as having childhood glaucoma with associated ocular anomalies. The corneas in 18 of 58 eyes (31.0%) with childhood glaucoma were clear, whereas 24.1% of eyes (14/58 eyes) had some corneal opacification. Haab's striae were noted in 44.8% of eyes (26/58 eyes) and were most frequently present between 3 and 5 mm from the optical axis. The mean posterior elevation recorded in eyes with childhood glaucoma controlled with medication or surgery was significantly higher than that in control eyes: 0.043 ± 0.027 , 0.042 ± 0.017 , and 0.018 ± 0.058 μm , respectively ($P < 0.0001$). The presence of Haab's striae was correlated significantly with a higher posterior elevation ($P = 0.0396$) and poor vision. The mean anterior elevation in eyes with childhood glaucoma (0.022 ± 0.015 μm) and in control eyes (0.015 ± 0.078 μm) was comparable ($P = 0.08$). Corneal astigmatism in eyes with childhood glaucoma was significantly higher and irregular compared with that in control eyes: 2.09 ± 1.40 versus 0.93 ± 0.60 diopter cylinder ($P = 0.0001$); the irregularity index was 2.8 (range, 1-18.1) and 2.3 (range, 0.6-2.3) at 3 mm ($P = 0.0005$) and 3.2 (range, 1.4-21.3) and 1.8 (range, 0.5-2.9) at 5 mm, respectively ($P = 0.0003$). Best-corrected visual acuity correlated significantly with cup-to-disc ratio, axial length, refractive error, astigmatism, and posterior corneal elevation. Multivariate analysis showed a significant correlation only with cup-to-disc ratio and axial length.

CONCLUSIONS: Childhood glaucoma causes a significant increase in posterior corneal elevation and irregular astigmatism, which contribute to visual disability in such eyes.

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PMID: 25200398 [PubMed - indexed for MEDLINE]

115: Prakash S, Mandal P. Is dhat syndrome indeed a culturally determined form of depression? *Indian J Psychol Med*. 2015 Jan-Mar;37(1):107-9. doi: 10.4103/0253-7176.150860. PubMed PMID: 25722527; PubMed Central PMCID: PMC4341299.

116: Raheja A, Borkar SA, Kumar R, Suri V, Sharma BS. Metachronous spinal metastases from supratentorial anaplastic astrocytoma. *Asian J Neurosurg*. 2015 Jan-Mar;10(1):60. doi: 10.4103/1793-5482.151529. PubMed PMID: 25767596; PubMed Central PMCID: PMC4352649.

Leptomeningeal spinal metastases from supratentorial high-grade glioma are

relatively rare. Authors report an unusual case of metachronous, symptomatic, dual spinal drop metastases in a 20-year-old male patient who was operated for right insular anaplastic astrocytoma 20 months earlier. Surgical decompression of the symptomatic D11-L2 drop metastasis was carried out. Histo-pathological examination revealed features suggestive of glioblastoma multiforme. Patient was advised postoperative radiotherapy. The pertinent literature is reviewed regarding this uncommon entity.

PMCID: PMC4352649

PMID: 25767596 [PubMed]

117: Raheja A, Borkar SA, Nalwa A, Suri V. Primary spinal extraosseous cervical chondroma in an adult. *Neurol India*. 2015 Jan-Feb;63(1):114-6. doi: 10.4103/0028-3886.152682. PubMed PMID: 25751486.

118: Rai NK, Goyal V, Kumar N, Shukla G, Srivastava AK, Singh S, Behari M. Neuropsychiatric co-morbidities in non-demented Parkinson's disease. *Ann Indian Acad Neurol*. 2015 Jan-Mar;18(1):33-8. doi: 10.4103/0972-2327.144287. PubMed PMID: 25745308; PubMed Central PMCID: PMC4350211.

OBJECTIVE: To evaluate neuropsychiatric co-morbidities (depression, psychosis and anxiety) in non-demented patients with Parkinson's disease (PD).

BACKGROUND: Non-motor symptoms like neuropsychiatric co-morbidities are common in Parkinson's disease and may predate motor symptoms. Currently there is scarcity of data regarding neuropsychiatry manifestations in Indian patients with PD.

METHODS: In this cross-sectional study consecutive 126 non-demented patients with PD (MMSE ≥ 25) were enrolled. They were assessed using Unified Parkinson's disease rating scale (UPDRS), Hoehn & Yahr (H&Y) stage, Schwab and England (S&E) scale of activity of daily life. Mini-international neuropsychiatric interview (MINI) was used for diagnosis of depression, psychosis and anxiety. Beck's depression inventory (BDI), Brief psychiatric rating scale (BSRS) and Hamilton rating scale for anxiety (HAM-A) scales were used for assessment of severity of depression, psychosis and anxiety respectively.

RESULTS: Mean age and duration of disease was 57.9 ± 10.9 years and 7.3 ± 3.6 years respectively. At least one of the neuropsychiatric co-morbidity was present in 64% patients. Depression, suicidal risk, psychosis and anxiety were present in 43.7%, 31%, 23.8% and 35.7% respectively. Visual hallucinations (20.6%) were most frequent, followed by tactile (13.5%), auditory (7.2%) and olfactory hallucinations (1.6%). Patients with depression had higher motor disability (UPDRS-motor score 33.1 ± 14.0 vs 27.3 ± 13.3 ; and UPDRS-total 50.7 ± 21.8 vs 41.0 ± 20.3 , all p values < 0.05). Patients with psychosis were older (63.6 ± 8.0 years vs 56.1 ± 11.1 years, $p < 0.05$) and had longer duration of illness (8.6 ± 3.4 years vs 6.9 ± 3.5 , $p < 0.05$).

CONCLUSIONS: About two third patients with Parkinson's disease have associated neuropsychiatric co-morbidities. Depression was more frequent in patients with higher disability and psychosis with longer duration of disease and older age. These co-morbidities need to be addressed during management of patients with PD.

PMCID: PMC4350211

PMID: 25745308 [PubMed]

119: Rai VK, Shukla G, Afsar M, Poornima S, Pandey RM, Rai N, Goyal V, Srivastava A, Vibha D, Behari M. Memory, executive function and language function are similarly impaired in both temporal and extra temporal refractory epilepsy-A prospective study. *Epilepsy Res*. 2015 Jan;109:72-80. doi: 10.1016/j.epilepsyres.2014.09.031. Epub 2014 Oct 13. PubMed PMID: 25524845.

INTRODUCTION: Cognitive impairment has long been recognized as a co-morbidity or

sequel to refractory epilepsy. This study was conducted to evaluate the degree and selectivity of involvement of memory, language and executive functions performance among patients with temporal (TLE) versus extratemporal epilepsy (ETLE).

METHODS: We prospectively enrolled adolescent and adult patients with medically refractory focal epilepsy, who had undergone pre-surgical evaluation. Language, memory and executive function assessment was done using Western Aphasia Battery, PGI memory scale and battery of four executive function tests (trail making test A & B, digit symbol test, Stroop Task and verbal fluency test), respectively.

RESULTS: Among 102 patients enrolled (TLE-59, ETLE-43), mean age of patients 23.0 \pm 8.3 years, 83 (82%) had impairment of more than one cognitive domain and 21 (21%) had all three domains involved. Severely impaired memory scores were found in 8.6% patients with MTLE-HS, 8% of the rest of the patients with TLE and 7% patients with ETLE. The differences in the mean scores were also not found statistically significant ($p=0.669$). Naming impairment was the most common language abnormality, although all aphasia subscores were similar for the ETLE and TLE groups. Executive function impairment was the most common cognitive domain affected. Overall performance on executive function tests was found impaired in almost all patients of both groups without any significant inter-group difference, except on Trail-A test, which revealed better results in patients with mTLE-HS as compared to all other sub-groups.

CONCLUSION: Our study shows that impairment of memory, language and executive function is common among patients with drug refractory epilepsy. The most prevalent impairment is in executive function. There is no significant difference in the degree, prevalence or selectivity of impairment in either of the three domains, between the TLE versus ETLE groups.

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PMID: 25524845 [PubMed - in process]

120: Raj K, Bhatia R, Prasad K, Srivastava MV, Vishnubhatla S, Singh MB. Seasonal differences and circadian variation in stroke occurrence and stroke subtypes. *J Stroke Cerebrovasc Dis.* 2015 Jan;24(1):10-6. doi: 10.1016/j.jstrokecerebrovasdis.2014.07.051. Epub 2014 Oct 3. PubMed PMID: 25284717.

BACKGROUND: India is a subtropical country with clear seasonal variations in weather conditions. Seasonal and circadian variation in occurrence of subtypes of cerebrovascular disease has been of interest in several studies from different countries and climate zones, but discrepant results have made the conclusions unclear. The aim of the present study was to observe the seasonal and circadian variation in the occurrence of stroke and its subtypes among our population.

METHODS: This was a cross-sectional observational study based on new cases and past cases of stroke on follow-up, conducted between January 2011 and December 2012 in the Department of Neurology, at the All India Institute of Medical Sciences, New Delhi, India. The date and time of onset of the stroke was recorded. The categorization of months into season was in accordance with the Indian Meteorological Department guidelines. The time of onset was distributed into 6 hourly intervals. Statistical calculations were performed using Stata version 12.1 and SPSS version 20.

RESULTS: A total of 583 patients were included for the study. The rate of occurrence of stroke was highest in the late morning 0600-1159 hours (P value $<.001$) compared with other times of the day, regardless of gender or age for both ischemic and hemorrhagic strokes. It was lowest in late evening (1800-2359 hours) quadrant compared with other quadrants. Although there was no significant difference found by dichotomizing the groups into two 6-month periods, there was an increasing trend in number of patients with stroke during the months November-February. There was no difference in stroke occurrence between the types

of stroke or within each type among different seasons with different temperatures. Trial of Org 10172 in Acute Stroke Treatment (TOAST) classification of ischemic strokes also did not show any association with season or circadian rhythm.

CONCLUSIONS: There is a significant increase in occurrence of strokes between 0600 and 1159 hours and lowest between 1800-2359 hours. No significant variation in stroke occurrence or subtype for any of the seasons was observed.

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PMID: 25284717 [PubMed - in process]

121: Ramakrishnan S. From 'Make in India' to 'Made in India': The saroglitazar story. *Indian Heart J.* 2015 Jan-Feb;67(1):8-10. doi: 10.1016/j.ihj.2015.02.014. Epub 2015 Mar 4. PubMed PMID: 25820041; PubMed Central PMCID: PMC4382552.

122: Rani N, Bharti S, Bhatia J, Tomar A, Nag TC, Ray R, Arya DS. Inhibition of TGF- β by a novel PPAR- γ agonist, chrysin, salvages β -receptor stimulated myocardial injury in rats through MAPKs-dependent mechanism. *Nutr Metab (Lond)*. 2015 Mar 9;12:11. doi: 10.1186/s12986-015-0004-7. eCollection 2015. PubMed PMID: 25774203; PubMed Central PMCID: PMC4359541.

BACKGROUND: Pharmacological stimulation of peroxisome proliferator-activated receptor-gamma (PPAR- γ) has been recognized as a molecular switch in alleviating myocardial injury through modulating oxidative, inflammatory and apoptotic signaling pathways. This study was designed to elucidate the effect of chrysin, a novel PPAR- γ agonist and its functional interaction with TGF- β /MAPKs in isoproterenol-challenged myocardial injury in rats.

METHODS: Male Wistar Albino rats were either subjected to vehicle (1.5 mL/kg, p.o.) or chrysin (15-60 mg/kg, p.o.) for 28 days. Isoproterenol (85 mg/kg, s.c.) was administered to rats on 27(th) and 28(th) day to induce myocardial injury.

RESULTS: Chrysin dose dependently improved ventricular (\pm LVdP/dtmax and LVEDP) and hemodynamic (SAP, MAP and DAP) dysfunction in isoproterenol-insulted rats. This beneficial effect of chrysin was well supported with increased expression of PPAR- γ and decreased expression of TGF- β as evidenced by western blotting and immunohistochemistry analysis. Moreover, downstream signaling pathway of TGF- β viz. P-ERK $_{1/2}$ /ERK $_{1/2}$ activation and P-JNK/JNK, P-p38/p38 and MMP-2 inhibition were also observed. Chrysin also attenuated NF- κ Bp65 and IKK- β expressions, TNF- α level and TUNEL positivity thereby validating its anti-inflammatory and anti-apoptotic properties. Additionally, chrysin in a dose dependent fashion improved NO level, redox status of the myocardium (GSH and MDA levels and SOD, GSHPx and CAT activities), cardiac injury markers (CK-MB and LDH levels) and oxidative DNA damage marker (8-OHdG level) and displayed preservation of subcellular and ultrastructural components.

CONCLUSION: We established that activation of PPAR- γ and inhibition of TGF- β via MAPKs dependent mechanism is critical for cardioprotective effect of chrysin.

PMCID: PMC4359541

PMID: 25774203 [PubMed]

123: Ranjan P, Kumar V, Ganguly S, Vyas S, Yadav R, Sood R. Isolated native Tricuspid Valve Endocarditis Presenting as PUO in a Young Adult Male Without Any Risk Factors. *J Family Med Prim Care.* 2015 Jan-Mar;4(1):139-41. doi: 10.4103/2249-4863.152274. PubMed PMID: 25811008; PubMed Central PMCID: PMC4366989.

A 28-year-old male presented to our hospital with high-grade fever and weight

loss for 4 months. Clinical examination was non-contributory and there was no history of any high-risk behavior or prolonged skin or dental infections. Native tricuspid-valve endocarditis may rarely present in these settings and high index of suspicion is essential for early diagnosis.

PMCID: PMC4366989

PMID: 25811008 [PubMed]

124: Ranjan P, Soneja M, Subramonian NK, Kumar V, Ganguly S, Kumar T, Singh G. Fever of unknown origin: an unusual presentation of kikuchi-fujimoto disease. *Case Reports Immunol.* 2015;2015:314217. doi: 10.1155/2015/314217. Epub 2015 Mar 22. PubMed PMID: 25874141; PubMed Central PMCID: PMC4385645.

Kikuchi-Fujimoto disease is a rare, benign, and self-limiting condition that mostly affects young females. Cervical lymphadenopathy with fever is the most common presentation of the disease. It may have unusual presentations that can lead to diagnostic dilemma and delay in diagnosis. We report a case of a 25-year-old female who presented with relapsing fever and cervical lymphadenopathy. Because of atypical presentation, there was a delay in diagnosis and increase in morbidity. High index of suspicion with collaboration between clinicians and pathologists is essential for early and accurate diagnosis of the disease.

PMCID: PMC4385645

PMID: 25874141 [PubMed]

125: Rathore DK, Nair D, Raza S, Saini S, Singh R, Kumar A, Tripathi R, Ramji S, Batra A, Aggarwal KC, Chellani HK, Arya S, Bhatla N, Paul VK, Aggarwal R, Agarwal N, Mehta U, Sopory S, Natchu UC, Bhatnagar S, Bal V, Rath S, Wadhwa N. Underweight full-term Indian neonates show differences in umbilical cord blood leukocyte phenotype: a cross-sectional study. *PLoS One.* 2015 Apr 21;10(4):e0123589. doi: 10.1371/journal.pone.0123589. eCollection 2015. PubMed PMID: 25898362.

BACKGROUND: While infections are a major cause of neonatal mortality in India even in full-term neonates, this is an especial problem in the large proportion (~20%) of neonates born underweight (or small-for-gestational-age; SGA). One potential contributory factor for this susceptibility is the possibility that immune system maturation may be affected along with intrauterine growth retardation.

METHODS: In order to examine the possibility that differences in immune status may underlie the susceptibility of SGA neonates to infections, we enumerated the frequencies and concentrations of 22 leukocyte subset populations as well as IgM and IgA levels in umbilical cord blood from full-term SGA neonates and compared them with values from normal-weight (or appropriate-for-gestational-age; AGA) full-term neonates. We eliminated most SGA-associated risk factors in the exclusion criteria so as to ensure that AGA-SGA differences, if any, would be more likely to be associated with the underweight status itself.

RESULTS: An analysis of 502 such samples, including 50 from SGA neonates, showed that SGA neonates have significantly fewer plasmacytoid dendritic cells (pDCs), a higher myeloid DC (mDC) to pDC ratio, more natural killer (NK) cells, and higher IgM levels in cord blood in comparison with AGA neonates. Other differences were also observed such as tendencies to lower CD4:CD8 ratios and greater prominence of inflammatory monocytes, mDCs and neutrophils, but while some of them had substantial differences, they did not quite reach the standard level of statistical significance.

CONCLUSIONS: These differences in cellular lineages of the immune system possibly reflect stress responses in utero associated with growth restriction. Increased susceptibility to infections may thus be linked to complex immune system

dysregulation rather than simply retarded immune system maturation.

PMID: 25898362 [PubMed - in process]

126: Rewari V, Chandran R, Ramachandran R, Trikha A. Absent internal jugular vein: Another case for ultrasound guided vascular access. *Indian J Crit Care Med.* 2015 Jan;19(1):53-4. doi: 10.4103/0972-5229.148652. PubMed PMID: 25624653; PubMed Central PMCID: PMC4296414.

127: Rizwan S, Rath RS, Vivek G, Nitika, Anant G, Farhad A, Vijay S. KAP Study on Sexually Transmitted Infections/Reproductive Tract Infections (STIs/RTIs) among married women in rural Haryana. *Indian Dermatol Online J.* 2015 Jan-Feb;6(1):9-12. doi: 10.4103/2229-5178.148919. PubMed PMID: 25657909; PubMed Central PMCID: PMC4314900.

CONTEXT: About 490 million cases of curable Reproductive Tract Infections (RTI) occur throughout the world, of which 79 million cases occur in India annually. Sexually Transmitted Infections/Reproductive Tract Infections (STI/RTI) confers a huge economic burden on the individual and the health system. Complications of RTI/STI are many, ranging from chronic pain syndrome to infertility. Most of these complications can be prevented by early diagnosis and treatment.

AIMS: To assess knowledge, attitude and practices on STI/RTIs among married women aged 15-45 years in rural Haryana.

SETTING AND DESIGN: Cross-sectional study, conducted in selected villages under the primary health centre Mandi, Sonapat, Haryana.

SUBJECTS AND METHODS: Systematic sampling was used to cover 10 villages. In each village, every tenth house was sampled, taking first house from the center of the village. Face-to-face interview was conducted using pretested questionnaire.

STATISTICAL ANALYSIS USED: Descriptive statistics and results were described in percentages.

RESULTS: A total of 344 women were interviewed. About 44% women had never heard of STI/RTI. The prevalence of self-reported symptoms of STI/RTI was very high (60%). Only 40% of them opted for treatment and most common cause for not opting for treatment was that they considered it as a minor problem. Advice for use of condom during the treatment was received by only 20% of patients and only 26.5% of their husbands also received treatment.

CONCLUSIONS: Overall knowledge, attitude and practices relating to STI/RTI among married women in rural Haryana was poor. The prevalence of self-reported STI/RTI was found to be high and treatment seeking behavior was poor.

PMCID: PMC4314900

PMID: 25657909 [PubMed]

128: Roy A, Lakshmy R, Tarik M, Tandon N, Reddy KS, Prabhakaran D. Independent association of severe vitamin D deficiency as a risk of acute myocardial infarction in Indians. *Indian Heart J.* 2015 Jan-Feb;67(1):27-32. doi: 10.1016/j.ihj.2015.02.002. Epub 2015 Mar 11. PubMed PMID: 25820047; PubMed Central PMCID: PMC4382524.

BACKGROUND: Association of vitamin D deficiency with coronary heart disease (CHD) has been widely reported. Emerging data has shown high prevalence of vitamin D deficiency among Indians. However, this association has not been studied in Indians.

METHODS: A case-control study with 120 consecutive cases of first incident acute myocardial infarction (MI) and 120 age and gender matched healthy controls was conducted at All India Institute of Medical Sciences, New Delhi. The standard clinical and biochemical risk factors for MI were assessed for both cases and

controls. Serum 25 (OH) vitamin D assay was performed from stored samples for cases and controls using radioimmunoassay.

RESULTS: Vitamin D deficiency [25(OH) D < 30 ng/ml] was highly prevalent in cases and controls (98.3% and 95.8% respectively) with median levels lower in cases (6 ng/ml and 11.1 ng/ml respectively; $p < 0.001$). The cases were more likely to have diabetes, hypertension and consume tobacco and alcohol. They had higher waist hip ratio, total and LDL cholesterol. Multivariate logistic regression analysis revealed severe vitamin D deficiency [25(OH) vitamin D < 10 ng/ml] was associated with a risk of MI with an odds ratio of 4.5 (95% CI 2.2-9.2).

CONCLUSIONS: This study reveals high prevalence of vitamin D deficiency among cases of acute MI and controls from India, with levels of 25 (OH)D being significantly lower among cases. Despite rampant hypovitaminosis, severe vitamin D deficiency was associated with acute MI after adjusting for conventional risk factors. This association needs to be tested in larger studies in different regions of the country.

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PMCID: PMC4382524 [Available on 2016-01-01]

PMID: 25820047 [PubMed - in process]

129: Sah RG, Agarwal K, Sharma U, Parshad R, Seenu V, Jagannathan NR. Characterization of malignant breast tissue of breast cancer patients and the normal breast tissue of healthy lactating women volunteers using diffusion MRI and in vivo 1H MR spectroscopy. *J Magn Reson Imaging*. 2015 Jan;41(1):169-74. doi: 10.1002/jmri.24507. Epub 2013 Nov 22. PubMed PMID: 24273108.

PURPOSE: To investigate the potential of diffusion weighted imaging (DWI) and in vivo proton MR spectroscopy (MRS) in the differentiation of breast tissue of healthy lactating women volunteers and breast cancer patients.

MATERIALS AND METHODS: DWI and MRS were carried out at 1.5 Tesla on 12 breast cancer patients and 12 normal lactating women volunteers. Apparent diffusion coefficient (ADC) and total choline (tCho) concentration were determined.

RESULTS: tCho was observed in all breast cancer patients and in 10/12 lactating women. Additionally a peak at 3.8 ppm corresponding to lactose was seen in 10/12 of lactating women. Concentration of tCho was similar in malignant breast tissue of patients (3.51 ± 1.72 mmol/kg) and in normal breast tissue of lactating women (3.52 ± 1.70 mmol/kg). However, ADC was significantly higher in the normal breast tissue of lactating women ($1.62 \pm 0.22 \times 10^{-3}$ mm²/s) compared with the malignant breast tissue of patients ($1.01 \pm 0.10 \times 10^{-3}$ mm²/s).

CONCLUSION: Observation of lactose peak with higher ADC in the breast tissue of healthy lactating women volunteers may aid in differentiation of changes that occur in breast tissue due to normal physiological conditions like lactation compared with malignant transformation.

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PMID: 24273108 [PubMed - in process]

130: Sahoo T, Thukral A, Agarwal R, Sankar MJ. Galactosaemia: an unusual cause of chronic bilirubin encephalopathy. *BMJ Case Rep*. 2015 Jan 23;2015. pii: bcr2014206852. doi: 10.1136/bcr-2014-206852. PubMed PMID: 25618877.

Galactosaemia is a disorder of galactose metabolism in which raised levels of galactose and galactose-1-phosphate damage various organs. Although galactosaemia is a common metabolic liver disease in childhood, it is a rare cause of neonatal hyperbilirubinemia requiring intervention. We report an unusual case of neonatal

galactosaemia that at presentation had features of acute bilirubin encephalopathy requiring exchange transfusion and at discharge had features of chronic bilirubin encephalopathy. This case report emphasises the need for timely suspicion and diagnosis of this disease for prevention of chronic morbidity.

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PMID: 25618877 [PubMed - in process]

131: Sahu MK, Bisoi AK, Chander NC, Agarwala S, Chauhan S. Abernethy syndrome, a rare cause of hypoxemia: A case report. *Ann Pediatr Cardiol.* 2015 Jan-Apr;8(1):64-6. doi: 10.4103/0974-2069.149526. PubMed PMID: 25684892; PubMed Central PMCID: PMC4322406.

Abernethy syndrome (congenital extrahepatic portosystemic shunt (CEPS II)) as an etiology of hepatopulmonary syndrome (HPS) is uncommon. The severe hypoxemia and its consequences become incapacitating for the patient. Early shunt closure resolves hypoxemia and clinical symptomatology and prevents irreversible changes in pulmonary vasculature.

PMCID: PMC4322406

PMID: 25684892 [PubMed]

132: Santra A, Kumar R, Sharma P. Use of 99m-technetium-glucoheptonate as a tracer for brain tumor imaging: An overview of its strengths and pitfalls. *Indian J Nucl Med.* 2015 Jan-Mar;30(1):1-8. doi: 10.4103/0972-3919.147525. Review. PubMed PMID: 25589798; PubMed Central PMCID: PMC4290059.

Brain tumors represent a vexing clinical problem in oncology due to their increasing incidence, difficulties in treatment and high rates of recurrence. It is especially challenging to evaluate the posttreatment disease status because differentiation of recurrence from treatment-induced changes (radiation necrosis) is not possible with the use of magnetic resonance imaging, the most commonly used imaging method in this setting. Various functional imaging methods, including positron emission tomography and single photon emission computed tomography (SPECT) have been employed in this context. SPECT with 99m-technetium (99mTc)-glucoheptonate (GHA) has shown promising results for differentiation of recurrent brain tumor from radiation necrosis. In this review, we have discussed in details the basics of 99mTc-GHA SPECT imaging in brain tumor along with the available literature in this regard.

PMCID: PMC4290059

PMID: 25589798 [PubMed]

133: Satyarthee GD, Mahapatra AK. Is subduro-peritoneal shunt surgery the first or last resort in managing subdural effusion developing after supratentorial tumor surgery in infancy? *J Pediatr Neurosci.* 2015 Jan-Mar;10(1):83-5. doi: 10.4103/1817-1745.154371. PubMed PMID: 25878758; PubMed Central PMCID: PMC4395960.

134: Sawarkar DP, Singh PK, Siddique SA, Agrawal D, Satyarthee GD, Gupta DK, Sinha S, Kale SS, Sharma BS. Surgical management of odontoid fractures at level one trauma center: a single-center series of 142 cases. *Neurol India.* 2015 Jan-Feb;63(1):40-8. doi: 10.4103/0028-3886.152633. PubMed PMID: 25751468.

INTRODUCTION: Odontoid fractures constitute 9-20% of all adult cervical spine fractures. The present study was carried out to focus on the nuances involved in the surgical management of odontoid fractures.

MATERIALS AND METHODS: Patients with an odontoid fracture, admitted for surgical stabilization, between January 2008 and March 2014, were included in the study.

RESULTS: Among 142 patients [127 male and 15 female patients; median age: 28 years range 4-75 years], type II odontoid fractures were present in 111, type IIA fractures in 8, and type III fractures in 23 patients. 58.5% patients had been involved in a motor vehicular accident while 38.7% had sustained a fall. Eighty-five patients (59.9%) with a well-reduced fracture and an intact transverse ligament underwent anterior odontoid screw (OS) placement; the other 57 patients (40.1%) underwent posterior fixation (PF). The mean follow-up duration was 22 months (range: 6 months-5.4 years). OS placement was successful in 82 patients (96.5%) with a fusion rate of 95% (95.8% in type II, 100% in type III, and 75% in type IIA odontoid fractures). The procedure-related morbidity was 11.7%. One patient died of sub-arachnoid hemorrhage (SAH) that occurred during OS placement. The PF procedures had a better fusion rate (96.5%). The latter patients, however, had significant restriction of their neck movements and an overall morbidity of 8.7%. The revision surgery rates after OS placement and PF fixation were 7% and 3.5%, respectively.

CONCLUSIONS: Anterior OS fixation shows excellent fusion rates and should be the first-line management in reduced/non-displaced acute type II (including type IIA) and high type III odontoid fractures as it preserves cervical motion. PF, that has also been associated with an excellent fusion rate, should be reserved for patients where OS fixation has either failed or has not been feasible.

PMID: 25751468 [PubMed - in process]

135: Saxena R, Vashist P, Tandon R, Pandey RM, Bhardawaj A, Menon V. Accuracy of visual assessment by school teachers in school eye screening program in delhi. Indian J Community Med. 2015 Jan-Mar;40(1):38-42. doi: 10.4103/0970-0218.149269. PubMed PMID: 25657511; PubMed Central PMCID: PMC4317979.

BACKGROUND: Although school eye screening is a major activity of the National Program for Control of Blindness, inadequate evidence exists about accuracy of school teachers in screening.

OBJECTIVES: Compare quality of referral for subnormal vision by school teachers and primary eye care workers (PECW) in school children and to establish appropriate cutoff for identification of subnormal vision in school going children.

MATERIALS AND METHODS: This was a cross-sectional study involving school children studying in classes 1 to 9 in different schools of Delhi evaluated for sub-normal vision. Vision was recorded by the teacher and a primary eye care worker especially trained for the study using the optotypes of Early treatment Diabetic Retinopathy Survey (ETDRS) vision chart with standard lighting.

RESULTS: The total number of children enlisted in the 20 selected schools was 10,114. Of these, 9838 (97.3%) children were examined in the study. The mean age of children enrolled in the study was 11.6 ± 2.19 years with 6752 (66.9%) males. The sensitivity and specificity of teachers in comparison to PECW using 6/9.5 vision level as cutoff for referral was 79.2% and 93.3%, respectively compared to 77.0% and 97.1%, respectively on using the 6/12 optotype. The results showed significantly higher sensitivity and lower specificity for private schools against government schools and for older against younger children.

CONCLUSIONS: Our results show that the use of teachers and shift to use of the 6/12 sized "E" for the school eye screening (SES) program is appropriate and would substantially reduce the work of eye care providers while improving its overall efficiency.

PMCID: PMC4317979

PMID: 25657511 [PubMed]

136: Saxena R, Vashist P, Tandon R, Pandey RM, Bhardawaj A, Menon V, Mani K.

Prevalence of myopia and its risk factors in urban school children in Delhi: the North India Myopia Study (NIM Study). *PLoS One*. 2015 Feb 26;10(2):e0117349. doi: 10.1371/journal.pone.0117349. eCollection 2015. PubMed PMID: 25719391; PubMed Central PMCID: PMC4342249.

PURPOSE: Assess prevalence of myopia and identify associated risk factors in urban school children.

METHODS: This was a cross-sectional study screening children for sub-normal vision and refractive errors in Delhi. Vision was tested by trained health workers using ETDRS charts. Risk factor questionnaire was filled for children with vision $<6/9.5$, wearing spectacles and for a subset (10%) of randomly selected children with normal vision. All children with vision $<6/9.5$ underwent cycloplegic refraction. The prevalence of myopia <-0.5 diopters was assessed. Association of risk factors and prevalence of myopia was analyzed for children with myopia and randomly selected non myopic children and adjusted odds ratio values for all risk factors were estimated.

RESULTS: A total number of 9884 children were screened with mean age of 11.6 + 2.2 years and 66.8% boys. Prevalence of myopia was 13.1% with only 320 children (24.7%) wearing appropriate spectacles. Mean myopic spherical error was -1.86 + 1.4 diopters. Prevalence of myopia was higher in private schools compared to government schools ($p < 0.001$), in girls vs. boys ($p = 0.004$) and among older (> 11 years) children ($p < 0.001$). There was a positive association of myopia with studying in private schools vs. government schools ($p < 0.001$), positive family history ($p < 0.001$) and higher socio-economic status ($p = 0.037$). Positive association of presence of myopia was observed with children studying/reading > 5 hours per day ($p < 0.001$), watching television > 2 hours / day ($p < 0.001$) and with playing computer/video/mobile games ($p < 0.001$). An inverse association with outdoor activities/playing was observed with children playing > 2 hours in a day.

CONCLUSION: Myopia is a major health problem in Indian school children. It is important to identify modifiable risk factors associated with its development and try to develop cost effective intervention strategies.

PMCID: PMC4342249

PMID: 25719391 [PubMed - in process]

137: Seedeivi P, Moovendhan M, Sudharsan S, Vasanthkumar S, Srinivasan A, Vairamani S, Shanmugam A. Structural characterization and bioactivities of sulfated polysaccharide from *Monostroma oxyspermum*. *Int J Biol Macromol*. 2015 Jan;72:1459-65. doi: 10.1016/j.ijbiomac.2014.09.062. Epub 2014 Oct 30. PubMed PMID: 25451755.

Sulfated polysaccharide was isolated from *Monostroma oxyspermum* through hot water extraction, anion-exchange and gel permeation column chromatography. The sulfated polysaccharide contained 92% of carbohydrate, 0% of protein, 7.8% of uronic acid, 22% of ash and 33% of moisture respectively. The elemental composition was analyzed using CHNS/O analyzer. The molecular weight of sulfated polysaccharide determined through PAGE was found to be as 55 kDa. Monosaccharides analysis revealed that sulfated polysaccharide was composed of rhamnose, fructose, galactose, xylose, and glucose. The structural features of sulfated polysaccharide were analyzed by NMR spectroscopy. Further the sulfated polysaccharide showed total antioxidant and DPPH free radical scavenging activity were as 66.29% at 250 $\mu\text{g/ml}$ and 66.83% at 160 $\mu\text{g/ml}$ respectively. The sulfated polysaccharide also showed ABTS scavenging ability and reducing power were as 83.88% at 125 $\mu\text{g/ml}$ and 15.81% at 400 $\mu\text{g/ml}$ respectively. The anticoagulant activity was determined for human plasma with respect to Activated Partial Thromboplastin Time (APTT) and Prothrombin Time (PT) was 20.09 IU and 1.79 IU at 25 $\mu\text{g/ml}$ respectively. These results indicated that the sulfated polysaccharide from *M. oxyspermum* had potent antioxidant and anticoagulant activities.

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PMID: 25451755 [PubMed - in process]

138: Sethuraman G, Sreenivas V, Yenamandra VK, Gupta N, Sharma VK, Marwaha RK, Bhari N, Irshad M, Kabra M, Thulkar S. Threshold levels of 25-hydroxyvitamin D and parathyroid hormone for impaired bone health in children with congenital ichthyosis and type IV and V skin. *Br J Dermatol*. 2015 Jan;172(1):208-14. doi: 10.1111/bjd.13131. Epub 2014 Dec 30. PubMed PMID: 24864027.

BACKGROUND: Patients with congenital ichthyosis, especially those with darker skin types, are at increased risk of developing vitamin D deficiency and rickets. The relationships between 25-hydroxyvitamin D [25(OH)D], parathyroid hormone (PTH) and bone health have not been studied previously, in ichthyosis.

OBJECTIVES: To determine the threshold levels of 25(OH)D and PTH for impaired bone health in children with congenital ichthyosis.

METHODS: In this cross-sectional study, 119 children with ichthyosis and 168 controls were recruited. Serum 25(OH)D, PTH, calcium, phosphate and alkaline phosphatase (ALP) were measured. Radiological screening for rickets was carried out only in children with ichthyosis.

RESULTS: Forty-seven children with ichthyosis had either clinical or radiological evidence of rickets. The correlation between serum 25(OH)D and PTH showed that a serum level of 25(OH)D 8 ng mL^{-1} was associated with a significant increase in PTH. The correlation between PTH and ALP showed that a serum PTH level of 75 pg mL^{-1} was associated with a significant increase in ALP levels. Of the different clinical phenotypes of ichthyosis, both autosomal recessive congenital ichthyosis (ARCI) and epidermolytic ichthyosis (EI) were found to have significantly increased PTH, ALP and radiological rickets scores compared with common ichthyosis.

CONCLUSIONS: Serum levels of 25(OH)D $\leq 8 \text{ ng mL}^{-1}$ and PTH $\geq 75 \text{ pg mL}^{-1}$ significantly increases the risk for development of rickets [odds ratio (OR) 2.8; 95% confidence interval (CI) 1.05-7.40; $P = 0.04$] in ichthyosis. Among the different types, patients with ARCI (OR 4.83; 95% CI 1.74-13.45; $P < 0.01$) and EI (OR 5.71; 95% CI 1.74-18.79; $P < 0.01$) are at an increased risk of developing rickets.

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PMID: 24864027 [PubMed - in process]

139: Shankar A, Rath G, Roy S, Malik A, Bhandari R, Kishor K, Barnwal K, Upadaya S, Srivastava V, Singh R. Level of awareness of cervical and breast cancer risk factors and safe practices among college teachers of different states in india: do awareness programmes have an impact on adoption of safe practices? *Asian Pac J Cancer Prev*. 2015;16(3):927-32. PubMed PMID: 25735384.

BACKGROUND: Breast and cervical cancers are the most common causes of cancer mortality among women in India, but actually they are largely preventable diseases. Although early detection is the only way to reduce morbidity and mortality, there are limited data on breast and cervical cancer knowledge, safe practices and attitudes of teachers in India. The purpose of this study is to assess the level of awareness and impact of awareness programs in adoption of safe practices in prevention and early detection.

MATERIALS AND METHODS: This assessment was part of a pink chain campaign on cancer awareness. During cancer awareness events in 2011 at various women colleges in different parts in India, a pre-test related to cervical cancer and breast cancer was followed by an awareness program. Post-tests using the same questionnaire were conducted at the end of the interactive session, at 6 months and 1 year.

RESULTS: A total of 156 out of 182 teachers participated in the study (overall response rate was 85.7 %). Mean age of the study population was 42.4 years (range- 28-59 yrs). There was a significant increase in level of knowledge regarding cervical and breast cancer at 6 months and this was sustained at 1 year. Adoption of breast self examination (BSE) was significantly more frequent in comparison to CBE, mammography and the Pap test. Magazines and newspapers were sources for knowledge regarding screening tests for breast cancer in more than 60% of teachers where as more than 75% were educated by doctors regarding the Pap test. Post awareness at 6 months and 1 year, there was a significant change in alcohol and smoking habits. Major reasons for not doing screening test were found to be ignorance (50%), lethargic attitude (44.8%) and lack of time (34.6%). CONCLUSIONS: Level of knowledge of breast cancer risk factors, symptoms and screening methods was high as compared to cervical cancer. There was a significant increase in level of knowledge regarding cervical and breast cancer at 6 months and this was sustained at 1 year. Adoption of BSE was significantly greater in comparison to CBE, mammography and the Pap test. To inculcate safe practices in lifestyle of people, awareness programmes such as pink chain campaign should be conducted more widely and frequently.

PMID: 25735384 [PubMed - in process]

140: Sharawat SK, Bakhshi R, Vishnubhatla S, Bakhshi S. High receptor tyrosine kinase (FLT3, KIT) transcript versus anti-apoptotic (BCL2) transcript ratio independently predicts inferior outcome in pediatric acute myeloid leukemia. *Blood Cells Mol Dis.* 2015 Jan;54(1):56-64. doi: 10.1016/j.bcmd.2014.07.019. Epub 2014 Sep 15. PubMed PMID: 25216797.

OBJECTIVE: In acute myeloid leukemia (AML), simultaneous expression of proliferative (FLT3, KIT) and anti-apoptotic genes (BCL2) is unknown. The aim of the study was to prospectively evaluate proliferative and anti-apoptotic gene transcripts, their interrelationship and impact on the outcome in pediatric AML patients.

METHODS: We assessed proliferative and anti-apoptotic gene transcripts by Q-polymerase chain reaction (TaqMan probe) in 64 consecutive pediatric AML patients. Survival data was analyzed by Kaplan-Meier curves followed by log rank test to compare statistical significance between groups. Stepwise multivariable Cox regression method was used to evaluate independent prognostic factors.

RESULTS: In univariate analysis, transcript ratio of FLT3/BCL2 and FLT3+KIT/BCL2 significantly predicted event free survival (EFS) (<0.01 and <0.01 respectively) and overall survival (OS) (<0.01 and <0.01 respectively). In stepwise Cox-regression model, high white blood cell count and high FLT3+KIT/BCL2 ratio predicted EFS (HR: 2.2 and 2.3); high hemoglobin and high FLT3+KIT/BCL2 ratio predicted OS (HR: 0.45 and 3.85). Prognostic index (PI) was calculated using the hazard coefficient of independent prognostic factors; at 57.3 months, predicted OS of patients with the highest PI of 1.8 was 8% versus 73% for the lowest PI of -0.3. The mean PI of patients who died was 1.8±0.72 versus 0.54±0.70 for those who are alive, P=0.004.

CONCLUSIONS: This first study showed that individual expression of proliferative and anti-apoptotic transcripts is not as important in AML patients, rather their interrelationship and relative level probably determines the outcome.

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141: Sharma A, Sinha R. An unusual cause of electrocardiogram interference in the operation theater. *J Anaesthesiol Clin Pharmacol.* 2015 Jan-Mar;31(1):131-2. doi: 10.4103/0970-9185.150576. PubMed PMID: 25788792; PubMed Central PMCID: PMC4353143.

142: Sharma A, Goyal V, Behari M, Srivastva A, Shukla G, Vibha D. Impulse control disorders and related behaviours (ICD-RBs) in Parkinson's disease patients: Assessment using "Questionnaire for impulsive-compulsive disorders in Parkinson's disease" (QUIP). *Ann Indian Acad Neurol*. 2015 Jan-Mar;18(1):49-59. doi: 10.4103/0972-2327.144311. PubMed PMID: 25745311; PubMed Central PMCID: PMC4350214.

BACKGROUND: There is limited data on the prevalence of impulse control disorder and related behaviors (ICD-RBs) in Indian patients with Parkinson's Disease (PD). In the context of potential genetic and environmental factors affecting the expression of ICD-RBs, studying other multiethnic populations may bring in-sights into the mechanisms of these disorders.

OBJECTIVES: To ascertain point prevalence estimate of ICD-RBs in Indian PD patients, using the validated "Questionnaire for Impulsive-Compulsive Disorders in Parkinson's disease (QUIP)" and to examine their association with Dopamine replacement therapy (DRT).

MATERIALS AND METHODS: This was a hospital based observational cross-sectional study. After taking informed consent, patients and their informants (spouse, or primary caregiver) were made to complete the QUIP, and were instructed to answer questions based on behaviors that occurred anytime during PD that lasted at least four consecutive weeks.

RESULTS: Total of 299 patients participated in the study. At least one ICD-RB was present in 128 (42.8%), at least one Impulse control disorder (ICD) was present in 74 (24.75%) and at least one Impulse control related compulsive behaviour (ICRB) was present in 93 (31.1%) patients. Punding was the most frequent (12.4%) followed by hyper sexuality (11.04%), compulsive hobbyism (9.4%), compulsive shopping (8.4%), compulsive medication use (7.7%), compulsive eating (5.35%), walkabout (4%) and pathological gambling (3.3%). ≥ 2 ICD-RBs were observed in 15.7% of patients. After multivariate analysis, younger age of onset, being unmarried were specifically associated with presence of ICD. Longer disease duration was specifically associated with presence of ICRB. Whereas smoking and higher dopamine levodopa equivalent daily doses (DA LEDD) were associated with both presence of ICD and ICRB. Higher LD LEDD was specifically associated with presence of ICD-RB.

CONCLUSIONS: Our study revealed a relatively higher frequency of ICD-RBs, probably because of the use of screening instrument and because we combined both ICDs and ICRBs. Also high proportion of DA use (81.6%) among our patients might be responsible. The role of genetic factors that might increase the risk of developing ICD-RBs in this population needs further exploration.

PMCID: PMC4350214

PMID: 25745311 [PubMed]

143: Sharma S, Curry J. Inguinal hernia in premature infants. *J Indian Assoc Pediatr Surg*. 2015 Jan;20(1):25-6. PubMed PMID: 25552827; PubMed Central PMCID: PMC4268752.

144: Shete V, Kumar A, Devarajan LJ, Sharma BS. Delayed appearance and rupture of a post-traumatic supraclinoid aneurysm in a 2-year-old child. *Neurol India*. 2015 Jan-Feb;63(1):112-4. doi: 10.4103/0028-3886.152681. PubMed PMID: 25751485.

145: Shetkar SS, Kothari SS. Intermittent' restrictive ventricular septal defect in Tetralogy of Fallot. *Ann Pediatr Cardiol*. 2015 Jan-Apr;8(1):80-1. doi: 10.4103/0974-2069.149533. PubMed PMID: 25684897; PubMed Central PMCID: PMC4322411.

146: Singh A, Purohit BM, Masih N. Geriatric oral health predicaments in New Delhi, India. *Geriatr Gerontol Int*. 2015 Jan 17. doi: 10.1111/ggi.12434. [Epub ahead of print] PubMed PMID: 25597250.

OBJECTIVES: The aim of the present study was to analyze geriatric oral health predicaments in India. Specifically, to assess the oral health status and treatment needs among the geriatric population attending health camps in New Delhi, Northern India.

METHODS: The sample size for the cross-sectional study comprised of 248 elderly participants aged 60 years having attended the health check-up camps organized in New Delhi, India. The community periodontal index was used for assessment of periodontal disease. The World Health Organization's criterion was used for detection of dentition status and treatment needs. The χ^2 -test was used to compare between categorical variables. The Mann-Whitney U-test was used to compare between two groups for quantitative variables. Regression analysis was carried out to identify the factors associated with dental caries and periodontal disease status.

RESULTS: The mean number of affected sextants with the highest community periodontal index score of 4 was 3.54 ± 2.45 . Mean decayed, missing and filled teeth score of 16.39 ± 8.97 was recorded among the elderly. Prosthetic need was noted among 206 (83.1%) participants. Age and literacy status contributed to 27% and 12% of the variance respectively in the decayed, missing and filled teeth model. ($P < 0.001$) Major contributory factors in the periodontal disease model for the 37%, 11% and 11% variance were age, sex and tobacco consumption ($P < 0.001$).

CONCLUSION: Two striking features of the study were the high levels of unmet prosthetic needs and the extremely low utilization of dental care. There is an urgent necessity to resolve the high burden of unmet prosthetic need among the aged in India. *Geriatr Gerontol Int* 2015; ●●: ●●-●●.

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PMID: 25597250 [PubMed - as supplied by publisher]

147: Singh A, Gopinath K, Sharma P, Bisht D, Sharma P, Singh N, Singh S. Comparative proteomic analysis of sequential isolates of *Mycobacterium tuberculosis* from a patient with pulmonary tuberculosis turning from drug sensitive to multidrug resistant. *Indian J Med Res*. 2015 Jan;141(1):27-45. PubMed PMID: 25857493.

BACKGROUND & OBJECTIVES: Tuberculosis is a major health problem in India, and the emergence of multidrug resistant (MDR) and extensively drug resistant (XDR) strains of *Mycobacterium tuberculosis* (Mtb) has further complicated the situation. Though several studies characterizing drug sensitive and drug resistant strains are available in literature, almost all studies are done on unrelated strains. Therefore, the objective of this study was to compare the proteomic data of four sequential isolates of Mtb from a single patient who developed MDR-TB during the course of anti-tuberculosis therapy (ATT).

METHODS: In this study, using two-dimensional (2D) gel electrophoresis and MALDI-TOF mass spectrometry, we compared and analyzed the cell lysate proteins of Mtb sequential clinical isolates from a patient undergoing anti-TB treatment. The mRNA expression levels of selected identified proteins were determined by quantitative real-time polymerase chain reaction (qRT-PCR).

RESULTS: The genotypes of all four isolates remained homologous, indicating no re-infection. The initial isolate (before treatment) was sensitive to all first-line drugs, but the consecutive isolates were found to be resistant to isoniazid (INH) and rifampicin (RIF) and developed mutations in the *katG*, *inhA*

and rpoB. the intensities of 27 protein spots were found to be consistently overexpressed in INH and RIF resistant isolates. The most prominent and overexpressed proteins found during the development of drug resistance were GarA (Rv1827), wag31 (Rv2145c), Rv1437 and Rv2970c.

INTERPRETATION & CONCLUSIONS: This preliminary proteomic study provides an insight about the proteins that are upregulated during drug resistance development. These upregulated proteins, identified here, could prove useful as immunodiagnostic and possibly drug resistant markers in future. However, more studies are required to confirm these findings.

PMID: 25857493 [PubMed - in process]

148: Singh AK, Gaur P, Shukla NK, Das SN. Differential dendritic cell-mediated activation and functions of invariant NKT-cell subsets in oral cancer. *Oral Dis.* 2015 Jan;21(1):e105-13. doi: 10.1111/odi.12238. Epub 2014 Apr 8. PubMed PMID: 24654917.

OBJECTIVES: Invariant natural killer T (iNKT) cells are unique subset of glycolipid-reactive T lymphocytes with potent antitumour characteristics. This study was planned to understand Th-like cytokine profiles of iNKT-cell subsets and modulation of their functions in response to glycolipid ligand and tumour cell lysate (TL).

SUBJECTS AND METHODS: Cytokine profile of iNKT-cell subsets was evaluated from the peripheral blood of eight oral squamous cell carcinoma (OSCC) patients by flow cytometry and enzyme-linked immunosorbent assay (ELISA), while antitumour activity of iNKT cells was measured by methyl tetrazolium salt assay.

RESULTS: CD4(+) (CD4(+) CD8(-)) iNKT subset from OSCC patients showed significant ($P < 0.01$) expansion and higher IL-4 production following activation with α -GalCer-pulsed DCs, while CD4(-) CD8(-) double negative (DN) and CD8(+) (CD4(-) CD8(+)) iNKT subsets produced IFN- γ predominantly. iNKT cells showed significantly ($P = 0.02$) increased secretion of IFN- γ and enhanced cytotoxicity to KB and SCC-4 tumour cells in response to α -GalCer and TL-pulsed DCs.

CONCLUSION: It appears that mutual balance/ratio of iNKT subsets may be important for their effector functions. Selectively expanded DN and CD8(+) iNKT cells with α -GalCer and TL may be a better candidate vaccine for iNKT-cell-based adoptive cancer immunotherapy.

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PMID: 24654917 [PubMed - in process]

149: Singh B, Kedia S, Konijeti G, Mouli VP, Dhingra R, Kurrey L, Srivastava S, Pradhan R, Makharia G, Ahuja V. Extraintestinal manifestations of inflammatory bowel disease and intestinal tuberculosis: Frequency and relation with disease phenotype. *Indian J Gastroenterol.* 2015 Jan;34(1):43-50. doi: 10.1007/s12664-015-0538-7. Epub 2015 Feb 7. PubMed PMID: 25663290.

BACKGROUND: Extraintestinal manifestations (EIMs) in inflammatory bowel disease (IBD) including ulcerative colitis (UC) and Crohn's disease (CD), as well as intestinal tuberculosis (ITB) from Asia, are underreported. We, therefore, describe the prevalence of EIMs in Indian IBD and ITB patients and study their relationship with disease extent and severity in IBD.

METHODS: This retrospective single-center study included all IBD and ITB patients evaluated from January 2005 to July 2012. Disease profile and frequencies of arthropathies (peripheral and central) and ocular (episcleritis, iritis/uveitis), oral (aphthous stomatitis), skin (erythema nodosum, pyoderma gangrenosum, psoriasis), hepatobiliary (primary sclerosing cholangitis), and thromboembolic manifestations were analyzed.

RESULTS: Of 1,652 patients (1146 UC, 303 CD, 203 ITB), frequency of any EIM was

33.2 %, 38.3 %, and 14.3 % in UC, CD, and ITB patients, respectively. Thromboembolism was more common among UC patients with pancolitis than proctitis ($p < 0.001$) and left-sided colitis ($p = 0.02$). Primary sclerosing cholangitis was seen in 0.4 % UC patients. Steroid-dependent UC patients had higher frequency of any EIM, peripheral arthropathy, or thromboembolism than patients with no or infrequent steroid requirement ($p < 0.05$). Peripheral arthropathy ($p = 0.02$), erythema nodosum ($p = 0.01$), and aphthous stomatitis ($p = 0.004$) were more common with CD than with UC patients. Patients with colonic CD had higher frequency of peripheral arthropathy, any EIM, and multiple EIMs than ileal or ileocolonic disease ($p < 0.05$). Relative to ITB, CD patients had higher frequencies of peripheral arthropathy ($p < 0.001$), aphthous stomatitis ($p = 0.01$), any EIM ($p < 0.001$), and multiple EIMs ($p < 0.001$).

CONCLUSIONS: In Indian IBD and ITB patients, EIMs appear to be related to disease severity in UC and disease location in CD and are significantly more common in CD than in ITB. Overall prevalence of EIMs in these patients is similar to that of the West.

PMID: 25663290 [PubMed - in process]

150: Singh H, Thangaraju P, Natt NK. Sleep-walking a rarest side effect of zolpidem. *Indian J Psychol Med.* 2015 Jan-Mar;37(1):105-6. doi: 10.4103/0253-7176.150856. PubMed PMID: 25722525; PubMed Central PMCID: PMC4341297.

A 46-years-old male, with past history of road traffic accident and with no current/past history of substance abuse and no family history of sleep-walking, took zolpidem 10 mg without any prescription and after few days, the patient's son noticed the patient waking up in the middle of night and walking into their room with a staring expression and some incoherent speech. The patient had no memory of this event in the morning. This sleep-walking episode was attributed to zolpidem, as no medication change was made besides new start of zolpidem and the patient had no history of such episodes in the past. Zolpidem treatment was stopped, and since then, no further complaints of sleep-walking were reported.

PMCID: PMC4341297

PMID: 25722525 [PubMed]

151: Singh H, Patel CD, Sharma G, Naik N. Comparison of left ventricular systolic function and mechanical dyssynchrony using equilibrium radionuclide angiography in patients with right ventricular outflow tract versus right ventricular apical pacing: A prospective single-center study. *J Nucl Cardiol.* 2015 Jan 23. [Epub ahead of print] PubMed PMID: 25609582.

BACKGROUND: Chronic ventricular pacing is known to adversely affect left ventricular (LV) function. Studies comparing right ventricular outflow tract (RVOT) pacing with RV apical (RVA) pacing have shown heterogeneous outcomes. Our aim was to objectively assess LV function and mechanical dyssynchrony in patients with RVOT and RVA pacing using equilibrium radionuclide angiography (ERNA).

METHODS: Fifty-one patients who underwent permanent pacemaker implantation and had normal LV function were prospectively included. Twenty-nine patients had pacemaker lead implanted in the RVOT and 22 at the RVA site. All patients underwent ERNA within 5 days post-pacemaker implantation and follow-up studies at 6 and 12 months. Standard deviation of LV mean phase angle (SD LV mPA) expressed in degrees, which was derived by Fourier first harmonic analysis of phase images, was used to quantify left intraventricular dyssynchrony.

RESULTS: No significant difference was observed between the two groups with respect to indication ($P = .894$), Type/mode ($P = .985$), and percentage of ventricular pacing ($P = .352$). Paced QRS duration was significantly longer in RVA

group than RVOT group ($P = .05$). There was no statistically significant difference between the RVA and RVOT groups at baseline with respect to LVEF ($P = .596$) and SD LV mPA ($P = .327$). Within the RVA group, a significant decline in LVEF was observed over 12-month follow-up (from $57.3\% \pm 5.32\%$ to $55.6\% \pm 6.25\%$; $P = .012$). In the RVOT group, the change in LVEF was not statistically significant (from $56.7\% \pm 4.08\%$ to $54.3\% \pm 6.63\%$; $P = .159$). No significant change in SD LV mPA was observed over 12-month follow-up within the RVA group (from $10.5 \pm 2.58^\circ$ to $10.4 \pm 3.54^\circ$; $P = 1.000$) as well as in the RVOT group (from $9.7 \pm 3.28^\circ$ to $9.4 \pm 2.85^\circ$; $P = .769$). However, between the RVA and RVOT groups, no significant difference was observed at 12-month follow-up in terms of LVEF and dyssynchrony (LVEF $P = .488$; SD LV mPA $P = .296$).

CONCLUSION: No significant difference was observed between RVOT and RVA groups with regard to LV function and synchrony over a 12-month follow-up. RVOT pacing offers may lead to better preservation of LV function on longer follow-up.

PMID: 25609582 [PubMed - as supplied by publisher]

152: Singh L, Singh G, Dinda AK. Understanding podocytopathy and its relevance to clinical nephrology. *Indian J Nephrol.* 2015 Jan-Feb;25(1):1-7. doi: 10.4103/0971-4065.134531. Review. PubMed PMID: 25684864; PubMed Central PMCID: PMC4323905.

Podocytopathies are the most common group of glomerular disorder leading to proteinuria. On the basis of pathophysiology, light microscopic and ultrastructural evaluation, the podocytopathies include minimal change disease, diffuse mesangial sclerosis, focal segmental glomerulosclerosis and collapsing glomerulopathy. The present review summarizes the basic etiopathogenesis of podocytopathies, highlights the common genetic and acquired factors in its causation, puts forth various diagnostic modalities and discusses the role of emerging agents or treatment.

PMCID: PMC4323905

PMID: 25684864 [PubMed]

153: Singh P, Arora S, Lal S, Strand TA, Makharia GK. Celiac Disease in Women With Infertility: A Meta-Analysis. *J Clin Gastroenterol.* 2015 Jan 1. [Epub ahead of print] PubMed PMID: 25564410.

BACKGROUND:: Celiac disease (CeD) is a systemic disease with manifestations not limited to small intestine. The data on association between CeD and infertility is contradictory. There are no recommendations for the screening of female patients with infertility for CeD. AIM:: We conducted a meta-analysis to find out whether women with infertility are at higher risk of CeD.

METHODS:: Literature search was performed using the MeSH keywords "CeD," "gluten," and "infertility". Diagnosis of CeD was based on positive serology and biopsies showing villous atrophy. Data were extracted about CeD patients in 3 groups-women with infertility (including unexplained infertility), unexplained infertility, and controls. Pooled odds ratio (OR) and prevalence, with 95% confidence intervals (CI), were calculated.

RESULTS:: Of 105 relevant studies, 5 studies were included for calculation of pooled OR. Four additional studies, where data on controls were not available, were also considered for calculation of pooled prevalence of CeD. Women with infertility had 3.5 times higher odds of having CeD in comparison with control population (OR=3.5; 95% CI, 1.3-9; $P < 0.01$). Similarly, women with "unexplained infertility" had 6 times higher odds of having CeD than controls (OR=6; 95% CI, 2.4-14.6). Of 884 women with infertility, 20 had CeD indicating a pooled prevalence of 2.3% (95% CI, 1.4-3.5). Of 623 women with "unexplained infertility," 20 had CeD. The pooled prevalence of CeD in women with unexplained infertility was 3.2 (95% CI, 2-4.9).

CONCLUSIONS:: CeD is more prevalent in women with "all-cause" infertility and "unexplained" infertility than that in general population.

PMID: 25564410 [PubMed - as supplied by publisher]

154: Singh P, Wadhwa N, Lodha R, Sommerfelt H, Aneja S, Natchu UC, Chandra J, Rath B, Sharma VK, Kumari M, Saini S, Kabra SK, Bhatnagar S, Strand TA. Predictors of time to recovery in infants with probable serious bacterial infection. PLoS One. 2015 Apr 24;10(4):e0124594. doi: 10.1371/journal.pone.0124594. eCollection 2015. PubMed PMID: 25909192.

INTRODUCTION: Serious bacterial infections continue to be an important cause of death and illness among infants in developing countries. Time to recovery could be considered a surrogate marker of severity of the infection. We therefore aimed to identify clinical and laboratory predictors of time to recovery in infants with probable serious bacterial infection (PSBI).

METHODS: We used the dataset of 700 infants (7-120 days) enrolled in a randomised controlled trial in India in which 10mg of oral zinc or placebo was given to infants with PSBI. PSBI was defined as signs/symptoms of possible serious bacterial infection along with baseline C-reactive protein(CRP) level >12mg/L. Time to recovery was defined as time from enrolment to the end of a 2-day period with no symptoms/signs of PSBI and daily weight gain of at least 10g over 2 successive days on exclusive oral feeding. Cox proportional hazard regression was used to measure the associations between relevant variables and time to recovery.

RESULTS: Infants who were formula fed prior to illness episode had 33% longer time to recovery (HR=0.67, 95%CI=0.52, 0.87) than those who were not. Being underweight (HR=0.84, 95%CI=0.70, 0.99), lethargic (HR=0.77, 95%CI=0.62, 0.96) and irritable (HR=0.81, 95%CI=0.66, 0.99) were independent predictors of time to recovery. Baseline CRP was significantly associated with time to recovery (P<0.001), higher CRP was associated with longer time to recovery and this association was nearly linear.

CONCLUSION: Simple clinical and laboratory parameters such as formula feeding prior to the illness, being underweight, lethargic, irritable and having elevated CRP levels could be used for early identification of infants with PSBI at risk for protracted illness and could guide prompt referral to higher centers in resource limited settings. This also provides prognostic information to clinicians and family as longer recovery time has economic and social implications on the family in our setting.

TRIAL REGISTRATION: ClinicalTrials.gov NCT00347386.

PMID: 25909192 [PubMed - in process]

155: Singh PM, Arora S, Borle A, Varma P, Trikha A, Goudra BG. Evaluation of Etomidate for Seizure Duration in Electroconvulsive Therapy: A Systematic Review and Meta-analysis. J ECT. 2015 Jan 27. [Epub ahead of print] PubMed PMID: 25634566.

: The optimum induction agent for anesthesia for electroconvulsive therapy (ECT) has been long debated. Ideal agent should be short acting with minimal suppression of seizure potentials. Recent studies have suggested longer seizure duration with etomidate in comparison to propofol, thiopental, and methohexital. The aim of the present meta-analysis was to pool data available from studies comparing systematically the efficacy of etomidate against other induction agents in terms of seizure duration (both electroencephalography (EEG) and motor).METHODS: We searched the PubMed, Embase, and Cochrane registry for trials evaluating etomidate against methohexital, propofol, or thiopental for duration of EEG or motor seizure in patients undergoing ECT. Specific adverse effects reported were also identified.

RESULTS: Seventeen trials were identified involving 704, 84, 2491, and 258

setting of ECT using etomidate, methohexital, thiopental, and propofol, respectively. In the etomidate group, pooled EEG seizure duration was longer by 2.23 seconds (95% confidence interval [CI], -3.62 to 8.01; $P = 0.456$) than methohexital, longer by 17.65 seconds (95% CI, 9.72-25.57; $P < 0.001$) than propofol, and longer by 11.81 seconds (95% CI, 4.26-19.35; $P = 0.003$) than thiopental. Pooled motor seizure duration was longer in etomidate group by 1.45 seconds (95% CI, -4.79 to 7.69; $P = 0.649$) than methohexital, longer by 11.13 seconds (95% CI, 6.64-15.62; $P < 0.001$) than propofol, and longer by 3.60 seconds (95% CI, 2.15-5.06; $P < 0.001$) than thiopental. Myoclonus (6 trials) and painful injection (4 trials) were commonest adverse effects with etomidate.

CONCLUSIONS: Etomidate is clearly better in terms of seizure duration potential (both motor and EEG) than propofol and thiopental. Superiority/inferiority over methohexital could not be demonstrated with the presently available literature.

PMID: 25634566 [PubMed - as supplied by publisher]

156: Singh S, Khandpur S, Sharma VK. Allergic contact dermatitis to Parthenium hysterophorus mimicking actinic prurigo. Indian J Dermatol Venereol Leprol. 2015 Jan-Feb;81(1):82-4. doi: 10.4103/0378-6323.148594. PubMed PMID: 25566915.

157: Singh S, Doshi S, Salahuddin S, Tarik M, Barwad P, Ramakrishnan L, Ramakrishnan S, Karthikeyan G, Bhargava B, Bahl VK. Antistreptokinase antibodies and outcome of fibrinolytic therapy with streptokinase for left-sided prosthetic valve thrombosis. Am Heart J. 2015 Jan;169(1):170-4. doi: 10.1016/j.ahj.2014.10.012. Epub 2014 Oct 23. PubMed PMID: 25497263.

BACKGROUND: Left-sided prosthetic valve thrombosis (PVT) is a serious complication of valve replacement. In developing countries, fibrinolysis with streptokinase (SK) is often used as the first line of treatment. Anti-streptokinase (anti-SK) antibodies are widely prevalent in the general population, but their effect on the efficacy and outcome of fibrinolysis with SK in patients with PVT is not known.

METHODS: Patients with rheumatic heart disease and prosthetic valve replacement presenting with a first episode of left-sided PVT were enrolled. All patients underwent fibrinolysis with SK. An indirect enzyme-linked immunosorbent assay was used to detect anti-SK antibodies before fibrinolysis. Relationship of these antibodies to the outcome of fibrinolysis was evaluated.

RESULTS: Forty-four patients treated for left-sided PVT were included. Thrombosis affected 33 mitral and 11 aortic prosthetic valves. On fibrinolysis with SK, 32 (73%) patients achieved complete success, whereas it was unsuccessful in the remaining 12 patients. There were 3 bleeding events, 1 stroke, and 3 deaths. Mean anti-SK antibody levels were not significantly different between patients who had complete success and those who did not (8.81 ± 2.43 vs 7.67 ± 1.26 Au/mL; $P = .13$) and did not correlate with the outcome after adjustment with other variables. Patients in New York Heart Association class III or IV had a greater chance of failed fibrinolytic therapy, even after adjustment for other prognostic variables (odds ratio 9.0; 95% CI 1.29-63.02; $P = .027$).

CONCLUSION: Anti-SK antibody titers are not associated with success of fibrinolytic therapy using SK in patients with left-sided PVT.

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PMID: 25497263 [PubMed - indexed for MEDLINE]

158: Singh S, Kumar M, Singh P. Evolution of M. bovis BCG Vaccine: Is Niacin Production Still a Valid Biomarker? Tuberc Res Treat. 2015;2015:957519. doi: 10.1155/2015/957519. Epub 2015 Jan 28. Review. PubMed PMID: 25694828; PubMed Central PMCID: PMC4324913.

BCG vaccine is usually considered to be safe though rarely serious complications have also been reported, often incriminating contamination of the seed strain with pathogenic *Mycobacterium tuberculosis*. In such circumstances, it becomes prudent to rule out the contamination of the vaccine seed. *M. bovis* BCG can be confirmed by the absence of nitrate reductase, negative niacin test, and resistance to pyrazinamide and cycloserine. Recently in India, some stocks were found to be niacin positive which led to a national controversy and closer of a vaccine production plant. This prompted us to write this review and the comparative biochemical and genotypic studies were carried out on the these contentious vaccine stocks at the Indian vaccine plant and other seeds and it was found that some BCG vaccine strains and even some strains of *M. bovis* with eugenic-growth characteristics mainly old laboratory strains may give a positive niacin reaction. Most probably, the repeated subcultures lead to undefined changes at the genetic level in these seed strains. These changing biological characteristics envisage reevaluation of biochemical characters of existing BCG vaccine seeds and framing of newer guidelines for manufacturing, production, safety, and effectiveness of BCG vaccine.

PMCID: PMC4324913

PMID: 25694828 [PubMed]

159: Sinha A, Bhatia D, Gulati A, Rawat M, Dinda AK, Hari P, Bagga A. Efficacy and safety of rituximab in children with difficult-to-treat nephrotic syndrome. *Nephrol Dial Transplant*. 2015 Jan;30(1):96-106. doi: 10.1093/ndt/gfu267. Epub 2014 Aug 13. PubMed PMID: 25121488.

BACKGROUND: Rituximab has emerged as an important medication for patients with steroid-dependent or steroid-resistant nephrotic syndrome.

PATIENTS: We report the efficacy and safety of therapy with intravenous rituximab, administered once weekly for 2-4 doses, in 193 patients (mean age 10.9, range 2.2-18.7 years) with difficult-to-treat steroid dependence (n = 101), calcineurin inhibitor (CNI)-dependent steroid resistance (n = 34) and CNI-resistant nephrotic syndrome (n = 58) managed at this center during 2006-13.

OUTCOMES: Therapy in patients with steroid dependence and CNI-dependent steroid resistance led to significantly reduced relapse rates (respective mean difference 2.7 relapses/year and 2.2 relapses/year, corresponding to a decrease in relapses by 81.8 and 71.0%; both P < 0.0001). This resulted in a significant reduction in steroid requirement (mean difference 104.5 and 113.6 mg/kg/year, respectively; both P < 0.0001) and a trend to improved standard deviation scores for height (P = 0.069) and body mass index (P = 0.029). Remission was longer in patients with steroid dependence compared with CNI-dependent steroid resistance (median 16 versus 10 months; P < 0.0001). Prior response to cyclophosphamide predicted a lower risk of relapse in the former (hazard ratio, HR 0.56; P = 0.045); patients with initial resistance and CNI-dependent steroid resistance had increased risk of relapse (HR 2.66; P = 0.042). B-cell recovery, noted in 62.5% patients at 6 months, was not related to occurrence of relapse; redosing (n = 42 patients) was safe and effective. Response to therapy was unsatisfactory in patients with steroid- and CNI-resistant nephrotic syndrome, with remission in 29.3%. Focal segmental glomerulosclerosis was associated with higher odds of non-response (odds ratio 11.1; P = 0.028) and lack of response was associated with progressive chronic kidney disease (HR 9.97; P = 0.035). Therapy with rituximab was safe; adverse effects or infections were noted in 19 (9.8%) patients.

CONCLUSIONS: Therapy with rituximab is effective and safe in reducing relapse rates and need for immunosuppressive medications in patients with steroid-dependent and CNI-dependent steroid-resistant nephrotic syndrome.

PMID: 25121488 [PubMed - in process]

160: Sinha A, Saha A, Kumar M, Sharma S, Afzal K, Mehta A, Kalaivani M, Hari P, Bagga A. Extending initial prednisolone treatment in a randomized control trial from 3 to 6 months did not significantly influence the course of illness in children with steroid-sensitive nephrotic syndrome. *Kidney Int.* 2015 Jan;87(1):217-24. doi: 10.1038/ki.2014.240. Epub 2014 Jul 16. PubMed PMID: 25029428.

While studies show that prolonged initial prednisone therapy reduces the frequency of relapses in nephrotic syndrome, they lack power and have risk of bias. In order to examine the effect of prolonged therapy on frequency of relapses, we conducted a blinded, 1:1 randomized, placebo-controlled trial in 5 academic hospitals in India on 181 patients, 1-12 years old, with a first episode of steroid-sensitive nephrotic syndrome. Following 12 weeks of standard therapy, in random order, 92 patients received tapering prednisolone while 89 received matching-placebo on alternate days for the next 12 weeks. On intention-to-treat analyses, primary outcome of number of relapses at 1 year was 1.26 in the 6-month group and 1.54 in the 3-month group (difference -0.28; 95% confidence interval (CI) -0.75, 0.19). Relative relapse rate for 6- vs. 3-month therapy, adjusted for gender, age, and time to initial remission, was 0.70 (95% CI 0.47-1.10). Similar proportions of patients had sustained remission, frequent relapses, and adverse effects due to steroids. Adjusted hazard ratios for first relapse and frequent relapses with prolonged therapy were 0.57 (95% CI, 0.36-1.07) and 1.01 (95% CI, 0.61-1.67), respectively. Thus, extending initial prednisolone treatment from 3 to 6 months does not influence the course of illness in children with nephrotic syndrome. These findings have implications for guiding the duration of therapy of nephrotic syndrome.

PMID: 25029428 [PubMed - in process]

161: Sinha R, Biyani G, Bhattacharjee S. Anaesthetic management of a child with panthothenate kinase-associated neurodegeneration. *Indian J Anaesth.* 2015 Jan;59(1):43-6. doi: 10.4103/0019-5049.149449. PubMed PMID: 25684813; PubMed Central PMCID: PMC4322101.

Panthothenate kinase-associated neurodegeneration (PKAN) (Hallervorden-Spatz disease) is a rare autosomal recessive chromosomal disorder characterised by progressive neuroaxonal dystrophy. The characteristic features include involuntary movements, rigidity, mental retardation, seizures, emaciation. The anaesthetic concerns include difficult airway, aspiration pneumonia, dehydration, and post-operative respiratory, and renal insufficiency. We report successful anaesthetic management of a 9-year-old intellectually disabled male child with PKAN, scheduled for ophthalmic surgery under general anaesthesia.

PMCID: PMC4322101

PMID: 25684813 [PubMed]

162: Soni KD, Dash DP, Aggrawal R, Kumar N, Kumar N. Can Differential Regional Ventilation Protect the Spared Lung In Acute Respiratory Distress Syndrome? *Am J Emerg Med.* 2015 Jan 16. pii: S0735-6757(15)00011-X. doi: 10.1016/j.ajem.2015.01.009. [Epub ahead of print] PubMed PMID: 25770594.

163: Soundararajan R, Singh H, Arora S, Nayak B, Shamim SA, Bal C, Kumar R. Forced diuresis (18)F-fluorodeoxyglucose positron emission tomography/contrast enhanced in detection of carcinoma of urinary bladder diverticulum. *Indian J Nucl Med.* 2015 Jan-Mar;30(1):86-8. doi: 10.4103/0972-3919.147559. PubMed PMID:

25589819; PubMed Central PMCID: PMC4290079.

Urinary bladder diverticular carcinomas are uncommon with a lesser incidence of 0.8-10% and its diagnosis still remains a challenge. Cystoscopy is the most reliable method, but evaluating diverticulum with narrow orifices is difficult. Before the initiation of appropriate treatment, proper detection of bladder diverticular carcinoma and its locoregional and distant sites of involvement is necessary. Here, we present a case of 48-year-old male with urinary bladder diverticular carcinoma detected by forced diuretic (18)F-fluorodeoxyglucose positron emission tomography/computerized tomography ((18)F-FDG PET/CT). This case also highlights the significance of forced diuretic (18)F-FDG PET/CT in the detection, staging, and response evaluation of bladder diverticular carcinoma.

PMCID: PMC4290079

PMID: 25589819 [PubMed]

164: Sundar S, Singh A, Chakravarty J, Rai M. Efficacy and safety of miltefosine in treatment of post-kala-azar dermal leishmaniasis. *ScientificWorldJournal*. 2015;2015:414378. doi: 10.1155/2015/414378. Epub 2015 Jan 1. PubMed PMID: 25685839; PubMed Central PMCID: PMC4313722.

BACKGROUND: Long regimens for the treatment of post-kala-azar dermal leishmaniasis (PKDL) result in noncompliance. A safe, effective, and acceptable regimen for the treatment of PKDL is still to be developed. Miltefosine has been found to be effective in the treatment of Visceral Leishmaniasis (VL). Hence, its efficacy was tested in patients of PKDL.

METHODS: In this exploratory study, 33 patients with PKDL aged 10 years and above were administered miltefosine (50 mg for those weighing < 25 kg or 100 mg in divided doses for those ≥ 25 kg and 2.5 mg per kg for children) for 12 weeks and followed up for one year to find out the efficacy.

RESULTS: Out of 33 patients, 3 patients withdrew consent. Treatment was stopped due to adverse effect in 1 patient. 28 (96.6%) got cured with complete disappearance of lesion while 1 patient (3.4%) failed treatment by protocol analysis.

CONCLUSION: Miltefosine was found to be effective and safe in the treatment of PKDL.

PMCID: PMC4313722

PMID: 25685839 [PubMed - in process]

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Background- Post-excision residual disease in Vidian canal is speculated to contribute to recurrence in juvenile angiofibroma (JA). **Methods-** Prospective cohort of sixteen consecutive JA patients (stage IIA-IIIB). Pre-surgical Vidian canal assessment by CECT (1.2mm collimation). At surgery following complete tumor excision, Vidian canal tissue sampled for histology. Post-excision drilling of Vidian canal in 8/15 to remove microscopic residual disease. 24-48 months follow-up. **Results-** Pre-surgical radiology indicated ipsilateral Vidian canal enlargement (≥3mm)/destruction in 13/16. Radiologically occult involvement

documented only by histology in another 1/16. Post-excision sampling of the Vidian canal noted microscopic residual tumor in 3/15. No recurrences noted in 8 cases (0/8) with post-excision drilling of the Vidian canal and 2 recurrences in 7 cases (2/7) with no drilling; $p=0.20$. Conclusions- Vidian canal involvement in JA is almost universal (14/16) and may be occult to CT evaluation. The site may harbor microscopic residual tumor after seemingly complete excision. Surgical attention towards it may reduce recurrences. This article is protected by copyright. All rights reserved.

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PMID: 25581140 [PubMed - as supplied by publisher]

167: Tripathi M, Arora G, Das CJ, Grover T, Gupta R, Bal C. Incidental Detection of Intracranial Tuberculomas on 99mTc-TRODAT-1 SPECT/CT. Clin Nucl Med. 2015 Jan 20. [Epub ahead of print] PubMed PMID: 25608162.

Tc-TRODAT-1 has high affinity and specificity for dopamine transporters and is useful for the evaluation of presynaptic dopaminergic function, especially in parkinsonism. There have been a few reports of extrastriatal pathological accumulation of Tc-TRODAT-1. We report a patient with intracranial tuberculomas that were incidentally detected when he underwent Tc-TRODAT-1 scintigraphy for an unrelated indication.

PMID: 25608162 [PubMed - as supplied by publisher]

168: Tripathy K, Sharma YR, Gogia V, Venkatesh P, Singh SK, Vohra R. Serial ultra wide field imaging for following up acute retinal necrosis cases. Oman J Ophthalmol. 2015 Jan-Apr;8(1):71-2. doi: 10.4103/0974-620X.149896. PubMed PMID: 25709284; PubMed Central PMCID: PMC4333553.

We describe two cases of acute retinal necrosis (ARN) in a post renal transplant diabetic patient and a pregnant female in the first trimester. Serial ultra wide field imaging (UWFI) with comprehensive ocular examination was done to monitor the progression of the disease. All the cases responded favorably with intravenous followed by oral acyclovir, which was captured with UWFI. UWFI provides objective proof of response to therapy in ARN. UWFI may also improve patient education and counseling for this peripheral retinal disorder.

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PMID: 25709284 [PubMed]

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Diabetic macular edema (DME) is the leading cause of moderate vision loss in diabetics. Modalities to image and monitor DME have evolved much in the last decade. Systemic control is the most important part of management. Available ocular management options include intravitreal anti-vascular endothelial growth factor (anti-VEGF) agents, laser, steroids (intravitreal or peribulbar), vitrectomy, topical medications and others. Anti-VEGF agents are increasingly being used in clinical practice with good clinical response and are currently the preferred mode of treatment worldwide.

PMID: 25801496 [PubMed - in process]

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Primary intraosseous or ectopic meningioma of the skull is a rare tumor accounting for about 1% of meningioma. Intradiploic meningioma is an extremely rare type of extraneuraxial meningiomas. Intradiploic meningioma of the orbit is extremely rare, and <8 such cases are reported till date in western literature occurring in the pediatric age group. Here the authors present a case of 16-year-old female, who presented with progressive proptosis, with normal vision and was managed successfully surgically. Clinical features, pathophysiology, and surgical management of this rare entity are discussed in the context of pertinent literature.

PMCID: PMC4395948

PMID: 25878746 [PubMed]

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Though hemangiomas of the bone are quite common, calvarial (skull) cavernous hemangiomas are relatively rare pathologies. Calvarial hemangiomas are usually small and asymptomatic. However, they may occasionally grow in size to achieve large sizes and can present as a palpable swelling. We present a child with massive temporo-parieto-occipital calvarial cavernous hemangioma, who was managed with a multimodal approach with excellent cosmetic and neurologic outcome.

PMCID: PMC4395944

PMID: 25878743 [PubMed]

173: Vo AA, Sinha A, Haas M, Choi J, Mirocha J, Kahwaji J, Peng A, Villicana R, Jordan SC. Factors Predicting Risk for Antibody-Mediated Rejection and Graft Loss in Highly Human Leukocyte Antigen Sensitized Patients Transplanted After Desensitization. *Transplantation*. 2015 Jan 20. [Epub ahead of print] PubMed PMID: 25606792.

BACKGROUND: Desensitization with intravenous immunoglobulin and rituximab (I+R) significantly improves transplant rates in highly sensitized patients, but antibody-mediated rejection (ABMR) remains a concern.

PATIENTS AND METHODS: Between July 2006 and December 2012, 226 highly sensitized patients received transplants after desensitization. Most received alemtuzumab induction and standard immunosuppression. Two groups were examined: ABMR (n=181) and ABMR (n=45, 20%). Risk factors for ABMR, pathology, and outcomes were assessed.

RESULTS: Significant risks for ABMR included previous transplants and pregnancies as sensitizing events, donor-specific antibody (DSA) relative intensity scores greater than 17, presence of both class I and II DSAs at transplant and time on waitlist. The ABMR showed a significant benefit for graft survival and glomerular filtration rate at 5 years (P<0.0001). Banff pathology characteristics for ABMR patients with or without graft loss did not differ. C4d versus C4d ABMR did not predict graft loss (P=0.086). Thrombotic microangiopathy (TMA) significantly predicted graft failure (P=0.045). The ABMR episodes were treated with I+R (n=25), or, in more severe ABMR, plasma exchange (PLEX)+I+R (n=20). Graft

survival for patients treated with I+R was superior ($P=0.028$). Increased mortality was seen in ABMR patients experiencing graft loss after ABMR treatment ($P=0.004$). PLEX + Eculizumab improved graft survival for TMA patients ($P=0.036$). CONCLUSION: Patients desensitized with I+R who remain ABMR have good long-term graft and patient survival. The ABMR patients have significantly reduced graft survival and glomerular filtration rate at 5 years, especially TMA. Severe ABMR episodes benefit from treatment with PLEX + Eculizumab. The DSA-relative intensity scores at transplant was a strong predictor of ABMR. Donor-specific antibody avoidance and reduction strategies before transplantation are critical to avoiding ABMR and improving long-term outcomes.

PMID: 25606792 [PubMed - as supplied by publisher]

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SAP-1 is a 113 amino acid long single-chain protein which belongs to the type 2 cystatin gene family. In our previous study, we have purified SAP-1 from human seminal plasma and observed its cross-class inhibitory property. At this time, we report the interaction of SAP-1 with diverse proteases and its binding partners by CD-spectroscopic and molecular docking methods. The circular dichroism (CD) spectroscopic studies demonstrate that the conformation of SAP-1 is changed after its complexation with proteases, and the alterations in protein secondary structure are quantitatively calculated with increase of α -helices and reduction of β -strand content. To get insight into the interactions between SAP-1 and proteases, we make an effort to model the three-dimensional structure of SAP-1 by molecular modeling and verify its stability and viability through molecular dynamics simulations and finally complexed with different proteases using ClusPro 2.0 Server. A high degree of shape complementarity is examined within the complexes, stabilized by a number of hydrogen bonds (HBs) and hydrophobic interactions. Using HB analyses in different protein complexes, we have identified a series of key residues that may be involved in the interactions between SAP-1 and proteases. These findings will assist to understand the mechanism of inhibition of SAP-1 for different proteases and provide intimation for further research.

PMID: 24261636 [PubMed - in process]