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for the month of January, 2014
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1: Akizu N, Silhavy JL, Rosti RO, Scott E, Fenstermaker AG, Schroth J, Zaki MS, Sanchez H, Gupta N, Kabra M, Kara M, Ben-Omran T, Rosti B, Guemez-Gamboa A, Spencer E, Pan R, Cai N, Abdellateef M, Gabriel S, Halbritter J, Hildebrandt F, van Bokhoven H, Gunel M, Gleeson JG. Mutations in CSPP1 lead to classical Joubert syndrome. *Am J Hum Genet.* 2014 Jan 2;94(1):80-6. doi: 10.1016/j.ajhg.2013.11.015. Epub 2013 Dec 19. PubMed PMID: 24360807; PubMed Central PMCID: PMC3882909.

Joubert syndrome and related disorders (JSRDs) are genetically heterogeneous and characterized by a distinctive mid-hindbrain malformation. Causative mutations lead to primary cilia dysfunction, which often results in variable involvement of other organs such as the liver, retina, and kidney. We identified predicted null mutations in CSPP1 in six individuals affected by classical JSRDs. CSPP1 encodes a protein localized to centrosomes and spindle poles, as well as to the primary cilium. Despite the known interaction between CSPP1 and nephronophthisis-associated proteins, none of the affected individuals in our cohort presented with kidney disease, and further, screening of a large cohort of individuals with nephronophthisis demonstrated no mutations. CSPP1 is broadly expressed in neural tissue, and its encoded protein localizes to the primary cilium in an in vitro model of human neurogenesis. Here, we show abrogated protein levels and ciliogenesis in affected fibroblasts. Our data thus suggest that CSPP1 is involved in neural-specific functions of primary cilia.

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PMCID: PMC3882909 [Available on 2014/7/2]

PMID: 24360807 [PubMed - in process]

2: Anand D, Kumar U, Kanjilal M, Kaur S, Das N. Leukocyte complement receptor 1 (CR1/CD35) transcript and its correlation with the clinical disease activity in rheumatoid arthritis patients. *Clin Exp Immunol.* 2014 Jan 17. doi: 10.1111/cei.12274. [Epub ahead of print] PubMed PMID: 24433281.

OBJECTIVES: In view of the exaggerated complement activation in rheumatoid arthritis (RA) and significance of complement receptor 1 (CR1/CD35) as a complement regulatory protein (CRP), we aimed at determining the leukocyte-CR1 (L-CR1) transcript levels and the relationship of this protein with the clinical disease activity of RA patients.

METHODS: Sixty six controls and 45 RA patients were enrolled. L-CR1 transcript levels were correlated with the levels of circulating immune complexes (CIC), C3, C4 and C3d in controls and patients and with DAS28 in patients only. CIC levels were determined by PEG precipitation, C3 and C4 levels by nephelometry and C3d levels by enzyme linked immunosorbent assay (ELISA). Eleven patients were recruited for follow up of L-CR1 and DAS28 levels at W0, W12 and W24. Appropriate statistical methods were used for the analyses of data.

RESULTS: L-CR1 ($p < 0.01$) transcript levels were decreased in patients as compared to controls. L-CR1 levels correlated negatively with DAS28, CIC and C3d. DAS28 correlated positively with levels of CIC, C3 and C3d. Levels of CIC correlated positively with C3 and C3d. Levels of C3 correlated positively with C3d in patients and with C4 in both controls and patients. Levels of L-CR1 increased in patients with decline in DAS28 scores in follow-up patients. Observations were statistically significant.

CONCLUSIONS: Lower levels of L-CR1 transcript in patients as compared to controls, their correlations with the levels of CIC, C3d and, DAS28 at different time points in RA patients suggest CR1 as a potential disease marker for RA.

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PMID: 24433281 [PubMed - as supplied by publisher]

3: Arora B, Narayanasamy A, Nirmal J, Halder N, Patnaik S, Ravi AK, Velpandian T. Development and validation of a LC-MS/MS method for homocysteine thiolactone in plasma and evaluation of its stability in plasma samples. *J Chromatogr B Analyt Technol Biomed Life Sci*. 2014 Jan 1;944:49-54. doi: 10.1016/j.jchromb.2013.11.011. Epub 2013 Nov 14. PubMed PMID: 24291720.

The present study demonstrates the development and validation of a sensitive method for the quantification of homocysteine thiolactone (HCTL) in human plasma using the technique of LC-MS/MS. The gradient elution of HCTL was achieved within 5min using ZIC HILIC column having acetonitrile with 0.1% formic acid and water with 0.1% formic acid. The method was validated for the linearity, sensitivity, accuracy, precision, recovery, matrix effect and stability. A good linearity was found within a range of 0.5-32.5nmol/ml. Quantification was performed using multiple reaction monitoring (MRM) mode based on the molecular/fragment ion transitions for HCTL (118/56) and homatropine (276.1/142.2) as internal standard. Generally, HCTL levels in plasma were found to be highly unstable. In order to verify the stability of the HCTL levels in plasma for a longer period, the samples were extracted immediately and stored at -86°C. Using the above method it was found to be stable for a period of 1 month. The method was well applied for quantification of HCTL in plasma of healthy human volunteers.

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PMID: 24291720 [PubMed - in process]

4: Bagga A, Sinha A, Dragon-Durey MA. Therapy for patients with antibodies to complement factor H associated HUS. *Pediatr Nephrol*. 2014 Jan 22. [Epub ahead of print] PubMed PMID: 24448737.

PMID: 24448737 [PubMed - as supplied by publisher]

5: Baidya DK, Khanna P, Maitra S. Analgesic efficacy and safety of thoracic paravertebral and epidural analgesia for thoracic surgery: a systematic review and meta-analysis. *Interact Cardiovasc Thorac Surg*. 2014 Jan 31. [Epub ahead of print] PubMed PMID: 24488821.

Though once considered the gold standard, epidural anaesthesia has complications that may be significant and include hypotension, urinary retention, partial or patchy block and, in rare cases, devastating neurological injuries also. Paravertebral block (PVB) is an alternative technique for unilateral surgical procedures like thoracotomy, which may offer similar analgesic effectiveness and a more favourable side-effect profile than epidural analgesia. This systematic review and meta-analysis of published randomized clinical trials aims to compare thoracic paravertebral with thoracic epidural analgesia (TEA) in thoracotomy for lung surgery. Five hundred and forty-one patients from 12 clinical trials have been included in this systematic review and meta-analysis. We found that visual analogue scale (VAS) scores at rest and during activity/coughing at 4-8, 24 and 48 h postoperatively were similar in both the PVB and TEA groups. Considering studies not included in the previous meta-analysis, a VAS score on activity at 48 h is significantly better in the PVB group (mean difference 0.40 cm; 95% confidence interval [95% CI] 0.77, 0.02; Mantel-Haenszel (M-H) fixed). Hypotension (odds ratio 0.13; 95% CI 0.06, 0.31; M-H fixed) and urinary retention are more common in the epidural analgesia group. So, we conclude that thoracic PVB may be as effective as thoracic epidural analgesia for post-thoracotomy pain

relief and is also associated with fewer complications.

PMID: 24488821 [PubMed - as supplied by publisher]

6: Bansal M, Sharma KK, Bakhshi S, Vatsa M. Perception of Indian parents on health-related quality of life of children during maintenance therapy of acute lymphoblastic leukemia: a comparison with siblings and healthy children. *J Pediatr Hematol Oncol*. 2014 Jan;36(1):30-6. doi: 10.1097/MPH.0b013e3182a8f23f. PubMed PMID: 24276041.

BACKGROUND: Advancements in treatment have improved the prognosis of children with acute lymphoblastic leukemia (ALL). Therefore, there is a need to explore health-related quality of life (HRQOL) in depth, specifically in maintenance therapy, where the available data are minimal. This study was conducted to assess the varied items listed in the domains of HRQOL of Children with ALL during maintenance therapy from a parent's perspective.

METHODS: Forty children on the maintenance therapy of ALL, 40 siblings, and 40 healthy children were enrolled, and the HRQOL was assessed by parent proxy reports and child self-reports using PedsQL generic core 4.0 in local language.

RESULTS: Parents significantly overrated the HRQOL of ALL patients, their siblings, and healthy children in comparison with child self-report in all domains of health. The HRQOL of children with ALL on maintenance therapy was significantly poorer than siblings and healthy children, but their ability to self-care, household work, attentiveness, and ability to do homework were not affected as per parents' reports. Parents reported that absenteeism because of sickness and hospital visits was more among children with ALL than siblings and healthy children. Children with ALL had emotional problems such as fear, anger, sleeping problems, and worries. In a social health domain, parents reported difficulty in competing among children with ALL. The HRQOL of siblings was as good as healthy children in physical, social, and school health domains as per parents' reports.

CONCLUSIONS: In our cohort, parents overrated HRQOL in all groups of children. The study identified the various items in each domain of HRQOL that were affected in children with ALL from parents' perspective; this would guide health care professionals to focus on these specific items so as to improve the overall HRQOL of children with ALL.

PMID: 24276041 [PubMed - in process]

7: Bansal VK, Raveendran R, Misra MC, Bhattacharjee H, Rajan K, Krishna A, Kumar P, Kumar S. A Prospective Randomized Controlled Blinded Study to Evaluate the Effect of Short-Term Focused Training Program in Laparoscopy on Operating Room Performance of Surgery Residents (CTRI /2012/11/003113). *J Surg Educ*. 2014 Jan-Feb;71(1):52-60. doi: 10.1016/j.jsurg.2013.06.012. Epub 2013 Sep 13. PubMed PMID: 24411424.

INTRODUCTION: Laparoscopic surgery requires certain specific skills. There have been several attempts to minimize the learning curve with training outside the operation room. Although simulators have been well validated as tools to teach technical skills, their integration into comprehensive curricula is lacking. Several randomized controlled trials and systematic reviews have demonstrated that the technical skills learned on these simulators transfer to the operating room. Currently, however, the integration of these simulated models into formal residency training curricula is lacking. In our institute, we have adopted the Tuebingen Trainer devised by Professor GF Buess from Germany. The purpose of this study was to evaluate the training of surgical residents on an ex vivo phantom model for basic laparoscopic skill acquisition and its transferability to the OR

performance.

MATERIALS AND METHODS: Seventeen general surgery residents were randomized into 2 groups: Laparoscopic Training Group (n = 9, Group A) and Standard Training Group (n = 8, Group B). Group A underwent training in the Minimally Invasive Surgery Training Centre on the porcine phantom model and did 10 laparoscopic cholecystectomies, whereas Group B did not undergo training in the Minimally Invasive Surgery Training Centre. All the participants performed a laparoscopic cholecystectomy in the operation theater in the presence of a consultant who was blinded to the training status of the participants. The performance of the residents in both groups in the operation theater was assessed using GOALS criteria, surgical performance assessment parameters, task-specific checklists, and visual analog scale for gallbladder perforation difficulty and overall competence.

RESULTS: The Laparoscopic Training Group had better performance than the Standard Training Group regarding operation time, GOALS criteria, and Task-specific checklists. Although the surgical performance assessments, i.e. cystic duct and artery identification scores, gallbladder perforation scores, and liver injury scores, were better in the Laparoscopic Training Groups, they were not statistically significant. The overall difficulty of the surgery was comparable in both the groups. The Laparoscopic Training Group exhibited significant overall competence on visual analog scale scores.

CONCLUSION: Our study has clearly shown that training on the Tuebingen Trainer with integrated porcine organs results in a statistically significant improvement in the operating room performance of surgical residents as compared with the nontrained residents, thereby indicating a transfer of skills from training to the operating room.

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PMID: 24411424 [PubMed - in process]

8: Behera C, Krishna K, Singh HR. Antitubercular drug-induced violent suicide of a hospitalised patient. *BMJ Case Rep.* 2014 Jan 6;2014. pii: bcr2013201469. doi: 10.1136/bcr-2013-201469. PubMed PMID: 24395874.

We present a case where a young adult male, on treatment for multidrug-resistance tuberculosis (MDR-TB), developed drug-induced psychosis. The psychiatric symptoms were ascribed to the anti-TB drug and were duly withdrawn by the treating doctors and supplemented with other drugs. However, the victim continued to have psychiatric symptoms and committed suicide in the hospital. He ended his life in a violent manner by stabbing and cutting himself with a kitchen knife. The case is briefly reported in this paper with a discussion on anti-TB drug-induced psychiatric effects leading to suicide.

PMID: 24395874 [PubMed - in process]

9: Behera C, Rani A, Pradhan M, Dikshit PC. Fatal Corrosive Attack: A Study of 13 Cases From Central Delhi, India. *Am J Forensic Med Pathol.* 2014 Jan 22. [Epub ahead of print] PubMed PMID: 24457574.

The present study is a retrospective analysis of 13 cases of deaths, which resulted from throwing of corrosives over the body. The cases were autopsied at the Department of Forensic Medicine, Maulana Azad Medical College & Associated Hospitals, Delhi, India, during a period of 13 years from July 1998 to June 2011. The cases represented approximately 0.1% of all autopsy cases during the same

period. Data were analyzed with regard to the age, sex, place of occurrence, pattern of injury, survival period, and cause of death. Of these cases, 8 (61.54%) were male, and 5 (38.46%) were female. The most common age group of the victim was 21 to 30 years (46.15%). Six of the victims were attacked on the road side. Face and thorax were involved in all cases (100%). The average total body surface area of burn was 56.69%. The mean survival period was 28.2 days. In 53.85% of cases, the cause of death was septicemia.

PMID: 24457574 [PubMed - as supplied by publisher]

10: Bhat A, Bhowmik DM, Vibha D, Dogra M, Agarwal SK. Tranexamic acid overdosage-induced generalized seizure in renal failure. Saudi J Kidney Dis Transpl. 2014 Jan;25(1):130-2. PubMed PMID: 24434397.

We report a 45-year-old lady with chronic kidney disease stage 4 due to chronic tubulointerstitial disease. She was admitted to our center for severe anemia due to menorrhagia and deterioration of renal function. She was infused three units of packed cells during a session of hemodialysis. Tranexamic acid (TNA) 1 g 8-hourly was administered to her to control bleeding per vaginum. Two hours after the sixth dose of TNA, she had an episode of generalized tonic clonic convulsions. TNA was discontinued. Investigations of the patient revealed no biochemical or structural central nervous system abnormalities that could have provoked the convulsions. She did not require any further dialytic support. She had no further episodes of convulsion till discharge and during the two months of follow-up. Thus, the precipitating cause of convulsions was believed to be an overdose of TNA.

PMID: 24434397 [PubMed - in process]

11: Challa VR, Srivastava A, Dhar A. Scrofulous swelling of the bosom masquerading as cancer. Indian J Med Microbiol. 2014 Jan-Mar;32(1):82-4. doi: 10.4103/0255-0857.124331. PubMed PMID: 24399398.

Tuberculosis of breast is very rare with an incidence of 0.1-0.5%. It can be primary or secondary. Except in patients presenting with sinuses, it is a challenge to diagnose it. A 40 year old premenopausal lady presented with breast lump increasing in size for 3 months. Mammogram showed a lesion suspicious of malignancy and trucut biopsy showed necrotic material only. Intraoperatively there was caseous necrosis and the tract from breast was extending to rib. It is a rare case with few case reports been reported where a rib tuberculosis presents as a breast lump rather than retromammary abscess.

PMID: 24399398 [PubMed - in process]

12: Chandra PS, Ramdurg SR, Kurwale N, Chauhan A, Ansari A, Garg A, Sarkar C, Sharma BS. Extended Costo-Transversectomy to Achieve Circumferential Fusion for Pathologies Causing Thoracic Instability. Spine J. 2014 Jan 18. pii: S1529-9430(14)00063-1. doi: 10.1016/j.spinee.2013.12.028. [Epub ahead of print] PubMed PMID: 24448191.

BACKGROUND CONTEXT: Conventional circumferential stabilization for pathologies causing instability of the thoracic spine requires a 2 or even a 3 staged procedure. The authors present their tertiary care center experience of single staged procedure to establish a circumferential fusion through an extended costo-transversectomy approach.

OBJECTIVE: The purpose of this study was to demonstrate [1] neural canal decompression [2] removal of the pathology [3] achieve circumferential fusion and

[4] correcting the deformity through a single procedure.

STUDY DESIGN: Prospective, observational.

PATIENT SAMPLE: Forty-six patients with pan thoracic column instability due to various pathologies.

OUTCOME MEASURES: Neurological condition was evaluated using ASIA and ECOG grading system. Outcome was evaluated with regard to the decompression of neural canal, correction of deformity, and neurological improvement. All patients were evaluated for neural canal compromise, degree of kyphosis preoperatively, early and late postoperatively.

METHODS: All patients had severe spinal canal compromise (mean, 59% + 9%) and loss of vertebral body height (mean, 55% + 10%). A single stage circumferential fusion was performed (4 level pedicle screw fixation along with a ventral cage fixation following a vertebrectomy or corpectomy) through an extended costo-transversectomy approach.

RESULTS: The pathologies included: trauma (21), tuberculosis (18), haemangioma (2), aneurysmal bone cyst (1), recurrent haemangioendothelioma (1), solitary metastasis (1) and solitary plasmacytoma (1) and neurofibromatosis (1). 35/46 patients (76%) demonstrated improvement in the performance status. The major complications included pneumonitis (3), pneumothorax (3) and neurological deterioration (3; improved in 2), deep venous thrombosis (2), recurrent hemoptysis (1). No implant failures were noted on last radiology follow up. There were two mortalities; one due to myocardial infarction and another because of respiratory complications.

CONCLUSION: The following study demonstrated that extended costo-trasversectomy approach is a good option for achieving single staged circumferential fusion for correcting unstable thoracic spine due to both traumatic and non-traumatic pathologies.

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PMID: 24448191 [PubMed - as supplied by publisher]

13: Choudhary M, Kumar V, Singh S. Gastric antisecretory and cytoprotective effects of hydroalcoholic extracts of *Plumeria alba* Linn. leaves in rats. *J Integr Med.* 2014 Jan;12(1):42-51. doi: 10.1016/S2095-4964(14)60002-9. PubMed PMID: 24461594.

OBJECTIVE: This study was conducted to evaluate the antiulcerogenic property of hydroalcoholic extract obtained from the leaves of *Plumeria alba* Linn.

METHODS: Antiulcer assays were performed using the protocols of ulcer induced by non-steroidal anti-inflammatory drugs, ethanol and pylorus ligation. The hydroalcoholic extract (HAPA), and various fractions of HAPA like, n-hexane extract (HPA), ethyl acetate extract (EAPA) and n-butanol extract (BPA) were administered at doses of 200 and 400 mg/kg for HAPA and 100 and 200 mg/kg for fractions of extracts. Parameters of gastric secretion (volume, pH, total protein, and free and total acidity) were determined by the pylorus ligation model. Parameters like aspartate aminotransferase and alanine aminotransferase were also determined in ethanol-induced ulcer model. To determine the mechanism of action, role of nitric oxide was also evaluated.

RESULTS: EAPA and BPA (100 and 200 mg/kg, p.o.) showed gastric ulcer-healing effect in indomethacin-induced ulcer model, while HAPA (200 mg/kg) and HPA showed no significant antiulcer effect. Both EAPA and BPA showed gastric cytoprotective effect in ethanol-induced gastric ulcer and inhibited gastric secretion in

pylorus-ligated rats.

CONCLUSION: The results of the present study show that some hydroalcoholic extract of *Plumeria alba* L. displays antiulcer activity, as demonstrated by the significant inhibition of ulcer formation induced by different models, which is consistent with the literature report in folk medicine.

PMID: 24461594 [PubMed - in process]

14: Choudhuri S, Sharma C, Banerjee A, Kumar S, Kumar L, Singh N. A repertoire of biomarkers helps in detection and assessment of therapeutic response in epithelial ovarian cancer. *Mol Cell Biochem.* 2014 Jan;386(1-2):259-69. doi: 10.1007/s11010-013-1863-8. Epub 2013 Oct 19. PubMed PMID: 24141793.

In epithelial ovarian cancer (EOC), the cancer antigen 125 (CA-125) has been conventionally used to help in diagnosis and assessment of response to treatment. Currently, YKL-40 (Tyrosine-Lysine-Leucine-40) and circulating cell-free DNA are being evaluated for possession of similar ability. In this study, we aimed to assess the ability of a repertoire of potential biomarkers in detecting and assessing therapeutic response, in advanced EOC. Blood levels of CA-125, YKL-40, total cell-free DNA (CFDNA), cell-free nuclear DNA (CFnDNA), and cell-free mitochondrial DNA (CFmDNA) levels were measured in 100 untreated patients of advanced EOC from November 2009 to June 2011, and again on treatment completion from the 20 patients who appeared for follow-up analysis. Significantly, higher proportion of untreated patients had serum CA-125 >3 times upper limit of normal (ULN) (90.0%; $P < 0.0001$) and plasma YKL-40 >ULN (77.0%; $P < 0.0001$), both of which significantly decreased, Posttherapy. posttherapy, CFDNA ($P < 0.0001$), and CFnDNA ($P < 0.0001$) levels significantly decreased as compared to pretreatment levels. Positive and significant correlations existed between pretherapy CFDNA and CFnDNA [Spearman rho (ρ) = 1.000; $P < 0.0001$], and also with CFmDNA (ρ = 0.301; P = 0.002), separately between CFnDNA and CFmDNA (ρ = 0.303; P = 0.002), as well as between plasma YKL-40 and patient age (ρ = 0.353; ($P < 0.0001$). On treatment completion, CFDNA and CFnDNA levels showed positive and significant correlation (ρ = 1.000; $P < 0.0001$). Therefore serum CA-125 and plasma YKL-40 aid detection and assessment of therapeutic response, in advanced EOC. CFDNA and CFnDNA help in estimating extent of therapeutic response in advanced EOC.

PMID: 24141793 [PubMed - in process]

15: Dada T, Tinwala SI, Dave V, Agarwal A, Sharma R, Wadhvani M. Effect of change in macular birefringence imaging protocol on retinal nerve fiber layer thickness parameters using GDx VCC in eyes with macular lesions. *Int Ophthalmol.* 2014 Jan 28. [Epub ahead of print] PubMed PMID: 24469116.

This study evaluates the effect of two macular birefringence protocols (bow-tie retardation and irregular macular scan) using GDx VCC on the retinal nerve fiber layer (RNFL) thickness parameters in normal eyes and eyes with macular lesions. In eyes with macular lesions, the standard protocol led to significant overestimation of RNFL thickness which was normalized using the irregular macular pattern protocol. In eyes with normal macula, absolute RNFL thickness values were higher in irregular macular pattern protocols with the difference being statistically significant for all parameters except for inferior average thickness. This has implications for monitoring glaucoma patients who develop macular lesions during the course of their follow-up.

PMID: 24469116 [PubMed - as supplied by publisher]

16: Dalal K, Maran VB, Pandey RM, Tripathi M. Determination of efficacy of reflexology in managing patients with diabetic neuropathy: a randomized controlled clinical trial. *Evid Based Complement Alternat Med.* 2014;2014:843036. doi: 10.1155/2014/843036. Epub 2014 Jan 9. PubMed PMID: 24527055.

Background. The restricted usage of existing pharmacological methods which do not seem to provide the treatment of diabetic neuropathy may lead to exploring the efficacy of a complementary therapy. In this context, this paper was devoted to evaluate the efficacy of foot reflexology. This health science works on the hypothesis that the dysfunctional states of body parts could be identified by observing certain skin features and be rectified by stimulating certain specific areas mapped on feet. **Method.** Subjects (N = 58) with diagnosed diabetic neuropathy were randomly distributed into reflexology and control groups in which both group patients were treated with ongoing pharmacological drugs. Reflexology group patients were additionally treated holistically with the hypothesis that this therapy would bring homeostasis among body organ functions. This was a caregiver-based study with a follow-up period of 6 months. The outcome measures were pain reduction, glycemic control, nerve conductivity, and thermal and vibration sensitivities. The skin features leading to the detection of the abnormal functional states of body parts were also recorded and analyzed. **Results.** Reflexology group showed more improvements in all outcome measures than those of control subjects with statistical significance. **Conclusion.** This study exhibited the efficient utility of reflexology therapy integrated with conventional medicines in managing diabetic neuropathy.

PMID: 24527055 [PubMed]

17: Das CK, Mirdha BR, Singh S, Seth R, Bagga A, Lodha R, Kabra SK. Use of Induced Sputum to Determine the Prevalence of *Pneumocystis jirovecii* in Immunocompromised Children With Pneumonia. *J Trop Pediatr.* 2014 Jan 13. [Epub ahead of print] PubMed PMID: 24425204.

Background: Information on prevalence of *Pneumocystis jirovecii* pneumonia (PCP) in immunocompromised children with pneumonia in Southeast Asia is limited. **Methods:** Immunocompromised children hospitalized with radiographic pneumonia were investigated for PCP by testing induced sputum by using polymerase chain reaction (PCR). **Results:** Ninety-four immunocompromised children (mean age 74.5 ± 43.7 months, boys 69) with pneumonia were investigated for PCP. Underlying disease included solid tumors and hematological malignancy in 57, HIV infection in 14, primary immune deficiency in 11 and other immune deficiency disorders in 12 children. PCR could detect *P. jirovecii* in 14 children. Prevalence of PCP in HIV-infected children was 43% (6 of 14), renal disease on immunosuppressants 45% (4 of 9), primary immune deficiency 19% (2 of 11) and malignancies on chemotherapy 4% (2 of 57). Three of 14 children died from PCP. **Conclusions:** PCP is responsible for pneumonia in 14% of children with underlying immunocompromised state; PCR on induced sputum improves diagnosis.

PMID: 24425204 [PubMed - as supplied by publisher]

18: Das M, Tomar N, Sreenivas V, Gupta N, Goswami R. Effect of vitamin D supplementation on cathelicidin, IFN- γ , IL-4 and Th1/Th2 transcription factors in young healthy females. *Eur J Clin Nutr.* 2014 Jan 8. doi: 10.1038/ejcn.2013.268. [Epub ahead of print] PubMed PMID: 24398649.

OBJECTIVES: We assessed the effect of cholecalciferol and calcium supplementation on mRNA expression of cathelicidin (LL-37), Th1 and Th2 cytokines and their transcription factors in the peripheral blood mononuclear cells (PBMCs) in

healthy females with vitamin D deficiency (VDD).SUBJECTS/METHODS:Subjects included 131 females with biochemical VDD randomized to receive (a) oral cholecalciferol (60000 IU/week for 8 weeks followed by 60000 IU/fortnight (b) calcium (elemental calcium 500mg twice/day) (c), dual supplementation and (d) placebo for 6 months. The mRNA expression of cathelicidin, Th1 (IFN- γ) and Th2 (IL-4 and its antagonist-IL-4 δ 2) cytokines and their transcription factors (T-bet, STAT4, GATA-3, STAT6) were measured in the PBMC by real-time PCR before and after intervention.RESULTS:Cholecalciferol-supplemented groups showed significant rise of mean serum 25(OH)D (30.6 \pm 7.51 and 28.6 \pm 8.41ng/ml). The expression of LL-37, IFN- γ , IL-4, IL-4 δ 2 and transcription factors were comparable in the four groups at baseline. Despite significant increase in mean serum 25(OH)D in the cholecalciferol-supplemented groups, their mean mRNA transcripts of LL-37, IFN- γ , IL-4, transcription factors and their IFN- γ /IL-4 and T-bet/GATA-3 ratios were similar to that of calcium and placebo groups.CONCLUSIONS:Six months of cholecalciferol/calcium supplementation in young females with VDD do not lead to significant alteration in mRNA expression of LL-37, Th1/Th2 cytokines and their transcription factors.European Journal of Clinical Nutrition advance online publication, 8 January 2014; (2013) 0, 000-000. doi:10.1038/ejcn.2013.268.

PMID: 24398649 [PubMed - as supplied by publisher]

19: Desai S, Shukla G, Goyal V, Srivastava A, Srivastava MV, Tripathi M, Singh M, Shivanand K, Sagar R, Gupta A, Saratchandra P, Garg A, Bal CS, Behari M. Changes in psychiatric comorbidity during early postsurgical period in patients operated for medically refractory epilepsy-A MINI-based follow-up study. *Epilepsy Behav.* 2014 Jan 23;32C:29-33. doi: 10.1016/j.yebeh.2013.11.025. [Epub ahead of print] PubMed PMID: 24463306.

PURPOSE: The purpose of this study was to assess axis-I DSM-IV psychiatric disorders in patients at baseline and 3months after surgery for medically refractory temporal lobe epilepsy.

METHOD: The Mini International Neuropsychiatric Interview (MINI) and Quality of Life in Epilepsy Inventory-10 (QOLIE-10) were evaluated before and 3months after surgery in 50 consecutive patients (21 females, 29 males) with medically refractory temporal lobe epilepsy (persistent seizures>2/month, despite treatment with \geq 2 appropriate drugs in adequate doses for \geq 2years) who underwent surgery [anterior temporal lobectomy with amygdalo-hippocampectomy (for mesial temporal sclerosis in 40), electrocorticography-guided lesionectomy (for other lesions in 10)].

RESULTS: Twenty-six patients (52%) had an axis-I psychiatric disorder [26% depressive disorder, 28% anxiety disorder] at baseline, while 30 (60%) patients had an axis-I psychiatric disorder [28% depressive disorder, 28% anxiety disorder] at 3months after surgery. Twenty percent developed a new psychiatric disorder, while 12% showed improvement postsurgery. Mean QOLIE-10 scores improved from 23.78 to 17.80 [24 (48%) patients showed \geq 5-point improvement]. Thirty-four (68%) patients had no seizure, 6 (12%) had non-disabling seizures, while 2 (4%) had disabling seizures after surgery. High frequency of seizures prior to surgery ($p<0.038$) and seizure occurrence after surgery ($p<0.055$) predicted the presence of psychiatric disorders after surgery. No clinical characteristic could predict development of new psychiatric disorder after surgery.

CONCLUSION: Psychiatric dysfunction in the early postsurgery period is seen in nearly half of patients undergoing surgery for temporal lobe epilepsy, is mild in nature, and does not adversely affect quality of life but may cause significant clinical problems when it arises de novo postsurgery.

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PMID: 24463306 [PubMed - as supplied by publisher]

20: Dwivedi S, Das BK, Aneja S, Sharma S, Chaturvedi MK, Kahn G, Fitzwater SP, Chandran A, Wadhwa N, Bhatnagar S. Group B streptococcal meningitis in infants beyond the neonatal period. *Indian J Pediatr.* 2014 Jan;81(1):4-8. doi: 10.1007/s12098-013-1157-x. Epub 2013 Jul 24. PubMed PMID: 23881480.

OBJECTIVES: To describe the clinico-bacteriological profile, and early outcomes of infants diagnosed with Group B streptococcus (GBS) meningitis.

METHODS: This was a retrospective review of infants (aged 1 mo to 2 y) diagnosed with GBS meningitis in a tertiary care hospital in New Delhi from October 2010 through January 2012. The clinico-bacteriological data and early outcomes of infants with suspected bacterial meningitis and a positive CSF latex agglutination test for GBS were studied. The CSF samples were subjected to PCR for broad spectrum 16s ribosomal DNA and the GBS species specific gene, the *scpB*.

RESULTS: Twenty seven patients (13 boys, and 14 girls) were diagnosed with GBS meningitis during the study period. Broad spectrum 16s ribosomal DNA PCR was performed on 18 of the 27 CSF samples. Sixteen were positive. All these 16 were also positive for the species specific *scpB* gene. The median duration of hospital stay was 7 d (range 1-72 d). Nine patients died. One patient each developed ventriculitis, optic atrophy and hydrocephalus. Overall, 12 patients had a complete recovery at discharge.

CONCLUSIONS: GBS must be considered in the etiology of bacterial meningitis in Indian infants.

PMID: 23881480 [PubMed - in process]

21: Gaikwad N, Tankhiwale S. Interactive E-learning module in pharmacology: a pilot project at a rural medical college in India. *Perspect Med Educ.* 2014 Jan;3(1):15-30. doi: 10.1007/s40037-013-0081-0. PubMed PMID: 24072666; PubMed Central PMCID: PMC3890000.

Many medical educators are experimenting with innovative ways of E-learning. E-learning provides opportunities to students for self-directed learning in addition to other advantages. In this study, we designed and evaluated an interactive E-learning module in pharmacology for effectiveness, acceptability and feasibility, with the aim of promoting active learning in this fact-filled subject. A quasi-experimental single-group pre-test/post-test study was conducted with fourth-semester students of the second professionals course (II MBBS), selected using non-probability convenience sampling method. An E-learning module in endocrine pharmacology was designed to comprise three units of interactive PowerPoint presentations. The pre-validated presentations were uploaded on the website according to a predefined schedule and the 42 registered students were encouraged to self-learning using these interactive presentations. Cognitive gain was assessed using an online pre- and post-test for each unit. Students' perceptions were recorded using an online feedback questionnaire on a 5-point Likert scale. Finally, focused group discussion was conducted to further explore students' views on E-learning activity. Significant attrition was observed during the E-learning activity. Of the 42 registered students, only 16 students completed the entire E-learning module. The summed average score of all three units (entire module) was increased significantly from 38.42 % (summed average pre-test score: 11.56/30 ± 2.90) to 66.46 % (summed average post-test score: 19.94/30 ± 6.13). The class-average normalized gain for the entire module was 0.4542 (45.42). The students accepted this E-learning activity well as they perceived it to be innovative, convenient, flexible and useful. The average

rating was between 4 (agree) and 5 (strongly agree). The interactive E-learning module in pharmacology was moderately effective and well perceived by the students. The simple, cost-effective and readily available Microsoft PowerPoint tool appealed to medical educators to use this kind of simple E-learning technology blended with traditional teaching to encourage active learning among students especially in a rural setup is attractive.

PMCID: PMC3890000

PMID: 24072666 [PubMed]

22: Garg K, Kumar R. Complex Split Cord Malformation Type 1 with Multiple Lipomas Involving the Split Cord. *Pediatr Neurosurg*. 2014 Jan 9. [Epub ahead of print] PubMed PMID: 24435024.

PMID: 24435024 [PubMed - as supplied by publisher]

23: Gaur P, Singh AK, Shukla NK, Das SN. Inter-relation of Th1, Th2, Th17 and Treg cytokines in oral cancer patients and their clinical significance. *Hum Immunol*. 2014 Jan 29. pii: S0198-8859(14)00019-6. doi: 10.1016/j.humimm.2014.01.011. [Epub ahead of print] PubMed PMID: 24486578.

BACKGROUND: Altered Cytokine production can lead to immune dysfunction in cancer patients. Hence, we investigated the cytokine balance in oral squamous cell carcinoma (OSCC) patients and their significance in providing new therapeutic insights.

METHODS: We quantified Th17 (IL17A), Treg (TGF β 1), Th1 (IL2, IFN γ) and Th2 (IL4, IL10) like cytokines in the sera of 78 cases and 39 controls by ELISA. The intracellular expression of these cytokines was analyzed in 10 subjects from each group by flow cytometry.

RESULTS: Serum levels of IL17A, TGF β 1, IL4 and IL10 were significantly higher while IL2 and IFN γ were relatively lower in patients as compared to controls. TGF β 1 ($r=0.55$), IL4 ($r=0.75$) and IL10 ($r=0.80$) significantly ($P<0.0001$) correlated with disease progression and their elevated levels showed increased odd ratios of approximately 18, 14 and 37 respectively. IL17A appeared as a risk factor (OR=2.21, 95% CI=0.89-5.42) although statistically insignificant. The levels neither correlated with disease progression nor with TGF β 1, IL4 and IL10 but showed positive association with IL2 ($r=0.51$, $P<0.0001$) and IFN γ ($r=0.24$). Flow cytometry data also showed similar trend.

CONCLUSIONS: We reported a distinct TGF β 1 and Th2 (IL4, IL10) polarization with a borderline elevation of IL17A while, a suppression of Th1 (IL2, IFN γ) cytokines in OSCC patients.

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PMID: 24486578 [PubMed - as supplied by publisher]

24: George J, Pulickal SJ, Singh A, Gautam M, Prasoan P, Kumar R, Ray SB. Locally Mediated Analgesic Effect of Bradykinin Type 2 Receptor Antagonist HOE 140 During Acute Inflammatory Pain in Rats. *J Burn Care Res*. 2014 Jan 21. [Epub ahead of print] PubMed PMID: 24451303.

Opioids like morphine form the mainstay of treatment for moderate to severe burn pain. However, lack of dedicated burn care service and potentially serious side effects of opioids often compromise effective treatment. Newer drugs as well as newer routes of administration of analgesic drugs are long-felt needs in the management of burn pain. Bradykinin is a potent inflammatory mediator present at

sites of tissue damage. The present study investigated the analgesic effect of bradykinin type 2 receptor antagonist HOE 140 after direct intrawound administration in rats. Also, whether the analgesic effect was locally mediated was evaluated. Tissue damage was produced by a surgical incision involving skin, fascia, and muscle. It has been reported that there are minor differences in inflammatory mediators underlying incision-related and burn injury-related pain. HOE 140 (1, 3, or 10 µg/10 µl physiological saline) was administered into the wound by a sterile micropipette. After an interval of 30 seconds, the wound was closed. Analgesic effect in the rats was compared with that in the control group, which did not receive any drug and that after administration of saline and water. Postincisional pain was determined by guarding behavior, allodynia, and thermal hyperalgesia. Analgesic effect was also determined after drug administration in contralateral paw. HOE 140 (1, 3, 10 µg) significantly relieved mechanical allodynia and guarding in comparison with vehicle-treated group. The analgesic effect of HOE 140 was locally mediated. Healing of the wound was normal. In conclusion, the results suggest that bradykinin type 2 receptor antagonists such as HOE 140 could be useful in the treatment of acute inflammatory pain.

PMID: 24451303 [PubMed - as supplied by publisher]

25: Goyal A, Sharma R, Bhalla A, Gamanagatti S. Diffusion-weighted MRI in detection of renal metastases. *BMJ Case Rep.* 2014 Jan 9;2014. pii: bcr2013201555. doi: 10.1136/bcr-2013-201555. PubMed PMID: 24408929.

PMID: 24408929 [PubMed - in process]

26: Goyal N, Gurjar H, Sharma BS, Tripathi M, Chandra PS. GAPO syndrome with pansutural craniosynostosis leading to intracranial hypertension. *BMJ Case Rep.* 2014 Jan 28;2014. pii: bcr2013201727. doi: 10.1136/bcr-2013-201727. PubMed PMID: 24473423.

GAPO syndrome stands for growth retardation (G), alopecia (A), pseudoanodontia (P) and optic atrophy (O). To date, only about 35 cases of this extremely rare syndrome have been reported. Craniosynostosis/craniostenosis is a condition with an abnormal head shape due to premature fusion of the calvarial sutures and can be either non-syndromic or syndromic. Overall, craniosynostosis has an incidence of about 1 in 2500 live-births. We present a patient with GAPO syndrome in association with craniosynostosis along with intracranial hypertension, which was the cause of her headache. To the best of our knowledge, this is the first such association in the literature.

PMID: 24473423 [PubMed - in process]

27: Gupta A, Jaipuria J, Bagdia A, Kumar S, Sagar S, Misra MC. Motorised two-wheeler crash and helmets: injury patterns, severity, mortality and the consequence of gender bias. *World J Surg.* 2014 Jan;38(1):215-21. doi: 10.1007/s00268-013-2230-3. PubMed PMID: 24101014.

BACKGROUND: India records the maximum number of deaths from motorised two-wheeler vehicle (MTV) accidents in the world with mandatory helmet laws for males but not females. This study was designed to investigate injury patterns, severity, mortality, and helmet usage among hospital admitted victims of a MTV crash with a paired subgroup analyses on female victims.

METHODS: Hospital trauma registry from January 2011 to July 2012 for all adult victims of a MTV crash was analysed for outcomes of mortality, serious head injury, severe facial injury, and cervical spine injury while adjusting for age, gender, use of alcohol/drugs, injury severity score, and presence of shock by

multivariable logistic regression model. Groups of helmeted victims (HV) and nonhelmeted victims (NHV) were identified.

RESULTS: A total of 2,718 victims were included. HV suffered maximum injuries to the lower extremity (29.04 %) and had reduced adjusted odds of death (odds ratio (OR) 0.65; 95 % confidence interval (CI) 0.48-0.86), serious head injury (OR 0.34; CI 0.26-0.45), cervical spine injury (OR 0.74; CI 0.54-1.06), and serious facial injury (OR 0.87; CI 0.57-1.26) compared with NHV who suffered maximum injuries to the head (24.49 %). Compliance with helmet use was 52.91 and 7.94 % among males and females respectively. A total of 224 pairs of male driver and female pillion involved in same MTV crash were identified, and the predominantly helmeted male had reduced odds of death (OR 0.44; CI 0.21-0.84) and severe head injury (OR 0.42; CI 0.24-0.72) compared with overwhelmingly nonhelmeted females. **CONCLUSIONS:** Helmet laws must be strictly enforced, and society should think about the cost being born by its fairer counterpart by the gender-based differential law.

PMID: 24101014 [PubMed - in process]

28: Gupta RK, Sharma MC, Suri V, Kakkar A, Singh M, Sarkar C. Study of chromosome 9q gain, Notch pathway regulators and Tenascin-C in ependymomas. *J Neurooncol*. 2014 Jan;116(2):267-74. doi: 10.1007/s11060-013-1287-z. Epub 2013 Nov 1. PubMed PMID: 24178439.

Ependymomas are relatively uncommon tumours of the central nervous system which arise from the ependymal lining of the ventricles and spinal canal. The molecular changes leading to ependymal oncogenesis are not completely understood. We examined chromosome 9q33-34 locus for gain, potential oncogenes at this locus (Notch-1 and Tenascin-C) and Notch pathway target genes (Hes-1, Hey-2 & C-myc) in ependymomas by fluorescent in situ hybridization (FISH) and immunohistochemistry (IHC), respectively, to assess if they have any correlation with clinical characteristics. We analyzed 50 cases of ependymomas by FISH for 9q gain and by IHC for Notch-1 and its target gene proteins (Hes-1, Hey-2 and C-myc) expression. We also performed IHC for Tenascin-C to rule out any correlation with aggressiveness/grade of tumour. FISH study revealed significant chromosome 9q gain in ependymomas of adult onset (age > 18 years) and spinal cord origin. Notch-1 showed significantly more frequent immunohistochemical expression in supratentorial and anaplastic ependymomas. Tenascin-C (TN-C) expression was significant in intracranial, childhood (age ≤ 18 years) and anaplastic ependymomas. Of the three Notch pathway target gene proteins (Hes-1, Hey-2 and C-myc), Hes-1 and C-myc expression showed significant correlation with anaplastic and adult onset ependymomas, respectively. Genetic alterations are independent prognostic markers in ependymomas. A clinicopathological correlation with various molecular signatures may be helpful in the development of new therapeutic targets.

PMID: 24178439 [PubMed - in process]

29: Gupta S, Wadhvani M, Sehgal V, Sharma S, Dada T. Blebitis with scleral abscess in a case of operated trabeculectomy with mitomycin C and a subconjunctival ologen implant. *Eye (Lond)*. 2014 Jan 10. doi: 10.1038/eye.2013.299. [Epub ahead of print] PubMed PMID: 24406406.

PMID: 24406406 [PubMed - as supplied by publisher]

30: Gupta S, Gogia V, Ramya A, Sihota R. Capsular neovascularisation: case report and review of literature. *Eye (Lond)*. 2014 Jan 10. doi: 10.1038/eye.2013.298. [Epub ahead of print] PubMed PMID: 24406402.

PMID: 24406402 [PubMed - as supplied by publisher]

31: Hasan R, Sharma R, Saraya A, Chattopadhyay TK, Dattagupta S, Walfish PG, Chauhan SS, Ralhan R. Mitogen activated protein kinase kinase kinase 3 (MAP3K3/MEKK3) overexpression is an early event in esophageal tumorigenesis and is a predictor of poor disease prognosis. *BMC Cancer*. 2014 Jan 2;14(1):2. doi: 10.1186/1471-2407-14-2. PubMed PMID: 24383423; PubMed Central PMCID: PMC3890584.

BACKGROUND: Mitogen-activated protein kinase kinase kinase3 (MAP3K3/MEKK3) was identified to be differentially expressed in esophageal squamous cell carcinoma (ESCC) using cDNA microarrays by our laboratory. Here in we determined the clinical significance of MEKK3 in ESCC.

METHODS: Immunohistochemical analysis of MEKK3 expression was carried out in archived tissue sections from 93 ESCCs, 47 histologically normal and 61 dysplastic esophageal tissues and correlated with clinicopathological parameters and disease prognosis over up to 7.5 years for ESCC patients.

RESULTS: MEKK3 expression was significantly increased in esophageal dysplasia and ESCC in comparison with normal mucosa (ptrend<0.001). Kaplan Meier survival analysis showed significantly reduced median disease free survival median DFS=10 months in patients with MEKK3 positive ESCCs compared to patients with no immunopositivity (median DFS=19 months, p=0.04). ESCC patients with MEKK3 positive and lymph node positive tumors had median DFS=9 months, as compared to median DFS=21 months in patients who did not show the alterations (p=0.01). In multivariate Cox regression analysis, combination of MEKK3 overexpression and node positivity [p=0.015, hazard ratio (HR)=2.082, 95% CI=1.154 - 3.756] emerged as important predictor of reduced disease free survival and poor prognosticator for ESCC patients.

CONCLUSIONS: Alterations in MEKK3 expression occur in early stages of development of ESCC and are sustained during disease progression; MEKK3 in combination with lymph node positivity has the potential to serve as adverse prognosticator in ESCC.

PMCID: PMC3890584

PMID: 24383423 [PubMed - in process]

32: Jacob TG. Fast-track medical course and its implications. *Anat Sci Educ*. 2014 Jan 8. doi: 10.1002/ase.1433. [Epub ahead of print] PubMed PMID: 24403208.

PMID: 24403208 [PubMed - as supplied by publisher]

33: Jagannathan NR. Prostate MR: current status, challenges and future directions. *NMR Biomed*. 2014 Jan;27(1):1-2. doi: 10.1002/nbm.3011. Epub 2013 Aug 30. PubMed PMID: 24038217.

PMID: 24038217 [PubMed - in process]

34: Jagya N, Varma SP, Thakral D, Joshi P, Durgapal H, Panda SK. RNA-Seq Based Transcriptome Analysis of Hepatitis E Virus (HEV) and Hepatitis B Virus (HBV) Replicon Transfected Huh-7 Cells. *PLoS One*. 2014 Feb 5;9(2):e87835. doi: 10.1371/journal.pone.0087835. eCollection 2014. PubMed PMID: 24505321; PubMed Central PMCID: PMC3914852.

Pathogenesis of hepatitis B virus (HBV) and hepatitis E virus (HEV) infection is as varied as they appear similar; while HBV causes an acute and/or chronic liver disease and hepatocellular carcinoma, HEV mostly causes an acute self-limiting disease. In both infections, host responses are crucial in disease establishment and/or virus clearance. In the wake of worsening prognosis described during HEV super-infection over chronic HBV hepatitis, we investigated the host responses by studying alterations in gene expression in liver cells (Huh-7 cell line) by transfection with HEV replicon only (HEV-only), HBV replicon only (HBV-only) and both HBV and HEV replicons (HBV+HEV). Virus replication was validated by strand-specific real-time RT-PCR for HEV and HBsAg ELISA of the culture supernatants for HBV. Indirect immunofluorescence for the respective viral proteins confirmed infection. Transcription profiling was carried out by RNA Sequencing (RNA-Seq) analysis of the poly-A enriched RNA from the transfected cells. Averages of 600 million bases within 5.6 million reads were sequenced in each sample and ~15,800 genes were mapped with at least one or more reads. A total of 461 genes in HBV+HEV, 408 in HBV-only and 306 in HEV-only groups were differentially expressed as compared to mock transfection control by two folds ($p < 0.05$) or more. Majority of the significant genes with altered expression clustered into immune-associated, signal transduction, and metabolic process categories. Differential gene expression of functionally important genes in these categories was also validated by real-time RT-PCR based relative gene-expression analysis. To our knowledge, this is the first report of in vitro replicon transfected RNA-Seq based transcriptome analysis to understand the host responses against HEV and HBV.

PMCID: PMC3914852

PMID: 24505321 [PubMed - in process]

35: Jain R, Jhanjee S, Jain V, Gupta T, Mittal S, Goelz P, Wileyto EP, Schnoll RA. A double-blind placebo-controlled randomized trial of varenicline for smokeless tobacco dependence in India. *Nicotine Tob Res.* 2014 Jan;16(1):50-7. doi: 10.1093/ntr/ntt115. Epub 2013 Aug 14. PubMed PMID: 23946326; PubMed Central PMCID: PMC3864491.

INTRODUCTION: The rate of smokeless tobacco use in India is 20%; its use causes serious health problems, and no trial has assessed behavioral or pharmacological treatments for this public health concern. This trial evaluated varenicline for treating smokeless tobacco dependence in India.

METHODS: This was a double-blind placebo-controlled randomized trial of varenicline (12 weeks, 1mg, twice per day) with 237 smokeless tobacco users in India. All participants received behavioral counseling. Outcomes included self-reported and biochemically verified abstinence at the end of treatment (EOT), lapse and recovery events, safety, and medication adherence.

RESULTS: Self-reported EOT abstinence was significantly greater for varenicline (43%) versus placebo (31%; adjusted odds ratio [AOR] = 2.6, 95% CI = 1.2-4.2, $p = .009$). Biochemically confirmed EOT abstinence was greater for varenicline versus placebo (25.2% vs. 19.5%), but this was not statistically different (AOR = 1.6, 95% CI = 0.84-3.1, $p = .15$). Compared with placebo, varenicline did not reduce the risk for a lapse (hazard ratio [HR] = 0.86, 95% CI = 0.69-1.1, $p = .14$), but it did increase the likelihood of recovery to abstinence (HR = 1.2, 95% CI = 1.02-1.4, $p = .02$). Greater adherence increased EOT cessation rates for varenicline (39% vs. 18%, $p = .003$) but not for placebo (28% vs. 14%, $p = .06$). There were no significant differences between varenicline and placebo in rate of side effects, serious adverse events, hypertension, or stopping or reducing medication.

CONCLUSIONS: Varenicline is safe for treating smokeless tobacco dependence in India, and further examination of this medication for this important public health problem is warranted.

PMCID: PMC3864491 [Available on 2015/1/1]
PMID: 23946326 [PubMed - in process]

36: Jaipuria J, Sagar S, Singhal M, Bagdia A, Gupta A, Kumar S, Mishra B. Paediatric extremity vascular injuries - experience from a large urban trauma centre in India. *Injury*. 2014 Jan;45(1):176-82. doi: 10.1016/j.injury.2013.08.002. Epub 2013 Aug 11. PubMed PMID: 23993647.

INTRODUCTION: Paediatric extremity vascular injuries are infrequent, and management protocols draw significantly from adult vascular trauma experience necessitating a continuous review of evidence.

MATERIALS AND METHODS: A retrospective registry review of all consecutive patients younger than 18 years age treated for extremity vascular trauma from 2007 to 2012 was carried out. Diagnostic algorithm relied little on measurement of pressure indices. Data was collected about demographics, time since injury, pattern of injury, ISS, initial GCS and presence of shock, results of diagnostic modality and treatment given with associated complications. Patients completing 2 years follow up were assessed for functional disability and vascular patency. A multivariable regression model was used to evaluate effects of - ISS, presence of orthopaedic injury, soft tissue injury, neural injury and arterial patency at the end of 2 years - on outcome of functional disability.

RESULTS: Paediatric extremity vascular injuries accounted for 0.68% hospital admissions with a median delay of 8h from injury. 82 patients were included with 50 cases examined for long term outcome. Patient cohort was overwhelmingly male, with 'fall', 'road traffic injury' and 'glass cut' being most common injury mechanisms. CT angiography and duplex scan based diagnostic algorithm performed satisfactorily further identifying missed injuries and aiding complex orthopaedic reconstruction. Brachial and femoral vessels were most commonly injured. Lower extremity vascular injury was found associated with significantly higher ISS and requirement for fasciotomy. Upper extremity vascular injury was associated with higher odds of neural injury. Younger children were at higher risk of combined radial and ulnar vessel injury. No patient satisfactorily complied with post-operative anticoagulant/antithrombotic prophylaxis. 28 patients had good functional outcome with unsatisfactory functional outcome found associated with significantly higher ISS, presence of orthopaedic and neural injury, along with absence of arterial patency.

CONCLUSION: The epidemiology of paediatric peripheral vascular injury differs in India compared to west. Certain traditional management principles of extremity vascular trauma may stand uniquely challenged in the paediatric population.

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PMID: 23993647 [PubMed - in process]

37: Jamshed N, Ozair FF, Ekka M, Aggarwal P. Does chest radiograph confirm tracheal intubation? *Am J Emerg Med*. 2014 Jan;32(1):96-7. doi: 10.1016/j.ajem.2013.10.013. Epub 2013 Oct 14. PubMed PMID: 24211283.

PMID: 24211283 [PubMed - indexed for MEDLINE]

38: Jha AK, Gharde P, Devagourou V, Chauhan S, Kiran U. The Effect of Volume Loading on Systemic Oxygenation After Bidirectional Superior Cavopulmonary Anastomosis. *Ann Thorac Surg.* 2014 Jan 23. pii: S0003-4975(13)02579-4. doi: 10.1016/j.athoracsur.2013.11.016. [Epub ahead of print] PubMed PMID: 24462411.

BACKGROUND: The unique series arrangement of the cerebral and pulmonary circulation in bidirectional superior cavopulmonary anastomosis (BCPA) makes the pulmonary blood flow dependent upon the cerebral blood flow. Until now, several investigators have tried to correct post-BCPA hypoxemia with various methods such as induced hyperventilation, the addition of carbon dioxide, and inhaled nitric oxide with variable success rates.

METHODS: We prospectively studied 25 children with univentricular physiology undergoing BCPA surgery at 5 different time points in the preoperative (1 time point) and postoperative period (4 time points, each separated by at least 3 mm Hg changes in the superior vena cava [SVC] pressure). Intravenous fluids were administered in the postoperative period to raise the SVC pressure.

RESULTS: The systemic arterial oxygen saturation (Sao₂) increased significantly ($p = 0.000$) from a preoperative value of $80\% \pm 7\%$ to $86\% \pm 7\%$, $91\% \pm 3\%$ and $95\% \pm 4\%$ at SVC pressures of 9 ± 1.6 mm Hg, 13 ± 1.3 mm Hg, and 16 ± 1.4 mm Hg, respectively, and then decreased to $94\% \pm 4\%$ at SVC pressure of 20 ± 1.7 mm Hg. Systolic and diastolic blood pressure increased significantly and simultaneously with SVC pressure from 71 ± 8 mm Hg and 42 ± 6 mm Hg to 89 ± 11 mm Hg and 52 ± 7 mm Hg, respectively ($p = 0.000$).

CONCLUSIONS: Administration of intravenous fluids improves the SVC pressure, possibly due to an increase in the cerebral blood flow and the SVC flow, and thus raises the arterial oxygen tension (Pao₂) and Sao₂. Each patient has a unique SVC pressure where the Sao₂ and the Pao₂ are maximum; beyond that limit, the Sao₂ does not improve.

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PMID: 24462411 [PubMed - as supplied by publisher]

39: Karunanithi S, Sharma P, Kumar A, Gupta DK, Khangembam BC, Ballal S, Kumar R, Kumar R, Bal C. Can (18)F-FDOPA PET/CT predict survival in patients with suspected recurrent glioma? A prospective study. *Eur J Radiol.* 2014 Jan;83(1):219-25. doi: 10.1016/j.ejrad.2013.09.004. Epub 2013 Sep 17. PubMed PMID: 24191944.

Purpose of the present study was to evaluate the role of (18)F-FDOPA PET/CT for predicting survival in patients with suspected recurrent glioma. **METHODS:** A total of 33 previously treated, histopathologically proven glioma patients with clinical and contrast enhanced MRI findings suspicious for recurrence were enrolled in this prospective study. All patients underwent (18)F-FDOPA PET/CT. Ratios of tumor uptake to normal tissue uptake were generated by dividing the tumor SUV_{max} with SUV_{max} of the contralateral normal brain tissue (T/N), normal striatum (T/S), normal white matter (T/W) and normal cerebellum (T/C). Patients were followed up clinically and by repeated imaging. Data was censored, if the patient died of disease or at the end of the study. Survival analysis was performed for the distributions of each variable and by multivariate analysis.

RESULTS: (18)F-FDOPA PET/CT was positive for recurrence in 25 patients and negative in 8. Death occurred in nineteen patients. Median follow up period was 20.2 months. Median survival in this study was 39.2 months. In univariate analysis significant association of survival was noted with results of (18)F-FDOPA PET/CT ($P=0.007$) and (18)F-FDOPA PET/CT quantitative parameters

namely SUVmax (P=0.001), T/S (P=0.005), T/W (P=0.0004), T/N (P=0.001) and T/C (P=0.003) were found to be significant. On multivariate analysis, only MRI size of the recurrent tumor (P=0.002) and T/N ratio of (18)F-FDOFA PET/CT (P=0.005) were found to be independent predictors of survival.

CONCLUSION: T/N ratio on (18)F-FDOFA PET/CT is an independent predictor of survival in patients with suspected recurrent glioma, along with size of recurrent tumor on MRI.

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PMID: 24191944 [PubMed - in process]

40: Kaur J, Roy S, Mallick SR, Mathur S, Sharma A, Bhasker S, Mohanti BK. Squamous cell carcinoma of larynx in an 8-year-old child: Successful management with chemo-radiation. *Pediatr Blood Cancer*. 2014 Jan 22. doi: 10.1002/pbc.24952. [Epub ahead of print] PubMed PMID: 24453121.

Incidence of laryngeal squamous cell cancer (SCC) in childhood is rare, more so in children below 10 years of age. Due to the rarity of the disease and nonspecific symptoms diagnosis often gets delayed. Treatment is challenging and demands expert multi-modality care. We describe the clinico-pathologic findings and management of laryngeal cancer with chemo-radiation in an 8-year-old male. After 18 months of completion of treatment the child is in complete remission clinically and radiologically. This report aims at increasing awareness of head and neck SCC in paediatric population and also underscores the importance of multi-modality care in managing such cases. *Pediatr Blood Cancer* © 2014 Wiley Periodicals, Inc.

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PMID: 24453121 [PubMed - as supplied by publisher]

41: Khokhar S, Gupta S, Yogi R, Gogia V, Agarwal T. Epidemiology and intermediate-term outcomes of open- and closed-globe injuries in traumatic childhood cataract. *Eur J Ophthalmol*. 2014 Jan-Feb;24(1):124-30. doi: 10.5301/ejo.5000342. Epub 2013 Jul 26. PubMed PMID: 23918072.

PURPOSE: To study epidemiology and intermediate-term outcomes of open- and closed-globe injuries (CGI) in traumatic childhood cataract.

METHODS: In this retrospective interventional case series, demographic parameters and history including type of injury of 57 children younger than 16 years with traumatic cataract were recorded; ocular examination included best-corrected visual acuity (BCVA), slit-lamp biomicroscopy, and posterior segment evaluation. Patients underwent cataract surgery with or without intraocular lens (IOL) implantation. Main surgical outcomes at 6 months comprised BCVA, residual refractive spherical error (SE), and postoperative complications, namely visual axis opacification (VAO) and amblyopia.

RESULTS: Bow and arrow was the most common causal agent. Open-globe injury (OGI) was 3 times more frequent than CGI. There was a significant visual gain from baseline in both groups after cataract surgery ($p < 0.001$); residual SE was greater in OGI (1.6 ± 0.95 SD) compared to blunt trauma (0.8 ± 0.55 SD; $p = 0.001$). Incidence of corneal scarring, iris distortion, posterior synechiae, and intraoperative posterior capsular tear was greater with OGI ($p < 0.05$). A total of 86% of patients were rehabilitated with a primary/secondary IOL. Single-piece IOL implantation rate ($p = 0.004$) was significantly greater in CGI, with no statistical difference for in-the-bag IOL ($p = 0.053$) and IOL implantation rate

($p = 0.16$). Final BCVA was significantly better for in-the-bag IOL implantation compared to sulcus fixation. Postoperative complications included amblyopia (51%) and VAO (12%).

CONCLUSIONS: Bow and arrow injury caused the maximum cases of traumatic cataract; cataract extraction resulted in significant visual improvement; and CGI tended to have better prognosis in pediatric traumatic cataracts.

PMID: 23918072 [PubMed - indexed for MEDLINE]

42: Krishnan A, Amarchand R, Byass P, Pandav C, Ng N. "No one says 'No' to money" - a mixed methods approach for evaluating conditional cash transfer schemes to improve girl children's status in Haryana, India. *Int J Equity Health*. 2014 Jan 31;13(1):11. doi: 10.1186/1475-9276-13-11. PubMed PMID: 24484583; PubMed Central PMCID: PMC3922091.

INTRODUCTION: Haryana was the first state in India to launch a conditional cash transfer (CCT) scheme in 1994. Initially it targeted all disadvantaged girls but was revised in 2005 to restrict it to second girl children of all groups. The benefit which accrued at girl attaining 18 years and subject to conditionalities of being fully immunized, studying till class 10 and remaining unmarried, was increased from about US\$ 500 to US\$ 2000. Using a mixed methods approach, we evaluated the implementation and possible impact of these two schemes.

METHODS: A survey was conducted among 200 randomly selected respondents of Ballabgarh Block in Haryana to assess their perceptions of girl children and related schemes. A cohort of births during this period was assembled from population database of 28 villages in this block and changes in sex ratio at birth and in immunization coverage at one year of age among boys and girls was measured. Education levels and mean age at marriage of daughters were compared with daughters-in-law from outside Haryana. In-depth interviews were conducted among district level implementers of these schemes to assess their perceptions of programs' implementation and impact. These were analyzed using a thematic approach.

RESULTS: The perceptions of girls as a liability and poor (9% to 15%) awareness of the schemes was noted. The cohort analysis showed that while there has been an improvement in the indicators studied, these were similar to those seen among the control groups. Qualitative analysis identified a "conspiracy of silence" - an underplaying of the pervasiveness of the problem coupled with a passive implementation of the program and a clash between political culture of giving subsidies and a bureaucratic approach that imposed many conditionalities and documentary needs for availing of benefits.

CONCLUSION: The apparent lack of impact on the societal mindset calls for a revision in the current approach of addressing a social issue by a purely conditional cash transfer program.

PMCID: PMC3922091

PMID: 24484583 [PubMed - in process]

43: Kumar A, Duraipandi K, Gogia V, Sehra SV, Gupta S, Midha N. Comparative evaluation of 23- and 25-gauge microincision vitrectomy surgery in management of diabetic macular traction retinal detachment. *Eur J Ophthalmol*. 2014 Jan-Feb;24(1):107-13. doi: 10.5301/ejo.5000305. Epub 2013 May 15. PubMed PMID: 23709329.

PURPOSE: To compare the efficacy, outcomes, and complications of 23-G and 25-G microincision vitrectomy surgery (MIVS) in cases of diabetic tractional retinal

detachment (TRD).

METHODS: This is a prospective, single-blinded, randomized, comparative study. Fifty eyes of 50 patients with diabetic TRD involving or threatening macula were randomized into 2 groups of 25 each. Group 1 underwent 23-G MIVS and group 2 underwent 25-G MIVS. Patients were followed up at 1 day, 1 week, 1 month, 3 months, 6 months, and 1 year after surgery. The primary outcome measure was anatomic and visual success after surgery. We also compared the 2 alternative MIVS systems and assessed various intraoperative and postoperative parameters.

RESULTS: Anatomic achievement was achieved in all eyes and both groups showed a significant improvement in vision after surgery ($p = 0.033$ and $p = 0.004$, respectively) and were comparable ($p = 0.584$). Mean surgical time in 25-G surgery was significantly longer than in 23-G surgery by 4.60 minutes ($p < 0.001$). Postoperative mean astigmatism was comparable in the 2 groups and postoperative hypotony was not encountered in either group. No port-related breaks were seen in either group; however, iatrogenic breaks occurred in 4 eyes in the 23-G group and 5 eyes in the 25-G group ($p = 1.000$). There was significantly less immediate postoperative pain and foreign body sensation in the 25-G group compared with the 23-G group.

CONCLUSIONS: Both 23-G and 25-G MIVS have comparable visual and anatomic results for diabetic TRD; however, 25-G surgery may be associated with less postoperative pain and discomfort than 23-G surgery.

PMID: 23709329 [PubMed - indexed for MEDLINE]

44: Kumar P, Balooni V, Sharma BK, Kapil V, Sachdeva KS, Singh S. High degree of multi-drug resistance and hetero-resistance in pulmonary TB patients from Punjab state of India. *Tuberculosis (Edinb)*. 2014 Jan;94(1):73-80. doi: 10.1016/j.tube.2013.10.001. Epub 2013 Oct 22. PubMed PMID: 24184256.

Line Probe Assays (LPAs) have been recommended for rapid screening of MDR-TB. Aims of this study were (1) to compare the performance of LPA with standard Bactec MGIT 960 system and (2) to ascertain the pattern of genetic mutations in the resistance isolates. In phase I, a total of 141 *Mycobacterium tuberculosis* isolates from our routine laboratory were tested by LPA and Bactec MGIT 960 for DST. In phase II, 578 sputum specimens of suspected DR-TB patients were received from the Punjab state of India. Of them 438 specimens or their cultures were subjected to LPA. The presence of mutant bands with their corresponding wild type band was identified as "hetero-resistance". In phase I, LPA showed high concordance with 96.4% positive agreement and 97.6% negative agreement with Bactec MGIT 960-DST. In phase II, 12 (2.7%) specimens were detected as invalid by LPA. Of the remaining 426 specimens, 184 (43.1%) had resistance to RIF and 142 (33.3%) to INH while 103 (24.1%) specimens showed resistance to both INH and RIF (MDR-TB) by LPA. Of the 142 INH resistant, 113 (79.5%) showed mutations in *katG* and 29 (20.4%) in *inhA*. A high rate of hetero-resistance pattern was observed in *rpoB* gene (28.8%) and *katG* gene (9.8%). The most frequent mutation was S531L (81.1%) in *rpoB* region and S315T1 (100%) in *katG* gene.

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PMID: 24184256 [PubMed - in process]

45: Kumar R. The first editorial. *Indian J Urol*. 2014 Jan;30(1):1. doi: 10.4103/0970-1591.124196. PubMed PMID: 24497672; PubMed Central PMCID: PMC3897037.

PMCID: PMC3897037

PMID: 24497672 [PubMed]

46: Kumar V, Dwivedi DK, Jagannathan NR. High-resolution NMR spectroscopy of human body fluids and tissues in relation to prostate cancer. *NMR Biomed.* 2014 Jan;27(1):80-9. doi: 10.1002/nbm.2979. Epub 2013 Jul 4. PubMed PMID: 23828638.

High-resolution NMR spectroscopic studies of prostate tissue extracts, prostatic fluid, seminal fluid, serum and urine can be used for the detection of prostate cancer, based on the differences in their metabolic profiles. Useful diagnostic information is obtained by the detection or quantification of as many metabolites as possible and comparison with normal samples. Only a few studies have shown the potential of high-resolution in vitro NMR of prostate tissues. A survey of the literature has revealed that studies on body fluids, such as urine and serum, in relation to prostate cancer are rare. In addition, the potential of NMR of nuclei other than $(1)H$, such as $(13)C$ and $(31)P$, has not been exploited fully. The metabolomic analysis of metabolites, detected by high-resolution NMR, may help to identify metabolites which could serve as useful biomarkers for prostate cancer detection. Such NMR-derived biomarkers would not only help in prostate cancer detection and in understanding the in vivo MRS metabolic profile, but also to investigate the biochemical and metabolic changes associated with cancer. Here, we review the published research work on body fluids in relation to prostate and prostate tissue extracts, and highlight the potential of such studies for future work.

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PMID: 23828638 [PubMed - in process]

47: Maharana P, Jhanji V, Vajpayee RB. Inadvertent Use of Cornea with Previous LASIK in Deep Lamellar Keratoplasty. *Optom Vis Sci.* 2014 Jan 2. [Epub ahead of print] PubMed PMID: 24389671.

PURPOSE: To report transplantation of a post-laser in situ keratomileusis (LASIK) donor cornea in a deep anterior lamellar keratoplasty (DALK).

CASE REPORT: An 18-year-old male patient with bilateral keratoconus underwent DALK in his right eye. One week postoperatively, the uncorrected visual acuity was 6/24 and the keratometry readings were 36.4/48.6 D in the operated eye. On slit-lamp examination, two interfaces were observed in the corneal stroma. An anterior segment optical coherence tomography (ASOCT; Visante) scan was performed on the operated eye. The ASOCT showed two distinct interfaces, one in the deep corneal stroma close to the Descemet membrane and another interface in the anterior corneal stroma, 225 μm below the surface of the cornea representing the LASIK flap. The central corneal thickness was 498 μm and the residual stromal thickness was between 45 and 52 μm . The records of the 57-year-old male donor who had died of a road traffic accident did not reveal any history of refractive surgery in the past. The patient was informed about the presence of a LASIK flap on his cornea. Because the patient is asymptomatic, a decision was taken to observe instead of exchanging the graft.

CONCLUSIONS: Our case report highlights transplantation of a donor cornea with previous refractive surgery. With refractive surgery being performed commonly, a careful and specific history should be obtained from the relatives of the deceased. We recommend the incorporation of standard imaging protocols in eye banks for detection of previous refractive surgery in donor corneas.

PMID: 24389671 [PubMed - as supplied by publisher]

48: Marwaha RK, Tandon N, Garg MK, Narang A, Mehan N, Bhadra K. Normative Data of

Body Fat Mass and Its Distribution as Assessed by DXA in Indian Adult Population. *J Clin Densitom.* 2014 Jan-Mar;17(1):136-42. doi: 10.1016/j.jocd.2013.01.002. Epub 2013 Mar 27. PubMed PMID: 23541124.

Dual-energy X-ray absorptiometry (DXA) assessment of body fat mass is precise and highly correlated with under water weighing. In view of ethnic differences, we undertook this study to prepare normative data for body fat mass in apparently healthy adult Indians and correlate it with body mass index (BMI). This cross-sectional population-based study included 2347 subjects (male: 924; female: 1423) aged >20 yr who participated in a general health examination. They were evaluated for anthropometry and body fat mass by DXA. All subjects were categorized as overweight and obese based on standard BMI criteria. Mean age and BMI were 49.1 ± 18.2 yr and 25.0 ± 4.7 kg/m², respectively. Mean percent total and regional fat (trunk, arm, and leg) reached maximum in the age group of 30-40yr in males and 50-60yr in females. Females had significantly higher total and regional fat mass compared with males. Fat mass was positively correlated with age ($r = 0.224$; $p < 0.00001$) and BMI ($r = 0.668$; $p < 0.00001$). Prevalence of overweight and obesity was seen in 2119 (46.1%) and 536 (13.8%), respectively, according to World Health Organization definition and 64.0% and 31.1%, respectively, as per Indian guidelines. Percent total body fat mass (PTBFM) of 25% in males and 30% in females corresponds to BMI of 22.0kg/m² with sensitivity of >80% and specificity of >70% in receiver operating characteristic curve analysis. Body fat mass in Indians is higher than that in Western populations for a given age and BMI. PTBFM of 25% in males and 30% in females corresponds to BMI of 22kg/m² in Indians.

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PMID: 23541124 [PubMed - in process]

49: Mathur P. Automated surveillance systems for health care associated infections: need of the hour. *Indian J Med Microbiol.* 2014 Jan-Mar;32(1):3-5. doi: 10.4103/0255-0857.124285. PubMed PMID: 24399379.

PMID: 24399379 [PubMed - in process]

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PMID: 23969544 [PubMed - in process]

51: Mohan T, Mitra D, Rao DN. Nasal delivery of PLG microparticle encapsulated defensin peptides adjuvanted gp41 antigen confers strong and long-lasting immunoprotective response against HIV-1. *Immunol Res.* 2014 Jan;58(1):139-53. doi: 10.1007/s12026-013-8428-5. PubMed PMID: 23666811.

Defensins display immunostimulatory activities including a chemotactic effect for T lymphocytes/immature dendritic cells and secretion of pro-inflammatory cytokines suggest their role in bridging innate and adaptive immunity. We hypothesized whether defensins with separately emulsified HIV-1 immunogen would elicit peptide-specific systemic and mucosal antibody response in mice. The HIV-1 peptide alone in microsphere showed low peptide-specific antibody response in sera and different washes, while the presence of defensins markedly increased the antibody peak titre both in sera (102,400-409,600) ($p < 0.05$) and in washes (800-25,600) ($p < 0.001$). Defensins with HIV-1 peptide were showing 43.0-83.2 % and 38.7-72.3 % in vitro neutralization against laboratory isolates in serum and lavage samples, respectively, higher than HIV-1 peptide alone. Our findings may

have implications in the development of new mucosal adjuvant for AIDS vaccination.

PMID: 23666811 [PubMed - in process]

52: Mouli VP, Ananthakrishnan AN. Review article: vitamin D and inflammatory bowel diseases. *Aliment Pharmacol Ther.* 2014 Jan;39(2):125-36. doi: 10.1111/apt.12553. Epub 2013 Nov 17. PubMed PMID: 24236989; PubMed Central PMCID: PMC3872479.

BACKGROUND: Vitamin D is traditionally associated with bone metabolism. The immunological effects of vitamin D have increasingly come into focus.

AIM: To review the evidence supporting a role of vitamin D in inflammatory bowel diseases.

METHODS: A comprehensive search was performed on PubMed using the terms 'crohn's disease' 'ulcerative colitis' and 'vitamin D'.

RESULTS: Vitamin D deficiency is common in patients with inflammatory bowel diseases (IBD) (16-95%) including those with recently diagnosed disease. Evidence supports immunological role of vitamin D in IBD. In animal models, deficiency of vitamin D increases susceptibility to dextran sodium sulphate colitis, while 1,25(OH)₂ D₃ ameliorates such colitis. One prospective cohort study found low predicted vitamin D levels to be associated with an increased risk of Crohn's disease (CD). Limited data also suggest an association between low vitamin D levels and increased disease activity, particularly in CD. In a large cohort, vitamin D deficiency (<20 ng/mL) was associated with increased risk of surgery (OR 1.8, 95% CI 1.2-2.5) in CD and hospitalisations in both CD (OR 2.1, 95% CI 1.6-2.7) and UC (OR 2.3, 95% CI 1.7-3.1). A single randomised controlled trial demonstrated that vitamin D supplementation may be associated with reduced frequency of relapses in patients with CD compared with placebo (13% vs. 29%, P = 0.06).

CONCLUSIONS: There is growing epidemiological evidence to suggest a role for vitamin D deficiency in the development of IBD and also its influence on disease severity. The possible therapeutic role of vitamin D in patients with IBD merits continued investigation.

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PMCID: PMC3872479 [Available on 2015/1/1]

PMID: 24236989 [PubMed - in process]

53: Mukherjee A, Saini S, Kabra SK, Gupta N, Singh V, Singh S, Bhatnagar S, Saini D, Grewal HM, Lodha R; Delhi TB Study group, Aneja S, Arya T, Bhatnagar S, Chandra J, Dutta A, Doherty T, Friis H, Grewal HM, Hesseling A, Kabra S, Lodha R, Marais B, Mukherjee A, Parashar D, Prajapati S, Purohit K, Saini D, Saini S, Singh RR, Singh S, Singh V. Effect of micronutrient deficiency on QuantiFERON-TB Gold In-Tube test and tuberculin skin test in diagnosis of childhood intrathoracic tuberculosis. *Eur J Clin Nutr.* 2014 Jan;68(1):38-42. doi: 10.1038/ejcn.2013.216. Epub 2013 Oct 30. PubMed PMID: 24169461.

Background/Objectives: Data on performance of QuantiFERON-TB Gold In-Tube test (QFT) and tuberculin skin test (TST) in children with active tuberculosis from high burden countries in the context of micronutrient deficiency are scarce. The objective of this study was to evaluate the effect of micronutrient deficiency on the performance of TST and QFT in children with intrathoracic tuberculosis. Subjects/Methods: Children with probable intrathoracic tuberculosis underwent TST, QFT, gastric lavages and induced sputum examination for AFB (Acid-Fast Bacilli) smear and culture. Zinc, copper, ferritin and vitamin D were

measured on stored serum samples. The study used cross-sectional data at initiation of anti-tubercular therapy. Results: Three hundred and sixty-two children (median age 115.5 months (interquartile range: 73, 144), 200 (55.3%) girls) were enrolled in the study. Microbiological confirmation of tuberculosis could be obtained in 128 patients. TST and QFT were positive in 337 (93%) and 297 (82%) children, respectively. Performance of both the tests was unaffected by weight-for-age and height-for-age 'z-scores' or by serum copper levels. TST was not affected by serum zinc and ferritin levels. Children with negative QFT results had lower mean serum zinc level ($P=0.01$) and higher ferritin levels ($P=0.007$) as compared to those with positive test. Higher proportion of children with positive TST were vitamin D deficient/insufficient ($P=0.003$). Conclusion: Micronutrient status, especially serum levels of zinc, may influence the performance of QFT in children with intrathoracic tuberculosis. Considering the high prevalence of zinc deficiency in developing countries, QFT should be used cautiously for diagnosing tuberculosis.

PMID: 24169461 [PubMed - in process]

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Left ventricular pseudoaneurysms are rare in children. A six-year-old boy developed left ventricular pseudoaneurysm despite successful control of sepsis. The pseudoaneurysm was diagnosed by two-dimensional echocardiography and detailed by computed tomography. The child underwent successful surgical correction with partial excision and plication of the aneurysmal sac.

PMID: 24403370 [PubMed - in process]

55: Naswa N, Sharma P, Gupta SK, Karunanithi S, Reddy RM, Patnecha M, Lata S, Kumar R, Malhotra A, Bal C. Dual tracer functional imaging of gastroenteropancreatic neuroendocrine tumors using ^{68}Ga -DOTA-NOC PET-CT and ^{18}F -FDG PET-CT: competitive or complimentary? *Clin Nucl Med.* 2014 Jan;39(1):e27-34. doi: 10.1097/RLU.0b013e31827a216b. PubMed PMID: 24217539.

OBJECTIVE: This study aimed to compare the diagnostic performance of Ga-DOTANOC PET/CT with F-FDG PET/CT in the patients with gastroenteropancreatic neuroendocrine tumors (GEP-NETs).

PATIENTS AND METHODS: Data of 51 patients with definite histological diagnosis of GEP-NET who underwent both Ga-DOTA-NOC PET-CT and F-FDG PET-CT within a span of 15 days were selected for this retrospective analysis. Sensitivity, specificity, and predictive values were calculated for Ga-DOTA-NOC PET-CT and F-FDG PET-CT, and results were compared both on patientwise and regionwise analysis.

RESULTS: Ga-DOTA-NOC PET-CT is superior to F-FDG PET-CT on patientwise analysis ($P < 0.0001$). On regionwise analysis, Ga-DOTA-NOC PET-CT is superior to F-FDG PET-CT only for lymph node metastases ($P < 0.003$). Although Ga-DOTA-NOC PET-CT detected more liver and skeletal lesions compared with F-FDG PET-CT, the difference was not statistically significant. In addition, the results of combined imaging helped in selecting candidates who would undergo the appropriate mode of treatment, whether octreotide therapy or conventional chemotherapy

CONCLUSIONS: Ga-DOTA-NOC PET-CT seems to be superior to F-FDG PET-CT for imaging GEP-NETs. However, their role seems to be complementary because combination of Ga-DOTA-NOC PET-CT and F-FDG PET-CT in such patients helps demonstrate the total disease burden and segregate them to proper therapeutic groups.

PMID: 24217539 [PubMed - in process]

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PMID: 24443337 [PubMed - in process]

58: Neema PK. Cardiopulmonary bypass during pregnancy - Fetal demise: An enigma. *Ann Card Anaesth*. 2014 Jan-Mar;17(1):1-3. doi: 10.4103/0971-9784.124111. PubMed PMID: 24401294.

PMID: 24401294 [PubMed - in process]

59: Panda A, Kumar A, Gamanagatti S, Patil A, Kumar S, Gupta A. Traumatic diaphragmatic injury: a review of CT signs and the difference between blunt and penetrating injury. *Diagn Interv Radiol*. 2014 Jan 10. doi: 10.5152/dir.2013.13248. [Epub ahead of print] PubMed PMID: 24412818.

PURPOSE: We aimed to present the frequency of computed tomography (CT) signs of diaphragmatic rupture and the differences between blunt and penetrating trauma. We also reviewed the various CT signs and discuss their significance.

MATERIALS AND METHODS: The CT scans of 23 patients with surgically proven diaphragmatic tears (both blunt and penetrating) were retrospectively reviewed for previously described CT signs of diaphragmatic injuries. The overall frequency and frequencies of right- and left-sided injuries and blunt and penetrating trauma were separately tabulated and statistically compared.

RESULTS: The discontinuous diaphragm sign was the most common sign, observed in 95.7% of patients, followed by diaphragmatic thickening (69.6%). While the dependent viscera sign and collar sign were exclusively observed in blunt-trauma patients, organ herniation ($P = 0.05$) and dangling diaphragm ($P = 0.0086$) signs were observed significantly more often in blunt trauma than in penetrating trauma. Contiguous injury on either side of the diaphragm was observed more often in penetrating trauma (83.3%) than in blunt trauma (17.7%).

CONCLUSION: Knowledge of the mechanism of injury and familiarity with all CT signs of diaphragmatic injury are necessary to avoid a missed diagnosis because there is variability in the overall occurrence of these signs, with significant differences between blunt and penetrating trauma.

PMID: 24412818 [PubMed - as supplied by publisher]

60: Pandey SK, Pandey S, Ranjan R, Shah V, Mishra RM, Sharma M, Saxena R. Phenotypic Effect of α -Globin Gene Numbers on Indian Sickle β -Thalassemia Patients. *J Clin Lab Anal*. 2014 Jan 6. doi: 10.1002/jcla.21652. [Epub ahead of print] PubMed PMID: 24395608.

BACKGROUND: Sickle cell β -thalassemia is a compound heterozygous state of β -thalassemia and sickle cell anemia. Patient with these conditions showed mild-to-severe clinical phenotype.

OBJECTIVES: The objective of this study was to evaluate the effects of α -globin gene numbers on the phenotype of sickle cell β -thalassemia patients.

MATERIALS AND METHODS: Seventy-five sickle cell β -thalassemia patients were characterized. Clinical, hematological, and molecular characterization was performed in all subjects. Amplified refractory mutation system-polymerase chain reaction was applied for β -thalassemia mutation study while α -genotyping was conducted by Gap-PCR.

RESULTS: Highest frequency of IVS1-5 (33 out of 75 patients) β -thalassemia genotype was recorded. Twenty-eight patients were reported with α -globin chain deletion while four had α -triplications (Anti α -3.7kb). Sickle β -thalassemia patients with α -chain deletions ameliorate hematological and clinical variables.

CONCLUSIONS: This study indicates that the coexistence of α -globin chain deletions showed mild phenotype instead of absence of α -chain deletions while the patients with triplication of α -genes express severe phenotype.

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PMID: 24395608 [PubMed - as supplied by publisher]

61: Paul P, Agarwal M, Bhatia R, Vishnubhatla S, Singh MB. Nurse-led epilepsy follow-up clinic in India: Is it feasible and acceptable to patients? a pilot study. *Seizure*. 2014 Jan;23(1):74-6. doi: 10.1016/j.seizure.2013.09.001. Epub 2013 Sep 8. PubMed PMID: 24055364.

PURPOSE: India has an epilepsy treatment gap of up to 90%. Shortage of doctors, especially in rural communities makes getting epilepsy treatment almost impossible for the vast majority. Nurses are relatively more in number and available even in smaller cities and villages. This pilot study investigated if a nurse-led epilepsy follow-up clinic is feasible in India and is acceptable to patients.

METHOD: A II year Nursing postgraduate student was given 8h of didactic teaching tailored for epilepsy patient follow-up, followed by supervised observation time in the epilepsy clinic with a neurologist before conducting epilepsy follow-up clinics independently. Epilepsy patients ≥ 10 years of age and in follow-up for ≥ 6 months were included. They were independently followed-up both in the nurse-led clinic and in the neurologist's clinic. Outcome was measured in terms of interrater agreement (kappa) between the recommendations of the neurologist and the nurse in five domains. Patient satisfaction for nurse-led clinic was also evaluated.

RESULTS: The interrater agreement between the trained nurse and neurologist in following-up 175 enrolled patients was 76-94%; most unanimity ($\kappa=94\%$) seen in identifying AED adverse effects while least agreement ($\kappa=76\%$) was present regarding decisions to modify AED. The mean patient satisfaction score was 37.63 ± 3.26 (maximum possible score 40).

CONCLUSION: It is feasible for trained nurses to run epilepsy follow-up clinics in India and patients are likely to be satisfied with this approach.

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PMID: 24055364 [PubMed - in process]

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doi: 10.1136/bcr-2013-201770. PubMed PMID: 24473424.

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PMID: 24448116 [PubMed - in process]

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BACKGROUND AND PURPOSE: Variability in computed tomography angiography (CTA) acquisitions may be one explanation for the modest accuracy of the spot sign for predicting intracerebral hemorrhage expansion detected in the multicenter Predicting Hematoma Growth and Outcome in Intracerebral Hemorrhage Using Contrast Bolus CT (PREDICT) study. This study aimed to determine the frequency of the spot sign in intracerebral hemorrhage and its relationship with hematoma expansion depending on the phase of image acquisition.

METHODS: PREDICT study was a prospective observational cohort study of patients with intracerebral hemorrhage presenting within 6 hours from onset. A post hoc analysis of the Hounsfield units of an artery and venous structure were measured on CTA source images of the entire PREDICT cohort in a core laboratory. Each CTA study was classified into arterial or venous phase and into 1 of 5 specific image acquisition phases. Significant hematoma expansion and total hematoma enlargement were recorded at 24 hours.

RESULTS: Overall (n=371), 77.9% of CTA were acquired in arterial phase. The spot sign, present in 29.9% of patients, was more frequently seen in venous phase as compared with arterial phase (39% versus 27.3%; P=0.041) and the later the phase of image acquisition (P=0.095). Significant hematoma expansion (P=0.253) and higher total hematoma enlargement (P=0.019) were observed more frequently among spot sign-positive patients with earlier phases of image acquisition.

CONCLUSIONS: Later image acquisition of CTA improves the frequency of spot sign detection. However, spot signs identified in earlier phases may be associated with greater absolute enlargement. A multiphase CTA including arterial and venous acquisitions could be optimal in patients with intracerebral hemorrhage.

PMID: 24481974 [PubMed - as supplied by publisher]

65: Sengupta T, Jaryal AK, Kumar VM, Mallick HN. L-glutamate microinjection in the preoptic area increases brain and body temperature in freely moving rats. Neuroreport. 2014 Jan 8;25(1):28-33. doi: 10.1097/WNR.000000000000035. PubMed PMID: 24051681.

The role of the preoptic area (POA) in thermoregulation is well documented. Microinjection of various neurotransmitters into the POA in rats has been shown to influence body temperature. Although there are reports showing changes in temperature on administration of L-glutamate into the POA, the role of this excitatory amino acid in thermoregulation has not been studied in unanaesthetized rats. In the present study, brain and body temperatures were recorded in freely

moving adult male Wistar rats with K-type thermocouple implanted near the hypothalamus and temperature transmitter implanted inside the peritoneum. Recordings were performed 2 h preinjection and 4 h postinjection. L-glutamate (0.14 nM) microinjection into the POA induced long-lasting hyperthermia and reduced locomotor activity. The rats remained curled up and showed piloerection. L-glutamate-induced hyperthermia was attenuated by previous injection of the ionotropic L-glutamate receptor antagonist, kynurenate (0.11 nM). We propose that L-glutamate in the POA participates not only in heat production and conservation but also plays a role in interlinking sleep and thermoregulation.

PMID: 24051681 [PubMed - in process]

66: Sethi BS, Kapoor PM, Chauhan S, Chowdhury UK, Kiran U, Choudhury M. Perioperative Levels of Tumor Necrosis Factor- α Correlate With Outcomes in Children and Adults With Tetralogy of Fallot Undergoing Corrective Surgery. *World J Pediatr Congenit Heart Surg*. 2014 Jan 1;5(1):38-46. doi: 10.1177/2150135113507290. PubMed PMID: 24403353.

BACKGROUND: Previous studies reporting on tumor necrosis factor- α (TNF- α) as a marker of inflammatory response (IR) in patients with congenital heart disease were limited by small sample size and variability in diagnosis. We report perioperative changes in TNF- α levels and their correlation with preoperative factors and clinical outcomes in a large homogenous group of patients with tetralogy of Fallot (TOF) undergoing definitive repair at a tertiary care center.

METHODS: A total of 167 patients were divided into four groups on the basis of age. Group 1 included infants less than 1 year, group 2 included children between 1 and 12 years, group 3 included adolescents between 12 and 18 years, and group 4 included adults more than 18 years of age. Serum TNF- α levels were measured at three time points and correlated with perioperative variables.

RESULTS: The baseline TNF- α level correlated with patients' nutritional status and degree of cyanosis in all four groups. The magnitude of IR in the postcardiopulmonary bypass (post-CPB) period as measured by TNF- α level was much higher and correlated more consistently with adverse clinical outcomes in the younger age group (groups 1 and 2). On multivariable analysis; age at operation, preoperative degree of hypoxemia and TNF- α levels were found to be independent predictors of clinical outcomes.

CONCLUSION: We demonstrated a rise in serum TNF- α levels in patients with TOF undergoing definitive repair on CPB, which correlated with preoperative severity of cyanosis, nutritional status, and adverse clinical outcomes. The TNF- α levels may be monitored to identify cyanotic patients at an increased risk of exhibiting augmented IR to CPB.

PMID: 24403353 [PubMed - in process]

67: Sharma C, Khan MA, Mohan T, Shrinet J, Latha N, Singh N. A synthetic chimeric peptide harboring human papillomavirus 16 cytotoxic T lymphocyte epitopes shows therapeutic potential in a murine model of cervical cancer. *Immunol Res*. 2014 Jan;58(1):132-8. doi: 10.1007/s12026-013-8447-2. PubMed PMID: 24174302.

Infection with human papillomavirus (HPV) such as HPV16 is known to be associated with cervical cancer. The E6 and E7 oncoproteins of this virus are attractive targets for T-cell-based immunotherapy to cervical cancer. In our study, software predicted, multiple H-2D(b) restricted HPV16 cytotoxic T lymphocytes (CTL) epitopes on a synthetic chimeric peptide, was used along with different immunopotentiating adjuvants such as alum, heat-killed *Mycobacterium w* (Mw) cells, and poly D,L-lactic-co-glycolide (PLGA) microspheres. We have shown that

subcutaneous immunization with H-2D(b)-restricted HPV16 peptide was able to generate CTL-mediated cytolysis of HPV16 E6- and E7-expressing TC-1 tumor cells in vitro, as well as protect against in vivo challenge with TC-1 cells in C57BL/6 mice. In vitro, this chimeric peptide showed best efficacy with PLGA microspheres, moderate with alum, and least with Mw as adjuvant. This approach may thus provide a potential peptide-based therapeutic candidate vaccine for the control of HPV infection and hence cervical cancer.

PMID: 24174302 [PubMed - in process]

68: Sharma JB, Kumar S, Goyal M, Roy KK. Prevalence of incidental perihepatic adhesions at laparotomy in cases of ovarian cancer. *Int J Gynaecol Obstet*. 2014 Jan;124(1):81. doi: 10.1016/j.ijgo.2013.07.022. Epub 2013 Oct 5. PubMed PMID: 24315511.

PMID: 24315511 [PubMed - in process]

69: Sharma P, Jain S, Karunanithi S, Pal S, Julka PK, Thulkar S, Malhotra A, Bal C, Kumar R. Diagnostic accuracy of (18)F-FDG PET/CT for detection of suspected recurrence in patients with oesophageal carcinoma. *Eur J Nucl Med Mol Imaging*. 2014 Jan 17. [Epub ahead of print] PubMed PMID: 24435775.

PURPOSE: To evaluate the role of (18)F-FDG PET/CT in the detection of recurrence in patients with oesophageal carcinoma, suspected clinically or following conventional investigations.

METHODS: This was a retrospective study. Data from 180 patients (age 56.3±10.4 years; 126 men, 54 women) with histopathologically proven oesophageal carcinoma (squamous cell 115, adenocarcinoma 59, neuroendocrine carcinoma 4, small cell 1, poorly differentiated 1) who had undergone 227 (18)F-FDG PET/CT studies for suspected recurrence were analysed. Recurrence was suspected clinically or following conventional investigations. PET/CT images were reevaluated by two nuclear medicine physicians in consensus. Findings were grouped into local, nodal and distant recurrence. Results were compared to those from contrast-enhanced (CE) CT when available (109 patients). Clinical/imaging follow-up (minimum 6 months) with histopathology (when available) was taken as the reference standard.

RESULTS: Of the 227 (18)F-FDG PET/CT studies, 166 were positive and 61 were negative for recurrent disease. PET/CT showed local recurrence in 134, nodal recurrence in 115 and distant recurrence in 47, with more than one site of recurrence in 34. The PET/CT findings were true-positive in 153 studies, true-negative in 54, false-positive in 13 and false-negative in 7. The sensitivity of (18)F-FDG PET/CT was 96 %, the specificity was 81 %, the positive and negative predictive values were 92 % and 89 %, respectively, and the accuracy was 91 %. PET/CT showed similar accuracy in patients with squamous cell carcinoma and in those with adenocarcinoma ($P=0.181$). (18)F-FDG PET/CT was more specific than CECT (67 % vs. 21 %; $P<0.0001$). PET/CT was superior to CECT for the detection of nodal recurrence ($P<0.0001$), but not local recurrence ($P=0.093$) or distant metastases ($P=0.441$).

CONCLUSION: (18)F-FDG PET/CT shows high accuracy in the detection of suspected recurrence in patients with oesophageal carcinoma. It is more specific than and is superior to CECT in the detection of nodal recurrence.

PMID: 24435775 [PubMed - as supplied by publisher]

70: Sharma P, Dhull VS, Bal C, Malhotra A, Kumar R. Von Hippel-Lindau Syndrome:

Demonstration of Entire Disease Spectrum with (68)Ga-DOTANOC PET-CT. Korean J Radiol. 2014 Jan;15(1):169-72. doi: 10.3348/kjr.2014.15.1.169. Epub 2014 Jan 8. PubMed PMID: 24497809; PubMed Central PMCID: PMC3909852.

PMCID: PMC3909852

PMID: 24497809 [PubMed - in process]

71: Sharma P, Arora S, Mukherjee A, Pal S, Sahni P, Garg P, Khadgawat R, Thulkar S, Bal C, Kumar R. Predictive value of 68Ga-DOTANOC PET/CT in patients with suspicion of neuroendocrine tumors: is its routine use justified? Clin Nucl Med. 2014 Jan;39(1):37-43. doi: 10.1097/RLU.0000000000000257. PubMed PMID: 24152621.

OBJECTIVE: The objective of this study was to evaluate the predictive value of Ga-DOTANOC PET/CT in patients with suspected neuroendocrine tumor (NET).

METHODS: Data of 164 patients (mean age, 42.5 ± 17.3 years; 54.8% male) who underwent Ga-DOTANOC PET/CT for suspected NET were retrospectively analyzed. Neuroendocrine tumor was suspected based on clinical features (n = 94) and/or raised biochemical markers (n = 83, serum chromogranin A, gastrin, serum/urinary catecholamines, insulin/C-peptide, and 5-hydroxytryptophan/5-hydroxyindoleacetic acid) and/or imaging findings (n = 93). PET/CT images were reviewed by 2 experienced nuclear medicine physicians, and any nonphysiological Ga-DOTANOC uptake was taken as positive for NET. Histopathology (n = 55) and clinical/imaging follow-up (n = 109; median, 11 months) was used as reference standard.

RESULTS: Based on the reference standard, 97 of 164 patients had NET. Ga-DOTANOC PET/CT was positive for NET in 101 and negative in 63 patients. Primary tumor was demonstrated in 90 patients (commonest site-pancreas) and metastasis in 30 (commonest site-liver). PET/CT was true positive in 92 patients, true negative in 58, false positive in 9, and false negative in 5. The overall sensitivity was 94.8%, specificity was 86.5%, positive predictive value was 91%, negative predictive value was 92%, and accuracy was 91.4%. The accuracy of PET-CT in patients with clinical features of NET was 90.4%, with raised biochemical markers was 86.7%, and with imaging findings suggestive of NET was 93.5%. No difference was seen in the accuracy in patients with or without clinical symptoms (P = 0.794), raised versus those with normal/unknown biochemical markers (P = 0.094), and suggestive imaging versus those with negative/unavailable imaging (P = 0.420).

CONCLUSIONS: Ga-DOTANOC PET-CT shows high positive and negative predictive values in patients with suspected NET and can be routinely used for this purpose.

PMID: 24152621 [PubMed - in process]

72: Sharma P, Ping L. Calcium ion influx in microglial cells: Physiological and therapeutic significance. J Neurosci Res. 2014 Apr;92(4):409-23. doi: 10.1002/jnr.23344. Epub 2014 Jan 24. PubMed PMID: 24464907.

Microglial cells, the immunocompetent cells of the central nervous system (CNS), exhibit a resting phenotype under healthy conditions. In response to injury, however, they transform into an activated state, which is a hallmark feature of many CNS diseases. Factors or agents released from the neurons, blood vessels, and/or astrocytes could activate these cells, leading to their functional and structural modifications. Microglial cells are well equipped to sense environmental changes within the brain under both physiological and pathological conditions. Entry of calcium ions (Ca²⁺) plays a critical role in the process of microglial transformation; several channels and receptors have been identified

on the surface of microglial cells. These include store-operated channel, Orai1, and its sensor protein, stromal interaction molecule 1 (STIM1), in microglial cells, and their functions are modulated under pathological stimulations. Transient receptor potential (TRP) channels and voltage- and ligand-gated channels (ionotropic and metabotropic receptors) are also responsible for Ca(2+) influx into the microglial cells. An elevation of intracellular Ca(2+) concentration subsequently regulates microglial cell functions by activating a diverse array of Ca(2+) -sensitive signaling cascades. Perturbed Ca(2+) homeostasis contributes to the progression of a number of CNS disorders. Thus, regulation of Ca(2+) entry into microglial cells could be a pharmacological target for several CNS-related pathological conditions. This Review addresses the recent insights into microglial cell Ca(2+) influx mechanisms, their roles in the regulation of functions, and alterations of Ca(2+) entry in specific CNS disorders. © 2014 Wiley Periodicals, Inc.

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PMID: 24464907 [PubMed - in process]

73: Sharma S, Nag TC, Thakar A, Bhardwaj DN, Roy TS. The aging human cochlear nucleus: Changes in the glial fibrillary acidic protein, intracellular calcium regulatory proteins, GABA neurotransmitter and cholinergic receptor. *J Chem Neuroanat.* 2014 Jan 7;56C:1-12. doi: 10.1016/j.jchemneu.2013.12.001. [Epub ahead of print] PubMed PMID: 24412669.

The human auditory system is highly susceptible to environmental and metabolic insults which further affect the biochemical and physiological milieu of the cells that may contribute to progressive, hearing loss with aging. The cochlear nucleus (CN) is populated by morphologically diverse types of neurons with discrete physiological and neurochemical properties. Between the dorsal and the ventral cochlear nucleus (DCN and VCN), the VCN is further sub-divided into the rostral (rVCN) and caudal (cVCN) sub-divisions. Although, information is available on the age related neurochemical changes in the mammalian CN similar reports on human CN is still sparse. The morphometry and semiquantitative analysis of intensity of expression of glial fibrillary acidic protein (GFAP), calcium binding proteins (calbindin, calretinin and parvalbumin), gamma amino butyric acid (GABA) and nicotinic acetyl choline receptor (nAChR) beta 2 immunostaining were carried out in all three sub-divisions of the human CN from birth to 90 years. There was increased GFAP immunoreactivity in decades 2 and 3 in comparison to decade 1 in the CN. But no change was observed in rVCN from decade 4 onwards, whereas intense staining was also observed in decades 5 and 6 in cVCN and DCN. All three calcium binding proteins were highly expressed in early to middle ages, whereas a significant reduction was found in later decades in the VCN. GABA and nAChR beta 2 expressions were unchanged throughout in all the decades. The middle age may represent a critical period of onset and progression of aging changes in the CN and these alterations may add to the deterioration of hearing responses in the old age.

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PMID: 24412669 [PubMed - as supplied by publisher]

74: Singh D, Chandra A, Sihota R, Kumar S, Gupta V. Long-term success of mitomycin-augmented trabeculectomy for glaucoma after vitreoretinal surgery with silicone oil insertion: a prospective case series. *Retina.* 2014 Jan;34(1):123-8. doi: 10.1097/IAE.0b013e31828fcb2e. PubMed PMID: 23615348.

PURPOSE: To evaluate the long-term success of trabeculectomy with mitomycin C for glaucoma after vitreoretinal surgery with silicone oil insertion.

METHODS: Prospective evaluation of patients who underwent trabeculectomy with mitomycin C (superior or inferior site) for glaucoma after vitreoretinal surgery. Parameters examined included intraocular pressure (IOP), visual acuity, and glaucomatous neuropathy status, preoperatively and at multiple follow-up visits postoperatively till 12 months. Success, both absolute (IOP <21 mmHg) and qualified (IOP <21 mmHg with the use of medications and/or needling), was determined at each follow-up visit.

RESULTS: Nineteen patients with mean age of 29 ± 16 years had a mean untreated baseline IOP of 42.5 ± 10.66 mmHg, which reduced to 23.82 ± 7.58 at 1 year ($P = 0.008$). Preoperative decimal visual acuity was 0.12 ± 0.21 , which worsened to 0.07 ± 0.08 at the final follow-up ($P = 0.81$). Total success rate was 36.9% at the end of 1 year, whereas absolute success rate was only 15.8%. Duration between vitreoretinal surgery and silicone oil removal, preoperative IOP, or site of surgery did not determine success rate.

CONCLUSION: Twelve-month success rate for trabeculectomy with mitomycin C in glaucoma after vitreoretinal surgery with silicone oil insertion is lower than reported for most refractory glaucomas.

PMID: 23615348 [PubMed - in process]

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PMID: 23787905 [PubMed - in process]

76: Singh MK, Dwivedi S, Yadav SS, Sharma P, Khattri S. Arsenic-Induced Hepatic Toxicity and Its Attenuation by Fruit Extract of *Embllica officinalis* (Amla) in Mice. *Indian J Clin Biochem*. 2014 Jan;29(1):29-37. doi: 10.1007/s12291-013-0353-9. Epub 2013 Jun 15. PubMed PMID: 24478546; PubMed Central PMCID: PMC3903921.

Arsenic a metalloid and environmental contaminated has been found to be associated with public health problems in the affected areas. It is naturally occurred in groundwater and its accumulation in plant and animals leads to toxicity in several tissues most notably hepatic organ. Arsenic exposures (3 mg/kg body weight/day for 30 days) in mice exhibited increased arsenic and Zn levels in hepatocytes associated with enhanced oxidative stress in hepatocytes while there were no significantly changes were observed in Cu level. An increase in the lipid peroxidation and decrease in the levels of reduced glutathione and activity of superoxide dismutase, catalase, and glutathione peroxidase were observed in arsenic treated mice as compared to controls. Arsenic exposure in mice also caused a significant change in serum biomarkers in the SGOT, SGPT and creatinine as compared to the controls. There were no significant changes in the serum levels of total protein in these mice. Co-administration of arsenic and fruit extract of amla (500 mg/kg body weight/day for 30 days) caused a significant reduction of arsenic transference associated with significantly decreases hepatic arsenic levels and balanced the antioxidant enzyme and levels of serum hepatic enzymes like SGOT and SGPT. The results of the present study clearly demonstrate the antioxidant property of amla that could be responsible for its protective efficacy in arsenic induced hepatic toxicity.

PMCID: PMC3903921 [Available on 2015/1/1]

PMID: 24478546 [PubMed]

77: Singh N, Murali S, Zangmo R. Florid cystic endosalpingiosis, masquerading as

malignancy in a young patient: a brief review. *BMJ Case Rep.* 2014 Jan 30;2014. pii: bcr2013201645. doi: 10.1136/bcr-2013-201645. PubMed PMID: 24481015.

Endosalpingiosis is a rare condition characterised by the presence of tubal epithelium outside the fallopian tube. Most of the previous case reports have described this condition in women in their fifth decade or older. We report a case of a woman presenting at 31 years with a history of heavy bleeding during menses and pain in the lower abdomen for the past 2 years. An ultrasound examination showed a left ovarian cyst of 4.3×3.2 cm with multiple septations. CA 125 was within normal range. Laparoscopy was performed with the plan of ovarian cystectomy, peroperatively; there were papillary projections all over the uterus and the peritoneal surface. The left ovary was enlarged with papillary projections on the surface. Multiple biopsies were taken from the surface of the uterus, ovary and the peritoneum as the picture was quite suspicious of malignancy. Histopathological examination gave the picture of endosalpingiosis. The patient underwent laparoscopic ovariectomy with fulguration of lesions 4 months later, in view of persistent pain and discomfort, and increase in the size of the cyst on ultrasound monitoring. Presently, she is free of symptoms.

PMID: 24481015 [PubMed - in process]

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PMID: 24401310 [PubMed - in process]

80: Sinha A, Bagga A. Maintenance dialysis in developing countries. *Pediatr Nephrol.* 2014 Jan 28. [Epub ahead of print] PubMed PMID: 24469439.

Patients with end-stage renal disease require renal replacement therapy with maintenance hemodialysis or chronic peritoneal dialysis while awaiting transplantation. In addition to economic issues and limited state funding for advanced health care, the lack of trained medical personnel contributes to scarce dialysis facilities for children in developing countries. The establishment and operation of a hemodialysis unit with multidisciplinary facilities is both cost- and labor-intensive. Hemodialysis is usually carried out three times a week in a hospital setting and affects the curricular and extracurricular activities of the patient. Chronic ambulatory or cyclic peritoneal dialysis is technically simpler and allows better nutrition and growth, but is expensive for the majority of patients who must pay out of their own pocket. Multiple initiatives to enhance the training of pediatricians and nurses in skills related to initiating and managing patients on maintenance dialysis have resulted in the improved survival of children with end-stage renal disease. Support from state governments and philanthropic institutions have helped in establishing pediatric nephrology units that are equipped to provide renal replacement therapy for children.

PMID: 24469439 [PubMed - as supplied by publisher]

81: Sinha A, Bajpai J, Saini S, Bhatia D, Gupta A, Puraswani M, Dinda AK, Agarwal SK, Sopory S, Pandey RM, Hari P, Bagga A. Serum-soluble urokinase receptor levels do not distinguish focal segmental glomerulosclerosis from other causes of nephrotic syndrome in children. *Kidney Int.* 2014 Jan 15. doi: 10.1038/ki.2013.546. [Epub ahead of print] PubMed PMID: 24429405.

In this prospective study, we measured serum levels of the soluble urokinase receptor (suPAR) in pediatric patients with nephrotic syndrome of various etiologies. Mean levels of suPAR were 3316pg/ml in 99 patients with steroid-resistant focal segmental glomerulosclerosis and 3253pg/ml in 117 patients with biopsy-proven minimal change disease, which were similar to that of 138 patients with steroid-sensitive nephrotic syndrome (3150pg/ml) and 83 healthy controls (3021pg/ml). Similar proportions of patients in each group had suPAR over 3000pg/ml. Compared with controls, suPAR levels were significantly higher in patients with focal segmental glomerulosclerosis (FSGS) and estimated glomerular filtration rate (eGFR) under 30ml/min per 1.73m² (6365pg/ml), congenital nephrotic syndrome (4398pg/ml), and other proteinuric diseases with or without eGFR under 30ml/min per 1.73m² (5052 and 3875pg/ml, respectively; both significant). There were no changes following therapy and during remission. Levels of suPAR significantly correlated in an inverse manner with eGFR ($r=-0.36$) and directly with C-reactive protein ($r=0.20$). The urinary suPAR-to-creatinine ratio significantly correlated with proteinuria ($r=0.25$) in 151 patients and controls. Using generalized estimating equations approach, serum suPAR significantly correlated with eGFR (coefficient=-13.75), age at sampling (2.72), and C-reactive protein (39.85). Thus, serum suPAR levels in nephrotic syndrome are similar to controls, and do not discriminate between FSGS, minimal change disease, or steroid-responsive illness. *Kidney International* advance online publication, 15 January 2014; doi:10.1038/ki.2013.546.

PMID: 24429405 [PubMed - as supplied by publisher]

82: Sinha R, Rewari V, Varma P, Kumar A. Successful use of C-Mac video laryngoscope in a child with large parapharyngeal mass. *Paediatr Anaesth*. 2014 Jan 13. doi: 10.1111/pan.12346. [Epub ahead of print] PubMed PMID: 24417724.

An eleven-year-old child presented with a history of gradually increasing left side neck swelling and snoring for the last 6 years. He was initially scheduled for biopsy and on a second occasion for transcervical excision of left parapharyngeal mass under general anesthesia. Examination showed a left lateral pharyngeal and tonsillar mass compressing the oropharyngeal airway. CT neck showed a soft tissue mass (7 × 6 × 9 cm) in the left retropharyngeal space causing a bulge in the oropharynx with lateral deviation of carotid artery and internal jugular vein. During the first anesthesia for the biopsy, oral fiberoptic bronchoscopy (FOB), direct laryngoscopy, and Glidescope video laryngoscopy failed to visualize the glottis and epiglottis. After repeated attempts, intubation was possible with direct laryngoscopic-guided oral FOB. Fifteen days later, for the definitive surgery, the glottis was visualized at the first attempt using a C-Mac video laryngoscope and endotracheal intubation was successful at the first attempt after laryngeal manipulation. We discuss the potential causes of failure of intubation with the other airway devices in this child.

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PMID: 24417724 [PubMed - as supplied by publisher]

83: Sinha S, Ekka M, Sharma U, P R, Pandey RM, Jagannathan NR. Assessment of changes in brain metabolites in Indian patients with type-2 diabetes mellitus using proton magnetic resonance spectroscopy. *BMC Res Notes*. 2014 Jan 17;7(1):41. doi: 10.1186/1756-0500-7-41. PubMed PMID: 24433580; PubMed Central PMCID: PMC3897881.

BACKGROUND: The brain is a target for diabetic end-organ damage, though the pathophysiology of diabetic encephalopathy is still not well understood. The aim

of the present study was to investigate the effect of diabetes on the metabolic profile of brain of patients having diabetes in comparison to healthy controls, using in-vivo magnetic resonance spectroscopy to get an insight into the pathophysiology of cerebral damages caused due to diabetes.

METHODS: Single voxel proton magnetic resonance spectroscopy (1H-MRS) was performed at 1.5 T on right frontal, right parieto-temporal and right parieto-occipital white matter regions of the brain of 10 patients having type-2 diabetes along with 7 healthy controls. Absolute concentration of N-acetylaspartate (NAA), choline (cho), myo-inositol (mI), glutamate (Glu) and glutamine (Gln), creatine (Cr) and glucose were determined using the LC-Model and compared between the two groups.

RESULTS: The concentration of N-acetylaspartate was significantly lower in the right frontal [4.35 ± 0.69 vs. 5.23 ± 0.74 ; $p=0.03$] and right parieto-occipital region [5.44 ± 0.52 vs. 6.08 ± 0.25 ; $p=0.02$] of the brain of diabetics as compared to the control group. The concentrations of glutamate and glutamine were found to be significantly higher in the right frontal region of the brain [7.98 ± 2.57 vs. 5.32 ± 1.43 ; $P=0.01$] in diabetics. Glucose levels were found significantly elevated in all the three regions of the brain in diabetics as compared to the control group. However, no significant changes in levels of choline, myo-inositol and creatine were observed in the three regions of the brain examined among the two groups.

CONCLUSIONS: 1H-MRS analysis indicates that type-2 diabetes mellitus may cause subtle changes in the metabolic profile of the brain. Decreased concentrations of NAA might be indicative of decreased neuronal viability in diabetics while elevated concentrations of Gln and Glu might be related to the fluid imbalance resulting from disruption of glucose homeostasis.

PMCID: PMC3897881

PMID: 24433580 [PubMed - in process]

84: Sonali N, Tripathi M, Sagar R, Velpandian T, Subbiah V. Impact of CYP2D6 and CYP3A4 Genetic Polymorphism on Combined Cholinesterase Inhibitors and Memantine Treatment in Mild to Moderate Alzheimer's Disease. *Dement Geriatr Cogn Disord*. 2014;37(1-2):58-70. doi: 10.1159/000350050. Epub 2013 Oct 3. PubMed PMID: 24107805.

Aim: The impact of CYP2D6 and CYP3A4 polymorphism on the steady-state plasma concentrations and therapeutic outcome of donepezil monotherapy and combination therapy in Alzheimer's disease (AD) patients. **Methods:** A total of 38 patients for donepezil and 17 patients for donepezil and memantine therapy, aged ≥ 55 years, were recruited meeting inclusion and exclusion criteria. Polymerase chain reaction-restriction fragment length polymorphism was performed. The liquid chromatography-tandem mass spectrometry method was used for estimation of drug levels of donepezil and memantine. **Results:** Significant allele frequency was observed for CYP2D6*3 polymorphism in patients on donepezil monotherapy and combination therapy. Significant allele frequency for CYP2D6*4 was observed in the patients on donepezil monotherapy. **Conclusion:** CYP2D6 polymorphism, though not significant, might partially be involved in the plasma concentration of AD drug. © 2013 S. Karger AG, Basel.

PMID: 24107805 [PubMed - in process]

85: Suman S, Sharma P, Jain TK, Sahoo MK, Bal C, Kumar R. Recurrent dermatofibrosarcoma protuberans with pulmonary metastases presenting twelve years after initial diagnosis: 18F-FDG PET/CT imaging findings. *Clin Nucl Med*. 2014

Jan;39(1):77-8. doi: 10.1097/RLU.0b013e318279f28e. PubMed PMID: 23531730.

Jugular foramen schwannomas are rare. To our knowledge only a small number of series including a large number of patients have been reported. We aimed to analyse the clinical characteristics, surgical approaches, and outcome of patients undergoing treatment for jugular foramen schwannomas via a retrospective analysis of departmental records. Data for 28 patients treated for jugular foramen schwannomas in the Department of Neurosurgery at our tertiary level referral institution between January 2001 and December 2010 were analysed. Most patients were in the fourth decade of life, with the duration of symptoms ranging from 1 month to 13 years. A skull base approach was used in every surgically treated patient. Of the 19 patients for whom radiological follow-up were available, complete tumor excision was achieved in 17 patients. Follow-up ranged from 3 months to 59 months (mean, 32 months). One patient died and three had permanent morbidity in the form of facial nerve palsy. Jugular foramen schwannomas are best treated by total surgical resection. Partial resection is appropriate for tumors with adhesions to the brainstem and in medically unfit patients. Subsequent radiosurgery can be used for small residual tumors.

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PMID: 24041494 [PubMed - in process]

86: Suri A, Bansal S, Singh M, Mahapatra AK, Sharma BS. Jugular foramen schwannomas: a single institution patient series. J Clin Neurosci. 2014 Jan;21(1):73-7. doi: 10.1016/j.jocn.2013.02.029. Epub 2013 Sep 14. PubMed PMID: 24041494.

Jugular foramen schwannomas are rare. To our knowledge only a small number of series including a large number of patients have been reported. We aimed to analyse the clinical characteristics, surgical approaches, and outcome of patients undergoing treatment for jugular foramen schwannomas via a retrospective analysis of departmental records. Data for 28 patients treated for jugular foramen schwannomas in the Department of Neurosurgery at our tertiary level referral institution between January 2001 and December 2010 were analysed. Most patients were in the fourth decade of life, with the duration of symptoms ranging from 1 month to 13 years. A skull base approach was used in every surgically treated patient. Of the 19 patients for whom radiological follow-up were available, complete tumor excision was achieved in 17 patients. Follow-up ranged from 3 months to 59 months (mean, 32 months). One patient died and three had permanent morbidity in the form of facial nerve palsy. Jugular foramen schwannomas are best treated by total surgical resection. Partial resection is appropriate for tumors with adhesions to the brainstem and in medically unfit patients. Subsequent radiosurgery can be used for small residual tumors.

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PMID: 24041494 [PubMed - in process]

87: Talukdar S, Kumar S, Bhatla N, Mathur S, Thulkar S, Kumar L. Neo-adjuvant chemotherapy in the treatment of advanced malignant germ cell tumors of ovary. Gynecol Oncol. 2014 Jan;132(1):28-32. doi: 10.1016/j.ygyno.2013.10.009. Epub 2013 Oct 19. PubMed PMID: 24145115.

OBJECTIVE: In order to preserve fertility, we attempted neo-adjuvant chemotherapy (NACT) in patients of malignant ovarian germ cell tumor (MOGCT) with advance and bulky disease.

PATIENTS AND METHODS: Between January 1988 and December 2009, 23 patients

received NACT. Patient's median age was 19years, ranging from 14 to 28years. FIGO stages III - 20 and IV - 3. Histology subtypes were: dysgerminoma, n=14, mixed GCT, n=6 and 3 had endodermal sinus tumor. Patients were planned for four cycles of BEP (bleomycin, etoposide and cisplatin) chemotherapy followed by fertility sparing surgery (unilateral salpingo-oophorectomy+omentectomy+lymphadenectomy).

RESULTS: Following NACT - 21 patients responded; complete (CR) - 16 and partial response (PR) - 5. One patient progressed and another was lost to follow-up after 2cycles. 18 of 21 responders underwent surgery; 13/18 had pathological CR, 5/18 had residual disease and achieved CR following 2 more cycles of BEP. 3 patients refused for surgery; 2 relapsed at 9 and 12months, and achieved second CR following salvage chemotherapy and surgery, third patient continues to be disease-free. Currently, 21 of 23 patients are alive and disease-free at a median follow-up of 74months. 18/21 patients have resumed menstruation and 10 eligible patients have delivered 13 full term healthy babies. These results are comparable to patients with advanced disease (n=43) treated with standard approach (initial surgery and adjuvant chemotherapy) during the same period.

CONCLUSION: NACT followed by fertility sparing surgery could be a reasonable option for patients of advanced MOGCT, not suitable for optimal cyto-reduction.

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PMID: 24145115 [PubMed - in process]

88: Talwar S, Meena A, Choudhary SK, Kothari SS, Gupta SK, Saxena A, Juneja R, Airan B. Anomalous branch of pulmonary artery from the aorta and tetralogy of Fallot: morphology, surgical techniques and results. Eur J Cardiothorac Surg. 2014 Jan 23. [Epub ahead of print] PubMed PMID: 24459212.

OBJECTIVES: Tetralogy of Fallot (TOF) with hemitruncus (HT) is a rare entity. In this report, we present our experience with this condition over the last 20 years.

METHODS: Between January 1994 and June 2013, 11 patients with HT and TOF underwent surgery at the All India Institute of Medical Sciences, New Delhi, India. All available clinical, radiographic, echocardiographic, cardiac catheterization, operative and follow-up data were reviewed.

RESULTS: The mean age was 73 ± 7.1 months (range 7 months to 18 years) and the mean weight was 15.7 ± 1.2 kg. The mean preoperative saturation was $79.3 \pm 11.7\%$ (range 62-92%). Six patients had anomalous left pulmonary artery (PA), whereas 5 had an anomalous right PA arising from the aorta. Surgical procedures consisted of complete intracardiac repair of TOF with direct implantation of the anomalous PA into the main PA (n = 7), intracardiac repair of TOF with an interposition saphenous vein graft between the right PA and main PA (n = 1), and reconstruction of the left PA with autologous pericardium with intracardiac repair of TOF (n = 1), direct implantation of the anomalous PA into the main PA with an innominate to right pulmonary artery shunt (n = 1) and a right PA banding with innominate to left PA shunt (n = 1). There were two early deaths. Follow-up ranged from 3 to 73 months. All survivors are in NYHA Class I and follow-up echocardiograms did not show any residual lesions.

CONCLUSION: Surgical repair of HT with TOF results in acceptable early outcomes. The surgical strategy needs to be individualized to the anatomy of the patient.

PMID: 24459212 [PubMed - as supplied by publisher]

89: Talwar S, Meena A, Choudhary SK, Saxena A, Kothari SS, Juneja R, Airan B. Repair of Tetralogy of Fallot in or beyond the Fourth Decade of Life. *Congenit Heart Dis.* 2014 Jan 22. doi: 10.1111/chd.12162. [Epub ahead of print] PubMed PMID: 24447400.

OBJECTIVE: Patients with tetralogy of Fallot (TOF) undergoing surgery in adulthood represent a challenge. We report our experience with such patients in or beyond the fourth decade of life.

DESIGN: Retrospective cohort.

SETTING: Multispeciality tertiary level referral center **PATIENTS:** Forty-one (age 30-52 years) with TOF undergoing surgery between January 2002 and March 2013. The hospital records of these patients were analyzed.

INTERVENTIONS: None.

OUTCOME MEASURES: Early and late morbidity and mortality, duration of mechanical ventilatory support, inotropic score, intensive care unit and hospital stay, and correlation with various parameters.

RESULTS: Significant aortopulmonary collaterals were present in 28 patients; these were occluded in cardiac catheterization laboratory prior to repair. Median intraoperative right:left ventricular pressure ratio was 0.40 (range 0.2-0.8). Median inotropic score was 10 (range 5-30). Median duration of mechanical ventilation was 12 hours (range 6-48 hours). Preoperative oxygen saturation was negatively correlated with inotropic score ($P = .001$, $r = -0.485$), mechanical ventilatory support ($P = .003$, $r = -0.460$), intensive care unit stay ($P = .004$, $r = -0.442$), and hospital stay ($P = .028$, $r = -0.353$). Inotropic score was higher in patients with aortopulmonary collaterals ($n = 28$, $P = .03$), high preoperative hematocrit ($n = 29$, $P = .029$), and with right ventricular dysfunction ($n = 6$, $P = .05$). Patients with right ventricular outflow tract gradient >80 mmHg ($n = 19$) had prolonged hospital stay ($P = .002$). Patients undergoing pure transatrial repair ($n = 24$) showed lower inotropic score ($P = .045$), less intensive care unit ($P = .04$), and hospital stay ($P = .031$). There were two early and two late deaths (one from trauma and one from unknown etiology). Median follow-up was 42 months. Thirty-one patients were in New York Heart Association class II and six were in class III.

CONCLUSION: Repair of TOF in and beyond the fourth decade of life is feasible with acceptable results. Patients with high hematocrit, lower oxygen saturation, right ventricular dysfunction, aortopulmonary collaterals, and high preoperative right ventricular outflow tract gradients have a prolonged postoperative course.

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PMID: 24447400 [PubMed - as supplied by publisher]

90: Talwar S, Rajashekhar P, Jha AJ, Airan B. Misplacement of left ventricular vent as a cause of cardioplegia failure during routine open-heart surgery. *World J Pediatr Congenit Heart Surg.* 2014 Jan 1;5(1):133-4. doi: 10.1177/2150135113499380. PubMed PMID: 24403374.

We report an unusual cause of failure of successful delivery of antegrade cardioplegia through the aortic root that was caused by the accidental passage of the left ventricular vent catheter across the aortic valve producing acute aortic regurgitation. This problem is best prevented.

PMID: 24403374 [PubMed - in process]

91: Talwar S, Muthukkumaran S, Choudhary SK, Makhija N, Sreenivas V, Saxena A, Juneja R, Kothari SS, Airan B. A complete extracorporeal circulation-free approach to patients with functionally univentricular hearts provides superior early outcomes. *World J Pediatr Congenit Heart Surg.* 2014 Jan 1;5(1):54-9. doi: 10.1177/2150135113507091. PubMed PMID: 24403355.

OBJECTIVE: We compared the early outcomes of patients undergoing extracardiac total cavopulmonary connection (TCPC) with or without cardiopulmonary bypass (CPB).

METHODS: Between February 2012 and February 2013, 27 patients undergoing TCPC without CPB (off-pump group) were compared with matched 27 patients undergoing TCPC on CPB (on-pump group). Outcome parameters studied were inotropic score, time to extubation, intensive care unit (ICU) stay, first 12 hours mediastinal drainage in ICU, average pleural drainage, time to removal of chest tubes, total hospital stay, and saturation at discharge.

RESULTS: There was one early death in each group. No patient required conversion from off CPB to CPB. The inotropic score (6.1 ± 5.91 vs 10.1 ± 6.80 , $P = .03$), time to extubation (8.7 ± 6.95 vs 10.31 ± 8.69 hours, $P = .03$), first 12 hours mediastinal drainage in ICU (611.9 ± 341.4 vs 922.2 ± 145.6 mL, $P = .03$), and ICU stay (1.6 ± 0.58 vs 2.9 ± 1.37 days, $P = .001$) were significantly less in the off-pump group when compared to the on-pump group, and saturation at discharge (99.7 ± 0.60 vs 98.6 ± 2.13 , $P = .026$) was higher in the off-pump group. However, the average daily pleural drainage (125 ± 61.72 vs 150 ± 103.4 mL, $P = .7$), time to removal of chest tubes (12.69 ± 7.1 vs 15.44 ± 19.26 days, $P = .45$), and the total hospital stay (14.23 ± 7.4 vs 18.89 ± 19.9 days, $P = .22$) were no different. There were substantial savings in costs in patients undergoing off-pump TCPC ($P = .016$).

CONCLUSIONS: The TCPC without CPB is easy to perform, is cost-effective, and is associated with superior early postoperative outcomes as compared to TCPC on CPB. With appropriate modifications, this operation can be performed in almost all morphological subsets of patients who do not need an associated intracardiac procedure.

PMID: 24403355 [PubMed - in process]

92: Tripathi V, Kumar R, Dinda AK, Kaur J, Luthra K. CXCL12-CXCR7 Signaling Activates ERK and Akt Pathways in Human Choriocarcinoma Cells. *Cell Commun Adhes.* 2014 Jan 23. [Epub ahead of print] PubMed PMID: 24450273.

CXCL12 acts as a physiological ligand for the chemokine receptor CXCR7. Chemokine receptor expression by human trophoblast and other placental cells have important implications for understanding the regulation of placental growth and development. We had previously reported the differential expression of CXCR7 in different stages of the human placenta suggesting its possible role in regulation of placental growth and development. In this study, we determined the expression of CXCR7 in human choriocarcinoma JAR cells at the mRNA level and protein level and the downstream signaling pathway mediated by CXCL12-CXCR7 interaction. We observed that binding of CXCL12 to CXCR7 activates the ERK and Akt cell-survival pathways in JAR cells. Inhibition of the ERK and Akt pathways using specific inhibitors (Wortmanin & PD98509) led to the activation of the p38 pathway. Our findings suggest a possible role of CXCR7 in activating the cell survival pathways ERK and Akt in human choriocarcinoma JAR cells.

PMID: 24450273 [PubMed - as supplied by publisher]

93: Vajpayee RB, Shekhar H, Sharma N, Jhanji V. Demographic and clinical profile of ocular chemical injuries in the pediatric age group. *Ophthalmology*. 2014 Jan;121(1):377-80. doi: 10.1016/j.ophtha.2013.06.044. Epub 2013 Aug 12. PubMed PMID: 23948464.

OBJECTIVE: To review the risk factors, management, and visual outcomes of pediatric chemical eye injuries in a tertiary care hospital in North India.
DESIGN: Retrospective hospital-based study.

PARTICIPANTS: Patients aged <16 years with ocular chemical burns.

METHODS: Case records of patients with ocular chemical injury who presented to the Dr. Rajendra Prasad Centre for Ophthalmic Sciences were reviewed over a 5-year period.

MAIN OUTCOME MEASURES: Demographic profile, nature of chemical injury, complications, and visual outcomes after chemical injury.

RESULTS: A total of 134 pediatric patients with a history of ocular chemical burns were seen between March 2006 and March 2011. The mean age of patients at the time of injury was 8.95 ± 4.89 years (range, 1.2-15.5 years); 63.4% were male. Sixty-nine patients (51.4%) belonged to the preschool (0-5 years) age group. Bilateral chemical injuries were seen in 24 patients (17.9%). Lime ("chuna") was the most commonly involved chemical (88, 65.6%) followed by toilet cleaner (20, 14.9%). The mean time between injury and presentation was 68.3 days (range, 1-365 days). Severe (grade 3 and 4) ocular chemical injury was seen in 94 patients (70.1%). Surgical intervention was performed in 114 eyes (85%) in the form of amniotic membrane grafting (n = 78), symblepharon release (n = 56), limbal stem cell transplantation (n = 26), and lamellar keratoplasty (n = 14). The average number of surgeries conducted per patient was 2.3 (range, 1-4). Median visual acuity at final follow-up (mean, 537 ± 354 days) was 3/60.

CONCLUSIONS: Chemical injuries in pediatric patients are more commonly encountered in the preschool age group and are associated with severe visual loss. Alkali injury from bursting of chuna packets was the most common mode of injury in pediatric patients in our study.

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94: Venkitaraman B, Karunanithi S, Kumar A, Khilnani GC, Kumar R. Role of (68)Ga-DOTATOC PET/CT in initial evaluation of patients with suspected bronchopulmonary carcinoid. *Eur J Nucl Med Mol Imaging*. 2014 Jan 17. [Epub ahead of print] PubMed PMID: 24435773.

PURPOSE: The objective of this study was to evaluate the role of (68)Ga-DOTATOC positron emission tomography (PET)/CT scan in patients with suspected pulmonary carcinoid tumour and to compare its results with (18)F-fluorodeoxyglucose (FDG) PET/CT scan.

METHODS: In this prospective study, 32 patients (age 34.22 ± 12.03 years; 53.1 % female) with clinical suspicion of bronchopulmonary carcinoid were evaluated with (68)Ga-DOTATOC PET/CT and (18)F-FDG PET/CT. The two imaging modalities were compared, considering the tissue diagnosis as the reference standard.

RESULTS: Based on the reference standard 26 cases were carcinoid tumours [21 typical carcinoids (TC) and 5 atypical carcinoids (AC)] and 6 cases were

non-carcinoid tumours. The sensitivity, specificity and accuracy of (68)Ga-DOTATOC PET/CT in the diagnosis of pulmonary carcinoid tumour were 96.15, 100 and 96.87 % respectively, whereas those of (18)F-FDG PET/CT were 78.26, 11.1 and 59.37 % respectively. The maximum standardised uptake value (SUVmax) of TC on (68)Ga-DOTATOC PET/CT scan ranged from 3.58 to 55, while that of AC ranged from 1.1 to 32.5. (18)F-FDG PET/CT was true-positive in all cases of AC and false-negative in eight cases of TC (sensitivity for TC 61.9 % and for AC 100 %).

CONCLUSION: (68)Ga-DOTATOC PET/CT is a useful imaging investigation for the evaluation of pulmonary carcinoids. (18)F-FDG PET/CT scan suffers from low sensitivity and specificity in differentiating the pulmonary carcinoids from other tumours.

PMID: 24435773 [PubMed - as supplied by publisher]

95: Verma R, Sood S, Singh R, Sumana G, Bala M, Sharma VK, Samantaray JC, Pandey RM, Malhotra BD. Coupling electrochemical response of a DNA biosensor with PCR for *Neisseria gonorrhoeae* detection. *Diagn Microbiol Infect Dis*. 2014 Jan;78(1):16-23. doi: 10.1016/j.diagmicrobio.2013.09.010. Epub 2013 Sep 28. PubMed PMID: 24207077.

Early diagnosis of gonococcal infections is important with regard to a patient's health and stage of infection. In this context, we report the development of an opa-gene-based electrochemical DNA biosensor for detection of *Neisseria gonorrhoeae* by monitoring redox peak of methylene blue indicator. The fabricated biosensor has been shown to be highly sensitive and specific when evaluated with complementary, non-complementary, and 1-base mismatch DNA sequences and polymerase chain reaction (PCR) amplified products (amplicons) of standard strain of *N. gonorrhoeae* (ATCC49226). The biosensor has been further evaluated using amplicons of known positive and negative clinical samples, and cut-off for positives has been determined using receiver operating characteristic curve. The sensitivity (SN), specificity (SP), positive predictive value, and negative predictive value of the biosensor have been found to be 96.2%, 88.2%, 92.6%, and 93.8%, respectively. We conclude that the combination of PCR amplification with electrochemical detection shows distinct advantage of high SN and increased SP for gonococcal detection.

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96: Yashwant R, Guleria S, Khattar N, Kumar R, Kumar S. Leak from the surface of a decapsulated renal allograft: urine or lymph? Excellent response to povidone iodine instillation. *Saudi J Kidney Dis Transpl*. 2014 Jan;25(1):105-8. PubMed PMID: 24434391.

PMID: 24434391 [PubMed - in process]