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List of publications of AIIMS, New Delhi  
for the month of February, 2014  
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1: Ahmed A, Bhatnagar S, Rana SP, Ahmad SM, Joshi S, Mishra S. Prevalence of phantom breast pain and sensation among postmastectomy patients suffering from breast cancer: a prospective study. *Pain Pract.* 2014 Feb;14(2):E17-28. doi: 10.1111/papr.12089. Epub 2013 Jun 24. PubMed PMID: 23789788.

**BACKGROUND:** With the advent of newer treatment modalities, survival rate among breast cancer patients has improved substantially over the last few years. Hence, the concern has also shifted to the impact of treatment, side effects, and the morbidities arising from disease management. Among them is the development of phantom breast pain (PBP) and sensation (PBS) after mastectomy.

**METHODS:** After obtaining ethical committee approval, 80 patients suffering from carcinoma breast undergoing modified radical mastectomy were enrolled into the study. They were assessed preoperatively for presence of breast pain, disease, and surgical concerns and followed up postoperatively at 6 weeks, 6 and 12 months, respectively, for development of PBP and PBS, and other associated effects.

**RESULTS:** The prevalence of PBP and PBS was 5.4%, 9.5% at 6 weeks, 8.2%, 6.8% at 6 months, and 13.6% and 17% at 12 months, respectively. There was high prevalence of depression, sleep disturbance, and anxiolytic intake among the patients with PBP and PBS (P value < 0.05).

**CONCLUSION:** The prevalence of PBP and PBS was very low and of minor clinical significance. There was higher prevalence of depression, sleep disturbances, and anxiolytic intake among the patients with PBP and PBS, but it did not result in any significant impact on the patients daily activities.

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PMID: 23789788 [PubMed - in process]

2: Arya A, Jindal A. Acute Renal Failure in Tetanus: Correspondence. *Indian J Pediatr.* 2014 Feb 23. [Epub ahead of print] PubMed PMID: 24562673.

PMID: 24562673 [PubMed - as supplied by publisher]

3: Azad RV, Chandra P, Chandra A, Gupta A, Gupta V, Sihota R. Comparative evaluation of RetCam vs. gonioscopy images in congenital glaucoma. *Indian J Ophthalmol.* 2014 Feb;62(2):163-6. doi: 10.4103/0301-4738.116487. PubMed PMID: 24008788.

**Purpose:** To compare clarity, exposure and quality of anterior chamber angle visualization in congenital glaucoma patients, using RetCam and indirect gonioscopy images. **Design:** Cross-sectional study **Participants:** Congenital glaucoma patients over age of 5 years. **Materials and Methods:** A prospective consecutive pilot study was done in congenital glaucoma patients who were older than 5 years. Methods used are indirect gonioscopy and RetCam imaging. Clarity of the image, extent of angle visible and details of angle structures seen were graded for both methods, on digitally recorded images, in each eye, by two masked observers. **Outcome Measures:** Image clarity, interobserver agreement. **Results:** 40 eyes of 25 congenital glaucoma patients were studied. RetCam image had excellent clarity in 77.5% of patients versus 47.5% by gonioscopy. The extent of angle seen was similar by both methods. Agreement between RetCam and gonioscopy images regarding details of angle structures was 72.50% by observer 1 and 65.00% by observer 2. **Conclusions:** There was good agreement between RetCam and indirect gonioscopy images in detecting angle structures of congenital glaucoma patients. However, RetCam provided greater clarity, with better quality, and higher

magnification images. RetCam can be a useful alternative to gonioscopy in infants and small children without the need for general anesthesia.

PMID: 24008788 [PubMed - in process]

4: Baliyan V, Das CJ, Sharma S, Gupta AK. Diffusion-weighted imaging in urinary tract lesions. *Clin Radiol*. 2014 Feb 26. pii: S0009-9260(14)00037-3. doi: 10.1016/j.crad.2014.01.011. [Epub ahead of print] Review. PubMed PMID: 24581968.

Diffusion-weighted imaging (DWI) utilizes the signal contrast provided by the regional differences in the Brownian motion of water molecules, which is a direct reflection of the cellular micro-environment. DWI emerged as a revolutionary magnetic resonance imaging (MRI) technique in the field of stroke imaging. As far as body imaging is concerned, DWI has come a long way from being an experimental technique to an essential element of almost all abdominal MRI examinations. This progress has been made possible by technical advancements in MRI systems, as well as a better understanding of MRI physics. DWI is quick to perform and has the potential to provide crucial information about the disease process without adding much to the total imaging time. This article provides a brief review of the basic principles of DWI with insights to the information that DWI provides in the evaluation of various diseases of the urinary tract at both 1.5 and 3 T. DWI is helpful for differentiation of various histopathological subtypes of renal cell carcinoma (RCC). Prediction of histopathological grade of RCC is also becoming possible solely based on DWI. Assessment of response to chemotherapeutic agents is possible based on the change in the ADC (apparent diffusion coefficient) value. DWI performed with high b-values increases the confidence in diagnosing prostatic carcinoma. This article highlights the emerging role of DWI in the evaluation of urinary tract lesions.

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PMID: 24581968 [PubMed - as supplied by publisher]

5: Behera C, Naagar S, Krishna K, Taraporewalla DR, Garudadhri GV, Prasad K. Sudden death due to ruptured pseudoaneurysm of femoral artery in injected drug abusers - report of four cases at autopsy and review of literature. *J Forensic Leg Med*. 2014 Feb;22:107-11. doi: 10.1016/j.jflm.2013.12.010. Epub 2013 Dec 18. PubMed PMID: 24485433.

Pseudoaneurysm in injected drug abusers occurs due to traumatic damage by the repeated injections and infections. It most commonly involves the femoral artery that requires intensive management. When medical attention is delayed, the victim is prone to have massive bleeding from the ruptured artery, resulting in death. Although pseudoaneurysms in injected drug abusers are known, there is paucity of autopsy study on sudden deaths due to its rupture. We report four such cases with different presentations of the pseudoaneurysm that had ruptured spontaneously. The paper highlights the case history and autopsy findings of these cases with review of literature of this catastrophic event in injected drug abusers.

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PMID: 24485433 [PubMed - in process]

6: Bhatnagar M, Kapil U, Gujral H. Human Milk Banks and their Relevance in India. *Indian J Pediatr.* 2014 Feb;81(2):220-1. doi: 10.1007/s12098-013-1061-4. Epub 2013 May 9. PubMed PMID: 23658064.

PMID: 23658064 [PubMed - in process]

7: Bhatt SP, Misra A, Sharma M, Guleria R, Pandey RM, Luthra K, Vikram NK. Vitamin D Insufficiency Is Associated with Abdominal Obesity in Urban Asian Indians Without Diabetes in North India. *Diabetes Technol Ther.* 2014 Feb 14. [Epub ahead of print] PubMed PMID: 24528222.

**Abstract Objective:** We evaluated the associations of serum 25-hydroxyvitamin D [25(OH) D] levels with clinical, biochemical, and anthropometric profiles and total abdominal adipose tissue (TAAT), subcutaneous abdominal adipose tissue (SCAT), and intraabdominal adipose tissue (IAAT) depots in Asian Indians without diabetes residing in north India. **Subjects and Methods:** In this cross-sectional study (n=137; 74 males and 63 females; 18-60 years of age), anthropometric (body mass index, waist and hip circumferences, and skinfold thickness at four sites) and biochemical (fasting plasma glucose, lipid profile, and fasting insulin levels) assessments were done. Measurement of percentage body fat was done by dual energy x-ray absorptiometry, and areas of TAAT, SCAT and IAAT were measured at the L2-L3 intervertebral level by single-slice magnetic resonance imaging. Levels of 25(OH) D were measured by radioimmunoassay. Correlation analysis was used to assess relationships among clinical, biochemical, and anthropometric profiles, areas of TAAT, SCAT, and IAAT, and 25(OH) D levels. **Results:** The mean concentration of 25(OH) D was 40.5±8.6ng/mL. Overall, 6.6% had vitamin D deficiency (<10ng/mL), 87.6% had insufficiency (<30ng/mL), and 5.8% had a sufficient level (>30ng/mL). Levels of 25(OH) D did not correlate with demographic, biochemical, and anthropometric profiles or with abdominal fat depots (TAAT, SCAT, and IAAT). In the correlation regression model, 25(OH) D was associated with TAAT in obese subjects. **Conclusions:** In obese urban Asian Indians without diabetes, higher values of total abdominal fat at the L2-L3 intervertebral level were associated with low 25(OH) D levels.

PMID: 24528222 [PubMed - as supplied by publisher]

8: Binita K, Kumar S, Sharma VK, Sharma V, Yadav S. Proteomic Identification of *Syzygium cumini* Seed Extracts by MALDI-TOF/MS. *Appl Biochem Biotechnol.* 2014 Feb;172(4):2091-105. doi: 10.1007/s12010-013-0660-x. Epub 2013 Dec 12. PubMed PMID: 24338207.

*Syzygium cumini* is traditionally used medicinal plant. The different part of the plant such as bark, leaves, seed and fruits are widely used as an alternative medicine in various diseases. Although the scientific community has a strong interest on *S. cumini* seed biochemistry focusing on metabolite composition, proteins have not yet been investigated. In the present study, we have applied a proteomic approach to study the proteome of the *S. cumini* seed using phenol extraction method for protein isolation, which were never analysed before. Fifteen brightly silver stained protein spots were identified by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry after resolving on two-dimensional gel electrophoresis. These proteins have been found to involve in various functions such as antifungal, sulphur metabolism, carbohydrate metabolism, fruit ripening and softening, dormancy breaking and seed germination, hormone signalling, secondary metabolite transport, defence and stress response, nitrogen metabolism, synthesis and stabilization. Amongst the identified protein, lactoferrin was a mammalian origin protein with high nutritious and

pharmaceutical value, which was purified by different types of chromatographic techniques and confirmed by western blotting. The antibacterial activity of lactoferrin was assessed by disc diffusion assay. We suggest that the protein constituents of *S. cumini* may have role in various functions required for plant physiology and its dietary values.

PMID: 24338207 [PubMed - in process]

9: Borkar SA, Garg K, Garg M, Sharma BS. Transorbital penetrating cerebral injury caused by a wooden stick: surgical nuances for removal of a foreign body lodged in cavernous sinus. *Childs Nerv Syst.* 2014 Feb 4. [Epub ahead of print] PubMed PMID: 24493367.

PURPOSE: Penetrating head injury (PHI) is rare in civilian population and is mostly caused by low-velocity modes. A transorbital penetrating intracranial injury is very rare and more severe than traumatic brain injury.

METHODS: We report a rare case of transorbital penetrating cranial injury caused by a wooden stick. The surgical strategy was planned as the wooden stick was lodged in the right cavernous sinus.

RESULTS: The wooden stick was successfully removed. Patient made an uneventful recovery.

CONCLUSIONS: Transorbital penetrating injuries are uncommon form of injury and require a multidisciplinary approach. No attempt should be made to remove the foreign body without the backup of an operating room because of the possibility that the object may be tamponading an injured vessel. A careful planning and a strict adherence to basic perioperative principles can lead to a satisfactory outcome.

PMID: 24493367 [PubMed - as supplied by publisher]

10: Chappity P, Kumar R, Deka RC, Chokkalingam V, Saraya A, Sikka K. Proton Pump Inhibitors Versus Solitary Lifestyle Modification in Management of Laryngopharyngeal Reflux and Evaluating Who is at Risk: Scenario in a Developing Country. *Clin Med Insights Ear Nose Throat.* 2014 Feb 25;7:1-5. doi: 10.4137/CMENT.S13799. eCollection 2014. PubMed PMID: 24653653; PubMed Central PMCID: PMC3948736.

BACKGROUND: Laryngopharyngeal reflux disease can present with a varied symptomatology because of the involvement of multiple sub-sites of the upper aero-digestive tract. It is a very common disease to be encountered in routine practice by both medical and ENT personnel. Its association with multiple pathologies including malignancy warrants an early diagnosis and management. The lack of cost effective and non-invasive tests constitutes a major hurdle in its early management.

OBJECTIVES: 1. To define the "at risk" population, prone to developing laryngopharyngeal reflux. 2. To formulate major and minor risk factors for the clinical diagnosis of patients with laryngopharyngeal reflux. 3. To evaluate the efficacy of lifestyle management alone as a treatment option. 4. To formulate a treatment protocol for the management of patients and to prevent recurrence.

STUDY DESIGN: We performed a prospective analysis of 234 patients diagnosed with laryngopharyngeal reflux. Patients were randomized into study and control groups based on the treatment protocol, using a computer generated randomization table and were single blinded to the type of therapy received. A complete analysis of the possible risk factors, symptoms, and signs was performed with statistical analysis.

RESULTS AND CONCLUSION: The data has helped us define the "at risk" population and formulate the criteria to diagnose cases of laryngopharyngeal reflux,

clinically. The results emphasize the non-requirement of invasive or costly investigations for all patients and indicate the probable protocol to be followed prior to considering further investigation. The role of long term proton pump inhibitor treatment along with lifestyle modification in the initial phase of treatment, as mentioned in the literature, was re-confirmed by our study. However, in addition to the initial treatment, the study establishes the need for continuing lifestyle modification further for at least six months after the cessation of proton pump inhibitor therapy to prevent early recurrence of symptoms.

PMCID: PMC3948736

PMID: 24653653 [PubMed]

11: Choudhary A, Gulati S, Sagar R, Kabra M, Sapra S. Behavioral comorbidity in children and adolescents with epilepsy. *J Clin Neurosci*. 2014 Feb 8. pii: S0967-5868(14)00050-2. doi: 10.1016/j.jocn.2013.11.023. [Epub ahead of print] PubMed PMID: 24629398.

This cross sectional study assessed the prevalence of behavioral comorbidity and its association with epilepsy-related factors in children and adolescents with epilepsy. One hundred consecutive patients with active epilepsy, aged 6-16years, were screened for behavioral comorbidity using the Child Behavior Checklist and those who qualified as having behavioral comorbidity were compared with those who did not have it. Behavioral comorbidity was found in 43 of 100 participants. Being treated with antiepileptic drug polytherapy (odds ratio 6.3, 95% confidence interval 1.4-17.3,  $p=0.01$ ) independently predicted behavioral comorbidity in the patients studied. The demonstrated high frequency of behavioral comorbidity in children with epilepsy suggests that pediatricians and pediatric neurologists should be sensitive to this fact in order to identify and manage behavioral comorbidity in children with epilepsy.

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PMID: 24629398 [PubMed - as supplied by publisher]

12: Das A. The context of formulation of India's Mental Health Program: implications for global mental health. *Asian J Psychiatr*. 2014 Feb;7(1):10-4. doi: 10.1016/j.ajp.2013.09.007. Epub 2013 Sep 21. PubMed PMID: 24524703.

India, among the low- and middle-income countries, in the 1980s, made an early attempt at formulating a mental health program. India's National Mental Health Program (NMHP) intended to attend to the mental health needs of all her citizens. Some aspects of this program bear significant resemblance to what recent experts in global mental health (GMH) have been proposing. The paper uses India as a country-level example to review and critically analyze the contextual background culminating in the formulation of the NMHP. Literature searches from two bibliographic databases (PubMed and Google Scholar) with supplementary searches and manual search from Indian Journal of Psychiatry were made relating to the context of formulation of India's NMHP. The search helped isolate 12 peer reviewed journal articles, three chapters from books, and one policy group approach paper. This literature has been synthesized to enumerate the various contextual factors. The present analysis identifies two vital factors relevant for international health, viz. the primary health care movement and the changing concepts of institutional care/de-institutionalization in mental health. This then puts in perspective the opportunities allowed and challenges produced, for

NMHP, by subsequent changes in public health services in India. The lessons for GMH movement are then pointed out.

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PMID: 24524703 [PubMed - in process]

13: Dhull VS, Karunanithi S, Arora S, Jain TK, Kumar R. Diuretic 68Ga DOTANOC PET/CT in Imaging of Bladder Paraganglioma. Clin Nucl Med. 2014 Feb 21. [Epub ahead of print] PubMed PMID: 24566403.

Urinary bladder paragangliomas are exceedingly rare tumors. A 22-year-old woman with bladder paraganglioma underwent Ga DOTANOC PET/CT for proper localization of the primary tumor and to rule out locoregional and distant metastases. Ga DOTANOC-avid bladder mass was detected with no other abnormal site of radiotracer uptake elsewhere. Although radioactive urine can mask urinary paragangliomas, diuretic method can aid tumor detection by Ga DOTANOC PET/CT.

PMID: 24566403 [PubMed - as supplied by publisher]

14: Dhull VS, Sharma P, Sharma DN, Maharjan S, Suman Kc S, Patel C, Bal C, Kumar R. Prospective evaluation of 18F-fluorodeoxyglucose positron emission tomography-computed tomography for response evaluation in recurrent carcinoma cervix: does metabolic response predicts survival? Int J Gynecol Cancer. 2014 Feb;24(2):312-20. doi: 10.1097/IGC.0000000000000038. PubMed PMID: 24407578.

**PURPOSE:** This study aimed to assess the role of (18)F-fluorodeoxyglucose positron emission tomography-computed tomography ((18)F-FDG PET-CT) in response assessment of patients with recurrent carcinoma cervix and in evaluating the predictive value of metabolic response for progression-free survival (PFS) and overall survival (OS).

**METHODS:** Thirty-six patients with histopathologically or clinically evident recurrent cervical carcinoma underwent a pretherapy and a posttherapy (18)F-FDG PET-CT for treatment response evaluation. Positron emission tomography-CT images were analyzed by 2 experienced nuclear medicine physicians. Response was categorized using European Organization for Research and Treatment of Cancer (EORTC) criteria into complete metabolic response (CMR), partial metabolic response (PMR), stable metabolic disease (SMD), and progressive metabolic disease (PMD). Clinical/imaging follow-up (minimum of 6 months) and/or histopathologic findings were taken as reference standard. Patients were categorized into 2 groups, those with PMD and those without PMD (ie, CMR, PMR, and SMD). Progression-free survival and OS based on PET-CT response were measured from the date of posttherapy PET-CT to the first documentation of progression of disease and death, respectively.

**RESULTS:** On the basis of metabolic response on posttherapy PET-CT, 6 patients had CMR, 12 patients had PMR, 7 patients had SMD, and 11 patients had PMD.

Progression-free survival for patients with cervical carcinoma ranged from 0.5 to 26.5 months (mean [SD], 6.7 [6.1] months). Median PFS for patients with PMD was 3.1 months, whereas median PFS for those without PMD was not reached. Patients who did not show PMD on posttherapy PET-CT had a significantly better PFS than those patients who showed PMD ( $P < 0.0001$ ; HR, 0.14). There was no statistically significant difference in OS between the 2 groups ( $P = 0.187$ ; HR, 0.39).

**CONCLUSIONS:** (18)F-fluorodeoxyglucose PET-CT is an effective tool for treatment response evaluation in recurrent carcinoma cervix. Patients with metabolically

progressive disease on posttherapy (18)F-FDG PET-CT have a significantly shorter PFS.

PMID: 24407578 [PubMed - in process]

15: Elhence A, Jalan D, Talreja H. To fix or not to fix? The role of fibular fixation in distal shaft fractures of the leg. *Injury*. 2014 Feb 17. pii: S0020-1383(14)00075-8. doi: 10.1016/j.injury.2014.02.004. [Epub ahead of print] PubMed PMID: 24671008.

PMID: 24671008 [PubMed - as supplied by publisher]

16: Faiq MA, Dada R, Saluja D, Dada T. Glaucoma - Diabetes of the brain: A radical hypothesis about its nature and pathogenesis. *Med Hypotheses*. 2014 Feb 13. pii: S0306-9877(14)00051-6. doi: 10.1016/j.mehy.2014.02.005. [Epub ahead of print] PubMed PMID: 24582331.

Glaucoma is the leading cause of irreversible blindness characterized by irremediable loss of retinal ganglion cells. Its risk increases with progressing age and elevated intraocular pressure. Studies have established that glaucoma is a neurodegenerative disorder in which the damage involves many brain tissues from retina to the lateral geniculate nucleus. Despite lot of research, complete pathomechanism of glaucoma is not known and there is no treatment available except modification of intraocular pressure pharmacologically and/or surgically. We here present a hypothesis inspired by studies across many areas of molecular and clinical sciences in an integrative manner that leads to a uniquely unconventional understanding of this disorder. Our hypothesis postulates that glaucoma may possibly be the diabetes of the brain. Based on the remarkable similarities between glaucoma and diabetes we propose glaucoma also to be a type of diabetes. Glaucoma and diabetes share many aspects from various molecular mechanisms to involvement of insulin and possible use of antidiabetics in glaucoma therapy. Additionally, Alzheimer's disease has already been proposed to be diabetes type-3. We show that Alzheimer's disease is cerebral glaucoma and diabetes at the same time which, by transitive property of similarities, again leads to our hypothesis that glaucoma is diabetes of the brain. Our proposition may lead to appreciation of certain important facets of glaucoma which have previously not been given due consideration. It also may lead to an alternative classification of diabetes as pancreatic and brain diabetes thereby widening the vision arena of the understanding of both these disorders.

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PMID: 24582331 [PubMed - as supplied by publisher]

17: Garg B, Jalan D, Kotwal PP. Ewing's Sarcoma of the Sacroiliac Joint Presenting as Tubercular Sacroiliitis: A Diagnostic Dilemma. *Asian Spine J*. 2014 Feb;8(1):79-83. doi: 10.4184/asj.2014.8.1.79. Epub 2014 Feb 6. PubMed PMID: 24596610; PubMed Central PMCID: PMC3939374.

We report a case of Ewing's sarcoma of the sacroiliac joint in a 21-year-old male mimicking tubercular sacroiliitis, a rare entity not reported in literature. He presented with pain in the lower back radiating to the right lower limb along with constitutional symptoms of 3 months duration. On examination, the right sacroiliac joint was tender. The laboratory investigations showed anaemia, leukocytosis and raised erythrocyte sedimentation rate. On X-ray, features of



right sacroiliitis were seen. This was further investigated with magnetic resonance imaging (MRI), which showed features consistent with tubercular sacroiliitis. Patient was then started on antitubercular treatment, but the improvement was not consistent. So, a contrast MRI was done, which indicated features of primary sarcoma. It was then further confirmed by a computed tomography-guided biopsy, which showed features consistent with Ewing's sarcoma of the sacroiliac joint.

PMCID: PMC3939374

PMID: 24596610 [PubMed]

18: Garg K, Kumar R. Complex spinal dysraphism with multiple anomalies. *Pediatr Neurosurg*. 2013;49(2):126-8. doi: 10.1159/000358095. Epub 2014 Feb 11. PubMed PMID: 24526014.

PMID: 24526014 [PubMed - in process]

19: Garg K, Chandra PS, Singh PK, Sharma BS. Giant craniopharyngioma: can it grow bigger than this? *Pediatr Neurosurg*. 2013;49(2):124-5. doi: 10.1159/000358094. Epub 2014 Feb 7. PubMed PMID: 24513597.

PMID: 24513597 [PubMed - in process]

20: Garg PK. Preoperative fluorodeoxyglucose positron emission tomography-computed tomography in papillary thyroid cancer: a futile exercise. *J Int Med Res*. 2014 Feb;42(1):243-4. doi: 10.1177/0300060513516945. Epub 2013 Dec 17. PubMed PMID: 24345825.

Comment on

*J Int Med Res*. 2013 Apr;41(2):445-56.

PMID: 24345825 [PubMed - in process]

21: Gautam US, Sikri K, Vashist A, Singh V, Tyagi JS. Essentiality of DevR/DosR interaction with SigA for the dormancy survival program in *Mycobacterium tuberculosis*. *J Bacteriol*. 2014 Feb;196(4):790-9. doi: 10.1128/JB.01270-13. Epub 2013 Dec 6. PubMed PMID: 24317401; PubMed Central PMCID: PMC3911168.

The DevR/DosR regulator is believed to play a key role in dormancy adaptation mechanisms of *Mycobacterium tuberculosis* in response to a multitude of gaseous stresses, including hypoxia, which prevails within granulomas. DevR activates transcription by binding to target promoters containing a minimum of two binding sites. The proximal site overlaps with the SigA -35 element, suggesting that DevR-SigA interaction is required for activating transcription. We evaluated the roles of 14 charged residues of DevR in transcriptional activation under hypoxic stress. Seven of the 14 alanine substitution mutants were defective in regulon activation, of which K191A, R197A, and K179A+K168A (designated K179A\*) mutants were significantly or completely compromised in DNA binding. Four mutants, namely, E154A, R155A, E178A, and K208A, were activation defective in spite of binding to DNA and were classified as positive-control (pc) mutants. The SigA interaction defect of the E154A and E178A proteins was established by in vitro and in vivo assays and implies that these substitutions lead to an activation defect because they disrupt an interaction(s) with SigA. The relevance of DevR interaction to the transcriptional machinery was further established by the hypoxia survival phenotype displayed by SigA interaction-defective mutants. Our

findings demonstrate the role of DevR-SigA interaction in the activation mechanism and in bacterial survival under hypoxia and establish the housekeeping sigma factor SigA as a molecular target of DevR. The interaction of DevR and RNA polymerase suggests a new and novel interceptable molecular interface for future antidormancy strategies for *Mycobacterium tuberculosis*.

PMCID: PMC3911168 [Available on 2014/8/1]  
PMID: 24317401 [PubMed - indexed for MEDLINE]

22: Gogia A, Raina V, Gupta R, Gajendra S, Kumar L, Sharma A, Kumar R, Vishnubhatla S. Prognostic and Predictive Significance of Smudge Cell Percentage on Routine Blood Smear in Chronic Lymphocytic Leukemia. *Clin Lymphoma Myeloma Leuk*. 2014 Feb 18. pii: S2152-2650(14)00049-4. doi: 10.1016/j.clml.2014.02.007. [Epub ahead of print] PubMed PMID: 24656596.

**INTRODUCTION/BACKGROUND:** Smudge cells are ruptured lymphocytes present on routine blood smears of chronic lymphocytic leukemia (CLL) patients. We evaluated prognostic and predictive significance of smudge cell percentage on a blood smear in CLL patients.

**MATERIALS AND METHODS:** We calculated smudge cell percentages (ratio of smudged to intact cells plus smudged lymphocytes) on archived blood smears of 222 untreated CLL patients registered at Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, New Delhi over the past 12 years.

**RESULTS:** The male:female ratio was 3:1, and median age 60 (range, 28-90) years. Median absolute lymphocyte count was  $42 \times 10^9/L$ . The median smudge cell percentage was 29.6% (range, 4%-79%). We found no correlation of proportion of smudge cells with age, sex, lymphocyte count, organomegaly, or response to therapy, although there was a significant correlation with the Rai stage at diagnosis. Median smudge cell percentage in stage 0 and I was 33% (range, 12%-79%), in stage II 31% (range, 12%-61%), and stage III and IV 21% (range, 4%-51%) ( $P < .001$ ). Patients with  $\leq 30\%$  smudge cells had a shorter median progression-free period (PFP) of 30 months compared with patients who had more than 30% smudge cells (PFP, 45 months;  $P = .01$ ). The 5-year survival rate was 51% for patients with 30% or fewer smudge cells, and it was 81% for patients with more than 30% smudge cells ( $P < .001$ ) at a median follow-up of 3.5 years.

**CONCLUSION:** Simple and inexpensive detection of smudge cells on routine blood smears seems useful in predicting progression-free and overall survival in CLL patients and might be beneficial in countries with limited resources.

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PMID: 24656596 [PubMed - as supplied by publisher]

23: Gogia V, Sharma S, Deka D, Dadhwal V, Venkatesh P. Bilateral retinal detachment: a clue to diagnosis of HELLP syndrome. *Can J Ophthalmol*. 2014 Feb;49(1):e5-8. doi: 10.1016/j.jcjo.2013.09.009. PubMed PMID: 24513381.

PMID: 24513381 [PubMed - in process]

24: Goyal A, Rangarajan K, Singh P, Das CJ. Role of imaging in successful management of malignant ovarian vein thrombosis in RCC. *BMJ Case Rep*. 2014 Feb 7;2014. pii: bcr2013201576. doi: 10.1136/bcr-2013-201576. PubMed PMID: 24510693.

Renal cell carcinoma (RCC) is the most common renal malignancy in adults. Since complete surgical resection is the treatment of choice, accurate staging and

extent delineation are imperative for optimal management. Owing to venous tropism, the tumour has a propensity to extend into renal vein and/or inferior vena cava. However, contiguous gonadal vein extension has rarely been reported. Here we present an unusual case of a 65-year-old woman who demonstrated a large left renal mass with extension of tumour thrombus into the left renal and ovarian veins with multiple retroperitoneal venous collaterals detected on multiphasic CT examination. This preoperative imaging information facilitated en bloc resection of the tumour and thrombosed vessels. To the best of our knowledge, this is the first case where comprehensive imaging evaluation enabled successful surgical management of RCC with malignant ovarian vein thrombosis and limited perioperative complications.

PMID: 24510693 [PubMed - in process]

25: Gulati S, Misra A, Pandey RM, Bhatt SP, Saluja S. Effects of pistachio nuts on body composition, metabolic, inflammatory and oxidative stress parameters in Asian Indians with metabolic syndrome: a 24-wk, randomized control trial. *Nutrition*. 2014 Feb;30(2):192-7. doi: 10.1016/j.nut.2013.08.005. PubMed PMID: 24377454.

**OBJECTIVE:** The aim of this study was to evaluate the effects of pistachio nuts as an adjunct to diet and exercise on body composition, metabolic, inflammatory, and oxidative stress parameters in Asian Indians with metabolic syndrome.

**METHODS:** In this 24-wk randomized control trial, 60 individuals with the metabolic syndrome were randomized to either pistachio (intervention group) or control group (diet as per weight and physical activity profile, modulated according to dietary guidelines for Asian Indians) after 3 wk of a diet and exercise run in. In the first group, unsalted pistachios (20% energy) were given daily. A standard diet and exercise protocol was followed for both groups. Body weight, waist circumference (WC), magnetic resonance imaging estimation of intraabdominal adipose tissue and subcutaneous abdominal adipose tissue, fasting blood glucose (FBG), fasting serum insulin, glycosylated hemoglobin, lipid profile, high-sensitivity C-reactive protein (hs-CRP), adiponectin, free fatty acids (FFAs), tumor necrosis factor (TNF)- $\alpha$ , leptin, and thiobarbituric acid reactive substances (TBARS) were assessed before and after the intervention.

**RESULTS:** Statistically significant improvement in mean values for various parameters in the intervention group compared with control group were as follows: WC ( $P < 0.02$ ), FBG ( $P < 0.04$ ), total cholesterol ( $P < 0.02$ ), low-density lipoprotein cholesterol ( $P < 0.006$ ), hs-CRP ( $P < 0.05$ ), TNF- $\alpha$  ( $P < 0.03$ ), FFAs ( $P < 0.001$ ), TBARS ( $P < 0.01$ ), and adiponectin levels ( $P < 0.001$ ).

**CONCLUSION:** A single food intervention with pistachios leads to beneficial effects on the cardiometabolic profile of Asian Indians with metabolic syndrome.

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PMID: 24377454 [PubMed - in process]

26: Gupta A, Kapil A, Kabra SK, Lodha R, Sood S, Dhawan B, Das BK, Sreenivas V. Assessing the impact of an educational intervention on ventilator-associated pneumonia in a pediatric critical care unit. *Am J Infect Control*. 2014 Feb;42(2):111-5. doi: 10.1016/j.ajic.2013.09.026. PubMed PMID: 24485367.

**BACKGROUND:** Ongoing educational programs targeting health care professionals have shown positive outcomes by reducing the morbidity and mortality associated with health care-associated infections (HAIs). We undertook this study to measure the

impact of such a program in a pediatric critical care unit of a developing country.

**METHODS:** This prospective study was conducted in 2 time periods of 6 months each, with an educational intervention for resident doctors and nurses in between. The rates of ventilator-associated pneumonia (VAP) during the preintervention and postintervention periods were estimated by active surveillance.

**RESULTS:** The incidence density of VAP was reduced by 28% (20.2 vs 14.6 per 1,000 ventilator-days;  $P = .21$ , Z test) despite a significant increase in the ventilator utilization ratio during the postintervention period (0.64 vs 0.88;  $P < .0001$ , Pearson's  $\chi^2$  test). There was a statistically significant reduction in mortality among patients who received mechanical ventilation for  $\geq 48$  hours in the postintervention period (49.3% vs 31.4%;  $P = .029$ , Pearson's  $\chi^2$  test).

**CONCLUSIONS:** Educational programs have a positive impact on reducing the morbidity and mortality associated with HAIs. Incidence rates based on device-days should be compared by keeping the variations in device utilization ratio in mind.

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PMID: 24485367 [PubMed - in process]

27: Gupta P, Mittal R, Mittal S, Shankar V. Weismann-Netter-Stuhl syndrome: report of two cases and treatment. *BMJ Case Rep.* 2014 Feb 4;2014. pii: bcr2013201772. doi: 10.1136/bcr-2013-201772. PubMed PMID: 24496066.

Weismann-Netter-Stuhl syndrome is a rarely reported cause of bowed legs; hence a thorough clinical and radiological examination is needed for its diagnosis. In view of the paucity of reports guiding the treatment of the deformity, we propose a one-level/two-level osteotomy with intramedullary nail fixation as a treatment modality for the tibial bowing.

PMID: 24496066 [PubMed - in process]

28: Gupta P, Prasad K, Kumar A, Kumar P, Bhatia R, Tripathi M. Clinical predictors and outcome of patients of acute stroke requiring ventilatory support: A prospective hospital based cohort study. *J Neurol Sci.* 2014 Feb 15;337(1-2):14-7. doi: 10.1016/j.jns.2013.11.007. Epub 2013 Nov 13. PubMed PMID: 24290500.

The purpose of this study was to identify clinical factors which may help in predicting the requirement of support of mechanical ventilation (MV) in patients with stroke. This was a prospective cohort study done at a tertiary referral center of India, from December 2008 to December 2009. All consecutive patients of acute stroke, who were admitted from emergency or through outpatient department, and were  $\geq 18$  years and in whom written consent was available, were considered for the study. Of 193 patients included in the study, 60 (31.08%) patients were intubated due to various reasons. Multivariate analysis of statistically significant and most clinically important variables showed that overall predictor accuracy of requirement of mechanical ventilation is 88% if patients had history of progression of symptoms (OR=10.38;  $p < 0.001$ ), loss of consciousness at the time of onset (OR=3.18;  $p = 0.011$ ) and GCS motor score  $\leq 5$  ( $p < \text{OR} = 34.62$ ; 0.001). The findings of this study suggest that factors including the presence of poor sensorium, the progression of symptom and low motor GCS are independent

predictors of requirement of mechanical ventilation in patients with stroke and appropriate and cautious timely use of MV can help in improving mortality and morbidity from stroke.

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PMID: 24290500 [PubMed - in process]

29: Gupta S, Mittal S, Nayak N, Satpathy G, Khokhar S, Agarwal T. In Vitro Antibiotic Susceptibility of *Pseudomonas aeruginosa* Corneal Ulcer Isolates. *Ocul Immunol Inflamm*. 2014 Feb 24. [Epub ahead of print] PubMed PMID: 24564536.

PMID: 24564536 [PubMed - as supplied by publisher]

30: Gupta SK, Ramakrishnan S, Kothari SS, Saxena A, Airan B. Hemodynamics of large ventricular septal defect and coexisting chronic constrictive pericarditis masquerading as Eisenmenger's syndrome. *Catheter Cardiovasc Interv*. 2014 Feb 1;83(2):263-9. doi: 10.1002/ccd.24997. Epub 2013 Jun 29. PubMed PMID: 23703803.

The presence of right to left shunting due to elevated pulmonary vascular resistance (PVR) in a patient with large ventricular septal defect (VSD) is conventionally considered as Eisenmenger's syndrome. The recognition of reversible causes of elevated PVR is important. We report hemodynamics of a child in whom unusual coexistence of large VSD and chronic constrictive pericarditis (CCP) mimicked Eisenmenger's syndrome. The strategy of stepwise hemodynamic evaluation led to good clinical outcome.

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PMID: 23703803 [PubMed - in process]

31: Harivenkatesh N, David DC, Haribalaji N, Sudhakar MK. Efficacy and Safety of Alternate Day Therapy With Atorvastatin and Fenofibrate Combination in Mixed Dyslipidemia: A Randomized Controlled Trial. *J Cardiovasc Pharmacol Ther*. 2014 Feb 10. [Epub ahead of print] PubMed PMID: 24516261.

**Introduction:**The long half-life of atorvastatin and fenofibrate makes them suitable for alternate day therapy. Hence, we aimed to study the efficacy, safety, and cost-effectiveness of alternate day therapy with atorvastatin and fenofibrate combination in mixed dyslipidemia.**METHODS:** Eligible patients with mixed dyslipidemia were randomly allotted into 2 equal parallel groups-alternate day therapy group (group 1) and daily therapy group (group 2). Patients in groups 1 and 2 received fixed dose combination of atorvastatin 10 mg and fenofibrate 160 mg on alternate days and daily, respectively, for 12 weeks. Mean percentage change from baseline in triglycerides (TGLs), non-high-density lipoprotein cholesterol (non-HDL-C), HDL-C, low-density lipoprotein cholesterol (LDL-C), total cholesterol (TC), and TC-HDL ratio, incidence of adverse effects, and cost-effectiveness were compared in both the groups.

**RESULTS:** Among 110 patients randomized, 99 completed the study till 12 weeks treatment duration. The TGLs, non-HDL-C, TC, and LDL-C decreased by 56.4%, 49.7%, 36.5%, and 39.2%, respectively, in alternate day therapy group and by 57.5%, 51.2%, 37.5%, and 39.4%, respectively, in daily therapy group. The HDL-C levels increased by 20.1% in alternate day therapy group compared to 21.8% in daily therapy group. No statistically significant difference was seen between both the groups in mean percentage change in lipid parameters from baseline to end of 12

weeks. Incidence of adverse events was reasonably less in alternate day therapy group.

**CONCLUSION:** Alternate day therapy with atorvastatin-fenofibrate combination is an effective and safe alternative to daily therapy in mixed dyslipidemia. Apart from significant cost savings, reasonable reduction in the incidence of adverse events is seen with alternate day regimen. However, larger studies are needed to more reliably confirm our interesting but preliminary results.

PMID: 24516261 [PubMed - as supplied by publisher]

32: 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]

33: Jain TK, Karunanithi S, Sharma P, Vijay MK, Ballal S, Bal C. Asymptomatic Solitary Cerebral Metastasis From Papillary Carcinoma Thyroid: 131 I SPECT/CT for Accurate Staging. Clin Nucl Med. 2014 Feb 21. [Epub ahead of print] PubMed PMID: 24566406.

Isolated asymptomatic brain metastasis in papillary carcinoma thyroid (PCT) is extremely rare. We here present such a case of a 48-year-old woman with PCT. SPECT/CT localized the I radiotracer concentration seen on whole-body scan in this patient to the right posterior parietal cortex, suggesting brain metastasis. Contrast-enhanced MRI and F-FDG PET/CT confirmed the diagnosis and the patient was taken for gamma-knife radiosurgery. I SPECT/CT in this case accurately restaged the patient by detecting asymptomatic isolated brain metastasis and correctly directed the management strategy.

PMID: 24566406 [PubMed - as supplied by publisher]

34: Kakkar A, Gupta RK, Dash NR, Afshan I, Suri V. Lymphoepithelioma-Like Carcinoma of the Stomach with Incidental Gastrointestinal Stromal Tumor (GIST)-A Rare Synchrony of Two Tumors. *J Gastrointest Cancer*. 2014 Feb 25. [Epub ahead of print] PubMed PMID: 24567007.

PMID: 24567007 [PubMed - as supplied by publisher]

35: Kakkar A, Kumar A, Jha P, Goyal N, Mallick S, Sharma MC, Suri A, Singh M, Kale SS, Julka PK, Sarkar C, Suri V. Meningeal hemangiopericytomas: A clinicopathological study with emphasis on MGMT (O(6) -methylguanine-DNA methyltransferase) promoter methylation status. *Neuropathology*. 2014 Feb 12. doi: 10.1111/neup.12107. [Epub ahead of print] PubMed PMID: 24521400.

Meningeal hemangiopericytomas (HPCs) are aggressive dural-based tumors, for which no prognostic or predictive marker has been identified. Gross total resection is treatment of choice, but not easily achieved; hence, alkylating agents like temozolomide (TMZ) are now being tried. O(6) -methylguanine-DNA methyltransferase (MGMT) promoter methylation has proven prognostic and predictive value in glioblastomas. This study evaluates MGMT promoter methylation in meningeal HPCs to determine its role in HPC oncogenesis and its association with patient outcome. Meningeal HPCs diagnosed between 2002 and 2011 were retrieved and clinicopathological features reviewed. MGMT promoter methylation status was assessed by methylation-specific polymerase chain reaction (MSP) and immunohistochemistry (IHC) for MGMT protein. HPCs accounted for 1.1% of all CNS tumors. Forty cases were analyzed; the majority were adults (mean age=41.4 years). Seventy percent were primary and 30% were recurrent tumors; 60% were grade II and 40% were grade III. MGMT promoter methylation was identified in 45% of cases, including Grade II (54.2%) and Grade III (31.3%) ( $P=0.203$ ). Promoter methylation was significantly ( $P=0.035$ ) more frequent in primary (57.1%) than in recurrent (16.7%) tumors. No correlation was noted between MGMT promoter methylation by MSP and MGMT protein expression by IHC, or with progression-free survival. Thus, a significant proportion of HPCs demonstrate MGMT promoter methylation, suggesting possible susceptibility to TMZ. As promoter methylation is more frequent in primary tumors, TMZ may serve as a therapeutic option in residual primary tumors. Epigenetic inactivation of MGMT in HPCs necessitates the assessment of prognostic and predictive value of MGMT promoter methylation in HPCs in larger clinical trials.

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PMID: 24521400 [PubMed - as supplied by publisher]

36: Kakkar AK, Dahiya N. Current Issues With the Use of Bedaquiline. *Ann Pharmacother*. 2014 Feb 11. [Epub ahead of print] PubMed PMID: 24519480.

PMID: 24519480 [PubMed - as supplied by publisher]

37: Kapil U, Kabra M, Prakash S, Sareen N, Khenduja P. Iodine Nutritional Status Among Neonates in the Solan District, Himachal Pradesh, India. *J Community Health*. 2014 Feb 22. [Epub ahead of print] PubMed PMID: 24563104.

Iodine nutrition status amongst neonates can be assessed by estimating thyroid stimulating hormone (TSH). According to WHO, if more than 3 % of the neonates have TSH levels of 5 mIU/l and more in a population, it indicates presence of iodine deficiency (ID). Iodine deficiency is an endemic health problem in Solan district, Himachal Pradesh (HP) state. ID leads to mental retardation, deaf mutism, squint, dwarfism, spastic diplegia, neurological defects and congenital anomalies. The aim is to determine iodine nutrition status of neonates of Solan district. In Solan district, six hospitals/community health centers providing obstetric services and conducting more than 100 deliveries per annum were identified and enlisted. Two hospitals were selected keeping in view of operational feasibility. A total of 683 umbilical cord blood samples of neonates were collected on filter paper and analyzed for TSH. It was found that 63.2 % of the neonates had TSH levels of more than 5 mIU/l indicating iodine deficiency in the Solan district. Iodine deficiency was a public health problem in Solan district, HP.

PMID: 24563104 [PubMed - as supplied by publisher]

38: Karunanithi S, Bandopadhyaya GP, Sharma P, Kumar A, Singla S, Malhotra A, Gupta DK, Bal C. Prospective comparison of (99m)Tc-GH SPECT/CT and (18)F-FDOPA PET/CT for detection of recurrent glioma: a pilot study. Clin Nucl Med. 2014 Feb;39(2):e121-8. doi: 10.1097/RLU.0b013e318279bcd8. PubMed PMID: 23579970.

**OBJECTIVE:** This study aimed to evaluate and compare the role of Tc-GH SPECT/CT and F-FDOPA PET/CT for diagnosing recurrence in patients with glioma.  
**METHODS:** Thirty patients with histopathologically proven glioma (glioblastoma multiforme, 14; grade III, 6; grade II, 8; and grade I, 2), who presented with clinical and/or imaging suspicion of recurrence were prospectively evaluated. They were primarily treated with surgery and radiotherapy with or without chemotherapy. Each patient underwent Tc-GH SPECT/CT and F-FDOPA PET/CT within a span of 15 days. Images were evaluated qualitatively and quantitatively by 2 experienced nuclear medicine physicians in consensus. Histopathology and/or clinical/imaging follow-up were used as reference standard.  
**RESULTS:** Based on reference standard, 22 patients were positive and 8 were negative for recurrence. Tc-GH SPECT/CT was positive for recurrence in 22 and negative in 8 patients. F-FDOPA PET/CT scan was positive for recurrence in 23 and negative in 7 patients. Sensitivity, specificity, and accuracy were 86.4%, 62.5%, and 80% for Tc-GH SPECT/CT and 100%, 87.5%, and 96% for F-FDOPA PET/CT, respectively. No significant difference was found between Tc-GH SPECT/CT and F-FDOPA PET/CT overall ( $P = 1.00$ ), as well as for low-grade ( $P = 0.250$ ) or high-grade tumors ( $P = 0.50$ ). Significant correlation was noted between tumor-brain of Tc-GH with both tumor-striatum ( $r = 0.371$ ;  $P = 0.044$ ) and tumor-cerebellum ratio of F-FDOPA ( $r = 0.369$ ;  $P = 0.045$ ).  
**CONCLUSIONS:** For detection of recurrence in glioma patients, Tc-GH SPECT/CT is not inferior to F-FDOPA PET/CT and can be used as a low-cost alternative.

PMID: 23579970 [PubMed - in process]

39: Khokhar S, Agarwal T, Gupta S, Sehra S, Panda A. Shifting bubble-guided sutureless technique for performing descemetorhexis for retained Descemet's membrane after penetrating keratoplasty. Int Ophthalmol. 2014 Feb;34(1):125-8. doi: 10.1007/s10792-013-9746-2. Epub 2013 Mar 1. PubMed PMID: 23456512.



We describe the use of anterior segment optical coherence tomography in the diagnosis of inadvertent retention of Descemet's membrane (DM) after penetrating keratoplasty, and a novel technique for its removal in a case of congenital hereditary endothelial dystrophy. In this technique, we use a modification of the shifting bubble technique, commonly used in deep anterior lamellar keratoplasty where a viscoelastic ophthalmic viscosurgical device is injected into the false anterior chamber which causes migration of the central air bubble placed in the anterior chamber peripherally and helps in confirming the correct space. The DM is then peeled in a circular fashion with the help of 23-G vitreoretinal micro forceps.

PMID: 23456512 [PubMed - in process]

40: Kochar GS, Gulati S, Lodha R, Pandey R. Full Outline of UnResponsiveness Score Versus Glasgow Coma Scale in Children With Nontraumatic Impairment of Consciousness. *J Child Neurol*. 2014 Feb 13. [Epub ahead of print] PubMed PMID: 24532807.

The study was designed to compare the Full Outline of UnResponsiveness score with Glasgow Coma Scale as a predictor of mortality and poor functional outcome at hospital discharge in children with nontraumatic impairment of consciousness. Seventy children aged 5 to 18 years admitted with impaired consciousness were enrolled. The scores were applied by the Pediatric Neurology fellow within 2 hours of admission. The primary outcome studied was in-hospital mortality. Receiver operating characteristic curves were used to compare the 2 scores. The area under the curves for Glasgow Coma Scale and Full Outline of UnResponsiveness scores were 0.916 and 0.940, respectively. However, the difference between the areas under curve for the 2 scores was not statistically significant (0.023; 95% confidence interval: -0.0115 to 0.058). Our data indicate that both the scores are good predictors for in-hospital mortality and functional outcome. However, no significant difference was observed between the ability of the 2 scores to predict the outcomes.

PMID: 24532807 [PubMed - as supplied by publisher]

41: Kothari SS, Gupta SK, Ramakrishnan S. Staged pulmonary valve balloon dilatation in patients with severe pulmonary valve stenosis and heart failure. *Catheter Cardiovasc Interv*. 2014 Feb 8. doi: 10.1002/ccd.25426. [Epub ahead of print] PubMed PMID: 24677571.

PMID: 24677571 [PubMed - as supplied by publisher]

42: Kumar A, Prasad M, Kathuria P. Sitting occupations are an independent risk factor for Ischemic stroke in North Indian population. *Int J Neurosci*. 2014 Feb 7. [Epub ahead of print] PubMed PMID: 24397501.

Stroke is a multi-factorial disease and is influenced by complex environmental interactions. The purpose of this case-control study was to determine the relationship of sitting occupations with ischemic stroke in the North Indian population. In a hospital-based case-control study, age- and sex-matched controls were recruited from the outpatient department and the neurology ward of All India Institute of Medical Sciences, New Delhi. Occupation along with other demographic and risk factor variables was measured in-person interview in standardized case record form. The multivariate logistic regression model was used to estimate the

odds ratio associated with ischemic stroke. Two hundred and twenty-four people post-stroke and 224 control participants were recruited from the period of February 2009 to February 2012. Mean age of cases and controls was  $53.47 \pm 14$  and  $52.92 \pm 13.4$ , respectively. The occupations which involve sitting at work were independently associated with the risk of ischemic stroke after adjustment for demographic and risk factor variables (OR 2.2, 95% CI 1.12-3.8). The result of this study has shown an independent association between the sitting occupations and ischemic stroke in North Indian population. The present study supports the workplace health initiative to implement workplace physical activity policy and encourages employee to reduce the amount of time they spend sitting throughout the day.

PMID: 24397501 [PubMed - as supplied by publisher]

43: Kumar R. Response to 'Re: Paediatric percutaneous nephrolithotomy: Single-centre 10-year experience. *J Pediatr Urol.* 2013 Aug; 9(4):472-5'. *J Pediatr Urol.* 2014 Feb;10(1):197. doi: 10.1016/j.jpuro.2013.08.015. Epub 2013 Sep 25. PubMed PMID: 24094705.

Comment on

*J Pediatr Urol.* 2014 Feb;10(1):196-7.

*J Pediatr Urol.* 2013 Aug;9(4):472-5.

PMID: 24094705 [PubMed - in process]

44: Kumar S, Naqvi RA, Ali R, Rani R, Khanna N, Rao DN. FoxP3 provides competitive fitness to CD4<sup>+</sup>CD25<sup>+</sup> T cells in leprosy patients via transcriptional regulation. *Eur J Immunol.* 2014 Feb;44(2):431-9. doi: 10.1002/eji.201343649. Epub 2013 Dec 4. PubMed PMID: 24214631.

Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*. FoxP3 have been shown to have important implications in various diseases. The present study describes the mechanism of action of FoxP3 in CD4<sup>+</sup>CD25<sup>+</sup> T cells derived from leprosy patients. Increased molecular interactions of FoxP3 with histone deacetylases 7/9 in the nucleus of CD4<sup>+</sup>CD25<sup>+</sup> T cells derived from borderline lepromatous leprosy/lepromatous leprosy (BL/LL) patients were found to be responsible for FoxP3-driven immune suppression activities during the progression of leprosy. Further, downregulation of CTLA-4 and CD25 genes in siFoxP3-treated PBMCs derived from BL/LL patients elucidated the transcription-activating nature of FoxP3. This observation was supported by direct binding of FoxP3 to the promoter region of the CTLA-4 and CD25 genes, and FoxP3's molecular interaction with histone acetyl transferases. The study also revealed that the increased expression of miR155 in CD4<sup>+</sup>CD25<sup>+</sup> cells from BL/LL governs the competitive fitness of these cells. Again, reduced Annexin V & propidium iodide staining and Nur77 expression, and concomitantly increased Ki-67 positivity suggested that CD4<sup>+</sup>CD25<sup>+</sup> cells derived from BL/LL patients are more competitively fit than those from borderline tuberculoid leprosy/tuberculoid leprosy and healthy controls. Taken together, the study shows the orchestration of FoxP3 leading to competitive fitness of Treg cells in leprosy.

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PMID: 24214631 [PubMed - in process]

45: Kumar VS, Jalan D, Khan SA, Mridha AR. Aneurysmal bone cyst of medial

cuneiform and a novel surgical technique for mid-foot reconstruction. *BMJ Case Rep.* 2014 Feb 21;2014. pii: bcr2013201709. doi: 10.1136/bcr-2013-201709. PubMed PMID: 24563041.

Aneurysmal bone cyst of the foot is extremely rare and the involvement of medial cuneiform has never been reported in the literature. In this report, we describe a 15-year-old boy who presented with a 6-month history of pain and swelling in his left foot. Radiograph demonstrated a lytic lesion in the medial cuneiform extending on to the middle cuneiform, the navicular bone and the base of the first metatarsal. En bloc resection of the lesion was performed using a dorsal longitudinal incision along the first ray. Tricortical iliac crest graft was harvested and shaped to fill the defect. Two drill holes were made and the tibialis anterior tendon was attached to the graft. Prepared, morcellised allograft was placed along the junction of autograft and host bone. At 1-year follow-up, the patient was pain free, the medial arch of the foot was maintained and the graft had united with the host bone.

PMID: 24563041 [PubMed - in process]

46: Kundu P, Lata S, Sharma P, Singh H, Malhotra A, Bal C. Prospective evaluation of (68)Ga-DOTANOC PET-CT in differentiated thyroid cancer patients with raised thyroglobulin and negative (131)I-whole body scan: comparison with (18)F-FDG PET-CT. *Eur J Nucl Med Mol Imaging.* 2014 Feb 22. [Epub ahead of print] PubMed PMID: 24562651.

**PURPOSE:** The purpose of the study was to evaluate the role of (68)Ga-DOTANOC PET-CT in differentiated thyroid cancer (DTC) patients with negative (131)I-whole body scan (WBS) along with serially increasing serum thyroglobulin (Tg), and compare the same with (18)F-FDG PET-CT.

**METHODS:** Sixty two DTC patients with serially rising Tg levels and negative (131)I-WBS were prospectively enrolled. All patients underwent (68)Ga-DOTANOC PET-CT and (18)F-FDG PET-CT within an interval of two weeks. PET-CT analysis was done on a per-patient basis, location wise and lesion wise. All PET-CT lesions were divided into four categories-local, nodal, pulmonary and skeletal. Histopathology and/or serial serum Tg level, clinical and imaging follow up (minimum-1 year) were used as a reference standard.

**RESULTS:** Ga-DOTANOC PET-CT demonstrated disease in 40/62 (65 %) patients and (18)F-FDG PET-CT in 45/62 (72 %) patients, with no significant difference on McNemar analysis ( $p=0.226$ ). Per-patient sensitivity and specificity of (68)Ga-DOTANOC PET-CT was 78.4 %, 100 %, and for (18)F-FDG PET-CT was 86.3 %, 90.9 %, respectively. Out of 186 lesions detected by both PET-CTs, 121/186 (65 %) lesions were seen on (68)Ga-DOTANOC PET-CT and 168/186 (90.3 %) lesions on (18)F-FDG PET-CT ( $p<0.0001$ ). There were 103/186 (55 %) lesions concordant on both. Excellent agreement was noted between (68)Ga-DOTANOC PET-CT and (18)F-FDG PET-CT for detection of local disease ( $\kappa=0.92$ ), while moderate agreement was noted for nodal and pulmonary disease ( $\kappa=0.67$ ). (68)Ga-DOTANOC PET-CT changed management in 21/62 (34 %) patients and (18)F-FDG PET-CT in 17/62 (27 %) patients.

**CONCLUSION:** Ga-DOTANOC PET-CT is inferior to (18)F-FDG PET-CT on lesion based but not on patient based analysis for detection of recurrent/residual disease in DTC patients with negative WBS scan and elevated serum Tg levels. It can also help in selection of potential candidates for peptide receptor radionuclide therapy.

PMID: 24562651 [PubMed - as supplied by publisher]

47: Maitra S, Baidya DK, Pawar DK, Arora MK, Khanna P. Epidural anesthesia and

analgesia in the neonate: a review of current evidences. J Anesth. 2014 Feb 13. [Epub ahead of print] PubMed PMID: 24522812.

The role of single shot spinal anesthesia has been established in ex-premature infants at risk of apnea. However, use of epidural anesthesia in neonates is on the rise. In this systematic analysis, we have reviewed the current evidence on the safety and efficacy of the use of single shot and continuous epidural anesthesia/analgesia in neonates. Current clinical practice is guided by evidence based mostly on non-randomized studies, prospective/retrospective case series and surveys. Single shot caudal blockade as a sole technique has been used in neonates mainly for inguinal hernia repair and circumcision. Use of continuous epidural anesthesia through the caudal route or caudo-thoracic advancement of the catheter for major thoracic and abdominal surgery offers good perioperative analgesia. Other observed benefits are early extubation, attenuation of stress response, early return of bowel function and reduction of general anesthesia-related postoperative complications. However, risk of procedure-related and drug-related complications to the developing neural structure remains a serious concern.

PMID: 24522812 [PubMed - as supplied by publisher]

48: Mansoori N, Tripathi M, Alam R, Luthra K, Sharma S, Lakshmy R, Kalaivani M, Mukhopadhyay AK. Serum Folic Acid and RFC A80G Polymorphism in Alzheimer's Disease and Vascular Dementia. Am J Alzheimers Dis Other Demen. 2014 Feb;29(1):38-44. doi: 10.1177/1533317513505131. PubMed PMID: 24554143.

Low level of vitamin B12 and folic acid has been reported to play an important role in the pathogenesis of Alzheimer's disease (AD) and vascular dementia (VaD). Serum folic acid and vitamin B12 were assayed in 80 AD and 50 VaD cases and in 120 healthy controls. The reduced folate carrier (RFC1) gene, rs1051266, which encodes the RFC 1, protein was analyzed for polymorphism by polymerase chain reaction-restriction fragment length polymorphism. It was observed that the patients having folic acid <8.45 ng/mL had 2.4 (95% confidence interval [CI]: 1.4-4.5) times higher odds of having AD and 2.1 (95% CI: 1.1-4.2) times higher odds of having VaD than patients having folic acid ≥8.45 ng/mL. Serum vitamin B12 level did not show any such statistically significant effect in altering the odds. No direct association was found between variant (G) allele or genotype of rs1051266 with AD and VaD cases. On serum folate level no association was observed with gene polymorphism.

PMID: 24554143 [PubMed - in process]

49: Mathew DG, Ramachandran R, Rewari V, Trikha A, Chandralekha. Endotracheal intubation with Intubating Laryngeal Mask Airway (ILMA)<sup>™</sup>, C-Trach<sup>™</sup>, and Cobra PLA<sup>™</sup> in simulated cervical spine injury patients: a comparative study. J Anesth. 2014 Feb 20. [Epub ahead of print] PubMed PMID: 24554246.

**PURPOSE:** The aim of our study was to evaluate the success rate of fiberoptic-guided endotracheal intubation through an Intubating Laryngeal Mask Airway (ILMA), a Cobra Perilaryngeal Airway (Cobra PLA), and a C-Trach Laryngeal Mask Airway (C-Trach) in patients whose necks are stabilized in a hard cervical collar.

**METHODS:** One hundred and eighty ASA I-II patients were randomized to undergo endotracheal intubation after general anesthesia via an ILMA (group ILMA), a C-Trach (group C-Trach) or a Cobra PLA (group CPLA) with the application of an appropriately-sized hard cervical collar. A fiberoptic bronchoscope was used for

intubation via the ILMA and Cobra PLA. Rate of successful insertion of an endotracheal tube through the three devices was the primary aim. Other parameters compared were time taken for device insertion, endotracheal intubation, hemodynamic changes, incidence of hypoxia, and mucosal injury during the procedure. The incidence of postoperative sore throat was also compared between the three groups.

RESULTS: The success rates of intubation in the ILMA, C-Trach, and CPLA groups were 100, 100, and 98 % respectively. The first-attempt success rate was significantly better with the C-Trach compared to Cobra PLA (100 vs 85 %,  $p < 0.05$ ). The time taken for device insertion was significantly more with the Cobra PLA as compared to that taken with an ILMA or a C-Trach (35.7 vs 30.3 and 27.5 s, respectively). Intubation through a C-Trach took the least amount of time (84.4 s) as compared to an ILMA (117.9 s) or a Cobra PLA (139.2 s). The incidence of hypoxia and airway morbidity was similar between the groups.

CONCLUSION: The success rates of fiberoptic-guided endotracheal intubation through an ILMA and a Cobra PLA are similar to the success rate of intubation using a C-Trach in patients whose cervical spines are immobilized with a hard cervical collar.

PMID: 24554246 [PubMed - as supplied by publisher]

50: Mathur P, Bhardwaj N, Gupta G, Punia P, Tak V, John NV, Agrawal D, Misra MC. Outbreak of *Streptococcus pyogenes* emm type 58 in a high dependency unit of a level-1 trauma center of India. *Indian J Crit Care Med*. 2014 Feb;18(2):77-82. doi: 10.4103/0972-5229.126076. PubMed PMID: 24678149.

BACKGROUND AND AIMS: Group A *Streptococcus* (GAS) can cause illnesses ranging from self-limited to severe, life-threatening, invasive infections. The objective of the following study was to investigate a suspected *Streptococcus pyogenes* outbreak in a high dependency unit (HDU) of our trauma center.

MATERIALS AND METHODS: All the isolates of beta hemolytic *Streptococci* were identified by standard microbiological methods, Vitek 2 system and latex agglutination tests. Antimicrobial susceptibility testing was performed as recommended by Clinical Laboratory Standards Institute. Exotoxin genes, including *speA*, *speB*, *speC*, *speF*, *smeZ*, *ssa*, *speG*, *speH*, *speJ*, *speL*, *speM* and *speI* were detected by polymerase chain reaction (PCR). The emm types of isolates of *S. pyogenes* were determined by sequencing the variable 5' end of emm gene after amplification by PCR.

RESULTS: In a 28 bedded poly-trauma ward with a four bedded HDU three out of four patients developed *S. pyogenes* emm type 58 infection. The strain was macrolide and tetracycline resistant and produced the *Streptococcal* pyrogenic exotoxins *speB*, *speC*, *speG*, *speF* and *smeZ*. Surveillance sampling was done for investigation from patients, health-care workers and environmental samples.

CONCLUSION: An outbreak of GAS infections was established caused by the uncommonly reported emm type 58. The outbreak was controlled by prompt treatment, intensive surveillance, feedback and training.

PMID: 24678149 [PubMed]

51: Mehta P, Agarwala S, Jana M, Kabra SK. Swine flu presenting as acute appendicitis. *Indian J Pediatr*. 2014 Feb;81(2):208-9. doi: 10.1007/s12098-013-1009-8. Epub 2013 Apr 7. PubMed PMID: 23564515.

PMID: 23564515 [PubMed - in process]

52: Mittal R, Sampath Kumar V, Gupta T. Patella cubiti: a case report and literature review. Arch Orthop Trauma Surg. 2014 Apr;134(4):467-71. doi: 10.1007/s00402-014-1926-7. Epub 2014 Feb 4. PubMed PMID: 24493466.

Patella cubiti is a rare elbow anomaly in which either the entire olecranon or a part of it remains separate from the proximal ulna. Pain and stiffness are the usual presenting symptoms while some patients are diagnosed incidentally following a minor trauma. Our case report is of a 24-year-old male wrestler with bilateral patella cubiti which was painful on right side and asymptomatic on the left. We also mention an additional cause of pain in patella cubiti-intra-articular loose bodies. These loose bodies were removed surgically and the patient remained asymptomatic at 6-months follow-up. Presence of growth disturbance in the secondary epiphyseal centre of first lumbar vertebra supports the 'developmental theory' of origin of patella cubiti. A compilation of data available in the literature on patella cubiti has been included.

PMID: 24493466 [PubMed - in process]

53: Mukherjee A, Sharma P, Karunanithi S, Dhull VS, Kumar R. Lymphoma and Tuberculosis: Temporal Evolution of Dual Pathology on Sequential 18F-FDG PET/CT. Clin Nucl Med. 2014 Feb 21. [Epub ahead of print] PubMed PMID: 24566399.

Tuberculosis can often be seen in patients undergoing chemotherapy for lymphoma, especially in endemic countries. As both tuberculosis and lymphoma can lead to hypermetabolic lesions of F-FDG PET/CT, a diagnostic dilemma often ensues. We present the sequential F-FDG PET/CT images of a 22-year-old female patient with Hodgkin lymphoma who developed tuberculosis and later relapse of lymphoma. These images present the temporal evaluation of the dual pathology on F-FDG PET/CT.

PMID: 24566399 [PubMed - as supplied by publisher]

54: Murugan MK, Gulati GS, Saxena A, Juneja R, Gupta SK. Multi-detector Computed Tomography (MDCT) in Persistent Fifth Aortic Arch (PFAA). Heart Lung Circ. 2014 Feb;23(2):e71-3. doi: 10.1016/j.hlc.2013.05.649. Epub 2013 Aug 6. PubMed PMID: 23932505.

PMID: 23932505 [PubMed - in process]

55: Nayak PK, Mitra S, Padma A, Agrawal S. Late presentation of unsafe abortion after 5 years of procedure. Case Rep Obstet Gynecol. 2014;2014:456017. doi: 10.1155/2014/456017. Epub 2014 Feb 5. PubMed PMID: 24649386; PubMed Central PMCID: PMC3933410.

A majority of the unsafe abortions are performed by untrained birth attendants or quacks leading to complications in a large proportion of these cases. Complications like bowel injury, bladder injury, uterine perforation, and septic abortion are mostly caused by unskilled hands and are detected immediately or within few days of the procedure, owing to the need for tertiary level care. Here we present a very interesting case of unsafe abortion induced by a Ryle's tube in a 32-year-old lady, which was diagnosed five years after the procedure. Considering its atypical presentation, it is the first case of its kind in the literature. The details of the case and its management are described along with appropriate pictures.

PMCID: PMC3933410

PMID: 24649386 [PubMed]

56: Panda SS, Bajpai M, Singh A, Jana M. Poland syndrome involving the left hemithorax with dextrocardia and herniation of the spleen. *BMJ Case Rep.* 2014 Feb 23;2014. pii: bcr2013010322. doi: 10.1136/bcr-2013-010322. PubMed PMID: 24567179.

Poland syndrome is characterised by unilateral absence of the large pectoral muscle, ipsilateral symbrachydactyly and occasionally other malformations of the anterior chest wall and breast. The condition is more frequent among men and usually occurs on the right hemithorax in the unilateral form. This case is unique because we believe it is a rare case of Poland syndrome involving the left hemithorax along with dextrocardia and herniation of the spleen from the left subcostal region.

PMID: 24567179 [PubMed - in process]

57: Panda SS, Mandelia A, Gupta DK, Singh A. Antenatally detected solid tumour of kidney. *BMJ Case Rep.* 2014 Feb 13;2014. pii: bcr2013202084. doi: 10.1136/bcr-2013-202084. PubMed PMID: 24526198.

Congenital renal tumours are rare and usually benign. Polyhydramnios is the most common mode of presentation. Although most cases have been diagnosed postnatally, with advances in imaging technology, an increasing number of cases are being detected on antenatal scans. We describe a case of solid tumour of kidney detected in the second trimester of pregnancy and managed by surgery in the postnatal period.

PMID: 24526198 [PubMed - in process]

58: Peshin SS, Srivastava A, Halder N, Gupta YK. Pesticide poisoning trend analysis of 13 years: a retrospective study based on telephone calls at the National Poisons Information Centre, All India Institute of Medical Sciences, New Delhi. *J Forensic Leg Med.* 2014 Feb;22:57-61. doi: 10.1016/j.jflm.2013.12.013. Epub 2013 Dec 18. PubMed PMID: 24485423.

The study was designed to analyze the incidence and pattern of pesticide poisoning calls reported to the National Poisons Information Centre (NPIC), AIIMS, New Delhi and highlight the common classes of pesticides involved in poisoning. The telephone calls received by the Centre during the thirteen year period (1999-2012) were entered into a preset proforma and then into a retrievable database. A total of 4929 calls of pesticide poisoning were recorded. The data was analyzed with respect to age, gender, mode and type of poisoning. The age ranged from 1 to 65 years with the preponderance of males (M = 62.19%, F = 37.80%). The age group mainly involved in poisoning was 18-35 years. While 59.38% calls pertained to household pesticides, 40.61% calls related to agricultural pesticides. The common mode of poisoning was intentional (64.60%) followed by accidental (34.40%) and unknown (1%). Amongst the household pesticides, the highest number of calls were due to pyrethroids (26.23%) followed by rodenticides (17.06%), organophosphates (6.26%), carbamates (4.95%) and others (4.86%). In agricultural pesticides group, the organophosphates (9.79%) ranked the first followed by, aluminium phosphide (9.65%), organochlorines (9.31%), pyrethroids (3.87%), herbicides, weedicides and fungicides (3.20%), ethylene dibromide (2.82%), and others (1.70%). The data analysis shows a high incidence of poisoning due to household pesticides as compared to agricultural pesticides, clearly emphasizing the need for creating awareness and education about proper use and implementation of prevention programmes.

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PMID: 24485423 [PubMed - in process]

59: Prashant CK, Bhat M, Srivastava SK, Saxena A, Kumar M, Singh A, Samim M, Ahmad FJ, Dinda AK. Fabrication of nanoadjuvant with poly- $\epsilon$ -caprolactone (PCL) for developing a single-shot vaccine providing prolonged immunity. *Int J Nanomedicine*. 2014 Feb 12;9:937-50. doi: 10.2147/IJN.S55892. eCollection 2014. PubMed PMID: 24611010; PubMed Central PMCID: PMC3928464.

**PURPOSE:** The aim of the study was to load a model antigen, tetanus toxoid (TT), in poly- $\epsilon$ -caprolactone nanoparticles (PCL NPs) of two size ranges, ie, mean 61.2 nm (small) and 467.6 nm (large), and study its effect on macrophage polarization as well as antigen presentation in human monocyte-derived macrophages in vitro, along with humoral and cell-mediated immune (CMI) response generated in Swiss albino mice following immunization with the TT-loaded NPs.

**MATERIALS AND METHODS:** PCL NPs were synthesized by solvent evaporation. The antigen-loaded PCL NPs were characterized for size, zeta potential, and protein-release kinetics. Swiss albino mice were immunized with the antigen-loaded PCL NPs. Flow cytometry was used to quantify interferon- $\gamma$ - and interleukin-4-secreting cluster of differentiation (CD)4(+) and CD8(+) T cells in the spleen, and enzyme-linked immunosorbent assay was used to quantify anti-TT antibody levels in the serum of immunized mice.

**RESULTS:** Small PCL NPs generated an M1/M2 type polarization of human blood monocyte-derived macrophages and T helper (Th)1/Th2 polarization of autologous CD4(+) T cells. Efficient CD8(+) T-cell responses were also elicited. Large PCL NPs failed to cause any type of macrophage polarization. They did not elicit efficient CD8(+) T-cell responses.

**CONCLUSION:** TT-loaded small PCL NPs were able to generate persistent and strong CMI and humoral responses against TT 2 months after single injection in mice without booster dose. This biodegradable nanoadjuvant system may help to develop single-shot immunization for prolonged immunity without booster doses. The capability of enhanced CMI response may have high translational potential for immunization against intracellular infection.

PMCID: PMC3928464

PMID: 24611010 [PubMed - in process]

60: Raj D, Lodha R, Mukherjee A, Sethi T, Agrawal A, Kabra SK. Fractional exhaled nitric oxide in children with acute exacerbation of asthma. *Indian Pediatr*. 2014 Feb 8;51(2):105-11. Epub 2013 Sep 5. PubMed PMID: 24277963.

**OBJECTIVE:** To determine whether fractional exhaled nitric oxide (FENO) has a utility as a diagnostic or predictive maker in acute exacerbations of asthma in children.

**DESIGN:** Analysis of data collected in a pediatric asthma cohort.

**SETTING:** Pediatric Chest Clinic of a tertiary care hospital.

**METHODS:** A cohort of children with asthma was followed up every 3 months in addition to any acute exacerbation visits. Pulmonary function tests (PFT) and FENO were obtained at all visits. We compared the FENO values during acute exacerbations with those at baseline and those during the follow up.

**RESULTS:** 243 asthmatic children were enrolled from August 2009 to December 2011 [mean (SD) follow up - 434 (227) days]. FENO during acute exacerbations was not different from FENO during follow up; however, FENO was significantly higher than personal best FENO during follow up ( $P < 0.0001$ ). FENO during acute exacerbation did not correlate with the severity of acute exacerbation ( $P=0.29$ ). The receiver



operating characteristics curve for FENO as a marker for acute exacerbation had an area under the curve of 0.59. Cut-off of 20 ppb had a poor sensitivity (44%) and specificity (68.7%) for acute exacerbation.

CONCLUSIONS: FENO levels during acute exacerbation increase from their personal best levels. However, no particular cut off could be identified that could help in either diagnosing acute exacerbation or predicting its severity.

PMID: 24277963 [PubMed - in process]

61: Ramachandran R, Rewari V, Chandralekha C, Sinha R, Trikha A, Sharma P. Sub-Tenon block does not provide superior postoperative analgesia vs intravenous fentanyl in pediatric squint surgery. *Eur J Ophthalmol*. 2014 Feb 13:0. doi: 10.5301/ejo.5000438. [Epub ahead of print] PubMed PMID: 24619855.

Purpose: We evaluated the efficacy of sub-Tenon block in decreasing perioperative pain, incidence of intraoperative oculocardiac reflex (OCR), and postoperative nausea and vomiting (PONV) in pediatric squint surgery. Methods: A total of 67 children age 2-12 years, American Society of Anesthesiologists Physical Status 1 and 2, were randomized to receive either sub-Tenon block (ST) in the operative eye or 2 mcg/kg of intravenous fentanyl (F) for squint surgery after induction of general anesthesia in this double-blind study. Postoperative pain was measured by either modified Children's Hospital of Eastern Ontario Pain Scale (CHEOPS) or Visual Analogue Scale (VAS). Pain in the postoperative period (up to 2 hours) was measured as the primary endpoint. Other parameters measured in the groups were intraoperative hemodynamics, postoperative modified CHEOPS or VAS at shifting, 1, 2, 6, 12, and 24 hours after surgery, incidence of intraoperative OCR, and PONV at shifting, 30 minutes, 1, 2, 6, 12, and 24 hours after surgery. Results: There was no statistical difference in the postoperative pain scores in the recovery room up to 2 hours after surgery. The VAS and CHEOPS scores were not different in the groups up to 24 hours after surgery. The incidence of OCR was significantly higher in group F than group ST. The incidence of PONV was significantly higher in group F than group ST at 30 minutes and 1 hour after the surgery (41%, 47% vs 19%, 9%, respectively,  $p < 0.05$ ). However, there was no statistically significant difference in intraoperative hemodynamics and PONV scores after 2 hours in the postanesthesia care unit. Conclusions: Use of sub-Tenon block does not decrease the incidence of postoperative pain significantly in children undergoing squint surgery. However, it leads to a statistically significant decrease in the incidence of intraoperative OCR and PONV in the early recovery period in these patients.

PMID: 24619855 [PubMed - as supplied by publisher]

62: Roy A, Khanna N, Senguttuvan NB. Rituximab-vincristine chemotherapy-induced acute anterior wall myocardial infarction with cardiogenic shock. *Tex Heart Inst J*. 2014 Feb;41(1):80-2. doi: 10.14503/THIJ-12-2853. PubMed PMID: 24512409.

We present a case of an elderly man with coronary artery disease who was diagnosed with non-Hodgkin lymphoma. Soon after the administration of chemotherapy, which included rituximab and vincristine, he developed acute myocardial infarction with cardiogenic shock. The condition was managed successfully with primary percutaneous coronary intervention. We briefly discuss the possible pathogenic mechanisms of chemotherapy-induced ischemic syndrome and the management of chemotherapy in patients with high cardiovascular risk.

PMID: 24512409 [PubMed - in process]

63: Roy KK, Negi N, Subbaiah M, Kumar S, Sharma JB, Singh N. Effectiveness of estrogen in the prevention of intrauterine adhesions after hysteroscopic septal resection: A prospective, randomized study. J Obstet Gynaecol Res. 2014 Feb 26. doi: 10.1111/jog.12297. [Epub ahead of print] PubMed PMID: 24612233.

AIM: The aim of this prospective randomized study was to evaluate the efficacy of estrogen in preventing intrauterine adhesions following hysteroscopic septal resection and to investigate its effect on reproductive outcome.

MATERIALS AND METHODS: After hysteroscopic septal resection, 90 women received either estrogen or placebo (n=45 per group) for 30 days. A second-look hysteroscopy was performed after 2 months. All pregnancies occurring during the study period were recorded.

RESULTS: Adhesions developed in three of 43 (6.9%) patients in the control group compared to none in the estrogen group. This difference was not statistically significant (P=0.24). Regarding reproductive outcome, the differences between the two groups were also not significant.

CONCLUSION: Estrogen treatment was not found to prevent intrauterine adhesions or improve reproductive outcome after hysteroscopic septal resection.

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PMID: 24612233 [PubMed - as supplied by publisher]

64: Roy KK, Subbaiah M, Naha M, Kumar S, Sharma JB, Jahagirdar N. Intraperitoneal bupivacaine for pain relief after minilaparoscopy in patients with infertility. Arch Gynecol Obstet. 2014 Feb;289(2):337-40. doi: 10.1007/s00404-013-2994-6. Epub 2013 Aug 8. PubMed PMID: 23925646.

AIM: To evaluate the efficacy of intraperitoneal bupivacaine to reduce post operative pain after diagnostic minilaparoscopy in patients with infertility.

DESIGN: A prospective randomized study was performed.

MATERIALS AND METHODS: The study group consisted of 104 women with infertility undergoing diagnostic minilaparoscopy. At the end of the procedure, the treatment group (Group A) was given 10 mL of intraperitoneal 0.25 % bupivacaine (100 mg) and the control group (Group B) given 10 mL of intraperitoneal saline. Post operative pain was recorded with the use of a visual analog scale with scores ranging from 1 to 10 at 2, 4, 6 and 8 h intervals after the surgery. Additional analgesics given to the patients in the post operative period and any other side effects were noted.

RESULTS: The treatment group had significantly lower pain scores at 2, 4, 6 and 8 h after the procedure (P < 0.05). The need for post operative analgesics also was significantly lower in the treatment group (P = 0.007).

CONCLUSION: Post operative intraperitoneal bupivacaine administration is beneficial for patients undergoing diagnostic minilaparoscopy. It can significantly decrease post operative pain for up to 8 h and reduce the need for additional analgesics.

PMID: 23925646 [PubMed - in process]

65: Sahoo MK, Sharma P, Suman S, Jain TK, Bal C, Kumar R. Gallbladder carcinoma metastasizing to adrenal gland: a rare site demonstrated with (18)F-FDG PET/CT. Clin Nucl Med. 2014 Feb;39(2):184-5. doi: 10.1097/RLU.0b013e318281678e. PubMed PMID: 23856827.

Adrenal metastases have commonly been reported in a wide variety of cancers but not in gallbladder cancer. We here present a case of a 45-year-old male patient with gallbladder carcinoma where left adrenal metastasis was detected on staging F-FDG PET/CT. This was confirmed histopathologically. F-FDG PET/CT can have a significant impact on management of patients with gallbladder carcinoma by demonstrating rare sites of metastasis.

PMID: 23856827 [PubMed - in process]

66: Salam A, Webster R, Singh K, Kallakuri S, Rodgers A, Prabhakaran D, Maulik PK, Jan S, Thom S, Naik N, Guggilla R, Selak V, Patel A. TRIPLE pill vs Usual care Management for Patients with mild-to-moderate Hypertension (TRIUMPH): Study protocol. *Am Heart J*. 2014 Feb;167(2):127-32. doi: 10.1016/j.ahj.2013.10.020. Epub 2013 Nov 6. PubMed PMID: 24439972.

**BACKGROUND:** Hypertension management strategies have traditionally focused on "tailored therapy" and "stepped-care" approaches. These tend to be costly and time consuming and often fail to achieve adequate blood pressure (BP) control. The TRIUMPH study aims to investigate the effectiveness, cost-effectiveness, and acceptability of early use of a 3-in-1 BP-lowering pill ("Triple Pill") compared with usual care for the management of hypertension.

**METHODS:** The prospective, open, randomized controlled clinical trial (n = 700) will compare Triple Pill-based strategy to usual care among individuals with persistent mild-to-moderate hypertension (systolic BP >140 mm Hg and/or diastolic BP >90 mm Hg, or systolic BP >130 mm Hg and/or diastolic BP >80 mm Hg in patients with diabetes or chronic kidney disease) on no or minimal drug therapy. The study will be conducted within approximately 20 hospital-based clinics in India.

Participants will be randomized to the Triple Pill (initially strength 1-telmisartan 20 mg, amlodipine 2.5 mg, hydrochlorothiazide 6.25 mg, with the option of subsequent titration to strength 2-telmisartan 40 mg, amlodipine 5 mg, hydrochlorothiazide 12.5 mg) or continued usual care. Participants will be followed up for 6 months. The primary outcome is the proportion of participants achieving target BP at the end follow-up.

**CONCLUSION:** This study will determine whether early use of a low-dose triple combination therapy has the potential to address some of the challenges in hypertension control through earlier achievement of BP control, better adherence, and fewer adverse effects, in the context of less intensive clinical follow-up.

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PMID: 24439972 [PubMed - indexed for MEDLINE]

67: Samanta S, Samanta S, Baronia AK, Jha A. Angiographic catheter as airway exchange device through laryngeal airway mask in unanticipated difficult airway in emergency department. *Indian J Crit Care Med*. 2014 Feb;18(2):120-1. doi: 10.4103/0972-5229.126096. PubMed PMID: 24678161.

PMID: 24678161 [PubMed]

68: Sankar J, Sankar MJ, Suresh CP, Dubey NK, Singh A. Early Goal-Directed Therapy in Pediatric Septic Shock: Comparison of Outcomes "With" and "Without" Intermittent Superior Venacaval Oxygen Saturation Monitoring: A Prospective Cohort Study. *Pediatr Crit Care Med*. 2014 Feb 26. [Epub ahead of print] PubMed PMID: 24583504.

**OBJECTIVE::** To evaluate the effect of intermittent central venous oxygen saturation monitoring (ScvO<sub>2</sub>) on critical outcomes in children with septic shock, as continuous monitoring may not be feasible in most resource-restricted settings.

**DESIGN::** Prospective cohort study.

**SETTING::** PICU of a tertiary care teaching hospital.

**PATIENTS::** Consecutive children younger than 17 years with fluid refractory septic shock admitted to our ICU from November 2010 to October 2012 were included.

**INTERVENTIONS::** Enrolled children were subjected to subclavian/internal jugular catheter insertion. Those in whom it was successful formed the "exposed" group (ScvO<sub>2</sub> group), whereas the rest constituted the control group (no ScvO<sub>2</sub> group). In the former group, intermittent ScvO<sub>2</sub> monitoring at 1, 3, and 6 hours was used to guide resuscitation, whereas in the latter, only clinical variables were used.

**MEASUREMENTS AND MAIN RESULTS::** The major outcomes were in-hospital mortality and achievement of therapeutic goals within first 6 hours. One hundred twenty children were enrolled in the study-63 in the ScvO<sub>2</sub> group and 57 in the no ScvO<sub>2</sub> group. Baseline characteristics including the organ dysfunction and mortality risk scores were comparable between the groups. Children in the ScvO<sub>2</sub> group had significantly lower in-hospital mortality (33.3% vs 54%; relative risk, 0.61; 95% CI, 0.4, 0.93; number needed to treat, 5; 95% CI, 3, 27). A greater proportion of children in exposed group achieved therapeutic endpoints in first 6 hours (43% vs 23%,  $p = 0.02$ ) and during entire ICU stay (71% vs 51%,  $p = 0.02$ ). The mean number of dysfunctional organs was also significantly lesser in ScvO<sub>2</sub> group in comparison with no ScvO<sub>2</sub> group (2 vs 3,  $p < 0.001$ ).

**CONCLUSION::** Early goal-directed therapy using intermittent ScvO<sub>2</sub> monitoring seemed to reduce the mortality rates and improved organ dysfunction in children with septic shock as compared with those without such monitoring.

PMID: 24583504 [PubMed - as supplied by publisher]

69: Satyaraddi A, Velpandian T, Sharma SK, Vishnubhatla S, Sharma A, Sirohiwal A, Makharia GK, Sinha S, Biswas A, Singh S. Correlation of plasma anti-tuberculosis drug levels with subsequent development of hepatotoxicity. *Int J Tuberc Lung Dis.* 2014 Feb;18(2):188-95, i-iii. doi: 10.5588/ijtld.13.0128. PubMed PMID: 24429311.

**OBJECTIVES:** To compare the free and total plasma drug concentrations of rifampicin (RMP), isoniazid and pyrazinamide in subjects with or without anti-tuberculosis drug-induced hepatotoxicity (DIH).

**METHODS:** A total of 110 tuberculosis (TB) patients were administered daily anti-tuberculosis treatment and were prospectively followed for the development of DIH. Plasma drug levels were measured at 0, 1, 2 and 4 h on days 1, 7 and 14 of treatment. Plasma drug levels in 15 patients who developed DIH (cases) were compared with 95 patients who did not (controls).

**RESULTS:** Female sex, body mass index  $< 17$  kg/m<sup>2</sup> and baseline serum albumin  $< 4$  g/dl predicted risk of DIH on univariate analyses. Free and total plasma RMP levels (C<sub>max</sub> and AUC<sub>0-4</sub>) on days 1, 7 and 14 were significantly higher in cases compared to controls and predicted development of DIH. Day 7 total RMP C<sub>max</sub> and AUC<sub>0-4</sub> were higher in cases (mean 26.73, standard deviation [SD] 5.72 and 47.58, SD 33.10) than in controls (7.87, SD 10.95 and 14.01, SD 10.69, respectively).

**CONCLUSIONS:** Plasma RMP levels were higher in cases than in controls and independently predicted subsequent development of DIH. The C<sub>max</sub> of Day 7 total RMP level (cut-off 12.50 mg/l) predicted subsequent development of DIH in 93.3% of the patients.

PMID: 24429311 [PubMed - in process]

70: Seeberg J, Pannarunothai S, Padmawati RS, Trisnantoro L, Barua N, Pandav CS. Treatment seeking and health financing in selected poor urban neighbourhoods in India, Indonesia and Thailand. *Soc Sci Med*. 2014 Feb;102:49-57. doi: 10.1016/j.socscimed.2013.11.039. Epub 2013 Dec 3. PubMed PMID: 24565141.

71: Sharawat SK, Bakhshi R, Vishnubhatla S, Gupta R, Bakhshi S. FLT3-ITD Mutation in Relation to FLT3 Expression in Pediatric AML: A Prospective Study from India. *Pediatr Hematol Oncol*. 2014 Mar;31(2):131-7. doi: 10.3109/08880018.2013.870624. Epub 2014 Feb 5. PubMed PMID: 24498869.

This article presents a comparative analysis of socio-economic disparities in relation to treatment-seeking strategies and healthcare expenditures in poor neighbourhoods within larger health systems in four cities in India, Indonesia and Thailand. About 200 households in New Delhi, Bhubaneswar, Jogjakarta and Phitsanulok were repeatedly interviewed over 12 months to relate health problems with health seeking and health financing at household level. Quantitative data were complemented with ethnographic studies involving the same neighbourhoods and a number of private practitioners at each site. Within each site, the higher and lower income groups among the poor were compared. The lower income group was more likely than the higher income group to seek care from less qualified health providers and incur catastrophic health spending. The study recommends linking quality control mechanisms with universal health coverage (UHC) policies; to monitor the impact of UHC among the poorest; intervention research to reach the poorest with UHC; and inclusion of private providers without formal medical qualification in basic healthcare.

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PMID: 24565141 [PubMed - in process]

72: Sharma N, Srinivas M. Laryngotracheobronchoscopy prior to esophageal atresia and tracheoesophageal fistula repair-its use and importance. *J Pediatr Surg*. 2014 Feb;49(2):367-9. doi: 10.1016/j.jpedsurg.2013.09.009. PubMed PMID: 24528988.

**BACKGROUND:** Pure esophageal atresia (EA) and esophageal atresia with tracheoesophageal fistula (EA-TEF) are commonly associated with various anomalies. Associated anomalies, especially those of upper airways may alter the management strategies. This study was designed to find out the role of preoperative laryngotracheobronchoscopy (LTB) just prior to the standard surgical procedure.

**STUDY DESIGN:** This was a retrospective study. The data of all the newborn babies (n=88) with a provisional diagnosis of EA or EA-TEF with preoperative rigid LTB, using 2.5/3.0/3.5F rigid bronchoscope were analyzed. This additional procedure entailed documenting the abnormalities, endoscopic lavage and noting the site of the fistula. The fistula was cannulated by 3.0F ureteric catheter just prior to the standard surgical procedure. Management strategies were changed as per the additional findings.

**RESULTS:** Out of 88 patients, 77 had EA-TEF while 11 had pure EA. LTB was performed in all of them. Additional findings in bronchoscopy were noted in 18 (20.46%) babies. These additional findings were: fistula at unusual site in 12, laryngotracheal cleft in 2 and vallecular cyst in 1 neonate. The diagnosis of pure EA turned out to be EA-TEF in 3 cases. Unusual fistula sites were carinal/subcarinal in 4/12 (33.33%), upper pouch fistula in 1/12 (8.33%), double fistula in 2/12 (16.67%) and fistula from main bronchus in 5/12 (41.67%) cases.

CONCLUSIONS: LTB performed just prior to the definitive surgical procedure in EA and EA-TEF would diagnose, document and may aid in the surgical management strategies.

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PMID: 24528988 [PubMed - in process]

73: Sharma N, Jain M, Sehra SV, Maharana P, Agarwal T, Satpathy G, Vajpayee RB. Outcomes of therapeutic penetrating keratoplasty from a tertiary eye care centre in northern India. *Cornea*. 2014 Feb;33(2):114-8. doi: 10.1097/ICO.000000000000025. PubMed PMID: 24322798.

PURPOSE: The aim was to study the outcomes and results of therapeutic penetrating keratoplasty (Th PK) at a tertiary eye care hospital in northern India.

METHODS: In this retrospective interventional study, a cohort of 506 eyes that underwent a Th PK for microbial keratitis was evaluated. Th PK was performed in cases of recalcitrant microbial keratitis with impending perforation (descemetocele formation) or perforation (>3 mm). Medical records were reviewed for demographic details, risk factors, ulcer and perforation size, microbiological investigations, size of donor and recipient beds, postoperative complications, and anatomical and visual outcomes.

RESULTS: Anatomical success was seen in 454 eyes (89.7%). Preoperatively, the corrected distance visual acuity was <3/60 in 495 eyes (97.8%); after performing the Th PK, the corrected distance visual acuity was <3/60 in 249 eyes (49.2%), 3/60 to 6/60 in 182 eyes (35.9%), and >6/60 in 75 eyes (14.8%). Eyes with smaller grafts (<9 mm) had better anatomical and visual outcomes compared with eyes with larger grafts (9-11 mm; P = 0.03 and >11 mm; P = 0.0). A higher success rate was achieved with pure bacterial or fungal organisms rather than with mixed infections. A higher incidence of secondary glaucoma was seen in eyes with perforated ulcers (29.36%; 111/378) than in eyes without perforation (11.71%; 15/128) (P <.01) and in eyes with larger graft sizes (>11 mm and 9-11 mm) than in eyes with smaller graft sizes (<9 mm) (P <0.01).

CONCLUSIONS: Th PK has a definitive role in the management of severe and refractory keratitis with a high success in restoring anatomical integrity and providing useful vision. Better outcomes may be achieved with early intervention before perforation or limbal/scleral extension.

PMID: 24322798 [PubMed - in process]

74: Sharma P, Garg G, Kumar A, Mohammad F, Kumar SR, Tanwar VS, Sati S, Sharma A, Karthikeyan G, Brahmachari V, Sengupta S. Genome wide DNA methylation profiling for epigenetic alteration in coronary artery disease patients. *Gene*. 2014 May 10;541(1):31-40. doi: 10.1016/j.gene.2014.02.034. Epub 2014 Feb 26. PubMed PMID: 24582973.

BACKGROUND: The alteration in the epigenome forms an interface between the genotype and the environment. Epigenetic alteration is expected to make a significant contribution to the development of cardiovascular disease where environmental interactions play a key role in disease progression. We had previously shown that global DNA hypermethylation per se is associated with coronary artery disease (CAD) and is further accentuated by high levels of homocysteine, a thiol amino acid which is an independent risk factor for cardiovascular disease and is also a key modulator of macromolecular methylation. RESULTS: We have identified 72 differentially methylated regions (DMRs) that were hypermethylated in CAD patients in the background of varying homocysteine levels.

Following deep bisulfite sequencing of a few of the selected DMRs, we found significantly higher methylation in CAD cases. We get six CpG sites in three DMRs that included the intronic region of C1QL4 gene and upstream region of CCDC47 and TGFBR3 genes.

CONCLUSION: To the best of our knowledge, this is the first study to identify hypermethylated regions across the genome in patients with coronary artery disease. Further validation in different populations is necessary for this information to be used for disease risk assessment and management.

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PMID: 24582973 [PubMed - in process]

75: Sharma P, Tomer R, Menon V, Saxena R, Sharma A. Evaluation of periosteal fixation of lateral rectus and partial VRT for cases of exotropic Duane retraction syndrome. *Indian J Ophthalmol.* 2014 Feb;62(2):204-8. doi: 10.4103/0301-4738.121145. PubMed PMID: 24618490.

Purpose: The purpose of this study is to evaluate the lateral rectus periosteal fixation and partial vertical rectus transpositioning (VRT) as treatment modalities to correct exotropic Duane retraction syndrome (Exo-DRS). Materials and Methods: Prospective interventional case study of cases of Exo-DRS with limitation of adduction. A total of 13 patients were subdivided into two groups. Six patients underwent only lateral rectus periosteal fixation (group A) and seven patients also underwent partial VRT (group B). Assessment involved prism bar cover test, abduction and adduction range, extent of binocular single visual field and exophthalmometry. These tests were repeated at 1 week, 1 month and 3 months post-operatively and data analyzed. Results: The pre-operative mean values and ranges were 26.2 Δ (22-35) exotropia for group A and -21.3 Δ (14-30) exotropia for group B. The post-operative mean and range was +0.6 Δ esotropia (+20 to -8) for group A and 8 Δ (-2 to -20) exotropia for group B. Mean grade of limitation of abduction changed from -3.8 to -3.6 versus -3.6 to -2.8 and mean grade of limitation of adduction changed from -1.9 to -0.7 versus -1.5 to -0.5 in the groups A and B respectively. Mean binocular single visual field changed from 14.7° to 23.3° in group A and 11.8° to 26.4° in the group B respectively. Conclusion: Lateral rectus periosteal fixation is an effective surgery to correct the exodeviation, anomalous head posture and improving adduction in Exo-DRS and partial VRT in addition is effective in improving abduction and binocular single visual fields.

PMID: 24618490 [PubMed - in process]

76: Sharma S, Gupta D, Mohanty S, Jassal M, Agrawal AK, Tandon R. Surface-modified electrospun poly(epsilon-caprolactone) scaffold with improved optical transparency and bioactivity for damaged ocular surface reconstruction. *Invest Ophthalmol Vis Sci.* 2014 Feb 12;55(2):899-907. doi: 10.1167/iovs.13-12727. PubMed PMID: 24425860.

PURPOSE: The purpose of this study was to modify and functionalize the surface of synthetic poly-ε-caprolactone (PCL) nanofibrous scaffolds to improve their biocompatibility in order to provide better "cell-substrate" interaction.

METHODS: Poly-ε-caprolactone solution was electrospun and its surface functionality was modified by helium-oxygen (He/O<sub>2</sub>) plasma discharge. Scaffolds were characterized for their morphology, wetting ability, mechanical strength, and optical properties by using scanning electron microscopy (SEM), water contact angle measurement, tensile strength, and ultraviolet-visible (UV-Vis)

spectrophotometer, respectively. The biocompatibility of nanofibers was explored by culturing human corneal epithelial (HCE-T) cell line. Subsequently, human limbal epithelial cells (LECs) were cultured to evaluate the bioactivity. Cell proliferation was checked by MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay. Immunofluorescent staining and reverse transcription-polymerase chain reaction were done to check the gene expression; SEM was used to study the morphology.

**RESULTS:** Plasma-treated and untreated scaffolds showed almost similar morphology and tensile strength. Water contact angle measurement and optical transparency data showed that the plasma-treated PCL (pPCL) exhibited significantly improved wettability and transparency as compared to the untreated PCL scaffolds. Biocompatibility results indicated that both scaffolds are biocompatible in terms of cell survival and proliferation. However, pPCL showed better cell adhesion and proliferation. Results supported that LEC cultured on pPCL scaffolds had enhanced cell adhesion and proliferation, in comparison to untreated PCL. Gene expression study showed cultures were able to retain their normal phenotype on both scaffolds.

**CONCLUSIONS:** The hydrophilicity of the surface achieved by plasma treatment effectively enhanced the transparency and promoted the biocompatibility of scaffolds. These nanofibers may act as biological cues for endorsing ocular surface engineering.

PMID: 24425860 [PubMed - in process]

77: Singh A, Dey AB, Mohan A, Mitra DK. Programmed death-1 receptor suppresses  $\gamma$ -IFN producing NKT cells in human tuberculosis. *Tuberculosis (Edinb)*. 2014 Feb 4. pii: S1472-9792(14)00006-7. doi: 10.1016/j.tube.2014.01.005. [Epub ahead of print] PubMed PMID: 24629634.

IFN- $\gamma$  biased Th1 effector immune response is crucial for containment of *Mycobacterium tuberculosis* infection. Various T cell subsets with regulatory function dictate the generation of Th1 like cells. NKT cells are a specialized T cell subset known to be activated early in immune response and control T cell response via release of immunoregulatory cytokines like IFN- $\gamma$ , IL-4 and IL-10. *M. tuberculosis*, with abundance of its cell wall lipids may potently activate NKT cells resulting in cytokine production and PD-1 expression. In this study, among 49 treatment naive active pulmonary tuberculosis patients, we found a higher percentage of PD1(+) NKT cells correlating with sputum bacillary load. Furthermore, blocking PD-1 increased the number of IFN- $\gamma$  producing NKT cells by inhibiting their apoptosis. Moreover, peripheral frequency of NKT cells declined with therapy suggesting their role in host T cell response. In this study, we concluded that PD-1 preferentially induces apoptosis of IFN- $\gamma$  producing NKT cells while sparing NKT cells that produce IL-4. Such a polarized NKT cell function may impose a Th2 bias on the ensuing effector T cell response leading to inefficient clearance of *M. tuberculosis*. Inhibiting PD-1 may therefore alter the T cell response in favor of the host by rescuing type 1 NKT cells from apoptosis and boosting Th1 effector T cell functions against *M. tuberculosis*.

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PMID: 24629634 [PubMed - as supplied by publisher]

78: Singh A, Palanichamy JK, Ramalingam P, Kassab MA, Bhagat M, Andrabi R, Luthra K, Sinha S, Chattopadhyay P. Long-term suppression of HIV-1C virus production in human peripheral blood mononuclear cells by LTR heterochromatization with a short double-stranded RNA. *J Antimicrob Chemother*. 2014 Feb;69(2):404-15. doi:



10.1093/jac/dkt348. Epub 2013 Sep 10. PubMed PMID: 24022068.

**OBJECTIVES:** A region in the conserved 5' long terminal repeat (LTR) promoter of the integrated HIV-1C provirus was identified for effective targeting by a short double-stranded RNA (dsRNA) to cause heterochromatinization leading to a long-lasting decrease in viral transcription, replication and subsequent productive infection in human host cells.

**METHODS:** Small interfering RNAs (siRNAs) were transfected into siHa cells containing integrated LTR-luciferase reporter constructs and screened for efficiency of inducing transcriptional gene silencing (TGS). TGS was assessed by a dual luciferase assay and real-time PCR. Chromatin modification at the targeted region was also studied. The efficacy of potent siRNA was then checked for effectiveness in TZM-bl cells and human peripheral blood mononuclear cells (PBMCs) infected with HIV-1C virus. Viral Gag-p24 antigen levels were determined by ELISA.

**RESULTS:** One HIV-1C LTR-specific siRNA significantly decreased luciferase activity and its mRNA expression with no such effect on HIV-1B LTR. This siRNA-mediated TGS was induced by histone methylation, which leads to heterochromatinization of the targeted LTR region. The same siRNA also substantially suppressed viral replication in TZM-bl cells and human PBMCs infected with various HIV-1C clinical isolates for  $\geq 3$  weeks after a single transfection, even of a strain that had a mismatch in the target region.

**CONCLUSIONS:** We have identified a potent dsRNA that causes long-term suppression of HIV-1C virus production in vitro and ex vivo by heritable epigenetic modification at the targeted C-LTR region. This dsRNA has promising therapeutic potential in HIV-1C infection, the clade responsible for more than half of AIDS cases worldwide.

PMID: 24022068 [PubMed - in process]

79: Singh A, Panda SS, Bajpai M, Jana M, Baidya DK. Our experience, technique and long-term outcomes in the management of posterior urethral strictures. *J Pediatr Urol.* 2014 Feb;10(1):40-4. doi: 10.1016/j.jpuro.2013.05.018. Epub 2013 Jun 19. PubMed PMID: 23790713.

**PURPOSE:** To share our experience, technique and long-term outcomes in posterior urethral stricture management.

**MATERIALS AND METHODS:** Thirty-seven boys with post-traumatic posterior urethral stricture underwent resection and end-to-end anastomosis through pre-anal coronal approach or in combination with trans-pubic approach from January 2000 to December 2011. Follow up included symptomatic evaluation by micturating cystourethrogram and retrograde urethrogram in all patients, and urethroscopy in patients with voiding symptoms.

**RESULTS:** Pre-anal coronal approach was used in 29 (78%) cases and in 8 (21%) cases it was combined with trans-pubic approach. In 33 (89.1%) patients it was first attempt, while in 4 (10.9%) it was redo surgery. Two patients required buccal mucosal graft to bridge the deficient urethra. Patient age was 5-17 years (mean 10.8 years). Mean follow up was 48.5 months (range 6-132 months).

Thirty-two (86%) patients were symptom free. Failed repairs were successfully managed by urethral dilation in 3 and by redo urethroplasty in the remaining 2. All patients were continent. There was no chordee, penile shortening or urethral diverticula.

**CONCLUSIONS:** Resection and end-to-end anastomosis of posterior urethral stricture is possible through pre-anal coronal incision; however, if slightest difficulty is envisaged in creating a satisfactory end-to-end anastomosis, extension to trans-pubic approach should be done.

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PMID: 23790713 [PubMed - in process]

80: Singh P, Kurray L, Agnihotri A, Das P, Verma AK, Sreenivas V, Dattagupta S, Makharia GK. Titers of Anti-tissue Transglutaminase Antibody Correlate Well With Severity of Villous Abnormalities in Celiac Disease. *J Clin Gastroenterol*. 2014 Feb 27. [Epub ahead of print] PubMed PMID: 24583754.

GOALS:: We reviewed our celiac disease (CeD) database to study if anti-tissue transglutaminase (tTG) antibody (ab) titers correlate with severity of villous abnormalities in Indian patients and to find out a cutoff value of anti-tTG ab fold-rise, which could best predict CeD.

BACKGROUND:: Guidelines for diagnosing CeD suggest that biopsy could be avoided in some patients with high anti-tTG ab titer.

STUDY:: We reviewed a cohort of 366 anti-tTG ab-positive individuals in whom duodenal biopsies were performed. Anti-tTG ab was obtained before initiation of gluten-free diet. Anti-tTG ab results were expressed in terms of fold-rise by calculating ratio of observed values with cutoff value. CeD was diagnosed if in addition to positive serology, patients had villous atrophy (>Marsh grade 2) and unequivocal response to gluten-free diet.

RESULTS:: The mean anti-tTG fold-rise in groups with Marsh grade  $\leq 2$  was 2.6 ( $\pm 2.5$ ), grade 3a was 4.0 ( $\pm 3.9$ ), 3b was 5.7 ( $\pm 5.1$ ), and 3c was 11.8 ( $\pm 8.0$ ). The positive likelihood ratio for diagnosing CeD was 15.4 and 27.4 at 12- and 14-fold-rise of anti-tTG ab titer, respectively. The positive predictive value of diagnosis of CeD was 100% when anti-tTG ab titer was 14-fold higher over the cutoff value. Fifty-seven (43.9%) individuals with anti-tTG titer rise  $< 2$ -fold high also had CeD.

CONCLUSIONS:: As severity of villous abnormality increases, titer of anti-tTG also rises. Presence of villous atrophy can be predicted at very high anti-tTG ab titer. In contrast to emerging belief, mucosal biopsies should be performed even if anti-tTG ab titer is  $< 2$  times, because many patients with CeD have low titers.

PMID: 24583754 [PubMed - as supplied by publisher]

81: Singh R, Sharma MC, Sarkar C, Singh M, Chauhan SS. Transcription factor C/EBP- $\beta$  mediates downregulation of dipeptidyl-peptidase III expression by interleukin-6 in human glioblastoma cells. *FEBS J*. 2014 Mar;281(6):1629-41. doi: 10.1111/febs.12728. Epub 2014 Feb 17. PubMed PMID: 24472318.

Dipeptidyl-peptidase III (DPP III) is a cytosolic metallo-aminopeptidase implicated in various physiological and pathological processes. A previous study from our laboratory indicated an elevated expression of DPP III in glioblastoma (U87MG) cells. In the present study we investigated the role of interleukin-6 (IL-6), a pleiotropic cytokine produced by glial tumors, in the regulation of DPP III expression. Immunohistochemistry, western blotting and quantitative RT-PCR were used for quantitation of DPP III and IL-6 in human glioblastoma cells and tumors. Cell transfections and DPP III promoter reporter assays were performed to study the transcriptional regulation of DPP III by IL-6. Promoter deletion analysis, site directed mutagenesis, chromatin immunoprecipitation assays and small interfering RNA (siRNA) technology was employed to elucidate the molecular mechanism of IL-6 mediated regulation of DPP III expression in glioblastoma cells. Our results for the first time demonstrate a negative correlation ( $r = 0.632$ ,  $P = 0.01$ ) between DPP III and IL-6 in both human tumors and cultured

glioblastoma cells. Treatment of U87MG cells with IL-6 significantly decreased DPP III expression with a concomitant increase in the levels of transcription factor CCAAT/enhancer binding protein beta (C/EBP- $\beta$ ). Deletion/mutagenesis of C/EBP- $\beta$  binding motif of DPP III promoter significantly increased its activity and abolished its responsiveness to IL-6. This effect could also be mimicked by C/EBP- $\beta$  siRNA. In conclusion our study for the first time demonstrates C/EBP- $\beta$  mediated transcriptional downregulation of DPP III by IL-6. Our results demonstrating a negative correlation between IL-6 and DPP III taken together with the previously reported prognostic significance of this cytokine in glioblastoma suggests that DPP III may prove useful as a prognostic marker.

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PMID: 24472318 [PubMed - in process]

82: Singh SP, Chauhan S, Choudhury M, Malik V, Choudhary SK. Recombinant activated factor VII in cardiac surgery: single-center experience. *Asian Cardiovasc Thorac Ann.* 2014 Feb;22(2):148-54. doi: 10.1177/0218492312471672. Epub 2013 Jul 16. PubMed PMID: 24585784.

**BACKGROUND:** the widespread off-label use of recombinant activated factor VII for the control of refractory postoperative hemorrhage continues despite a warning from the Food and Drug Administration. Although effective in reducing the need for transfusion of blood and blood products, safety concerns still prevail.

**OBJECTIVE:** to compare the dosing and efficacy of recombinant activated factor VII between pediatric and adult patients, and in the operating room and intensive care unit.

**METHODS:** the records of 69 patients (33 children and 36 adults) who underwent cardiovascular surgery and received recombinant activated factor VII were reviewed retrospectively. The dose of recombinant activated factor VII, mediastinal drainage, use of blood and blood products, incidence of thrombosis, and 28-day mortality were studied.

**RESULTS:** the efficacy of recombinant activated factor VII was comparable in adults and children, despite the lower dose in adults. Prophylactic use of recombinant activated factor VII decreased the incidence of mediastinal exploration and the duration of intensive care unit stay. A 4.3% incidence of thrombotic complications was observed in this study.

**CONCLUSION:** the efficacious dose of recombinant activated factor VII is much less in adults compared to children. Prophylactic use of recombinant activated factor VII decreases the dose required, the incidence of mediastinal exploration, and intensive care unit stay, with no survival benefit.

PMID: 24585784 [PubMed - in process]

83: Singla A, Shankar V, Mittal S, Agarwal A, Garg B. Baastrup's disease: The kissing spine. *World J Clin Cases.* 2014 Feb 16;2(2):45-7. doi: 10.12998/wjcc.v2.i2.45. PubMed PMID: 24579072; PubMed Central PMCID: PMC3936220.

A 67-year-old male presented with a gradually progressive low back pain of 2 years duration. The patient was leading a retired life and there was no history of chronic fever or significant trauma. There was no radiation of pain or any features suggestive of claudication. There was no history of any comorbidity. The pain was aggravated with extension of the spine and relieved with flexion. There was no swelling or neurological deficit, but muscle spasm was present. Radiographs of the spine revealed degenerative changes in the lumbosacral spine, along with articulation of spinous processes at in lumbar spine at all levels

level suggestive of Baastrup's disease, commonly known as "kissing spine". Routine blood investigations were within normal limits. The patient was managed conservatively. He was given a week's course of analgesics and muscle relaxants and then started on spinal flexion exercises, with significant improvement being noted at 6 months follow up.

PMCID: PMC3936220

PMID: 24579072 [PubMed]

84: Sonker A, Dubey A, Singh A, Chaudhary R. A rare case report of chronic variable immunodeficiency divulged by ABO discrepancy. *Transfus Apher Sci*. 2014 Feb 2. pii: S1473-0502(14)00023-8. doi: 10.1016/j.transci.2013.11.010. [Epub ahead of print] PubMed PMID: 24529743.

ABO discrepancy refers to incongruence between the results of red cell and serum groupings. One such case is described here; the discrepant results of whose routine ABO grouping led to the diagnosis of common variable immunodeficiency. There was no reaction in the reverse grouping of a young patient presenting with recurrent bacterial infections, pointing towards an absence of antibodies in the serum. Diagnosis was made on the basis of markedly decreased serum immunoglobulin levels and by serum protein electrophoresis showing scanty gamma regions.

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PMID: 24529743 [PubMed - as supplied by publisher]

85: Subbaiah M, Kumar S, Roy KK, Sharma JB, Singh N. Pregnancy outcome in patients with idiopathic thrombocytopenic purpura. *Arch Gynecol Obstet*. 2014 Feb;289(2):269-73. doi: 10.1007/s00404-013-2958-x. Epub 2013 Jul 14. PubMed PMID: 23852640.

**OBJECTIVE:** To study the outcome of pregnancy in women with idiopathic thrombocytopenic purpura.

**MATERIALS AND METHODS:** A retrospective analysis of 30 pregnancies in 26 women with idiopathic thrombocytopenic purpura was carried out at a tertiary hospital in India. The courses of the disease, maternal and perinatal outcome in these pregnancies were studied.

**RESULTS:** Mean age of pregnant women with idiopathic thrombocytopenic purpura was 27.3 years and 61.5 % was primigravidae. Out of 26 patients with idiopathic thrombocytopenic purpura, 16 were already diagnosed while the other 10 were diagnosed during pregnancy. The incidence of bleeding episodes in antenatal period, severe thrombocytopenia and hemorrhagic complications at the time of delivery was 30, 37 and 11.1 %, respectively. Oral steroids were required in 40 % of pregnancies. Two patients received intravenous immunoglobulin therapy. Severe thrombocytopenia at the time of delivery was more commonly seen in women in whom ITP was diagnosed during pregnancy as compared to those in whom ITP was diagnosed prior to pregnancy (P = 0.04). Severe thrombocytopenia was seen in 18.5 % of neonates and intracranial hemorrhage was detected in 1 neonate. There were no still births or maternal mortality.

**CONCLUSION:** Pregnancy outcome in patients with idiopathic thrombocytopenic purpura is generally good.

PMID: 23852640 [PubMed - in process]

86: Sugandhi N, Srinivas M, Agarwala S, Gupta DK, Sharma S, Sinha A, Dinda A, Mohanty S. Effect of stem cells on renal recovery in rat model of partial

unilateral upper ureteric obstruction. *Pediatr Surg Int.* 2014 Feb;30(2):233-8. doi: 10.1007/s00383-013-3456-8. PubMed PMID: 24370792.

**BACKGROUND:** Untreated obstructive uropathy produces irreversible renal damage and is an important cause of pediatric renal insufficiency. This study was designed to evaluate the effects of stem cell injection on morphological and pathological changes in the rat kidneys with partial unilateral upper ureteric obstruction (PUUUO).

**METHODS:** Wistar rats (n = 30) were operated upon to create a PUUUO by the psoas hitch method and were randomized into Group I (control, n = 15) and Group II (stem cell, n = 15); at day 5, 10 and 15, a subgroup of rats (n = 5) from each group was killed and the kidneys harvested. Pathological and morphological changes in the harvested kidneys were studied and compared between the two groups.

**RESULTS:** Morphologically, at day 15, Group II had significantly (p = 0.04) greater cortical thickness ( $0.48 \pm 0.17$  vs.  $0.38 \pm 0.09$  mm). Histologically, at day 5, Group II had significantly (p = 0.032) lower peri-pelvic fibrosis. Group II group showed greater peri-pelvic inflammation as compared to Group I (p = 0.05). At day 10, lower grades of peri-pelvic fibrosis (p = 0.08), interstitial fibrosis (p = 0.037) and tubular atrophy (p = 0.05) were seen in the Group II. At day 15, Group II demonstrated significantly lower parenchymal loss (p = 0.037), glomerulosclerosis (p = 0.08), interstitial fibrosis (p = 0.08), tubular atrophy (p = 0.08) and peri-pelvic fibrosis (p = 0.08).

**CONCLUSIONS:** In a rat model of PUUUO, stem cell injection prevented detrimental changes in renal pathology and preserved renal parenchymal mass.

PMID: 24370792 [PubMed - in process]

87: Sugandhi N, Agarwala S, Bhatnagar V, Singh MK, Sharma R. Liver histology in choledochal cyst- pathological changes and response to surgery: the overlooked aspect? *Pediatr Surg Int.* 2014 Feb;30(2):205-11. doi: 10.1007/s00383-013-3453-y. PubMed PMID: 24370791.

**BACKGROUND:** Histological changes in the liver in cases of choledochal cyst are seldom reported. The severity of liver pathology has an impact on the presentation, course and prognosis of hepatobiliary lesions. This study aims to record the histological changes in the liver and response to surgery in patients with choledochal cyst and to correlate these with the clinical symptoms and recovery.

**MATERIALS AND METHODS:** All children <12 years diagnosed with choledochal cyst were evaluated clinically, radiologically and biochemically at presentation. Excision of the cyst with intra-operative liver biopsy was done. Liver biopsy was repeated after 6 months of surgery. Both the liver biopsies were compared objectively in terms of hepatocellular damage, cholestasis, parenchymal inflammation, bile duct inflammation, bile duct proliferation, portal fibrosis and central venous distension with appropriate statistical tests. Clinical presentation and recovery were correlated with grades of liver pathology.

**RESULTS:** Forty-six patients were included. Pathological damage was observed in all the livers preoperatively. Post-operatively, significant resolution of histological changes was seen in hepatocellular damage (p < 0.0001), parenchymal inflammation (p = 0.0001), cholestasis (p = 0.0003) and bile duct proliferation (p = 0.0001). Portal fibrosis did not resolve. Central venous distension worsened. Severity of damage correlated significantly with younger age, symptom severity, anomalous pancreatobiliary junction (APBJ) and obstructive biliary clearance on Tc-99 HIDA scan. Post-operative bile duct proliferation, bile duct inflammation and portal fibrosis were associated with cholangitis, re-do surgery

and obstructive Tc-99 HIDA scan clearance in the post-operative period.  
CONCLUSIONS: All patients with choledochal cyst show pathological changes in liver of varying severity. More severe symptoms, younger age and APBJ are associated with higher degree of liver damage. Except portal fibrosis and central venous distension, all other pathological changes regress after surgery. Regression can be hindered by post-op cholangitis, obstructive biliary clearance and post-op IHBR dilatation.

PMID: 24370791 [PubMed - in process]

88: Tandon V, Garg K, Mahapatra AK, Borkar SA. Extra Giant Occipital Encephalocele- Can it Grow Bigger Than This? Indian J Pediatr. 2014 Feb 14. [Epub ahead of print] PubMed PMID: 24522946.

PMID: 24522946 [PubMed - as supplied by publisher]

89: Tilak TV, Sharawat S, Gupta R, Agarwala S, Vishnubhatla S, Bakhshi S. Circulating T-regulatory cells in PNET: a prospective study. Pediatr Blood Cancer. 2014 Feb;61(2):228-32. doi: 10.1002/psc.24734. Epub 2013 Aug 29. PubMed PMID: 23997029.

PURPOSE: Bone marrow regulatory T-cells (Tregs) have been evaluated in patients with peripheral neuroectodermal tumor (PNET); data on peripheral blood circulating Tregs are lacking. The objective of our study was to determine baseline Tregs (both Treg frequency and absolute number) in patients with PNET and correlate with patient characteristics, and observe their change with treatment and relapse.

METHODS: Five milliliters blood was evaluated in de novo patients with PNET at diagnosis, post-neoadjuvant chemotherapy and at relapse/progression, along with nine healthy controls using flow-cytometric analysis for Treg cells (CD4+ CD25+ FoxP3+).

RESULTS: Thirty-seven patients with median age 17 years; male/female ratio 5.1:1 had significantly higher baseline absolute Tregs than controls (mean  $338.95 \pm 264.63/\text{mm}^3$  vs.  $34.83 \pm 24.90/\text{mm}^3$ ;  $P < 0.001$ ). Patients with fever had a significantly higher mean Treg frequency than those without fever ( $11.27 \pm 8.36\%$  vs.  $8.40 \pm 2.58\%$ ;  $P = 0.014$ ). There was significant reduction in the circulating Tregs after neoadjuvant chemotherapy (mean  $339.78 \pm 294.31/\text{mm}^3$  vs.  $82.09 \pm 91.25/\text{mm}^3$ ,  $P < 0.001$ ) and rise at progression ( $n = 13$ ) as compared to values post-neoadjuvant chemotherapy (mean  $240.92 \pm 191.90/\text{mm}^3$  vs.  $57.67 \pm 39.01/\text{mm}^3$ ,  $P = 0.012$ ). There was no significant difference in the event-free survival (EFS) or overall survival (OS) between the high and low Treg cell groups (2-year EFS 51.6% vs. 52.1%;  $P = 0.689$  and OS 61.3% vs. 59.2%;  $P = 0.891$ ).

CONCLUSION: This study on circulating Tregs in PNET demonstrated that peripheral blood Tregs are higher in patients than healthy controls. There was significant reduction in Tregs with chemotherapy and rise at progression.

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PMID: 23997029 [PubMed - indexed for MEDLINE]

90: Tripathi M, Tripathi M, Damle N, Kushwaha S, Jaimini A, D'Souza MM, Sharma R, Saw S, Mondal A. Differential Diagnosis of Neurodegenerative Dementias Using Metabolic Phenotypes on F-18 FDG PET/CT. Neuroradiol J. 2014 Feb 28;27(1):13-21. Epub 2014 Feb 24. PubMed PMID: 24571830.

Positron emission tomography (PET) imaging with F-18 fluorodeoxyglucose (FDG) can

be used as a downstream marker of neuronal injury, a hallmark of neurodegenerative dementias. Characteristic patterns of regional glucose metabolism have been used to classify the dementia subtypes, namely Alzheimer's dementia (AD), frontotemporal dementia (FTD), diffuse Lewy body (DLBD) and vascular dementia (VD). We undertook this study to assess the utility of FDG-PET in the differential diagnosis of dementia subtypes. One hundred and twenty-five patients diagnosed with dementia were referred from cognitive disorders and memory clinics of speciality neurology centres for the FDG-PET study. Imaging-based diagnosis of dementia type was established in 101 patients by visual assessment of individual scans by a PET physician blinded to the clinical diagnosis. The results were compared with an 18-month follow-up clinical assessment made by the specialist neurologist. Concordance of visual evaluation of FDG-PET scans with clinical diagnosis of the dementia type was achieved in 90% of patients scanned. This concordance was 93.4% for AD, 88.8% for FTD, 66.6% for DLBD and 92.3% for the other dementia syndromes. FDG-PET performed after the initial work-up of dementias is useful for supporting the clinical diagnosis of dementia subtype.

PMID: 24571830 [PubMed - in process]

91: Vajpayee RB, Maharana PK, Sharma N, Agarwal T, Jhanji V. Diamond knife-assisted deep anterior lamellar keratoplasty to manage keratoconus. *J Cataract Refract Surg.* 2014 Feb;40(2):276-82. doi: 10.1016/j.jcrs.2013.07.047. Epub 2013 Dec 15. PubMed PMID: 24345531.

**PURPOSE:** To evaluate the outcomes of a new surgical technique, diamond knife-assisted deep anterior lamellar keratoplasty (DALK), and compare its visual and refractive results with big-bubble DALK in cases of keratoconus.

**SETTING:** Tertiary eyecare hospital.

**DESIGN:** Comparative case series.

**METHODS:** The visual and surgical outcomes of diamond knife-assisted DALK were compared with those of successful big-bubble DALK.

**RESULTS:** Diamond knife-assisted DALK was performed in 19 eyes and big-bubble DALK, in 11 eyes. All surgeries were completed successfully. No intraoperative or postoperative complications occurred with diamond knife-assisted DALK. Six months after diamond knife-assisted DALK, the mean corrected distance visual acuity (CDVA) improved significantly from  $1.87 \log\text{MAR} \pm 0.22$  (SD) to  $0.23 \pm 0.06 \log\text{MAR}$ , the mean keratometry improved from  $65.99 \pm 8.86$  diopters (D) to  $45.13 \pm 1.16$  D, and the mean keratometric cylinder improved from  $7.99 \pm 3.81$  D to  $2.87 \pm 0.59$  D (all  $P=.005$ ). Postoperatively, the mean refractive astigmatism was  $2.55 \pm 0.49$  D and the mean spherical equivalent was  $-1.97 \pm 0.56$  D. The mean logMAR CDVA ( $P = .06$ ), postoperative keratometry ( $P=.64$ ), refractive cylinder ( $P=.63$ ), and endothelial cell loss ( $P=.11$ ) were comparable between diamond knife-assisted DALK and big-bubble DALK.

**CONCLUSIONS:** Diamond knife-assisted DALK was effective and predictable as a surgical technique for management of keratoconus cases. This technique has the potential to offer visual and refractive outcomes comparable to those of big-bubble DALK.

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92: Vijayamurugan N, Bakhshi S. Review of management issues in relapsed osteosarcoma. *Expert Rev Anticancer Ther.* 2014 Feb;14(2):151-61. doi: 10.1586/14737140.2014.863453. Epub 2013 Nov 26. PubMed PMID: 24308680.

Osteosarcoma is the most common primary malignant bone tumor in children and adolescents. With combined modality treatment long-term survival rate for localized disease is near 70%. Thirty percent of patients relapse with lung as the commonest site. Surgery is the treatment of choice for relapsed patients whenever possible. Addition of chemotherapy to surgery provides survival benefit in patients not achieving second surgical remission. Even patients with multiple lung recurrences can be cured with repeated thoracotomies. Disease-free interval and complete surgical resection are the main prognostic factor for post-relapse survival.

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