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1: Agarwal A, Zakeri A, Agarwal AK, Jayaswal A, Goel VK. Distraction magnitude and frequency affects the outcome in juvenile idiopathic patients with growth rods: finite element study using a representative scoliotic spine model. *Spine J.* 2015 Aug 1;15(8):1848-55. doi: 10.1016/j.spinee.2015.04.003. Epub 2015 Apr 7. PubMed PMID: 25862502.

BACKGROUND CONTEXT: Growth rods are used to limit the progression of scoliosis without restraining the opportunity for the spine to grow. However, major complications like rod breakage, screw loosening, and altered sagittal contour have been encountered.

OBJECTIVE: To analyse the effect of the magnitude of distraction forces on the T1-S1 growth, maximum von Mises stresses on the rods, sagittal contours, and load at the pedicle screw-bone interface and quantify the maximum stresses on the rod for a period of 24 months using different frequencies of distraction in a representative scoliotic spine model.

STUDY DESIGN: A representative finite element model of a juvenile scoliotic spine was used to study the effect of magnitude and frequency of distraction on growth rods.

METHODS: A representative scoliotic model was developed and instrumented using proximal foundation, distal foundation, and rods. Part 1: simulation steps comprised 6 months of growth under various distraction forces to analyze effects of distraction force on the biomechanics of the spine and instrument. Part 2: simulation steps comprised 24 months of growth under various intervals of distraction to analyze effects of distraction interval on the propensity of rod fracture.

RESULTS: Part 1: an optimal distraction force exists for which the growth is sustained with minimum stress on the rod, lower loads at screw-bone interface, and unaltered sagittal contours. Part 2: the stresses on the rods were highest for 12-month distraction (2 distractions in 2 years) and lowest for 2-month distraction (12 distractions in 2 years).

CONCLUSIONS: The data and trend suggest that as the distraction forces vary so do the effects on spinal growth. The results of this study also signify the importance of shorter distraction period in reducing the stresses on the rods.

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2: Agarwal N, Gupta M, Kriplani A, Bhatla N, Singh N. Comparison of combined hormonal vaginal ring with ultralow-dose combined oral contraceptive pills in the management of heavy menstrual bleeding: A pilot study. *J Obstet Gynaecol.* 2015 Aug 24:1-5. [Epub ahead of print] PubMed PMID: 26204126.

The aim of this study was to compare combined hormonal vaginal ring with ultralow-dose combined oral contraceptive (COC) pills in management of heavy menstrual bleeding (HMB). Fifty patients were randomised into Group I: vaginal ring (n = 25) and group II: COC pills (n = 25). Menstrual blood loss (MBL) was assessed at baseline, 1, 3 and 6 months (while on treatment) and at 9 months (3 months after stopping therapy). There was significant reduction in baseline pictorial blood loss assessment chart (PBAC) score from 440 ± 188 (Mean \pm SD) to 178 ± 95 , 139 ± 117 , 112 ± 84 and 120 ± 108 in group I and from 452 ± 206 to 204 ± 152 , 179 ± 125 , 176 ± 164 and 202 ± 167 in group II at 1, 3, 6 and 9 months, respectively (p = 0.001). Reduction in MBL was 72% and 62% at 6 months and up to 71% and 55% at 9 months in group I and group II, respectively (p = 0.001). Reduction in MBL with ring was greater at higher baseline PBAC score but lesser in patients with fibroid > 2 cm. Combined vaginal hormonal treatment for HMB is as effective as oral hormonal therapy, with minor and transient side effects and persistence of response after cessation of therapy.

3: Alam MS, Choudhary V, Zeeshan M, Tyagi RK, Rathore S, Sharma YD. Interaction of Plasmodium vivax Tryptophan-rich Antigen PvTRAg38 with Band 3 on Human Erythrocyte Surface Facilitates Parasite Growth. *J Biol Chem.* 2015 Aug 14;290(33):20257-72. doi: 10.1074/jbc.M115.644906. Epub 2015 Jul 6. PubMed PMID:

26149684; PubMed Central PMCID: PMC4536434.

Plasmodium tryptophan-rich proteins are involved in host-parasite interaction and thus potential drug/vaccine targets. Recently, we have described several *P. vivax* tryptophan-rich antigens (PvTRAGs), including merozoite expressed PvTRAG38, from this noncultivable human malaria parasite. PvTRAG38 is highly immunogenic in humans and binds to host erythrocytes, and this binding is inhibited by the patient sera. This binding is also affected if host erythrocytes were pretreated with chymotrypsin. Here, Band 3 has been identified as the chymotrypsin-sensitive erythrocyte receptor for this parasite protein. Interaction of PvTRAG38 with Band 3 has been mapped to its three different ectodomains (loops 1, 3, and 6) exposed at the surface of the erythrocyte. The binding region of PvTRAG38 to Band3 has been mapped to its sequence, KVVQWKNDKIRSWLSSEW, present at amino acid positions 197-214. The recombinant PvTRAG38 was able to inhibit the parasite growth in in vitro Plasmodium falciparum culture probably by competing with the ligand(s) of this heterologous parasite for the erythrocyte Band 3 receptor. In conclusion, the host-parasite interaction at the molecular level is much more complicated than known so far and should be considered during the development of anti-malarial therapeutics.

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4: Alper BS, Malone-Moses M, Prasad K. Intervention for Acute Stroke. JAMA. 2015 Aug 11;314(6):625-6. doi: 10.1001/jama.2015.7848. PubMed PMID: 26262804.

5: Angmo D, Nayak B, Gupta V. Post-strabismus surgery aqueous misdirection syndrome. BMJ Case Rep. 2015 Aug 4;2015. pii: bcr2015210489. doi: 10.1136/bcr-2015-210489. PubMed PMID: 26243745.

A 24-year-old man was referred to the glaucoma clinic of our tertiary eye care centre in view of uncontrolled intraocular pressure (IOP) in the left eye despite maximal medication. The patient had undergone left eye cosmetic squint surgery 1 month before (medial rectus resection 9 mm and lateral rectus recession 12 mm) for congenital third nerve palsy. Post-squint surgery, the patient developed pain and was being managed symptomatically. However, 1 week later, he developed diffuse corneal oedema and severe pain, and was readmitted for management in the same hospital. He presented to our centre with an IOP of 16 mm Hg in the right eye and 58 mm Hg in the left eye. We made a diagnosis of left eye post-strabismus surgery aqueous misdirection syndrome, and performed left eye core vitrectomy with 360° goniosynechialysis and ultimately a trabeculectomy to reduce IOP.

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6: Arora T, Arora S, Sharma V. Deep Anterior Lamellar Keratoplasty in Macular Corneal Dystrophy. Cornea. 2015 Aug;34(8):e23. doi: 10.1097/ICO.0000000000000473. PubMed PMID: 25970437.

7: Bajaj MS, Angmo D, Pushker N, Hada M. Erratum to: Modified technique of levator plication for the correction of Marcus Gunn jaw-winking ptosis: a case series. Int Ophthalmol. 2015 Aug;35(4):593. doi: 10.1007/s10792-015-0071-9. PubMed PMID: 25851112.

8: Bajaj MS, Angmo D, Pushker N, Hada M. Modified technique of levator plication for the correction of Marcus Gunn jaw-winking ptosis: a case series. Int Ophthalmol. 2015 Aug;35(4):587-91. doi: 10.1007/s10792-015-0060-z. Epub 2015 Mar 27. Erratum in: Int Ophthalmol. 2015 Aug;35(4):593. PubMed PMID: 25813374.

To conduct a study on ptotic eyelids with Marcus Gunn jaw-winking ptosis operated via a technique of modified levator plication, prospective interventional case

series. Ten ptotic eyelids with Marcus Gunn jaw-winking phenomenon (MGJWP) underwent modified levator plication surgery. Postoperatively, all cases were followed up for at least 6 months. Outcome parameters included amount of ptosis correction, amount of MGJWP correction, palpebral aperture height, lid lag, and lagophthalmos. The mean amount of ptosis was 4.25 ± 0.79 mm (range of 3-6 mm), mean amount of MGJWP was 5.10 ± 2.27 mm (range 2-9 mm), and the mean levator function was 8.3 ± 2.27 mm (range of 4-12 mm). At 6 months follow-up, good correction of ptosis was seen in nine out of ten patients. Resolution of MGJWP (≤ 1 mm of excursion of upper eyelid with synkinetic mouth movement) was seen in three patients. Improvement in MGJWP (>1 mm of excursion of upper eyelid with synkinetic mouth movement) was seen in seven patients. The mean post-operative lagophthalmos was 0.80 ± 0.88 mm. The modified levator plication technique was effective in the treatment of MGJWP. This modified technique of levator plication is anatomically less destructive and hence more acceptable, with the added advantages of less post-operative lagophthalmos and no lid contour defects.

9: Bal C, Ballal S. Is There Any True Association Between BRAF V600E Mutation and Recurrence, Particularly in Low-Risk, Papillary Thyroid Cancer? *J Clin Oncol*. 2015 Aug 1;33(22):2481. doi: 10.1200/JCO.2014.60.0999. Epub 2015 Jun 29. PubMed PMID: 26124490.

10: Balakrishna P, Parshad R, Rohila J, Saraya A, Makharia G, Sharma R. Symptomatic outcome following laparoscopic Heller's cardiomyotomy with Dor fundoplication versus laparoscopic Heller's cardiomyotomy with angle of His accentuation: results of a randomized controlled trial. *Surg Endosc*. 2015 Aug;29(8):2344-51. doi: 10.1007/s00464-014-3958-z. Epub 2014 Nov 27. PubMed PMID: 25427411.

BACKGROUND: The type of anti-reflux procedure to be used as an adjunct to laparoscopic Heller's cardiomyotomy (LHCM) in Achalasia cardia is controversial. We compared Angle of His accentuation and Dor fundoplication in a randomized controlled trial.

METHODS: From May 2010 to October 2013, 62 patients undergoing LHCM were randomized to receive either Dor fundoplication (Dor group) or Angle of His accentuation (AOH group) as an anti-reflux procedure. Symptomatic outcome was evaluated using modified Mellow and Pinkas scale for dysphagia and modified DeMeester's score for regurgitation and heartburn. Achalasia-specific quality-of-life (QOL) questionnaire was used to assess quality of life. The primary outcome was symptomatic relief and the secondary outcome was postoperative heartburn. Statistical analysis was done using SPSS software.

RESULTS: All the procedures were completed laparoscopically with no mortality. Morbidity was similar in the two groups (6.4 %). Median operative time was higher in Dor group (170 vs 130 min). At a median follow-up of 21 months relief of dysphagia, regurgitation, and heartburn was seen in 87, 90.3, and 90.3 % patients in Dor group versus 93.5, 96.7, and 77.4 % in AOH group patients with significant improvement in symptom scores. Improvement was similar in both groups with no statistically significant difference in the symptom scores ($p = 0.48$ for dysphagia, $p = 0.37$ for regurgitation, and $p = 0.19$ for heartburn). The QOL improved in both groups [62.3 to 12.3 ($p = 0.02$) in Dor group and 63.9-13 ($p = 0.02$) in AOH group] with no statistically significant difference between the two groups ($p = 0.96$). There was no statistically significant difference in the postoperative heartburn between the two groups ($p = 0.19$).

CONCLUSION: Laparoscopic Heller's cardiomyotomy with either Angle of His accentuation or Dor fundoplication leads to similar improvement in symptoms and quality of life.

11: Banerjee J, Banerjee Dixit A, Tripathi M, Sarkar C, Gupta YK, Chandra PS. Enhanced endogenous activation of NMDA receptors in pyramidal neurons of hippocampal tissues from patients with mesial temporal lobe epilepsy: A mechanism of hyper excitation. *Epilepsy Res*. 2015 Nov;117:11-6. doi: 10.1016/j.epilepsyres.2015.08.007. Epub 2015 Aug 12. PubMed PMID: 26320079.

Altered excitatory synaptic transmission is one of the primary causes of seizure generation in patients with mesial temporal lobe epilepsy (MTLE). The present study is designed to delineate the contribution of glutamatergic tone under resting conditions to the hyper excitability in patients with MTLE. Resected hippocampal tissues were obtained from patients with MTLE. In these samples spontaneous excitatory postsynaptic currents (EPSCs), sensitive to NMDA receptor antagonist APV (50 μ M) and AMPA receptor antagonist CNQX (10 μ M) were recorded from pyramidal neurons at -70mV. We observed that frequency of EPSCs were 28.2% higher in slices obtained from patients with MTLE compared to that in case of non-epileptic controls. We also examined spontaneous fast current transients (CTs) recorded from these pyramidal neurons under cell-attached configuration. The frequency of CTs increased in the absence of extracellular Mg(2+) in brain slice preparations and was completely blocked by APV. We found that the frequency of CTs in pyramidal neurons were higher in case of MTLE samples compared to non-epileptic controls. This study suggests that enhanced endogenous activity of NMDA receptor contributes to excitability in pyramidal neurons of slice preparations obtained from patients with MTLE.

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12: Batra A, Patekar M, Bakhshi S. Short stature in retinoblastoma survivors: a cross-sectional study of 138 patients. *Clin Transl Oncol*. 2015 Aug 19. [Epub ahead of print] PubMed PMID: 26286069.

PURPOSE: Short stature has been reported in pediatric cancer survivors. Data on retinoblastoma survivors are limited. We conducted a cross-sectional study to assess the height in retinoblastoma survivors.

METHOD: The recorded height was compared with median height for age and sex as per the Indian Academy of Pediatrics. Z-score less than -2 was considered short statured.

RESULT: Thirty percent of the survivors were short statured. The mean height was shorter than the mean 50th percentile height (119.7 \pm 14.8 vs 128.7 \pm 15 cm, $p < 0.001$). Previous chemotherapy showed a trend toward association ($p = 0.09$).

CONCLUSION: Short stature affects a significant number of retinoblastoma survivors.

13: Benson R, Madan R, Kilambi R, Chander S. Radiation induced liver disease: A clinical update. *J Egypt Natl Canc Inst*. 2015 Aug 20. pii: S1110-0362(15)00084-9. doi: 10.1016/j.jnci.2015.08.001. [Epub ahead of print] Review. PubMed PMID: 26300327.

Radiation-induced liver disease (RILD) or radiation hepatitis is a sub-acute form of liver injury due to radiation. It is one of the most dreaded complications of radiation which prevents radiation dose escalation and re-irradiation for hepatobiliary or upper gastrointestinal malignancies. This complication should be kept in mind whenever a patient is planned for irradiation of these malignancies. Although, incidence of RILD is decreasing due to better knowledge of liver tolerance, improved investigation modalities and modern radiation delivery techniques, treatment options are still limited. In this review article, we have focussed on patho-physiology, risk factors, prevention and management of RILD.

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14: Bhad R, Hazari N. Predatory journals in psychiatry: A note of caution. *Asian J Psychiatr*. 2015 Aug;16:67-8. doi: 10.1016/j.ajp.2015.06.008. Epub 2015 Jul 2. PubMed PMID: 26182839.

15: Bhanuprasad V, Mallick S, Bhasker S, Mohanti BK. Pediatric head and neck squamous cell carcinoma: Report of 12 cases and illustrated review of literature.

Int J Pediatr Otorhinolaryngol. 2015 Aug;79(8):1279-82. doi: 10.1016/j.ijporl.2015.05.031. Epub 2015 May 30. PubMed PMID: 26072014.

INTRODUCTION: Head and neck carcinoma is a very rare entity in pediatric age group. We here present the demography, treatment and outcome of 12 pediatric patients.

METHODOLOGY: We retrieved the treatment charts of pediatric patients with a diagnosis of head and neck squamous cell carcinoma (PHNSCC). We also retrieved the published literature of pediatric HNSCC to present the treatment modalities being delivered across institutes.

RESULTS: We found 12 patients registered with a diagnosis of squamous cell carcinoma. Median age of the entire cohort was 17 years (Range: 8-20). Gender predilection was skewed in favor of male (male:female ratio-11:1). Oral tongue 3(25%) was the commonest sub site followed by soft palate 2(17%) gingiva 2 (17%), supra glottis larynx 2(17%) and one each of hard palate, buccal mucosa, floor of mouth (8.25% each). The most commonly employed modality of treatment was surgery in 6(50%). Radiation was used in seven cases: 7(Adjuvant-4, Radical-3). Two patients received radical chemo-radiation. Neo-adjuvant chemotherapy was used in two cases. Median follow up duration was 2 years (Range: 6 months to 8 years). One patient recurred 6 months post completion of radical chemo-radiation. The patient with recurrent disease had soft palate primary and had isolated local recurrence. The patient was salvaged with surgery and was disease free at the last follow up. At the last follow up all patients were surviving without disease.

CONCLUSION: The treatment and survival are not much different in pediatric patients compared to adult counterpart. However, in the absence of molecular profiling it is difficult to assess the cause of development of SCC in pediatric patients. A detailed study of underlying molecular pathway will further guide the future treatment.

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16: Bhatia D, Khandelwal P, Sinha A, Hari P, Cheong HI, Bagga A. Incomplete penetrance of CD46 mutation causing familial atypical hemolytic uremic syndrome. *Pediatr Nephrol.* 2015 Dec;30(12):2215-20. doi: 10.1007/s00467-015-3189-0. Epub 2015 Aug 26. PubMed PMID: 26307634.

BACKGROUND: Hemolytic uremic syndrome (HUS) secondary to homozygous mutations in CD46 is uncommon. While heterozygous individuals may remain asymptomatic, homozygous mutations with severely depleted CD46 surface expression without disease manifestation is rare.

METHODS: We report on two siblings with features suggestive of hemolytic uremic syndrome. Estimation of CD46 expression by flow cytometry and gene sequencing were performed in members of this family.

RESULTS: Three siblings, two of whom were symptomatic, had markedly decreased (<10 %) cell surface expression of CD46 and homozygous splice site mutation (IVS2+2 T>G) in the CD46 gene; the other 10-year-old sibling was asymptomatic. The illness was preceded by dengue shock syndrome in the index case. Both parents and two other siblings were heterozygous for this CD46 mutation.

CONCLUSIONS: Homozygous IVS2+2 T>G mutation in CD46 gene, similar to heterozygous mutation, may be clinically silent at least during childhood. The role of antecedent infections in triggering the disease requires further examination.

17: Bidchol AM, Dalal A, Trivedi R, Shukla A, Nampoothiri S, Sankar VH, Danda S, Gupta N, Kabra M, Hebbar SA, Bhat RY, Matta D, Ekbote AV, Puri RD, Phadke SR, Gowrishankar K, Aggarwal S, Ranganath P, Sharda S, Kamate M, Datar CA, Bhat K, Kamath N, Shah H, Krishna S, Gopinath PM, Verma IC, Nagarajaram HA, Satyamoorthy K, Girisha KM. Recurrent and novel GLOB1 mutations in India. *Gene.* 2015 Aug 10;567(2):173-81. doi: 10.1016/j.gene.2015.04.078. Epub 2015 Apr 30. PubMed PMID: 25936995.

GM1 gangliosidosis is a lysosomal storage disorder caused by mutations in the GLB1 gene, leading to the deficiency of the enzyme β -d-galactosidase. In this study, we report molecular findings in 50 Asian Indian families with GM1 gangliosidosis. We sequenced all the exons and flanking intronic sequences of GLB1 gene. We identified 33 different mutations (20 novel and 13 previously reported). The novel mutations include 12 missense (p.M1?, p.E129Q, p.G134R, p.L236P, p.G262E, p.L297F, p.Y331C, p.G414V, p.K493N, p.L514P, p.P597L, p.T600I), four splicing (c.246-2A>G, c.397-2A>G, c.552+1G>T, c.956-2A>G), three indels (p.R22Qfs*8, p.L24Cfs*47, p.I489Qfs*4) and one nonsense mutation (p.Q452*). Most common mutations identified in this study were c.75+2InsT (14%) and p.L337P (10%). Known mutations accounted for 67% of allele frequency in our cohort of patients, suggesting that these mutations in GLB1 are recurrent across different populations. Twenty three mutations were localized in the TIM barrel domain, β -domain 1 and β -domain 2. In silico sequence and structure analysis of GLB1 reveal that all the novel mutations affect the function and structure of the protein. We hereby report on the largest series of patients with GM1 gangliosidosis and the first from India.

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18: Biswas A, Mallick S, Purkait S, Gandhi A, Sarkar C, Singh M, Julka PK, Rath GK. Treatment outcome and patterns of failure in patients of pinealoblastoma: review of literature and clinical experience from a regional cancer centre in north India. Childs Nerv Syst. 2015 Aug;31(8):1291-304. doi: 10.1007/s00381-015-2751-1. Epub 2015 Jun 4. PubMed PMID: 26040934.

PURPOSE: Pinealoblastoma is a highly malignant embryonal tumour of the pineal region affecting children and young adults. We herein intend to report the clinical features and treatment outcome of patients of pinealoblastoma treated at our institute.

METHODS: Clinical data was collected by retrospective chart review from 2003-2012. Histopathology slides were reviewed, and relevant immunohistochemistry stains were done. Overall survival (OS) and recurrence-free survival (RFS) were analysed by Kaplan-Meier product-limit method. Univariate and multivariate analyses of prognostic factors were done by log rank test and Cox proportional hazard regression model, respectively.

RESULTS: Seventeen patients met the study criterion (male:female = 11:6). Median age at presentation was 14 years (range 4-47 years). Surgical resection was gross total in 6 (35.29%), near-total in 2 (11.76%), sub-total in 2 (11.76%), and limited to biopsy in 7 (41.18 %) patients. At presentation, 4 patients had leptomeningeal dissemination. Radiation therapy was delivered in all patients-craniospinal irradiation in 15 (88.24%), whole brain irradiation in 1 (5.88%), and whole ventricular irradiation followed by boost in 1 (5.88%) patient. Systemic chemotherapy (median 6 cycles) was given in 14 (82.35%) patients. The most common regimen was a combination of carboplatin and etoposide, used in 10 (58.82%) patients. After a median follow-up of 30.3 months (mean 32.01 months), death and disease recurrences were noted in 3 (17.65%) and 7 (41.18%) patients. Amongst the patients with recurrent disease, 4 had spinal drop metastases and 3 had local recurrence along with spinal drop metastases. Median OS was not reached, and estimated median RFS was noted to be 5.49 years. The actuarial rates of OS and RFS at 2 years were 85.6 and 73.1%, respectively. On univariate analysis, age more than 8 years ($P=0.0071$) and M0 stage ($P=0.0483$) were significant predictors of improved RFS. Age retained significance on multivariate analysis of RFS ($P=0.02932$).

CONCLUSION: Maximal safe resection followed by craniospinal irradiation and systemic chemotherapy with 6 cycles of carboplatin-etoposide regimen is a reasonable treatment strategy in patients of pinealoblastoma more than 8 years of age in a developing nation. However, the same strategy is less effective in younger children and innovative study designs of intensification of post-operative treatment must be explored in this age group.

19: Bush A, Kabra SK. Editorial: New Techniques for Old and New Diseases. *Indian J Pediatr.* 2015 Oct;82(10):930-1. doi: 10.1007/s12098-015-1880-6. Epub 2015 Aug 27. PubMed PMID: 26307757.

20: Castinetti F, Kroiss A, Kumar R, Pacak K, Taieb D. 15 YEARS OF PARAGANGLIOMA: Imaging and imaging-based treatment of pheochromocytoma and paraganglioma. *Endocr Relat Cancer.* 2015 Aug;22(4):T135-45. doi: 10.1530/ERC-15-0175. Epub 2015 Jun 4. Review. PubMed PMID: 26045470.

Although anatomic imaging to assess the precise localization of pheochromocytomas/paragangliomas (PHEOs/PGLs) is unavoidable before any surgical intervention on these tumors, functional imaging is becoming an inseparable portion of the imaging algorithm for these tumors. This review article presents applications of the most up-to-date functional imaging modalities and image-based treatment to PHEOs/PGLs patients. Functional imaging techniques provide whole-body localization (number of tumors present along with metastatic deposits) together with genetic-specific imaging approaches to PHEOs/PGLs, thus enabling highly specific and sensitive PHEO/PGL detection and delineation that now greatly impact the management of patients. Radionuclide imaging techniques also play a crucial role in the prediction of possible radioactive treatment options for PHEO/PGL. In contrast to previous imaging algorithms used for either assessment of these patients or their follow-up, endocrinologists, surgeons, oncologists, pediatricians, and other specialists require functional imaging before any therapeutic plan is outlined to the patient, and follow-up, especially in patients with metastatic disease, is based on the periodic use of functional imaging, often reducing or substituting for anatomical imaging. In similar specific indications, this will be further powered by using PET/MR in the assessment of these tumors. In the near future, it is expected that PHEO/PGL patients will benefit even more from an assessment of the functional characteristics of these tumors and new imaging-based treatment options. Finally, due to the use of new targeting moieties, gene-targeted radiotherapeutics and nanobodies-based theranostic approaches are expected to become a reality in the near future.

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21: Chandra S, Saluja D, Narang R, Bhatia J, Srivastava K. Atrial natriuretic peptide and aldosterone synthase gene in essential hypertension: a case-control study. *Gene.* 2015 Aug 1;567(1):92-7. doi: 10.1016/j.gene.2015.04.062. Epub 2015 Apr 24. PubMed PMID: 25917967.

The renin-angiotensin-aldosterone system (RAAS) and their candidate genes are principally involved in regulation of blood pressure through salt-water homeostasis. Atrial natriuretic peptide (ANP) and Aldosterone synthase (CYP11B2) are the important RAAS mediators, play a major role in hypertension through regulation of cardiorenal homeostasis and water-electrolytes balance, respectively. Present study reports the expression of ANP and CYP11B2 gene at mRNA and proteins levels in patients with essential hypertension in North Indian subjects. Gene expression at mRNA and protein levels was carried out by Real time PCR and Western blot, respectively. We found a significant down regulation in the ANP gene expression at mRNA (85%) and protein (72.6%) levels and significant increase in the CYP11B2 protein expression in patients as compared to controls. A significant increase in Serum creatinine (14.6%), Sodium (1.15%) and decrease in the Blood urea (8.18%) and Potassium (2.32%) levels were also observed among the patients group having higher expression (based on median delta-CT value) in comparison to the lower expression of CYP11B2 gene. Our results suggest that the down-regulation of ANP gene expression at mRNA and protein levels and up-regulated CYP11B2 protein expression levels may be correlated with the essential hypertension and could serve as circulating prognostic biomarkers for essential hypertension.

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22: Chaudhary O, Kumar S, Bala M, Singh J, Hazarika A, Luthra K. Association of DC-SIGNR Expression in Peripheral Blood Mononuclear Cells with DC-SIGNR Genotypes in HIV-1 Infection. *Viral Immunol.* 2015 Oct;28(8):472-5. doi: 10.1089/vim.2014.0148. Epub 2015 Aug 27. PubMed PMID: 26313015.

Dendritic cell-specific intracellular adhesion molecule 3 grabbing nonintegrin related molecule (DC-SIGNR) is a C-type lectin, calcium-dependent carbohydrate-binding protein, which can act as a cell-adhesion and pathogen recognition receptor. DC-SIGNR is known to be highly expressed on liver sinusoidal cells and in the lymph nodes. However, its expression in peripheral blood mononuclear cells (PBMCs) in HIV-1 infection has not been addressed. Therefore, this study determined the expression of DC-SIGNR in PBMCs of HIV-1-infected patients and healthy seronegative individuals by real-time polymerase chain reaction and assessed its correlation with CD4+ T cell counts and DC-SIGNR genotypes. A significantly higher expression of DC-SIGNR was observed in the PBMCs of HIV-1-infected patients compared with healthy seronegative individuals. Further, there was a negative correlation between DC-SIGNR expression and CD4+ T cell counts and positive with viral load, with higher DC-SIGNR expression in the PBMCs of HIV-1-infected patients with a CD4+ T cell count <200 cells/ μ L than those with >200 cells/ μ L. This is the first study to report the expression of DC-SIGNR in PBMCs of HIV-1-infected patients. A salient finding of this study is that the DC-SIGNR expression was higher in HIV-1-infected patients, and its positive correlation with viral load and negative with CD4+ T cells counts suggesting a potential role of DC-SIGNR in HIV-1 infection.

23: Chawla R, Tripathy K, Sharma YR, Venkatesh P, Vohra R. Periarterial Plaques (Kyrieleis' Arteriolitis) in a Case of Bilateral Acute Retinal Necrosis. *Semin Ophthalmol.* 2015 Aug 19:1-2. [Epub ahead of print] PubMed PMID: 26161821.

PURPOSE: To describe unilateral periarterial plaque in a case of bilateral acute retinal necrosis (BARN) due to varicella zoster virus (VZV).

METHODS: Case report.

RESULTS: A 43-year-old diabetic male presented to us with dimness of vision in the left eye for three months. He was already on oral steroids and anti-viral therapy. Best-corrected visual acuity was 6/6 OD and hand movements close to face OS. The right eye showed inferior and temporal retinal thinning and pigmentation and periarterial whitish focal Kyrieleis' plaques, specifically along arterioles. Left eye had mild vitritis, optic disc pallor, arteriolar attenuation, with retinal whitening and areas of pigmentation involving 360° of peripheral retina along with some involvement of the posterior pole. Serology for human immunodeficiency virus (HIV), herpes simplex virus (HSV), and cytomegalo virus (CMV) was negative. IgM for VZV was positive. Oral Valacyclovir 1g thrice daily was continued and a slow taper of oral steroids was instituted.

CONCLUSIONS: ARN should be considered as a differential diagnosis in cases with Kyrieleis' plaques and a peripheral retinal examination must be done to rule out patches of healed retinitis and vasculitis.

24: Chopra A, Soni S, Verma D, Kumar D, Dwivedi R, Vishwanathan A, Vishwakama G, Bakhshi S, Seth R, Gogia A, Kumar L, Kumar R. Prevalence of common fusion transcripts in acute lymphoblastic leukemia: A report of 304 cases. *Asia Pac J Clin Oncol.* 2015 Dec;11(4):293-8. doi: 10.1111/ajco.12400. Epub 2015 Aug 12. PubMed PMID: 26264145.

AIM: Information about fusion transcripts in acute lymphoblastic leukemia (ALL) is used to risk-stratify patients, decide on the treatment and to detect minimal residual disease. This study was conducted to determine the frequency of common fusion transcripts BCR-ABL, TEL-AML1, MLL-AF4 and E2A-PBX1 for B-ALL and SIL-TAL1 for T-ALL as seen at a tertiary care center in India.

METHODS: Up to 304 new cases of ALL (271 B-ALL and 33 T-ALL) diagnosed on morphology, cytochemistry and immunophenotyping were studied. All were screened

for the common fusion transcripts by RT-PCR.

RESULTS: Both our B- (218/271; 80.4%) and T-ALL (26/33; 78.8%) patients were largely children. In the B-ALL children, BCR-ABL was detected in 26/218 (11.9%), E2A-PBX1 in 13/218 (5.9%), TEL-AML1 in 16/218 (7.3%) and MLL-AF4 in 3/218 (1.4%) patients. Adult B-ALL cases had BCR-ABL in 15/53 (28.3%) and E2A-PBX in 2/53 (3.8%); however, no other fusion transcript was detected. SIL-TAL1 was found in four of 26 pediatric (15%) and zero of 7 adult T-ALL cases.

CONCLUSION: The higher incidence of BCR-ABL and lower incidence of TEL-AML1 in our ALL patients, both in children and adults as compared with the West, suggests that patients in India may be biologically different. This difference may explain at least in part the higher relapse rate and poorer outcome in our B-ALL cases.

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25: Chumber S, Pol MM, Akhtar J, Uniyal M. Malrotation of the gut harbouring midgut volvulus in an adult with situs inversus totalis: a clinical delay and treatment dilemma. *BMJ Case Rep.* 2015 Aug 26;2015. pii: bcr2015211205. doi: 10.1136/bcr-2015-211205. PubMed PMID: 26311011.

A 22-year-old man experiencing infrequent episodes of abdominal pain, distension, non-bilious vomiting and constipation, was diagnosed with malrotation of the gut. He was treated conservatively over the past 10 years. He was referred to our hospital owing to recent aggravation of symptoms. He had no signs of peritonitis. On imaging, malrotation of the gut, with midgut volvulus and situs inversus totalis, was found. Diagnosis was confirmed during laparotomy. A large sac was present to the right of midline. Detorsion of the sac was performed and the sac was opened. The duodenum and caecum were found in the left upper abdomen adherent to the lateral abdominal wall. Adhesiolysis was performed and extrinsic compression at the duodenum relieved. The large bowel was placed on the right side and small bowel was placed on the left. Appendectomy and feeding jejunostomy were performed. Thorough analysis (clinicoradiological) is necessary before considering conservative management in patients known to harbour a congenital anomaly of the gut.

26: Darlong V, Biyani G, Baidya DK, Pandey R, Chandralekha, Punj J, Upadhyay AD. Comparison of air-Q and Ambu Aura-i for controlled ventilation in infants: a randomized controlled trial. *Paediatr Anaesth.* 2015 Aug;25(8):795-800. doi: 10.1111/pan.12663. Epub 2015 Apr 27. PubMed PMID: 25917434.

BACKGROUND: The air-Q is a new supraglottic airway device (SAD) and has been increasingly used as a primary airway device and as a conduit for tracheal intubation in children as well as in adults. This device has either performed equally or better than other SADs in children. The Ambu Aura-i is a commonly used SAD in children undergoing various short surgical procedures. However, limited literature is available evaluating the safety and efficacy of the air-Q and the Ambu Aura-i in small children. We, therefore, conducted this study to compare the clinical performance of these two airway devices in infants weighing up to 10 kg. Our hypothesis is that air-Q, due to its improved and larger cuff design will yield better airway seal pressures as compared with the Ambu Aura-i.

METHODS: Sixty-four ASA I-II infants weighing <10 kg undergoing elective ophthalmic surgery were randomly assigned to receive either an air-Q or the Ambu Aura-i. After induction of general anesthesia (GA) and muscle relaxation, we measured oropharyngeal leak pressure (OLP) as the primary outcome. The secondary end points measured were time to insert, first insertion success rate, fiberoptic grade (FO) of laryngeal view and any other airway complications like trauma, laryngospasm, and desaturation.

RESULTS: The air-Q ILA provided significantly higher OLP as compared with the Ambu Aura-i [20.2 ± 4.6 cm H₂O, CI 18.55-21.88; vs 16.2 ± 5.6 cmH₂O, CI 14.27-18.25, P = 0.003; mean difference 4 ± 1.29 cm H₂O, CI 1.41-6.58]. However, the Ambu Aura-i required significantly less time for its insertion (14.6 ± 2.8 s, CI 13.66-15.70; vs 16.3 ± 1.5 s, CI 15.75-16.86, P = 0.005; mean difference 1.625 ± 0.56 s, CI 0.48-2.76). There were no differences in first insertion

success rate, FO view, and postoperative complications.

CONCLUSION: We conclude that air-Q may be considered superior to Ambu Aura-i in infants for controlled ventilation as it provides higher airway sealing pressures.

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27: Denny L, Bhatla N. Preface for Best Practice and Research Clinical Obstetrics and Gynaecology - issue 29.6. Best Pract Res Clin Obstet Gynaecol. 2015 Aug;29(6):765-6. doi: 10.1016/j.bpobgyn.2015.06.003. Epub 2015 Jun 24. PubMed PMID: 26169797.

28: Dhamija E, Paul SB, Gamanagatti SR, Acharya SK. Biliary complications of arterial chemoembolization of hepatocellular carcinoma. Diagn Interv Imaging. 2015 Nov;96(11):1169-75. doi: 10.1016/j.diii.2015.06.017. Epub 2015 Aug 17. PubMed PMID: 26292615.

RATIONALE AND BACKGROUND: Transarterial chemoembolization (TACE) is the most frequently used palliative therapy for unresectable hepatocellular carcinoma (HCC). It is a safe and effective procedure with few major and minor complications. Rarely, biliary complications are also encountered following TACE. The goal of our study was to investigate the incidence and the presentation of biliary complications following TACE in patients with HCC.

MATERIAL AND METHODS: In this retrospective study, data of patients with HCC who underwent TACE between June 2002 to December 2014 were obtained from the records. Their detailed information about the procedure of TACE, diagnosis of biliary complications and subsequent management details were reviewed.

RESULT: One hundred and sixty-eight patients with HCC underwent 305 procedures of TACE. Of these, biliary complications of various severities developed in 6 (3.6%) patients leading to an incidence of 1.9% (6/305). Minimal intrahepatic biliary dilatation (IHBD) occurred in three, biliary stricture in one and intrahepatic biloma in two patients. Supportive management was undertaken for IHBD patients while percutaneous aspiration and naso-biliary drainage was performed for the infected bilomas.

CONCLUSION: Biliary complications following TACE are infrequent. Diagnosis should be suspected clinically and confirmed with imaging. Treatment depends on the severity. Enforcing specific measures can minimize its frequency.

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29: Dixit AB, Tripathi M, Chandra PS, Banerjee J. Molecular biomarkers in drug-resistant epilepsy: Facts & possibilities. Int J Surg. 2015 Aug 22. pii: S1743-9191(15)01131-0. doi: 10.1016/j.ijssu.2015.08.029. [Epub ahead of print] Review. PubMed PMID: 26306771.

Despite great advances in our understanding of the process of epileptogenesis we are yet to develop reliable biomarkers that have the potential to accurately localize the epileptogenic zone (EZ), and to resolve the issue of heterogeneity in epilepsy surgery outcome. Inability to precisely localize the epileptogenic foci is one of the reasons why more than 30% of these DRE patients are not benefited. Molecular and cellular biomarkers in combination with imaging and electrical investigations will provide a more specific platform for defining epileptogenic zone. Potential molecular biomarkers of epileptogenesis including markers of inflammation, synaptic alterations and neurodegeneration may also have the potential for localizing EZ. At molecular level components derived from epileptogenic tissues, such as metabolites, proteins, mRNAs and miRNAs that are significantly altered can serve as biomarkers and can be clubbed with existing techniques to preoperatively localize the EZ. Neurosurgeons across the world face problems while defining the margins of the epileptogenic tissues to be resected during surgery. In this review we discuss molecular biomarkers reported so far in

the context of epileptogenesis and some of the unexplored markers which may have the potential to localize EZ during surgery. We also discuss "Intelligent knife" technique that couples electrosurgery and mass spectrometry allowing near-real-time characterization of human tissue and may prove to be instrumental in defining the margins of the epileptogenic zone during surgery.

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30: Dubey R, Kaushik JS, Israni A, Saini L, Patel H, Chakrabarty B, Gulati S. Finger drop sign: Rare presentation of a common disorder. *Brain Dev.* 2016 Feb;38(2):250-2. doi: 10.1016/j.braindev.2015.08.004. Epub 2015 Aug 29. PubMed PMID: 26323550.

BACKGROUND: Guillain Barre syndrome (GBS) commonly presents with limb weakness and occasional cranial nerve, respiratory or autonomic involvement. Isolated or predominant bilateral finger drop as presenting feature has never been reported in the pediatric age group.

CASE: A 9year old boy presented with deformity of both hands for 7days and leg pain with difficulty in getting up from floor for 3days. On examination he had bilateral clawing with subtle hip flexor weakness and hyporeflexia. His nerve conduction study revealed motor axonal neuropathy. His serum lead levels and autoimmune markers were within normal limits. His cerebrospinal fluid examination revealed albuminocytological dissociation. He was diagnosed as GBS and was given intravenous immunoglobulin. He improved completely over next 8weeks.

CONCLUSIONS: GBS is one of the commonest causes of acquired neuropathy in the tropics. In resource limited setting, where electrophysiological facilities may not be available, identification of finger drop sign may help in correct management.

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31: Farooque K, Khatri K, Gupta B, Sharma V. Management of Neglected Traumatic Bilateral Cervical Facet Dislocations Without Neurological Deficit. *Trauma Mon.* 2015 Aug;20(3):e18385. doi: 10.5812/traumamon.18385. Epub 2015 Aug 1. PubMed PMID: 26543838; PubMed Central PMCID: PMC4630595.

INTRODUCTION: Sub axial cervical spine dislocations are common and managing these cases by closed reduction is successful in the majority of cases. However, treatment of old and neglected cases is difficult and the results may vary in terms of neurological and functional outcomes.

CASE PRESENTATION: We present two cases of traumatic bilateral cervical facet dislocation with no neurological deficit (ND) who referred four months after the injury. They were managed via single stage anterior discectomy, posterior facet reduction, instrumentation, and then anterior reconstruction with bone graft and cervical plate. The patients had no ND in the postoperative period and returned to work.

DISCUSSION: Patients presenting with neck pain after a history of trauma should be evaluated thoroughly with radiographs and computed tomography. The management of old neglected facet dislocations is difficult, lengthy, and fraught with potential neurological complications; operative intervention can substantially improve the quality of life in these patients.

32: Garg H, Kumar R. Empirical Drug Therapy for Idiopathic Male Infertility: What is the New Evidence? *Urology.* 2015 Dec;86(6):1065-75. doi: 10.1016/j.urology.2015.07.030. Epub 2015 Aug 5. Review. PubMed PMID: 26255035.

Idiopathic male infertility is empirically managed using a number of drugs. We reviewed 64 articles published in the last 10 years on such drug therapy. There was severe heterogeneity in data along with poor definition of outcome parameters. Pregnancy or live birth rate was not reported in many studies. Antiestrogens appear to improve pregnancy rates while there is some data

supporting the use of aromatase inhibitors. Antioxidants significantly increase the rate of both live birth and pregnancy but the data are limited. However, valid end-points based on data are limited for the empirical use of drugs in idiopathic male infertility.

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33: Ghosh S, Gupta B, Singh M, Bhattacharya I, Gahlot GP, Paul VK, Das P. A Diagnostic Conundrum: A Rare Cause of Abdominal Distension in a Preterm Neonate. *Indian J Pediatr.* 2015 Aug;82(8):763-4. doi: 10.1007/s12098-015-1694-6. Epub 2015 Feb 15. PubMed PMID: 25680782.

34: Giridhar P, Mallick S, Haresh KP, Gupta S, Julka PK, Rath GK. Intracranial fibrosarcoma treated with adjuvant radiation and temozolomide: Report of a case and review of all published cases. *J Egypt Natl Canc Inst.* 2015 Aug 3. pii: S1110-0362(15)00060-6. doi: 10.1016/j.jnci.2015.07.002. [Epub ahead of print] PubMed PMID: 26248975.

INTRODUCTION: Fibrosarcoma is a rare brain tumour with 33 cases reported so far. However, there is no clear consensus about the nature of the disease and treatment as well as outcome.

METHODS: A MEDLINE search was carried out using MESH terms like intracranial fibrosarcoma, intraspinal fibrosarcoma, fibrosarcoma meninges and fibrosarcoma brain. A total of 22 case reports and series reporting a total of 33 cases were identified. We here also report a case treated in our institute with adjuvant radiation and concurrent and maintenance temozolomide.

RESULTS: The age of presentation ranged from 2months to 75years (Median=17years). The gender ratio was found to be M:F of 1.75-1. Treatment modalities were described for 17 cases. Surgery was part of treatment in all cases while radiation was a part of treatment in 59% of cases (n=10) and chemotherapy in 29% cases (n=5). Survival data were available only for 8 cases and ranged from 1day to 8years (Median=15.5months).

CONCLUSION: Fibrosarcoma is a rare disease with dismal prognosis. Surgery remains the cornerstone of therapy. Radiation confers long term disease control and survival. Chemotherapy needs to be evaluated for these tumours to improve survival.

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35: Gogia V, Gupta S, Agarwal T, Pandey V, Tandon R. Changing pattern of utilization of human donor cornea in India. *Indian J Ophthalmol.* 2015 Aug;63(8):654-8. doi: 10.4103/0301-4738.169790. PubMed PMID: 26576523; PubMed Central PMCID: PMC4687192.

PURPOSE: To review the changing pattern of donor, corneal utilization in an eye bank at a Tertiary Care Center in Northern India by analyzing the trend in the years 2003, 2008, and 2011.

METHODS: A retrospective review of eye bank records for 3 years (2003, 2008, and 2011) was performed at the National Eye Bank. Details including a clinical grade of donor cornea, indication of corneal transplantation (therapeutic or optical), type of procedure (penetrating or lamellar keratoplasty [LK]), and clinical diagnosis of the graft recipients were recorded. Primary outcome measure was to observe any preference toward LK, judicious usage of donor corneal tissue, and impact of lamellar corneal transplant in the usage of donor corneas. Secondary outcomes included overall utilization rate and change in trend of indication for keratoplasty.

RESULTS: A total of 673, 745, and 864 corneas were retrieved in the years 2003, 2008, and 2011, respectively. The percentage of donor corneal utilization increased significantly over time with the rate being 65.08%, 70.06%, and 68.29%, respectively, in the years 2003, 2008, and 2011 (P = 0.014); however, this change was reflected only in the usage of nonoptical grade corneas and not for the

optical grade corneas. There was an overall increase in lamellar corneal procedures for any clinical grade of cornea ($P = 0.0019$); number of Descemet's stripping automated endothelial keratoplasty (DSAEK) procedures increased significantly ($P < 0.001$), particularly for pseudophakic corneal edema (PCE) ($P = 0.0085$) and failed graft ($P = 0.002$). Significant increase in the utilization of nonoptical grade corneas was observed over the years ($P = 0.005$), though the utilization did not increase significantly for optical purposes viz., LK ($P = 0.08$).

CONCLUSIONS: Utilization rate of donor corneas increased over the years, primarily due to increase in usage of nonoptical grade corneas for therapeutic purposes. There was a procedural shift toward DSAEK for PCE and failed graft. However, an increase in usage of nonoptical grade corneas for LK, a single donor corneal tissue for two recipients, and retrieval or utilization of optical grade cornea was not observed.

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37: Gupta AK, Lodha R, Kabra SK. Non Cystic Fibrosis Bronchiectasis. *Indian J Pediatr.* 2015 Oct;82(10):938-44. doi: 10.1007/s12098-015-1866-4. Epub 2015 Aug 27. PubMed PMID: 26307756.

Bronchiectasis is a pathological abnormality of the airways in which there is permanent dilatation and thickening of the airways. Precise incidence/prevalence in India is not known. Recent data suggests that about 1 % young children admitted in a hospital with pneumonia may develop bronchiectasis. Due to significant burden of pneumonia in young children in developing countries including India, it may be a significant problem that is possibly under recognized. Causes of bronchiectasis depend on the burden of respiratory infections and availability of the investigations for identification of the underlying cause. Post infectious causes are common in countries where infections are more common; however, since these countries are usually resource constrained and therefore, are not able to appropriately diagnose the other causes, leading to more than real overrepresentation of infections as a cause. In countries with less of infectious illnesses and good diagnostic facilities, malformations of airways, immune deficiency disorders and primary ciliary dyskinesia are common causes of bronchiectasis. High resolution CT scan of chest confirms the diagnosis. Treatment is supportive care and consists of maintenance of nutrition, airway clearance and antibiotics for exacerbations. Medical treatment is successful in the majority.

38: Gupta P, Rath GP, Prabhakar H, Bithal PK. Comparison between sevoflurane and desflurane on emergence and recovery characteristics of children undergoing surgery for spinal dysraphism. *Indian J Anaesth.* 2015 Aug;59(8):482-7. doi: 10.4103/0019-5049.162985. PubMed PMID: 26379291; PubMed Central PMCID: PMC4551025.

BACKGROUND AND AIMS: Rapid recovery is desirable after neurosurgery as it enables early post-operative neurological evaluation and prompt management of complications. Studies have been rare comparing the recovery characteristics in paediatric neurosurgical patients. Hence, this study was carried out to compare the effect of sevoflurane and desflurane anaesthesia on emergence and extubation in children undergoing spinal surgery.

METHODS: Sixty children, aged 1-12 years, undergoing elective surgery for lumbo-sacral spinal dysraphism were enrolled. Anaesthesia was induced with sevoflurane using a face mask. The children were then randomised to receive either sevoflurane or desflurane with oxygen and nitrous oxide, fentanyl (1 $\mu\text{g}/\text{kg}/\text{h}$) and rocuronium. The anaesthetic depth was guided by bispectral index (BIS®) monitoring with a target BIS® between 45 and 55. Perioperative data with regard to demographic profile, haemodynamics, emergence and extubation times, modified Aldrete score (MAS), pain (objective pain score), agitation

(Cole's agitation score), time to first analgesic and complications, thereof, were recorded. Statistical analysis was done using STATA 11.2 (StataCorp., College Station, TX, USA) and data are presented as median (range) or mean \pm standard deviation.

RESULTS: The demographic profile, haemodynamics, MAS, pain and agitation scores and time to first analgesic were comparable in between the two groups ($P > 0.05$). The emergence time was shorter in desflurane group (2.75 [0.85-12] min) as compared to sevoflurane (8 [2.5-14] min) ($P < 0.0001$). The extubation time was also shorter in desflurane group (3 [0.8-10] min) as compared to the sevoflurane group (5.5 [1.2-14] min) ($P = 0.0003$).

CONCLUSION: Desflurane provided earlier tracheal extubation and emergence as compared to sevoflurane in children undergoing surgery for lumbo-sacral spinal dysraphism.

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41: Gupta S, Prasad G, Kundu R, Maitra S. On table extubation after emergency thoracotomy for mediastinal mass in a neonate. *J Clin Anesth*. 2015 Aug;27(5):432-4. doi: 10.1016/j.jclinane.2015.03.030. Epub 2015 Apr 23. PubMed PMID: 25912487.

42: Gupta S, Sah S, Som T, Saksena M, Yadav CP, Sankar MJ, Thakar A, Agarwal R, Deorari AK, Paul VK. Challenges of Implementing Universal Newborn Hearing Screening at a Tertiary Care Centre from India. *Indian J Pediatr*. 2015 Aug;82(8):688-93. doi: 10.1007/s12098-015-1688-4. Epub 2015 Feb 6. PubMed PMID: 25652547.

OBJECTIVES: To report experience of implementing universal newborn hearing screening (UNHS) in a tertiary care neonatal unit, identify risk factors associated with failed two-step automated acoustic brainstem response (AABR) screen and evaluate cost of AABR.

METHODS: This was a prospective study of UNHS outcomes of all live births with two step AABR using BERaPhone MB11®. Outcome measures were screening coverage, refer, pass and lost to follow up rates and cost of AABR using micro-costing method. To identify risk factors for failed screening, authors performed multivariate logistic regression with failed two-step AABR screen as dependent variable and baseline risk factors significant on univariate analysis as predictors.

RESULTS: Screening coverage was moderate (84 %), with 2265 of total 2700 eligible infants screened with initial AABR (mean gestation 37.2 \pm 2.3 wk; birth weight 2694 \pm 588 g; 305 received nursery care). A total of 273 of 2265 infants were "refer" on first screen. Second screen was done on 233, of which 58 were "refer". Of these, 35 underwent conventional ABR, of which 5 were diagnosed to have hearing impairment. Only 2 could get hearing aid. Overall, a total of 2197 (81.4 %) infants passed, 496 (18.4 %; excluding 2 deaths) were lost to follow up at various stages, and 5 (0.2 %) were diagnosed with hearing impairment, all of whom were high risk. Average cost of AABR was INR 276 per test. No factor emerged as significant on multivariate analysis.

CONCLUSIONS: UNHS is feasible to implement, but significant lost to follow up and non-linkage with appropriate rehabilitation services limit its utility. Cost effectiveness of UNHS compared to high risk based screening needs to be determined.

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2015 Aug 7. Review. PubMed PMID: 26257397.

Saline contrast echocardiography is an established imaging modality. Logical interpretation of a carefully performed study is vital to realize its diagnostic potential. In this review, we discuss utility of saline contrast echocardiography in evaluation of various pathologies within and outside the heart other than a patent foramen ovale.

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Depression is a highly prevalent and severely disabling condition globally. Despite being a major cause of disability worldwide, little progress has been made in the last three decades in developing rational and novel pharmacological treatment options for the management of depression. Recently there has been growing interest in the role of kynurenine pathway in pathophysiology of depression. In this paper, the potential role of kynurenine pathway inhibitors in the management of depression particularly in secondary and reactive depression and the development of novel antidepressant drugs targeting kynurenine pathway are discussed.

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46: Iqbal N, Shukla NK, Deo SV, Agarwala S, Sharma DN, Sharma MC, Bakhshi S. Prognostic factors affecting survival in metastatic soft tissue sarcoma: an analysis of 110 patients. *Clin Transl Oncol*. 2015 Aug 5. [Epub ahead of print] PubMed PMID: 26243399.

BACKGROUND: Data on treatment outcome and prognostic factors in patients with metastatic soft tissue sarcoma (STS) are limited in the literature.
METHODS: A total of 119 patients with metastatic STS treated between June 2003 and December 2012 were analyzed for treatment outcome and prognostic factors.
RESULTS: Median age was 37 years (range 2-72 years) with a male to female ratio of 1.5:1. Most common histologic subtypes were synovial sarcoma (36 %) and leiomyosarcoma (16 %). Median tumor size was 12 cm (range 1.6-30 cm). Twenty-four (20 %) patients were treated with multimodality therapy and 80 % patients received systemic chemotherapy alone. At a median follow-up of 10 months (range 1-66 months), the 2-year EFS and OS were 10 and 19 %, respectively, with a median EFS and OS of 6 and 10 months, respectively. Univariate analysis identified albumin \leq 4 g/dl ($p = 0.001$), histologic subtypes other than synovial sarcoma ($p = 0.02$), non-extremity tumors ($p = 0.03$) and single modality treatment ($p = 0.03$) as factors predicting poor EFS; however, for OS, hemoglobin \leq 10 g/dl ($p = 0.02$), tumor size $>$ 10 cm ($p = 0.01$) and single modality treatment ($p = 0.04$) were identified as poor prognostic factors. Multivariate analysis identified only serum albumin \leq 4 g/dl ($p = 0.002$, HR 0.47, 95 % CI 0.29-0.75) associated with poor EFS; however, for OS, hemoglobin \leq 10 g/dl ($p = 0.009$, HR 0.49, 95 % CI 0.29-0.83), tumor size $>$ 10 cm ($p = 0.003$, HR 2.11, 95 % CI 1.28-3.47) and single modality treatment ($p = 0.01$, HR 0.47, 95 % CI 0.25-0.86) emerged as poor prognostic factors.
CONCLUSIONS: Serum albumin, tumor size, hemoglobin and treatment modality affect survival in metastatic STS.

47: Ismail J, Sankar J. Systemic Inflammatory Response Syndrome (SIRS) and Sepsis - An Ever-evolving Paradigm. *Indian J Pediatr*. 2015 Aug;82(8):675-6. doi: 10.1007/s12098-015-1810-7. Epub 2015 Jun 19. PubMed PMID: 26084550.

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49: Jain D. Steatohepatic hepatocellular carcinoma: a metabolic syndrome-associated carcinoma. *Histopathology*. 2015 Aug;67(2):267. doi: 10.1111/his.12479. Epub 2014 Nov 10. PubMed PMID: 25110038.

50: Jain R, Jhanjee S, Jain V, Gupta T, Mittal S, Chauhan P, Raghav R, Goelz P, Schnoll RA. Biochemical Validation of Self-Reported Smokeless Tobacco Abstinence among Smokeless Tobacco Users: Results from a Clinical Trial of Varenicline in India. *J Psychoactive Drugs*. 2015 Sep-Oct;47(4):331-5. doi: 10.1080/02791072.2015.1073412. Epub 2015 Aug 28. PubMed PMID: 26317285; PubMed Central PMCID: PMC4698153.

The validity of self-reported tobacco use is often questioned given the potential for underestimation of use. This study used data from a double-blind, placebo-controlled clinical trial of varenicline for smokeless tobacco dependence in India to evaluate the accuracy of self-reported smokeless tobacco cessation using biochemical validation procedures and to evaluate correlates of reporting inaccuracy. Smokeless tobacco users attending a dental clinic at AIIMS were randomized to placebo or varenicline; all participants received counseling. Detailed smokeless tobacco use was recorded and abstinence was defined as cotinine-verified 7-day point prevalence cessation (cotinine < 50 ng/ml) and breath CO > 10 ppm at the end of 12 weeks of treatment. One-half of study completers (82/165) self-reported abstinence. Biochemical verification confirmed that (65.9%) subjects provided accurate self-reports while (34.1%) participants underreported tobacco use. These data indicate poor agreement between self-reported and biochemically confirmed abstinence ($\kappa = -0.191$). Underreporters of tobacco use had significantly higher baseline cotinine ($p < 0.05$), total craving ($p < 0.012$), and negative reinforcement craving ($p < 0.001$) vs. those whose self-reports were correctly verified. These findings provide evidence to support the need for biochemical validation of self-reported abstinence outcomes among smokeless tobacco users in cessation programs in India and identify high levels of pretreatment cotinine and craving levels as potential correlates of false reporting.

51: Jain S, Mahapatra M, Pati HP. CD34 immunohistochemistry in bone marrow biopsies for early response assessment in acute myeloid leukemia. *Int J Lab Hematol*. 2015 Aug 6. doi: 10.1111/ijlh.12406. [Epub ahead of print] PubMed PMID: 26248894.

INTRODUCTION: Acute myeloid leukemia is a heterogenous disease with respect to prognosis. Early response assessment has an established role as predictor of remission rate, and overall and disease-free survival. Assessment of blast percentage on bone marrow aspirate smears at this stage has its own limitations. **MATERIALS AND METHOD:** In this study, a total of 100 AML cases that were positive for CD34 at the time of diagnosis were included in the study. Blast percentage obtained in bone marrow aspirate smears by morphology was compared with that obtained in bone marrow biopsy using CD34 immunohistochemistry. **RESULTS:** Bone marrow aspirate and biopsy were discordant in 19% of the cases. In 15% of the cases, bone marrow aspirate blast count was $\leq 5\%$ and bone marrow biopsy blast percentage was $> 5\%$. **CONCLUSION:** Early response assessment plays an important role in management of acute myeloid leukemia. In patients with CD34-positive blasts, the CD34 IHC can improve the detection of residual blasts on Day 14 bone marrow biopsy in comparison with morphological assessment of blast percentage in bone marrow aspirate.

52: Jain V, Satapathy AK, Yadav J. Surreptitious insulin overdosing in adolescents with type 1 diabetes. *Indian Pediatr.* 2015 Aug;52(8):701-3. PubMed PMID: 26388633.

BACKGROUND: Hypoglycemia in children and adolescents with type 1 diabetes has diverse etiologies.

CASE CHARACTERISTICS: We report recurrent hypoglycemia in three children with type 1 diabetes because of insulin overdose.

INTERVENTION: Hospitalization and counselling by treating team and psychologist helped in resolving the recurrent hypoglycemia.

OUTCOME: Improvement in glycemic control was achieved.

MESSAGE: Adolescents with type 1 diabetes may take extra insulin to consume more carbohydrates, or to seek attention. Parents should share the responsibility of care of adolescents during transition phase for better glycemic control.

PMID: 26388633 [PubMed - in process]

53: Jat KR, Chawla D. Surfactant therapy for bronchiolitis in critically ill infants. *Cochrane Database Syst Rev.* 2015 Aug 24;8:CD009194. doi: 10.1002/14651858.CD009194.pub3. Review. PubMed PMID: 26299681.

BACKGROUND: Bronchiolitis is one of the most frequent causes of respiratory failure in infants; some infants will require intensive care and mechanical ventilation. There is lack of evidence regarding effective treatment for bronchiolitis other than supportive care. Abnormalities of surfactant quantity or quality (or both) have been observed in severe cases of bronchiolitis. Exogenous surfactant administration appears to favourably change the haemodynamics of the lungs and may be a potentially promising therapy for severe bronchiolitis. This is an update of a review published in Issue 9, 2012. We did not identify any new studies for inclusion, and our conclusions remain unchanged.

OBJECTIVES: To evaluate the efficacy of exogenous surfactant administration (i.e. intratracheal administration of surfactant of any type (whether animal-derived or synthetic), at any dose and at any time after start of ventilation) compared to placebo, no intervention or standard care in reducing mortality and the duration of ventilation in infants and children with bronchiolitis requiring mechanical ventilation.

SEARCH METHODS: We searched the Cochrane Central Register of Controlled Studies (CENTRAL; 2015, Issue 5) which contains the Cochrane Acute Respiratory Infections Group's Specialised Register; MEDLINE (1948 to June week 3, 2015); EMBASE (1974 to June 2015); CINAHL (1982 to June 2015); LILACS (1985 to June 2015); and Web of Science (1985 to June 2015).

SELECTION CRITERIA: We considered prospective, randomised controlled trials (RCTs) and quasi-RCTs evaluating the effect of exogenous surfactant in infants and children with bronchiolitis requiring mechanical ventilation.

DATA COLLECTION AND ANALYSIS: Two review authors selected studies independently. We extracted the data using a predefined proforma, independently analysed the data, and performed meta-analyses.

MAIN RESULTS: We included three small RCTs enrolling 79 participants. Two trials did not use a placebo in the control arms and the third trial used air placebo. Two included studies reported no mortality. We judged all three of the included studies to be at low risk or unclear risk across all risk of bias categories; we did not judge any of the studies to be at high risk of bias in any category. Our pooled analysis of the three trials revealed that duration of mechanical ventilation was not significantly different between the groups (mean difference (MD) -63.04, 95% confidence interval (CI) -130.43 to 4.35 hours) but duration of intensive care unit (ICU) stay was less in the surfactant group compared to the control group: MD -3.31, 95% CI -6.38 to -0.25 days. After excluding one trial which produced significant heterogeneity, the duration of mechanical ventilation and duration of ICU stay were significantly lower in the surfactant group compared to the control group: MD -28.99, 95% CI -40.10 to -17.87 hours; and MD -1.81, 95% CI -2.42 to -1.19 days, respectively. Use of surfactant had favourable effects on oxygenation and CO₂ elimination. No adverse effects and no

complications were observed in any of the three included studies. The level of evidence for duration of mechanical ventilation, duration of intensive care unit stay, oxygenation parameters, and carbon dioxide parameters was of moderate quality.

AUTHORS' CONCLUSIONS: Use of surfactant had favourable effects on duration of mechanical ventilation, duration of ICU stay, oxygenation, and CO₂ elimination. However, the studies are few and small (n = 79) so available evidence is insufficient to establish the effectiveness of surfactant therapy for bronchiolitis in critically ill infants who require mechanical ventilation. There is a need for larger trials with adequate power and a cost-effectiveness analysis to evaluate the effectiveness of exogenous surfactant therapy for infants with bronchiolitis who require intensive care management.

54: Jha KA, Nag TC, Kumar V, Kumar P, Kumar B, Wadhwa S, Roy TS. Differential Expression of AQP1 and AQP4 in Avascular Chick Retina Exposed to Moderate Light of Variable Photoperiods. *Neurochem Res.* 2015 Nov;40(11):2153-66. doi: 10.1007/s11064-015-1698-7. Epub 2015 Aug 19. PubMed PMID: 26285902.

Aquaporins (AQPs) are integral membrane proteins which maintain cellular water and ion homeostasis. Alterations in AQP expression have been reported in rod-dominated rodent retinas exposed to light. In rodents and also in birds, light of moderate intensities (700-2000 lux) damages the retina, though detailed changes were not examined in birds. The aim of our study was to see if light affects cone dominated retinas, which would be reflected in expression levels of AQPs. We examined AQP1 and AQP4 expressions in chick retina exposed to 2000 lux under 12 h light:12 h dark (12L:12D; normal photoperiod), 18L:6D (prolonged photoperiod) and 24L:0D (constant light). Additionally, morphological changes, apoptosis (by TUNEL) and levels of glutamate and GFAP (a marker of injury) in the retina were examined to correlate these with AQP expressions. Constant light caused damage in outer and inner nuclear layer (ONL, INL) and ganglion cell layer (GCL). Also, there were associated increases in GFAP and glutamate levels in retinal extracts. In normal photoperiod, AQP1 was expressed in GCL, outer part of INL and photoreceptor inner segments of. AQP4 was additionally expressed in nerve fiber layer. Immunohistochemistry and Western blotting revealed over all decreased AQP1 and AQP4 expression in constant light condition compared to those in other two groups. The elevated GFAP and glutamate levels might be involved in the reduction of AQPs in constant light group. Such decreases in AQP expressions are perhaps linked with retinal cell damage seen in constant light condition, while their relatively enhanced expression in two other conditions may help in maintaining a normal retinal architecture, indicating their neuroprotective potential.

55: Jhanjee S, Jain R, Jain V, Gupta T, Mittal S, Goelz P, Schnoll RA. Evaluating the Effects of Varenicline on Craving, Withdrawal, and Affect in a Randomized, Double-Blind, Placebo-Controlled Clinical Trial of Varenicline for Smokeless Tobacco Dependence in India. *J Psychoactive Drugs.* 2015 Sep-Oct;47(4):325-30. doi: 10.1080/02791072.2015.1075092. Epub 2015 Aug 28. PubMed PMID: 26317176; PubMed Central PMCID: PMC4699413.

This study examined changes in tobacco craving, withdrawal, and affect as correlates of efficacy in a phase-2 clinical trial of varenicline for smokeless tobacco dependence in India. Smokeless tobacco users (N = 237) at the All India Institute of Medical Sciences were randomized to placebo or varenicline. Abstinence was defined as cotinine-verified seven-day point prevalence cessation at end of treatment (EOT). General Linear Model repeated measures assessed the effects of treatment condition, time, abstinence state, and interaction effects on changes in craving, withdrawal, positive (PA) and negative affect (NA) from baseline to EOT. All participants showed a significant reduction in withdrawal (p < .001), total craving (p < .001), positive reinforcement (PR) craving (p < .001), and NA (p = .02), and an increase in PA (p = .04) from baseline to EOT. However, there were no differences between placebo and varenicline participants in measures of withdrawal, craving, or affect from baseline to week 3 or at EOT.

Significant interactions between time and abstinence state were found for total craving ($p = .008$), PR craving ($p < .001$), and withdrawal ($p = .001$), indicating reductions in these processes among those abstinent vs. those still chewing smokeless tobacco. Additional research is needed concerning the effects of varenicline on craving, withdrawal, and affect among smokeless tobacco users.

56: Julka PK, Sharma DN, Madan R, Mallick S, Haresh KP, Gupta S, Rath GK, Manoharan N. Treatment Compliance in Lung Cancer Patients. *Clin Oncol (R Coll Radiol)*. 2015 Dec;27(12):754-5. doi: 10.1016/j.clon.2015.07.002. Epub 2015 Aug 5. PubMed PMID: 26253863.

57: Jyotsna VP, Malik E, Birla S, Sharma A. Novel MEN 1 gene findings in rare sporadic insulinoma--a case control study. *BMC Endocr Disord*. 2015 Aug 26;15:44. doi: 10.1186/s12902-015-0041-2. PubMed PMID: 26307114; PubMed Central PMCID: PMC4549893.

BACKGROUND: Insulinomas, which are rare tumors causing hyperinsulinemic hypoglycemia are usually sporadic but may also occur in association with multiple endocrine neoplasia type 1 (MEN-1) syndrome an autosomal dominant disorder caused by MEN1 gene mutations. MEN1 encodes a nuclear protein Menin, a tumor suppressor which acts as an adapter and interacts with partner proteins involved in crucial activities like transcriptional regulation, cell division, proliferation and genome stability. This study reports on clinical findings and mutation screening in sporadic insulinoma patients.

METHODS: Seventeen patients diagnosed with insulinoma were recruited along with 30 healthy volunteers who acted as controls for the present study. The patients presented with symptoms of sweating, tremors, drowsiness, palpitations, loss of consciousness, abnormal behavior, seizures and weight gain. Detailed clinical and family history was collected from all the participants along with 5 ml of blood sample after taking informed consent. Genomic DNA isolated from blood was subjected to MEN1 gene amplification followed by direct sequencing. Nucleotide sequences obtained were compared with published MEN1 cDNA sequences. Prediction of functional effects of novel changes was done using various bioinformatics algorithms.

RESULTS: Molecular analysis revealed presence of three novel exonic mutations (M561K, Q192K and Q261Q), two novel intronic variations c.445-44G → A and c.913-42G → C in introns two and six respectively and three reported exon SNPs; H433H (rs540012), D418D (rs2071313), A541T (rs2959656) and one intronic SNP (rs669976).

CONCLUSIONS: The study identified presence of novel pathogenic MEN1 mutations in sporadic cases of insulinoma. The new mutations identified were in regions involved in defective binding of menin to proteins implicated in genetic and epigenetic mechanisms. The outcome of the study extends the growing list of MEN1 pathogenic mutations even in sporadic cases providing consequential insight into phenotypic heterogeneity and in the expression of individual mutations.

58: Kalra S, Gupta Y. Cardiovascular risk management in diabetes in primary care. *J Pak Med Assoc*. 2015 Aug;65(8):907-8. PubMed PMID: 26228345.

This communication describes simple targets and interventions, aimed at cardiovascular risk reduction in diabetes mellitus, which are feasible at primary care level. It summarizes therapeutic goals and strategies for management of high blood pressure, dyslipidaemia, and anti-platelet therapy.

59: Karunanithi S, Soundararajan R, Sharma P, Naswa N, Bal C, Kumar R. Spectrum of Physiologic and Pathologic Skeletal Muscle (18)F-FDG Uptake on PET/CT. *AJR Am J Roentgenol*. 2015 Aug;205(2):W141-9. doi: 10.2214/AJR.14.13457. Epub 2015 May 22. Review. PubMed PMID: 26001118.

OBJECTIVE: Skeletal muscle (18)F-FDG uptake on PET/CT can be either physiologic or related to a variety of different pathologic conditions. FDG PET/CT can be

used for assessment of primary and metastatic tumors and infective or inflammatory conditions affecting the musculature.

CONCLUSION: In this article, we describe the various causes and patterns of skeletal muscle FDG uptake. Familiarity with these patterns is essential for proper interpretation of clinical FDG PET/CT images.

60: Kaushik A, Makkar N, Pandey P, Parrish N, Singh U, Lamichhane G. Carbapenems and Rifampin Exhibit Synergy against Mycobacterium tuberculosis and Mycobacterium abscessus. *Antimicrob Agents Chemother*. 2015 Oct;59(10):6561-7. doi: 10.1128/AAC.01158-15. Epub 2015 Aug 10. PubMed PMID: 26259792; PubMed Central PMCID: PMC4576034.

An effective regimen for treatment of tuberculosis (TB) is comprised of multiple drugs that inhibit a range of essential cellular activities in Mycobacterium tuberculosis. The effectiveness of a regimen is further enhanced if constituent drugs act with synergy. Here, we report that faropenem (a penem) or biapenem, doripenem, or meropenem (carbapenems), which belong to the β -lactam class of antibiotics, and rifampin, one of the drugs that forms the backbone of TB treatment, act with synergy when combined. One of the reasons (carba)penems are seldom used for treatment of TB is the high dosage levels required, often at the therapeutic limits. The synergistic combination of rifampin and these (carba)penems indicates that (carba)penems can be administered at dosages that are therapeutically relevant. The combination of faropenem and rifampin also limits the frequency of resistant mutants, as we were unable to obtain spontaneous mutants in the presence of these two drugs. The combinations of rifampin and (carba)penems were effective not only against drug-sensitive Mycobacterium tuberculosis but also against drug-resistant clinical isolates that are otherwise resistant to rifampin. A combination of doripenem or biapenem and rifampin also exhibited synergistic activity against Mycobacterium abscessus. Although the MICs of these three drugs alone against M. abscessus are too high to be of clinical relevance, their concentrations in combinations are therapeutically relevant; therefore, they warrant further evaluation for clinical utility to treat Mycobacterium abscessus infection, especially in cystic fibrosis patients.

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61: Khan I, Zakaria MK, Kumar M, Mani P, Chattopadhyay P, Sarkar DP, Sinha S. A novel placental like alkaline phosphatase promoter driven transcriptional silencing combined with single chain variable fragment antibody based virosomal delivery for neoplastic cell targeting [corrected]. *J Transl Med*. 2015 Aug 5;13:254. doi: 10.1186/s12967-015-0602-1. Erratum in: *J Transl Med*. 2015;13:300. PubMed PMID: 26242403; PubMed Central PMCID: PMC4524171.

BACKGROUND: Placental like alkaline phosphatase (PLAP), an oncofetal antigen, is highly expressed in germ cell, cervical, ovarian and several other tumour types but minimally in normal tissues [corrected]. The expression of a PLAP promoter based transcriptional unit following antigen mediated cell specific delivery is a possible approach for tumour targeting.

METHODS: PLAP promoter alone or in combination with NF κ B DNA response elements was used for expressing shRNA targeting the long control region (LCR) of human papillomavirus (HPV)-16 oncogenes E6 and E7 via transcriptional gene silencing in PLAP expressing cervical cancer cell lines, SiHa and CaSki. This was packaged in a Sendai virus envelope incorporating a single chain variable fragment antibody (scFv) for antibody mediated targeting. Specificity and efficacy of the shRNA was assessed by studying the heterochromatinization, down regulation of the HPV-16 E6/E7 genes and subsequent effects on their targets and cell growth properties.

RESULTS: Reduction of HPV-16 E6 and E7 expression by TGS led to the activation of the previously suppressed target genes of p53 (PUMA and NOXA) and Rb (cyclins A2 and E). Cell death was seen only in PLAP expressing HPV-16 infected SiHa and CaSki cells but not in the HPV-18 integrated HeLa and non-PLAP CHO cells. There was reduction in the enhancer associated transcripts of the long control region

(LCR) of HPV-16 E6/E7 genes. Also, an increase in the enrichment of dimethylated histone three lysine nine (H3K9Me2) and trimethylated histone three lysine twenty-seven (H3K27Me3) was observed by ChIP assay, which decreased upon trichostatin A treatment, indicating a possible mechanism for the heterochromatinization of the target LCR region.

CONCLUSION: A combination of novel PLAP promoter and antibody based specificities has the potential for being developed as a possible therapeutic strategy for PLAP positive neoplasia.

62: Khandakar B, Kumar L, Kumar S, Gupta SD, Kalaivani M, Iyer V, Mathur SR. Tumour morphology after neoadjuvant chemotherapy as a predictor of survival in serous ovarian cancer: an experience from a tertiary care centre in India. *Malays J Pathol.* 2015 Aug;37(2):115-21. PubMed PMID: 26277668.

Serous ovarian cancer is the most common malignant ovarian tumour. Traditional management consists of surgical resection with postoperative chemotherapy. Currently neoadjuvant chemotherapy is offered to patients with advanced stage disease. The present study aims to analyse the histomorphological alterations in serous ovarian cancer following neoadjuvant chemotherapy. Correlation of these morphological alterations with survival is also presented here. Serous ovarian cancers from 100 advanced stage cases were included; 50 were treated with pre-surgery chemotherapy. Semi-quantitative scoring was used to grade the alterations in tumour morphology. Survival data was correlated with the final morphological score. Tumour morphology was significantly different in cases treated with neoadjuvant chemotherapy (CT group) as compared to cases with upfront surgery. The CT group cases showed more fibrosis, calcification, and infiltration by lymphocytes, plasma cells, foamy and hemosiderin-laden macrophages. The residual tumour cells had degenerative cytoplasmic changes with nuclear atypia. Patients with significant morphological response had a longer median survival, although it did not attain statistical significance in the current study. With the increasing use of neoadjuvant chemotherapy in management, the pathologist needs to be aware of the altered morphological appearance of tumour. Further studies are required to establish a grading system to assess the tissue response which can be helpful in predicting the overall therapeutic outcome and the prognosis of patients.

63: Khandelwal P, Sharma S, Bhardwaj S, Thergaonkar RW, Sinha A, Hari P, Lodha R, Bagga A. Experience with Continuous Renal Replacement Therapy. *Indian J Pediatr.* 2015 Aug;82(8):752-4. doi: 10.1007/s12098-015-1743-1. Epub 2015 Mar 18. PubMed PMID: 25776002.

Information on provision of continuous renal replacement therapy (CRRT) in critically ill children from developing countries is limited. The authors describe their experience in 17 children with hypotension and acute kidney injury (AKI) with fluid overload or electrolyte imbalance managed by 20 sessions of CRRT. The median (range) age and weight were 6 y (0.75-18) and 20 kg (6.2-42), respectively. All patients were receiving inotropic agents; nine had fluid overload (19 %, range 11-34.1 %) and ten had severe AKI. Median clearance and filter-life were 2171.4 ml/1.73 m²/h (1730.6-4405.8) and 69.7 h (2.8-98.3), respectively. Complications were catheter flow related (n=1), filter clotting (n=3), hemorrhage (n=3), hypokalemia (n=16) and hypophosphatemia (n=11). Eight patients (47.1 %) survived; the median PRISM III score of survivors was significantly lower than non survivors (10.5 vs.17.0; P 0.02). Renal function recovered in the survivors emphasizing the role of this modality in managing critically ill patients.

64: Kothiwala SK, Khanna N. Mucocutaneous blisters & a mediastinal mass: Lifesaving role of surgery. *Indian J Med Res.* 2015 Aug;142(2):227-8. doi: 10.4103/0971-5916.164276. PubMed PMID: 26354223; PubMed Central PMCID: PMC4613447.

65: Kumar A, Sharma A, Mohanti BK, Thakar A, Shukla NK, Thulkar SP, Sikka K, Bhasker S, Singh CA, Vishnubhatla S. A phase 2 randomized study to compare short course palliative radiotherapy with short course concurrent palliative chemotherapy plus radiotherapy in advanced and unresectable head and neck cancer. *Radiother Oncol*. 2015 Oct;117(1):145-51. doi: 10.1016/j.radonc.2015.07.026. Epub 2015 Aug 21. PubMed PMID: 26303014.

BACKGROUND: Treatment of unresectable HNSCC is not well defined and has a poor outcome. This study has been designed to address the unmet needs of such groups of patients with primary end points of (a) proportion of patients eligible for radical treatment in each arm (b) loco-regional disease control at 6months between two arms.

MATERIALS AND METHODS: Locally advanced and unresectable HNSCC patients (except Nasopharynx and Larynx) unfit for radical treatment were randomized to arm A [short course RT alone (4Gy/#/day for 5days)] or arm B [RT as arm A+concurrent cisplatin at 6mg/m²/day IV bolus for 5days]. Those with at least PR were taken for further RT to complete biological equivalent dose of 70Gy, in both the arms. In arm B, concurrent CDDP at a dose of 40mg/m²/week was administered.

RESULTS: 114 patients (57 in each arm) were randomized but 111 were analyzable. 15 (27.27%) patients in arm A and 28 (50%) patients in arm B had \geq PR (p=0.01) however patients taken for FRT were 14 (25.45%) and 26 (46.42%) in arms A and B respectively (p=0.02). Locoregional control i.e. (CR+PR) at 6months was 16.36% in arm A versus 32.14% in arm B (p=0.15). Median PFS (arm A - 3.2months, arm B - 6.2months; p=0.02) and OS (arm A - 5.9months, arm B - 10.1months; p=0.03) was significantly more in arm B. There was relative improvement in quality of life for most parameters in arm B.

CONCLUSION: Concurrent low dose CTRT can be an effective treatment modality in advanced and incurable HNSCC. However, a larger phase III trial is required.

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66: Kumar A, Roy S, Bansal M, Tinwala S, Aron N, Temkar S, Pujari A. Modified Approach in Management of Submacular Hemorrhage Secondary to Wet Age-related Macular Degeneration. *Asia Pac J Ophthalmol (Phila)*. 2015 Aug 21. [Epub ahead of print] PubMed PMID: 26302314.

PURPOSE: The aim of this study was to evaluate the surgical outcomes of a modified approach in the management of thick submacular hemorrhage in patients with wet age-related macular degeneration.

DESIGN: This was a retrospective study.

METHODS: A retrospective chart review was performed on 10 eyes of 10 patients with submacular hemorrhage secondary to wet age-related macular degeneration treated with 23-gauge pars plana vitrectomy, followed by submacular injection of recombinant tissue plasminogen activator (12.5 μ g/0.1 mL), bevacizumab (2.5 mg/0.1 mL), and air (0.3 mL). Gas tamponade was given with 20% SF₆ and postoperative propped-up positioning. Patients were evaluated for displacement of hemorrhage, preoperative and postoperative best-corrected visual acuity, occurrence of intraoperative and postoperative complications, and recurrence of hemorrhage. All patients were followed up for 6 months.

RESULTS: Displacement of the submacular bleed was achieved in all cases. Improvement of best-corrected visual acuity was seen in 8 of 10 patients. Rebleed was seen in 2 eyes that were retreated with intravitreal injection of recombinant tissue plasminogen activator, bevacizumab, and 20% SF₆ gas.

CONCLUSIONS: This modified technique aids in the effective displacement of thick submacular hemorrhage with simultaneous treatment of the underlying choroidal neovascular membrane, which halts the disease progression resulting in significant improvement of visual acuity.

67: Kumar A, Kumar P, Misra S, Sagar R, Kathuria P, Vibha D, Vivekanandhan S, Garg A, Kaul B, Raghvan S, Gorthi SP, Dabla S, Aggarwal CS, Prasad K. Biomarkers to enhance accuracy and precision of prediction of short-term and long-term outcome after spontaneous intracerebral haemorrhage: a study protocol for a

prospective cohort study. *BMC Neurol.* 2015 Aug 12;15:136. doi: 10.1186/s12883-015-0384-3. PubMed PMID: 26264492; PubMed Central PMCID: PMC4533964.

BACKGROUND: Several studies reported prognostic value of biomarker in intracerebral hemorrhagic (ICH) but they are either preliminary observation or inadequately powered to analyse independent contribution of biomarkers over and above clinical and neuroimaging data.

OBJECTIVE: To examine whether the biomarker can significantly add to the predictive accuracy of prognosis of ICH.

METHOD/DESIGN: In a multi-centric prospective cohort study, 1020 patients with ICH within 72 hours of onset are being recruited. After obtaining written informed consent from patients/proxy, venous blood sample (10 ml) is being collected and analysed for C-reactive protein (CRP) level, S100B, Glial fibrillary acidic protein (GFAP), Troponin, change in leukocyte count and Copeptin levels. The patients are telephonically followed using stroke scales (Barthel Index and modified Rankin Scale) at 3, 6, 12 months and 2 years after the recruitment.

DISCUSSION: This protocol will aim at predicting the short term or long term prognosis with the use of clinical, neuroimaging and biomarkers in order to help clinician to stratify patients for early referral or intervention.

68: Kumar D, Mutreja I, Keshvan PC, Bhat M, Dinda AK, Mitra S. Organically Modified Silica Nanoparticles Interaction with Macrophage Cells: Assessment of Cell Viability on the Basis of Physicochemical Properties. *J Pharm Sci.* 2015 Nov;104(11):3943-51. doi: 10.1002/jps.24614. Epub 2015 Aug 21. PubMed PMID: 26295279.

Silica nanoparticles have drawn a lot of attention for nanomedicine application, and this is attributed to their biocompatibility and ease of surface functionalization. However, successful utilization of these inorganic systems for biomedical application depends on their physicochemical properties. This study, therefore, discusses in vitro toxicity of organically modified silica nanoparticles on the basis of size, shape, and surface properties of silica nanoparticles. Spherical- and oval-shaped nanoparticles having hydroxyl and amine groups were synthesized in Tween 80 micelles using different organosilanes. Nanoparticles of similar size and morphology were considered for comparative assessment. "As-prepared" nanoparticles were characterized in terms of size, shape, and surface properties using ZetaSizer, transmission electron microscopy, and Fourier transform infrared to establish the above parameters. In vitro analysis in terms of nanoparticle-based toxicity was performed on J-774 (macrophage) cell line using propidium iodide-4',6-diamidino-2-phenylindol and 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assays. Fluorescent dye-entrapped nanoparticles were used to visualize the uptake of the nanoparticles by macrophage cells. Results from cell studies suggested low levels of toxicity for different nanoparticle formulations studied, therefore are suitable for nanocarrier application for poorly soluble molecules. On the contrary, the nanoparticles of similar size and shape, having amine groups and low net negative charge, do not exhibit any in vitro cytotoxicity.

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69: Kumar L, Pramanik R, Kumar S, Bhatla N, Malik S. Neoadjuvant chemotherapy in gynaecological cancers - Implications for staging. *Best Pract Res Clin Obstet Gynaecol.* 2015 Aug;29(6):790-801. doi: 10.1016/j.bpobgyn.2015.02.008. Epub 2015 Mar 6. PubMed PMID: 25840650.

The management of advanced gynaecological cancers remains a therapeutic challenge. Neoadjuvant chemotherapy has been used to reduce tumour size, thus facilitating subsequent local treatment in the form of surgery or radiation. For advanced epithelial ovarian cancer, data from several non-randomized and one randomized studies indicate that neoadjuvant chemotherapy followed by interval

debulking surgery is a reasonable approach in patients deemed inoperable. Such an approach results in optimum debulking (no visible tumour) in approximately 40% of the patients with reduced operative morbidity. Overall and progression free-survival is comparable to the group treated with primary debulking surgery followed by chemotherapy. Neoadjuvant chemotherapy followed by surgery is associated with improved survival for women with stage IB2-IIA cervix cancer. There is a resurgence of interest for using short-course neoadjuvant chemotherapy prior to concurrent chemo-radiation. Currently, this is being tested in randomized trials.

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70: Kumar M, Matta A, Masui O, Srivastava G, Kaur J, Thakar A, Shukla NK, RoyChoudhury A, Sharma M, Walfish PG, Michael Siu KW, Chauhan SS, Ralhan R. Nuclear heterogeneous nuclear ribonucleoprotein D is associated with poor prognosis and interactome analysis reveals its novel binding partners in oral cancer. *J Transl Med.* 2015 Aug 30;13:285. doi: 10.1186/s12967-015-0637-3. PubMed PMID: 26318153; PubMed Central PMCID: PMC4553214.

BACKGROUND: Post-transcriptional regulation by heterogeneous ribonucleoproteins (hnRNPs) is an important regulatory paradigm in cancer development. Our proteomic analysis revealed hnRNP D overexpression in oral dysplasia as compared with normal mucosa; its role in oral carcinogenesis remains unknown. Here in we determined the hnRNP D associated protein networks and its clinical significance in oral squamous cell carcinoma (OSCC).

METHODS: Immunoprecipitation (IP) followed by tandem mass spectrometry was used to identify the binding partners of hnRNP D in oral cancer cell lines. Ingenuity pathway analysis (IPA) was carried out to unravel the protein interaction networks associated with hnRNP D and key interactions were confirmed by co-IP-western blotting. hnRNP D expression was analyzed in 183 OSCCs, 44 oral dysplasia and 106 normal tissues using immunohistochemistry (IHC) and correlated with clinico-pathological parameters and follow up data over a period of 91 months. Kaplan-Meier survival and Cox-multivariate-regression analyses were used to evaluate the prognostic significance of hnRNP D in OSCC.

RESULTS: We identified 345 binding partners of hnRNP D in oral cancer cells. IPA unraveled novel protein-protein interaction networks associated with hnRNP D and suggested its involvement in multiple cellular processes: DNA repair, replication, chromatin remodeling, cellular proliferation, RNA splicing and stability, thereby directing the fate of oral cancer cells. Protein-protein interactions of hnRNP D with 14-3-3 ζ , hnRNPK and S100A9 were confirmed using co-IP-western blotting. IHC analysis showed significant overexpression of nuclear hnRNP D in oral dysplasia [p = 0.001, Odds ratio (OR) = 5.1, 95% CI = 2.1-11.1] and OSCCs (p = 0.001, OR = 8.1, 95% CI = 4.5-14.4) in comparison with normal mucosa. OSCC patients showing nuclear hnRNP D overexpression had significantly reduced recurrence free survival [p = 0.026, Hazard ratio = 1.95, 95% CI = 1.0-3.5] by Kaplan-Meier survival and Cox-multivariate-regression analyses and has potential to define a high-risk subgroup among OSCC patients with nodal negative disease.

CONCLUSIONS: Our findings suggest novel functions of hnRNP D in cellular proliferation and survival, besides RNA splicing and stability in oral cancer. Association of nuclear hnRNP D with poor prognosis in OSCC patients taken together with its associated protein networks in oral cancer warrant future studies designed to explore its potential as a plausible novel target for molecular therapeutics.

71: Kumar R, Mukherjee A, Mittal BR. Special Techniques in PET/Computed Tomography Imaging for Evaluation of Head and Neck Cancer. *PET Clin.* 2016 Jan;11(1):13-20. doi: 10.1016/j.cpet.2015.07.006. Epub 2015 Aug 28. Review. PubMed PMID: 26590440.

PET with fluorodeoxyglucose F 18 (FDG)/computed tomography (CT) imaging has significantly improved the management of head and neck cancer. FDG, however, is

not tumor-specific and various image interpretation pitfalls may occur because of false-positive and -negative causes of FDG uptake. Routine imaging examination of head and neck malignancies does not yield all of the necessary data, even with the most advanced imaging technique. Specific interventions, such as use of different dynamic maneuvers and pharmacologic interventions, may provide useful information about the lesion. This article reviews the use of special techniques in FDG PET/CT imaging and whole-body FDG PET/CT imaging for evaluation of head and neck cancer.

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72: Kumar S, Singh A, Yamini S, Dey S, Singh TP. Crystal Structure of Mg(2+) Containing Hemopexin-Fold Protein from Kabuli Chana (Chickpea-White, CW-25) at 2.45 Å... Resolution Reveals Its Metal Ion Transport Property. *Protein J.* 2015 Aug;34(4):284-90. doi: 10.1007/s10930-015-9624-z. PubMed PMID: 26242869.

Plant seeds contain a number of proteins which play important roles in the protection and the process of germination of seeds. We have isolated and purified a 25 kDa protein from Kabuli Chana (*Cicer arietinum* L., Chickpea-white, CW-25). The CW-25 protein was crystallized using 0.5 M magnesium acetate, 0.1 M sodium cacodylate and 20 % (w/v) polyethylene glycol 8000, pH 6.5. The crystals of CW-25 belonged to space group P3 with unit cell dimensions, $a = b = 80.5 \text{ \AA}$, and $c = 69.2 \text{ \AA}$. The structure of CW-25 was determined using molecular replacement method and refined to an R factor of 0.152. The buried surface area between two molecules was found to be approximately 653 \AA^2 indicating the formation of a weak homodimer. The polypeptide chain of CW-25 adopted a hemopexin-fold with four-bladed β -propellers. The structure formed a central tunnel-like architecture. A magnesium ion was observed in the centre of the tunnel. It was located at distances varying between 2.3 and 2.7 Å from five oxygen atoms of which four were backbone oxygen atoms belonging to residues, Asn7, Asp65, Asp121 and Asp174 while the fifth oxygen atom, O(δ 1) was from the side chain of Asn7. The approximate length of the tunnel was 30 Å. Furthermore, a series of carbonyl oxygen atoms were present along the internal face of the tunnel. The diameter of the tunnel varied from 4.6 to 6.2 Å. The diameter and chemical environment of the tunnel clearly indicated that it might be used for the transport of various metal ions across the molecule.

73: Kumar S, Jitendra K, Singh K, Kapoor V, Sinha M, Xess I, Das SN, Sharma S, Singh TP, Dey S. Biological Properties and Characterization of ASL50 Protein from Aged *Allium sativum* Bulbs. *Appl Biochem Biotechnol.* 2015 Aug;176(7):1914-27. doi: 10.1007/s12010-015-1687-y. Epub 2015 Jun 5. PubMed PMID: 26043852.

Allium sativum is well known for its medicinal properties. The *A. sativum* lectin 50 (ASL50, 50 kDa) was isolated from aged *A. sativum* bulbs and purified by gel filtration chromatography on Sephacryl S-200 column. Agar well diffusion assay were used to evaluate the antimicrobial activity of ASL50 against *Candida* species and bacteria then minimal inhibitory concentration (MIC) was determined. The lipid A binding to ASL50 was determined by surface plasmon resonance (SPR) technology with varying concentrations. Electron microscopic studies were done to see the mode of action of ASL50 on microbes. It exerted antimicrobial activity against clinical *Candida* isolates with a MIC of 10-40 µg/ml and clinical *Pseudomonas aeruginosa* isolates with a MIC of 10-80 µg/ml. The electron microscopic study illustrates that it disrupts the cell membrane of the bacteria and cell wall of fungi. It exhibited antiproliferative activity on oral carcinoma KB cells with an IC₅₀ of 36 µg/ml after treatment for 48 h and induces the apoptosis of cancer cells by inducing 2.5-fold higher caspase enzyme activity than untreated cells. However, it has no cytotoxic effects towards HEK 293 cells as well as human erythrocytes even at higher concentration of ASL50. Biological properties of ASL50 may have its therapeutic significance in aiding infection and cancer treatments.

74: Kundu R, Baidya DK, Arora MK, Maitra S, Darlong V, Goswami D, Mohanaselvi S, Bajpai M. Caudal bupivacaine and morphine provides effective postoperative analgesia but does not prevent hemodynamic response to pneumoperitoneum for major laparoscopic surgeries in children. *J Anesth.* 2015 Aug;29(4):618-21. doi: 10.1007/s00540-015-1983-2. Epub 2015 Feb 17. PubMed PMID: 25686563.

The use of a caudal block in laparoscopic surgery in children is limited to minor procedures like inguinal hernia repair, and intravenous opioids remain the analgesic modality of choice in major laparoscopic surgery. However, a caudal block is frequently performed at our institute even for laparoscopic surgery. Therefore, we planned to evaluate the analgesic efficacy of caudal bupivacaine and morphine in major laparoscopic surgery as compared to intravenous opioids. Our hypothesis was that a single-shot caudal block would increase the duration of analgesia and minimize the hemodynamic response to pneumoperitoneum. After institutional ethics committee clearance, data were collected for 65 ASA I-II children aged 6 months to 12 years who underwent laparoscopic surgery in the last 14 months. Demographic, surgical, and perioperative anesthetic and analgesic data were noted and analyzed. Twenty-four children received a caudal block with 0.25 % bupivacaine (1-1.25 ml/kg) with morphine (30-50 mcg/kg). In the caudal group, the time to first analgesic request was increased (165 vs. 45 min; $p = 0.00$) and tachycardia response to port site incision was less observed (33 vs. 63 % children; $p = 0.019$). Hemodynamic response to pneumoperitoneum was equal in both of the groups. Single-shot caudal injection of local anesthetic with morphine reduces port site skin incision response and increases the duration of postoperative analgesia but fails to prevent hemodynamic response to pneumoperitoneum.

75: Li L, Wang XH, Williams C, Volsky B, Steczko O, Seaman MS, Luthra K, Nyambi P, Nadas A, Giudicelli V, Lefranc MP, Zolla-Pazner S, Gorny MK. A broad range of mutations in HIV-1 neutralizing human monoclonal antibodies specific for V2, V3, and the CD4 binding site. *Mol Immunol.* 2015 Aug;66(2):364-74. doi: 10.1016/j.molimm.2015.04.011. Epub 2015 May 18. PubMed PMID: 25965315; PubMed Central PMCID: PMC4461508.

The HIV vaccine-induced neutralizing antibodies (Abs) display low rates of mutation in their variable regions. To determine the range of neutralization mediated by similar human monoclonal Abs (mAbs) but derived from unselected chronically HIV-1 infected subjects, we tested a panel of 66 mAbs specific to V3, CD4 binding site (CD4bs) and V2 regions. The mAbs were tested against 41 pseudoviruses, including 15 tier 1 and 26 tier 2, 3 viruses, showing that the neutralization potency and breadth of anti-V3 mAbs were significantly higher than those of the anti-CD4bs and anti-V2 mAbs, and only anti-V3 mAbs were able to neutralize some tier 2, 3 viruses. The percentage of mutations in the variable regions of the heavy (VH) and light (VL) chains varied broadly in a range from 2% to 18% and correlated moderately with the neutralization breadth of tier 2, 3 viruses. There was no correlation with neutralization of tier 1 viruses as some mAbs with low and high percentages of mutations neutralized the same number of viruses. The electrostatic interactions between anti-V3 mAbs and the charged V3 region may contribute to their neutralization because the isoelectric points of the VH CDR3 of 48 anti-V3 mAbs were inversely correlated with the neutralization breadth of tier 2, 3 viruses. The results demonstrate that infection-induced antibodies to CD4bs, V3 and V2 regions can mediate cross-clade neutralization despite low levels of mutations which can be achieved by HIV-1 vaccine-induced antibodies.

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76: Machhindra MV, Garg B, Tiwari V, Kotwal P. AIIMS test: a simple test to look for presence of palmaris longus. *Musculoskelet Surg.* 2015 Aug;99(2):155-8. doi: 10.1007/s12306-015-0354-3. Epub 2015 Apr 11. PubMed PMID: 25860500.

PURPOSE: Palmaris longus has an invaluable role in reconstructive surgeries of

hand and is the most common source of tendon grafts in tendon transfer surgeries. Various clinical tests are available to check for the presence of the tendon but are often difficult to use due to their complex nature. We suggest a rather simple test, which we have found very useful in our practice.

METHODS: In this cross-sectional study, we compared our proposed test with the most commonly used Standard test (Schaeffer's test) to know about its sensitivity in a cohort of randomly selected 200 patients.

RESULTS: We found our test to be more sensitive than the Standard test. The average time duration from instructions to elicitation of the test was also found less. No individual asked to repeat the instructions for the proposed test.

CONCLUSIONS: Our proposed test to evaluate the presence of palmaris longus tendon is very simple and easy-to-understand manoeuvre with good sensitivity. It would be extremely useful in the preoperative planning in most of the reconstructive surgeries, should the palmaris longus tendon be harvested.

77: Madan R, Benson R, Sharma DN, Julka PK, Rath GK. Radiation induced heart disease: Pathogenesis, management and review literature. *J Egypt Natl Canc Inst.* 2015 Dec;27(4):187-93. doi: 10.1016/j.jnci.2015.07.005. Epub 2015 Aug 18. Review. PubMed PMID: 26296945.

Radiation therapy (RT) is a very important part of multimodality cancer therapy. Addition of RT improves survival in many cancers, but there are some accompaniments of radiation. One of them is radiation induced heart disease (RIHD). RT for mediastinal lymphoma, breast, lung and oesophageal cancer is associated with the development of RIHD. The problem can be intensified with the addition of chemotherapy. Therapeutic modalities for RIHD are the same as in the non-irradiated population. However, surgery may be difficult in the irradiated patients. The long latent period is the reason why RIHD is not extensively studied. Survival of cancer patients has improved over past few decades, so RIHD is a growing concern especially in younger patients. In this review article, we have discussed the pathogenesis, clinical manifestation and management of RIHD along with impact of chemotherapeutic agents.

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78: Madhusudhan KS, Gamanagatti S, Garg P, Shalimar, Dash NR, Pal S, Peush S, Gupta AK. Endovascular Embolization of Visceral Artery Pseudoaneurysms Using Modified Injection Technique with N-Butyl Cyanoacrylate Glue. *J Vasc Interv Radiol.* 2015 Nov;26(11):1718-25. doi: 10.1016/j.jvir.2015.07.008. Epub 2015 Aug 18. PubMed PMID: 26296736.

PURPOSE: To evaluate the indications, feasibility, safety, and effectiveness of N-butyl cyanoacrylate (NBCA) with modified injection technique in embolization of visceral artery pseudoaneurysms (PSAs).

MATERIALS AND METHODS: A retrospective evaluation was performed of 31 patients (26 men, 5 women; mean age, 32.6 y) with visceral artery PSAs that were treated with embolization using NBCA with modified sequential injection and flushing technique. The most common indication for using NBCA was preservation of a major feeding artery (n = 18), followed by difficult catheterization secondary to arterial tortuosity (n = 5), failed previous coil embolization (n = 4), and short landing zone for coils (n = 4). NBCA alone was used in 25 patients, and NBCA with coils was used in 6 patients. The patients were followed clinically until discharge and 1 and 3 months after discharge.

RESULTS: The mean amount of NBCA-ethiodized oil (Lipiodol; Guerbet LLC, Villepinte, France) mixture injected was 0.24 mL (range, 0.1-1.1 mL). Embolization with NBCA was technically successful in all (100%) patients. Recurrence was seen in 3 (9.7%; 2-splenic artery; 1-left gastric artery) patients after a mean time of 16.3 days (range, 10-27 d) of initial embolization resulting in clinical success of 90.3%. All 3 patients underwent successful repeat embolization with secondary technical success rate of 100%. Minor (pain) and major (nontarget embolization in 2; microcatheter adhesion and fracture in 1)

complications were seen in 3 patients each.

CONCLUSIONS: NBCA is a safe and effective embolization agent when injected with modified technique in treatment of visceral artery PSAs.

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79: Mahapatra A, Gupta R. Methodology of the SEYLE trial on suicide prevention in schools. *Lancet*. 2015 Aug 29;386(9996):853. doi: 10.1016/S0140-6736(15)00010-0. PubMed PMID: 26335875.

80: Maharana PK, Dubey A, Jhanji V, Sharma N, Das S, Vajpayee RB. Management of advanced corneal ectasias. *Br J Ophthalmol*. 2016 Jan;100(1):34-40. doi: 10.1136/bjophthalmol-2015-307059. Epub 2015 Aug 20. Review. PubMed PMID: 26294106.

Corneal ectasias include a group of disorders characterised by progressive thinning, bulging and distortion of the cornea. Keratoconus is the most common disease in this group. Other manifestations include pellucid marginal degeneration, Terrien's marginal degeneration, keratoglobus and ectasias following surgery. Advanced ectasias usually present with loss of vision due to high irregular astigmatism. Management of these disorders is difficult due to the peripheral location of ectasia and associated severe corneal thinning. Newer contact lenses such as scleral lenses are helpful in a selected group of patients. A majority of these cases requires surgical intervention. This review provides an update on the current treatment modalities available for management of advanced corneal ectasias.

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81: Malik V, Subramanian A, Hote M, Kiran U. Effect of Levosimendan on Diastolic Function in Patients Undergoing Coronary Artery Bypass Grafting: A Comparative Study. *J Cardiovasc Pharmacol*. 2015 Aug;66(2):141-7. doi: 10.1097/FJC.0000000000000256. PubMed PMID: 25919118.

PURPOSE: To compare the efficacy of levosimendan with nitroglycerin in patients with isolated diastolic dysfunction undergoing coronary artery bypass grafting.

PROCEDURE: Thirty patients with isolated diastolic dysfunction undergoing on-pump coronary artery bypass grafting were randomized into 2 groups receiving levosimendan or nitroglycerin infusion. The infusion was started before sternotomy and continued in the postoperative period. Perioperatively, diastolic function was serially evaluated at 3 different time points using echocardiography. N-terminal fragment of pro-B-natriuretic peptide (NT-proBNP) levels were measured in both the groups.

RESULTS: There was a significant improvement in diastolic function as measured by isovolumic relaxation time ($P = 0.0001$, $P = 0.001$) and deceleration time ($P = 0.0001$, $P = 0.0001$) in the levosimendan group from the baseline in patients with impaired relaxation. Similarly, tissue Doppler imaging also revealed an improvement from the baseline in patients with a pseudonormal pattern ($P = 0.018$, $P = 0.001$). Furthermore, there was a significant improvement in the above parameters when compared with the nitroglycerin group. The NT-proBNP levels also demonstrated a similar pattern between the 2 groups ($P = 0.03$, $P = 0.02$) when levosimendan was compared with nitroglycerin in patients with a pseudonormal pattern on echocardiography.

CONCLUSIONS: Levosimendan is superior to nitroglycerin in improving diastolic function irrespective of coronary revascularization.

82: Mallick S, Benson R, Haresh KP, Julka PK, Rath GK. Adjuvant radiotherapy in the treatment of gall bladder carcinoma: What is the current evidence. *J Egypt Natl Canc Inst*. 2015 Aug 8. pii: S1110-0362(15)00062-X. doi:

10.1016/j.jnci.2015.07.004. [Epub ahead of print] Review. PubMed PMID: 26265290.

Gall bladder carcinoma (GBC) is considered the fifth most common one of the most aggressive gastro intestinal tract malignancies. Owing to their large incidence randomised controlled trials have hardly been conducted to look into their optimum treatment. Over the years surgical resection has been considered the only curative treatment of these tumors. However, the outcome still remains guarded. The predominant pattern of failure is loco-regional followed by systemic. Hence, local adjuvant radiation has been used by different institutes with concurrent and adjuvant chemotherapy. The large retrospective series with their limitations showed improved survival in patients with regional spread or tumors infiltrating the liver when treated with adjuvant radiotherapy. In the present era with modern radiation techniques and target delineation radiation may further improve upon the impact without adding to the toxicity profile. Hence, radiation in gall bladder cancer needs a relook to optimize treatment outcome of such aggressive disease.

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83: Mandal A, Kabra SK, Lodha R. Upper Airway Obstruction in Children. Indian J Pediatr. 2015 Aug;82(8):737-44. doi: 10.1007/s12098-015-1811-6. Epub 2015 Jun 25. PubMed PMID: 26104110.

Children with upper airway obstruction are both unique and variable in their presentation and management, often posing a challenge to the pediatrician. Several anatomical and physiologic peculiarities make a child vulnerable to develop an obstruction of upper airways. The characteristic finding in upper airway obstruction is stridor-inspiratory, biphasic or expiratory. The etiologies vary widely throughout the age groups and according to the mode of presentation. The approach starts with suspicion, mandates careful clinical evaluation of the degree of obstruction and many a times emergency measures precede any investigation or even precise diagnosis. Maintaining an open and stable airway is of the utmost importance, often requiring a team approach of emergency physician, pediatrician, otorhinolaryngologist and pediatric pulmonologist. The commonest condition presenting with upper airway obstruction in pediatric population is viral croup. Croup is a clinical diagnosis in a febrile child, with barking cough and stridor preceded by upper respiratory infection. It is treated with systemic or inhaled steroids and nebulized epinephrine. Epiglottitis and bacterial tracheitis are acute bacterial infections of upper airways, presenting as true airway emergencies. Though the mainstay of therapy is IV antibiotics, the prime concern is maintenance of airway, which frequently requires endotracheal intubation. Rigid bronchoscopy is the procedure of choice for airway foreign bodies, a common cause of upper airway obstruction in children below 3 y of age. Airway malacias are the commonest cause of chronic stridor and are mostly managed conservatively.

84: Marwaha RK, Sreenivas V, Talwar D, Yenamandra VK, Challa A, Lakshmy R, Sharma VK, Sethuraman G. Impact of solar ultraviolet B radiation (290-320Å nm) on vitamin D synthesis in children with type IV and V skin. Br J Dermatol. 2015 Aug;173(2):604-6. doi: 10.1111/bjd.13887. Epub 2015 Jul 14. PubMed PMID: 25939893.

85: Meena S, Gangary S, Sharma P, Chowdhury B. Barbed versus standard sutures in total knee arthroplasty: a meta-analysis. Eur J Orthop Surg Traumatol. 2015 Aug;25(6):1105-10. doi: 10.1007/s00590-015-1644-z. Epub 2015 May 15. PubMed PMID: 25976120.

INTRODUCTION: The use of barbed sutures in various surgical specialities has shown lower operative time and equivalent wound complications. Use of barbed suture in total knee arthroplasty is still at nascent stage with only few studies

comparing it with the standard closure techniques. The purpose of this review was to appraise the clinical outcomes of barbed suture use in closure of total knee arthroplasty.

METHODS: We searched the Cochrane library, PubMed and EMBASE up to December 2014 for clinical trials comparing the outcomes of closure of total knee arthroplasty with barbed sutures versus standard sutures. When there was no high heterogeneity, we used a fixed effects model. Dichotomous variables were presented as risk ratios (RRs) with 95 % confidence intervals (CIs), and continuous data were measured as measured differences with 95 % CIs.

RESULTS: Five studies were included, with sample size ranging from 178 to 416. Fixed effect analysis showed that superficial infection was higher with barbed suture (RR 1.54, 95 % CI 0.36–2.59, $P = 0.94$). The barbed sutures have significantly lower closure time (MI -2.74, CI -3.06, -2.42, $P < 0.00001$). There was no difference in terms of deep infection, wound dehiscence, arthrofibrosis and total operative time.

CONCLUSION: Our meta-analysis showed that the use of barbed sutures was associated with increased superficial infection rate and shorter estimated closure time. More RCTs are needed to examine the efficacy and safety of the barbed sutures.

86: Morey VM, Nag HL, Chowdhury B, Sankineani SR, Naranje SM. A prospective comparative study of clinical and functional outcomes between anatomic double bundle and single bundle hamstring grafts for arthroscopic anterior cruciate ligament reconstruction. *Int J Surg.* 2015 Sep;21:162-7. doi: 10.1016/j.ijsu.2015.07.699. Epub 2015 Aug 5. PubMed PMID: 26253848.

BACKGROUND: Despite a number of studies comparing postoperative stability and function after anatomic single bundle and double bundle anterior cruciate ligament reconstruction, it remains unclear whether double bundle reconstruction has better functional outcome than single bundle anterior cruciate ligament reconstruction.

PURPOSE: To compare the subjective functional outcome as well as clinical stability in patients treated with either anatomic single bundle or anatomic double bundle anterior cruciate ligament (ACL) reconstruction. We hypothesized that there would be no difference in the postoperative functional outcome and clinical stability between anatomical double bundle anterior cruciate ligament reconstructions when compared to single bundle anterior cruciate ligament reconstructions.

METHODS: We prospectively followed 40 patients out of which, 20 patients were operated for anatomic single bundle ACL reconstruction and other 20 patients underwent anatomic double bundle ACL reconstruction. Patient evaluation using the laxity tests and outcome scales was done preoperatively and at 12, 24 and 48 months after the surgery. Clinical stability was assessed by Lachman test, Pivot shift test and Delhi active test. Functional outcome was assessed by International Knee Documentation Committee (IKDC), Lysholm and Modified Cincinnati scores. Patients in both groups were evaluated at regular intervals for a minimum period of 48 months (mean 51 months, range 48–56 months).

RESULTS: For all subjective scores, double bundle group patients reported statistically significant higher scores compared to single bundle group patients. Graded stability results of the Lachman, and Pivot shift tests were significantly higher in the anatomically reconstructed double bundle patient group.

CONCLUSION: We suggest that functional outcome and clinical stability may be better with anatomical double bundle anterior cruciate ligament reconstruction as compared to anatomical single bundle anterior cruciate ligament reconstruction.

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87: Nag TC. Ultrastructural changes in the melanocytes of aging human choroid. *Micron.* 2015 Dec;79:16-23. doi: 10.1016/j.micron.2015.08.001. Epub 2015 Aug 5. PubMed PMID: 26283070.

Retinal pigment epithelial cells as well as choroidal melanocytes (CM) possess melanin granules. The former show clear, age-related changes (formation of lipofuscin granules with a concomitant decrease in melanin content); however, data on changes in the CM with aging are fairly limited. We examined CM in human macular and mid-peripheral areas by light- and transmission electron microscopy in 50-94 year-old donor eyes (N=12). Unlike in the choroid of lower ages, the melanocytes from aging choroid (>75 years) showed partial fusion of about 8-15 melanosomes, forming rosettes-like structures. Besides, there was evidence of emptiness in cytoplasm caused by the loss of melanosomes in aged CM, as was confirmed by quantification in macular part of choroid. In advanced aged eyes (85-94-year-old), the CM possessed many lipid droplets as well as irregular lipofuscin granules, the latter had a tendency to fuse with melanosomes, as happens in aged retinal pigment epithelium. Macrophages in their cytoplasm contained abundant irregular as well as clumped melanosomes of variable size, suggesting that damaged granules/melanocytes are cleared by these phagocytes. These obvious changes in the CM are likely to make the choroid prone to damage by visible light.

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88: Neogi SB, Negandhi H, Kar R, Bhattacharya M, Sen R, Varma N, Bharti P, Sharma J, Bhushan H, Zodpey S, Saxena R. Diagnostic accuracy of haemoglobin colour strip (HCS-HLL), a digital haemoglobinometer (TrueHb) and a non-invasive device (TouchHb) for screening patients with anaemia. *J Clin Pathol*. 2015 Aug 14. pii: jclinpath-2015-203135. doi: 10.1136/jclinpath-2015-203135. [Epub ahead of print] PubMed PMID: 26280783.

AIM: Estimation of haemoglobin (Hb) remains a challenge, particularly in outreach settings. There is a need to have a simple and cost-effective device to detect anaemia. Three devices (haemoglobin colour scale (HCS)-HLL (Hindustan Lifecare Limited), TrueHb V.1.1, TouchHb Alpha 1.1- non-invasive) have been developed in India recently. This study aimed to determine the diagnostic accuracy of these tests (index) for the screening of anaemia against haematological autoanalyzer (reference).

METHODS: The study was conducted in four medical colleges of India. All consenting adult patients (>18 years of age) undergoing routine investigations were included. Each patient underwent the reference test and at least one index test. Outcome assessors for the index tests were blinded to the results of the reference test. Diagnostic accuracy was calculated using cut-offs proposed by WHO.

RESULTS: A total of 5244 patients underwent the reference test while HCS-HLL, TrueHb and TouchHb tests were conducted on 2745, 2331 and 2874 patients respectively. The positive likelihood ratio of HCS-HLL using capillary blood (1.2), venous blood (1.7) and TouchHb (1.5) was lower than TrueHb capillary (3.7; 95% CI 3.3 to 4.2) and venous blood (5.7; 95% CI 4.9 to 6.6). TrueHb had a sensitivity of 74.4% (95% CI 71.9% to 76.8%) for venous and 82.0% (95% CI 79.8% to 89.2%) for capillary samples. The specificity was high (>75.0%). The area under receiver operating characteristic was close to 80.0%. Consistent results were seen for detection of severe anaemia.

CONCLUSIONS: The digital method (TrueHb) emerged as a better diagnostic method for screening anaemia. Its effectiveness should be established in outreach settings before further recommendation.

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89: Panda A, Kumar A, Gamanagatti S, Bhalla AS, Sharma R, Kumar S, Mishra B. Are traumatic bilateral adrenal injuries associated with higher morbidity and mortality?-A prospective observational study. *J Trauma Manag Outcomes*. 2015 Aug 6;9:6. doi: 10.1186/s13032-015-0026-1. eCollection 2015. PubMed PMID: 26251670; PubMed Central PMCID: PMC4527277.

BACKGROUND: Traumatic bilateral adrenal injuries are uncommon. Adrenal injuries are overall associated with worse outcome than non-adrenal injuries. However, direct comparative evidence between unilateral and bilateral adrenal injuries is unavailable in literature. This study aims to investigate clinical significance of bilateral adrenal hematomas in terms of injury severity, morbidity and mortality.

METHODS: All blunt trauma abdomen patients with adrenal gland involvement on initial CECT scans of abdomen presenting to our Level 1 trauma centre over 21 months were prospectively included and followed-up. Patients were divided into unilateral and bilateral adrenal hematoma groups. For all patients, mechanism of injury, initial pulse, blood pressure, respiratory rate, Glasgow Coma Scale (GCS) scores, Injury Severity Score (ISS), New Injury Severity Score (NISS), length of ICU stay (LOI), length of hospital stay (LOS), total blood products (TBP) received were recorded. Final outcome was noted as complete recovery; discharge with poor prognosis and death. Quantitative parameters between both groups were compared using appropriate statistical tests and $P < 0.05$ was considered significant.

RESULTS: Forty seven patients were detected to have adrenal hematomas, 34 with unilateral (30 right and 4 left) and 13 with bilateral involvement. An oval mass replacing the gland was the most common appearance of injury (35/60) and periadrenal fat stranding was most common associated finding (47/60). Patients with bilateral adrenal hematoma had significantly lower GCS (13 vs 15, $P < 0.01$), ISS (38 vs 22, $P < 0.01$), NISS (47 vs 21, $P < 0.01$), LOI as proportion of LOS (91.7 % vs 10.5 %, $P = 0.01$) and TBP received (10 vs 4 units, $P < 0.05$). Outcome in bilateral group was comparatively worse with higher proportion of deaths or discharge with poor prognosis ($P = 0.000$).

CONCLUSIONS: Patients with bilateral adrenal injury are associated with higher injury severity, morbidity and mortality compared to unilateral adrenal injury.

90: Pandey R, Singh PM, Garg R, Darlong V, Punj J. Perioperative concerns in a beta-ketothiolase-deficient child. *J Anesth.* 2015 Aug;29(4):647. doi: 10.1007/s00540-014-1967-7. Epub 2015 Jan 7. PubMed PMID: 25564361.

91: Patnaik R, Baidya DK, Maitra S. Unanticipated difficult intubation in a patient with juvenile Paget disease. *J Clin Anesth.* 2015 Aug;27(5):427-8. doi: 10.1016/j.jclinane.2015.03.041. Epub 2015 May 8. PubMed PMID: 25962331.

92: Pattan V, Seth S, Jehangir W, Bhargava B, Maulik SK. Effect of Atorvastatin and Pioglitazone on Plasma Levels of Adhesion Molecules in Non-Diabetic Patients With Hypertension or Stable Angina or Both. *J Clin Med Res.* 2015 Aug;7(8):613-9. doi: 10.14740/jocmr2178e. Epub 2015 Jun 9. PubMed PMID: 26124907; PubMed Central PMCID: PMC4471748.

BACKGROUND: It was to study the effect of atorvastatin, pioglitazone and their combination on plasma levels of adhesion molecules in patients with hypertension or stable angina or both.

METHODS: It was an open-label, randomized parallel-group study. Forty-five atorvastatin-naive patients with hypertension or stable angina or both, were randomized to receive either atorvastatin (19 patients; 10 mg OD for 12 weeks) or pioglitazone (26 patients; 30 mg OD for 12 weeks). Another group of 30 patients who were already on atorvastatin were put on add-on pioglitazone therapy (pioglitazone (15 mg OD) + atorvastatin (10 mg OD) for 12 weeks). Plasma high-sensitivity C-reactive protein (hsCRP), soluble intercellular adhesion molecule-1 (sICAM-1) and soluble vascular cell adhesion molecule-1 (sVCAM-1) levels were measured at baseline and after 12 weeks of therapy.

RESULTS: Atorvastatin monotherapy significantly reduced plasma sICAM-1, but pioglitazone monotherapy did not produce any significant effect. Addition of pioglitazone in patients already receiving atorvastatin also significantly reduced plasma sICAM-1 level. However, there was no significant change in plasma

hsCRP and sVCAM-1 levels in any of the groups after 12 weeks of therapy.
CONCLUSION: There is therapeutic advantage of combining pioglitazone and atorvastatin on plasma sICAM-1 levels.

93: Patterson V, Singh M, Rajbhandari H, Vishnubhatla S. Validation of a phone app for epilepsy diagnosis in India and Nepal. *Seizure*. 2015 Aug;30:46-9. doi: 10.1016/j.seizure.2015.05.011. Epub 2015 May 21. PubMed PMID: 26216684.

PURPOSE: Untreated epilepsy is a major global public health problem with more than 20 million people not being treated for an easily treatable disease. In part this is due to a lack of trained doctors. There are many more non-medical health workers than doctors and they could have an important role in diagnosis and treatment of epilepsy if they had some tools. We have previously described such a tool to distinguish epileptic episodes from other causes of altered consciousness and here present its validation in three new populations.

METHODS: The tool was presented as a phone app where the answers to 11 questions provided a probability score which indicated whether episodes might be due to epilepsy or not. It was applied either by non-medical volunteers, health workers, or inexperienced doctors to 132 patients in three separate populations in India and Nepal and compared with the "gold standard" diagnosis of a neurologist with expertise in epilepsy.

RESULTS: There was good agreement between the app score and the neurologists' diagnoses (weighted kappa=75.3%). An app score of 90 or greater had a sensitivity of 88% and a specificity of 100% for diagnosing epilepsy. The app was easy to use with little training and took about 5min to administer.

CONCLUSION: A tool presented as a phone app can be used by non-medical health workers to identify episodes as epileptic or not with good accuracy. It needs to be evaluated more widely but has the potential to play a part in reducing the epilepsy treatment gap.

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94: Pawar A, Rajalakshmi AK, Upadhyay RP. Pentazocine use among people who inject drugs in India. *Asian J Psychiatr*. 2015 Aug;16:3-6. doi: 10.1016/j.ajp.2015.06.009. Epub 2015 Jul 2. Review. PubMed PMID: 26168764.

Data regarding prevalence of Pentazocine use is sparse and intervention strategies aimed at it are meager. In view of the fact that Pentazocine has significant abuse potential contrary to what was earlier thought, along with the actuality that people who use injectable Pentazocine are at risk of various complications as HIV, this domain needs more attention. This review examines the extent of the problem of Pentazocine use with consequent effects on the overall health of the people. It is based on nationally representative large scale survey(s) and other reliable documented data on Pentazocine abuse. Possible strategies and future lines of actions have been delineated. Data suggests Pentazocine use from 0.1% to 21.8% in different parts of the country. Various reports have also linked it with unique health complications. Its use has been reported mostly among subjects seeking treatment, with recent reports suggesting increasing use at street level. The strategies to document the extent of injection drug use applied in most cases might not be adequate. There is a need for further research and monitoring to document the burden of the problem. Indirect methods to estimate the extent of problem may need to be implemented and regulatory mechanisms for prescription drug use may need to be strengthened.

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95: Prakash S, Sagar R. Phenomenology of obsessive compulsive disorder: Taking a fresh look. *Asian J Psychiatr*. 2015 Oct;17:114-5. doi: 10.1016/j.ajp.2015.08.009. Epub 2015 Aug 31. PubMed PMID: 26360590.

96: Pratap Mouli V, Benjamin J, Bhushan Singh M, Mani K, Garg SK, Saraya A, Joshi YK. Effect of probiotic VSL#3 in the treatment of minimal hepatic encephalopathy: A non-inferiority randomized controlled trial. *Hepatol Res.* 2015 Aug;45(8):880-9. doi: 10.1111/hepr.12429. Epub 2014 Oct 31. PubMed PMID: 25266207.

AIM: Minimal hepatic encephalopathy (MHE) impairs daily functioning and health-related quality of life in chronic liver disease (CLD). Lactulose is the standard treatment but has side-effects. Probiotics have an encouraging role in MHE. The aim of the present study was to test whether probiotics are non-inferior to lactulose in improving MHE.

METHODS: Patients with CLD (n=227) were screened for MHE using neuropsychometric tests (number connection tests A and B [or figure connection tests A and B]) and/or neurophysiological test (P-300 auditory event-related potential), and 120 (53%) were diagnosed with MHE by abnormal tests. MHE patients were randomized to lactulose (30-60mL/day) or probiotic (four capsules of VSL#3; total of 450 billion CFU/day) for 2 months. Response was defined as normalization of tests. Serum ammonia was measured by commercial kit.

RESULTS: Of 120 patients randomized, 40 in the lactulose arm and 33 in the probiotic arm completed 2 months of intervention. MHE improved in 25 (62.5%) patients taking lactulose and 23 (69.7%) taking probiotics. The effect size of difference of improvement in MHE between lactulose and probiotic was 0.072 per per-protocol analysis and 0.040 as per intention to treat analysis (within -20% of non-inferiority margin). Serum ammonia was comparable between groups at baseline and 2 months; it decreased in patients in whom MHE improved, while increased in patients with no improvement in MHE.

CONCLUSION: The probiotic VSL#3 was non-inferior to the standard therapy, lactulose in the treatment of MHE. Improvement in MHE correlated with reduction of ammonia levels.

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97: Pushker N, Khurana S, Kashyap S, Sen S, Shrey D, Meel R, Chawla B, Bajaj MS. Orbital schwannoma: a clinicopathologic study. *Int Ophthalmol.* 2015 Aug;35(4):481-6. doi: 10.1007/s10792-014-9973-1. Epub 2014 Jul 23. PubMed PMID: 25052540.

The aim of the study was to study the clinical, radiological and histopathological characteristics of orbital schwannomas. It is a retrospective study conducted at a tertiary eye care hospital. A review of histopathological records of the orbital tumors operated between 1993 and 2011 was done. The clinical, imaging and histopathological details of cases of orbital schwannoma were analyzed. Forty-nine cases of orbital schwannomas identified. The age ranged from 8 to 65 years with a female preponderance. The median duration of symptoms was 3 years. Computed tomography findings varied from a hypodense to hyperdense lesion with nil to marked contrast enhancement. USG demonstrated a defined lesion with variable internal reflectivity. Varied proportions of Antoni A and Antoni B areas were found on histopathology of the masses. Hypodense or cystic areas on imaging significantly correlated with Antoni B areas on histopathology. Orbital schwannoma is a rare tumor. The incidence of schwannoma in our institution is 6.5%. Variable imaging features were found. The definite diagnosis can be established on the basis of histopathological and immunohistochemical studies.

98: Raheja A, Tandon V, Suri A, Sarat Chandra P, Kale SS, Garg A, Pandey RM, Kalaivani M, Mahapatra AK, Sharma BS. Initial experience of using high field strength intraoperative MRI for neurosurgical procedures. *J Clin Neurosci.* 2015 Aug;22(8):1326-31. doi: 10.1016/j.jocn.2015.02.027. Epub 2015 Jun 12. PubMed PMID: 26077939.

We report our initial experience to optimize neurosurgical procedures using high field strength intraoperative magnetic resonance imaging (IOMRI) in 300 consecutive patients as high field strength IOMRI rapidly becomes the standard of care for neurosurgical procedures. Three sequential groups (groups A, B, C; n=100

each) were compared with respect to time management, complications and technical difficulties to assess improvement in these parameters with experience. We observed a reduction in the number of technical difficulties ($p < 0.001$), time to induction ($p < 0.001$) and total anesthesia time ($p = 0.007$) in sequential groups. IOMRI was performed for neuronavigation guidance ($n = 252$) and intraoperative validation of extent of resection (EOR; $n = 67$). Performing IOMRI increased the EOR over and beyond the primary surgical attempt in 20.5% (29/141) and 18% (11/61) of patients undergoing glioma and pituitary surgery, respectively. Overall, EOR improved in 59.7% of patients undergoing IOMRI (40/67). Intraoperative tractography and real time navigation using re-uploaded IOMRI images (accounting for brain shift) helps in intraoperative planning to reduce complications. IOMRI is an asset to neurosurgeons, helping to augment the EOR, especially in glioma and pituitary surgery, with no significant increase in morbidity to the patient.

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99: Rai SK, Gupta A, Srivastava R, Bairwa M, Misra P, Kant S, Pandav CS. Decadal transition of adult mortality pattern at Ballabgarh HDSS: evidence from verbal autopsy data. *BMC Public Health*. 2015 Aug 14;15(1):781. doi: 10.1186/s12889-015-2119-1. PubMed PMID: 26271623; PubMed Central PMCID: PMC4536602.

BACKGROUND: Mortality levels and patterns are significant indicators of population health, and are of importance to prioritize the goals of health systems and efficient resource allocation. We ascertained the decadal transition of mortality pattern in adult population aged 15 years and above during the years 2002-2011.

METHODS: All adult deaths aged 15 years and above during the years 2002 to 2011 were included in the study. Cause of death was ascertained by verbal autopsy tool for adults which is a validated questionnaire developed at Ballabgarh Health and Demographic Surveillance System (HDSS). Cause and age specific mortality, and mean age at death was determined for individual years.

RESULTS: A total of 4,276 deaths (≥ 15 years) occurred in the Ballabgarh HDSS during the years 2002 to 2011. Of these, 96.8 % deaths were investigated using verbal autopsy tool. Of total deaths investigated, 60.6 % were males. Cardiovascular diseases (19.6 %) were the leading cause of death, followed by respiratory diseases (16.5 %). In the age group of 15-59 years, the most common cause of mortality was external causes of mortality (28.9 %). Most common cause of death was senility (20.8 %) in females, whereas cardiovascular diseases were commonest cause (19.6 %) in males. Road traffic injuries contributed 6.7 % deaths in males compared to 1.5 % in females. Over the years, the proportions of mortality due to cardiovascular diseases had increased (12.6 % to 18.8 %). Mortality proportions had decreased for infectious diseases (12.1 % to 9.5 %) and respiratory diseases (24.7 % to 10.9 %). Mortality due to neoplasms remained nearly stagnant (6.6 % to 6.4 %). Mean age at death due to cardiovascular diseases and neoplasm had increased from 57 years (95 % CI: 52.2-62.9) to 62 years (95 % CI: 59.2-65.4) and 58 years (95 % CI: 53.1-63.2) to 62 years (95 % CI: 57.0-66.7), respectively, during the decade. Mean age at death had decreased for road traffic injuries and infectious diseases from 41 years (95 % CI: 31.7-50.8) to 39 years (95 % CI: 34-43.4) and 53 years (95 % CI: 48.3-58.6) to 50 years (95 % CI: 44.1-55.8), respectively over the years.

CONCLUSION: Mortality surveillance using verbal autopsy tool revealed a transition in cause specific deaths from respiratory diseases to cardiovascular diseases over the decade. The apparent epidemiological transition in the community demands reorientation of healthcare priorities.

100: Ranjan R, Jain D, Singh L, Iyer VK, Sharma MC, Mathur SR. Differentiation of histoplasma and cryptococcus in cytology smears: a diagnostic dilemma in severely necrotic cases. *Cytopathology*. 2015 Aug;26(4):244-9. doi: 10.1111/cyt.12180. Epub 2014 Aug 13. PubMed PMID: 25123524.

OBJECTIVE: The correct identification of fungal organisms is important for the

appropriate clinical management of patients. It becomes difficult in necrotic smears when the tissue response is not clearly discernible. It is difficult to distinguish between histoplasma and cryptococcus in severely necrotic cases, where both appear as variably sized clear refractile haloes.

METHODS: Four cases of adrenal necrotic histoplasma infection were studied and the morphology was compared with that of non-necrotic histoplasmosis and cases of cryptococcal infection. Eleven cases were analysed in fine needle aspiration cytology (FNAC) smears. Ziehl-Neelsen (ZN) stain was performed to exclude tuberculosis in necrotic smears. A clinical and serology correlation was performed where available.

RESULTS: Necrotic cases of histoplasma infection revealed negative refractile clear haloes similar to those of cryptococcus. Histoplasma showed methylene blue-stained organisms in ZN stains, whereas the cryptococcus cases were negative. Similar methylene blue-stained organisms were seen in non-necrotic histoplasma infection.

CONCLUSION: As a result of morphological overlap between cryptococcus and histoplasma, the distinction between the two fungi can be difficult in many cases. ZN staining appears to have a role in the differentiation of these fungi in severely necrotic cases. This observation needs to be validated on a larger number of cases with complete correlation with clinical, serology and treatment records.

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101: Rewari V, Ramachandran R. Tegaderm[®] for prevention of intraoperative tooth aspiration. *J Anesth.* 2015 Dec;29(6):977. doi: 10.1007/s00540-015-2047-3. Epub 2015 Aug 7. PubMed PMID: 26248744.

102: Rufai SB, Singh A, Kumar P, Singh J, Singh S. Performance of Xpert MTB/RIF Assay in Diagnosis of Pleural Tuberculosis by Use of Pleural Fluid Samples. *J Clin Microbiol.* 2015 Nov;53(11):3636-8. doi: 10.1128/JCM.02182-15. Epub 2015 Aug 26. PubMed PMID: 26311855; PubMed Central PMCID: PMC4609697.

Prospectively, 162 pleural fluid samples from patients with probable tuberculous pleural effusion were tested by the Xpert MTB/RIF assay and the Bactec MGIT-960 culture system. Of these, 43 (26.5%) were positive in the MGIT-960 culture, and 23 (14.2%), in the Xpert MTB/RIF assay. The sensitivity and specificity of the Xpert MTB/RIF compared with the MGIT-960 culture were 54.8% and 100%, respectively.

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103: Saini L, Chakrabarty B, Kumar A, Gulati S. A Mutation-Positive Child With Megalencephalic Leukoencephalopathy With Subcortical Cysts: Classical Imaging Findings. *Pediatr Neurol.* 2015 Dec;53(6):547-8. doi: 10.1016/j.pediatrneurol.2015.08.008. Epub 2015 Aug 21. PubMed PMID: 26365204.

104: Sankar J, Singh A, Narsaria P, Dev N, Singh P, Dubey N. Prehospital transport practices prevalent among patients presenting to the pediatric emergency of a tertiary care hospital. *Indian J Crit Care Med.* 2015 Aug;19(8):474-8. doi: 10.4103/0972-5229.162469. PubMed PMID: 26321808; PubMed Central PMCID: PMC4548418.

BACKGROUND AND OBJECTIVES: Prehospital transport practices prevalent among children presenting to the emergency are under-reported. Our objectives were to evaluate the prehospital transport practices prevalent among children presenting to the pediatric emergency and their subsequent clinical course and outcome.

METHODS: In this prospective observational study we enrolled all children ≤17 years of age presenting to the pediatric emergency (from January to June 2013) and recorded their demographic data and variables pertaining to prehospital

transport practices. Data was entered into Microsoft Excel and analyzed using Stata 11 (StataCorp, College Station, TX, USA).

RESULTS: A total of 319 patients presented to the emergency during the study period. Acute gastroenteritis, respiratory tract infection and fever were the most common reasons for presentation to the emergency. Seventy-three (23%) children required admission. Most commonly used public transport was auto-rickshaw (138, 43.5%) and median time taken to reach hospital was 22 min (interquartile range: 5, 720). Twenty-six patients were referred from another health facility. Of these, 25 were transported in ambulance unaccompanied. About 8% (25) of parents reported having difficulties in transporting their child to the hospital and 57% (181) of parents felt fellow passengers and drivers were unhelpful. On post-hoc analysis, only time taken to reach the hospital (30 vs. 20 min; relative risk [95% confidence interval]: 1.02 [1.007, 1.03], $P = 0.003$) and the illness nature were significant (45% vs. 2.6%; 0.58 [0.50, 0.67], $P \leq 0.0001$) on multivariate analysis.

CONCLUSIONS: In relation to prehospital transport among pediatric patients we observed that one-quarter of children presenting to the emergency required admission, the auto-rickshaw was the commonest mode of transport and that there is a lack of prior communication before referring patients for further management.

105: Sankar J. Acute physiology and chronic health evaluation II for critically ill children? *Indian J Crit Care Med.* 2015 Aug;19(8):446-8. doi: 10.4103/0972-5229.162458. PubMed PMID: 26321802; PubMed Central PMCID: PMC4548412.

106: Sardar A, Bhoi D, Baidya DK, Singh CA. Fiberoptic intubation with intraoral digital manipulation may be superior to C-Mac videolaryngoscope in minimizing hypertensive response in cervical paraganglioma of the parapharyngeal area. *Paediatr Anaesth.* 2015 Aug;25(8):863-4. doi: 10.1111/pan.12670. PubMed PMID: 26149771.

107: Sharma H, Verma AK, Das P, Dattagupta S, Ahuja V, Makharia GK. Prevalence of celiac disease in Indian patients with irritable bowel syndrome and uninvestigated dyspepsia. *J Dig Dis.* 2015 Aug;16(8):443-8. doi: 10.1111/1751-2980.12260. PubMed PMID: 25959064.

OBJECTIVE: The clinical spectrum of celiac disease (CeD) is wide and its symptoms overlap with those of functional bowel diseases. This study aimed to investigate the relationship among gluten-related disorders, irritable bowel syndrome (IBS) and uninvestigated dyspepsia in Indian patients.

METHODS: Patients with IBS and uninvestigated dyspepsia (using Rome III criteria) were tested for immunoglobulin A (IgA) anti-tissue transglutaminase (anti-tTG) antibody and anti-gliadin antibody (AGA). Those with positive anti-tTG antibody were evaluated for the presence of villous abnormalities. Patients who were only IgA AGA-positive were considered to have gluten sensitivity and those with positive anti-tTG antibody and villous atrophy were considered to have CeD.

RESULTS: Of 362 patients with IBS, 22 (6.1%) had positive anti-tTG antibody, among whom 3 (0.8%) had CeD and 19 had potential CeD. Of 358 patients with uninvestigated dyspepsia, 18 (5.0%) were anti-tTG antibody-positive and among them 4 (1.1%) had CeD and 14 had potential CeD. AGA was positive in 104 (28.7%) patients with IBS and 68 (19.0%) with uninvestigated dyspepsia, suggesting the presence of gluten sensitivity.

CONCLUSION: This study highlights the relationship between IBS or dyspepsia and CeD or gluten sensitivity.

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108: Sharma KA, Dadhwal V, Saini AK, Agarwal S, Kandpal S. What is your diagnosis? *J Turk Ger Gynecol Assoc.* 2015 Aug 6;16(3):192-3. doi:

10.5152/jtggga.2015.15023. eCollection 2015. PubMed PMID: 26401117; PubMed Central PMCID: PMC4560481.

109: Sharma N, Falera R, Arora T, Agarwal T, Bandivadekar P, Vajpayee RB. Evaluation of a low-cost design keratoprosthesis in end-stage corneal disease: a preliminary study. *Br J Ophthalmol*. 2015 Aug 13. pii: bjophthalmol-2015-306982. doi: 10.1136/bjophthalmol-2015-306982. [Epub ahead of print] PubMed PMID: 26271267.

PURPOSE: To evaluate the indications, outcomes and complications of Auro keratoprosthesis (a low-cost design based on type I Boston Keratoprosthesis) in the end-stage corneal disease in a preliminary study.

METHODS: In this prospective interventional study, 10 eyes of 10 patients with an end-stage corneal disease underwent implantation of Auro keratoprosthesis with the mean follow-up of 14.5±2.1 months. The indications included multiple failed grafts (n=7), aphakic bullous keratopathy (n=2) and chemical injury (n=1). The additional intraoperative procedures performed were synechiolysis (n=9), cataractous lens extraction (n=2), Ahmed glaucoma valve implantation (n=1) and vitreoretinal surgery (n=1). Antibiotic prophylaxis was administered postoperatively, and patients were followed up at 1 week, 2 weeks, 1 month and thereafter at monthly intervals. The main outcome measures were best corrected visual acuity (BCVA), retention of prosthesis, complications and need for secondary surgical interventions.

RESULTS: The most common indication for keratoprosthesis implantation was graft failure (7/10, 70%). The postoperative BCVA improved to ≥20/200 in six patients. Nine out of 10 patients had retained keratoprosthesis. The complications seen were inflammatory debris behind keratoprosthesis (n=4), retroprosthetic membrane (n=2), glaucoma (n=4), small (<2 mm) sterile stromal necrosis or erosions at the graft edge (n=3) and microbial keratitis (n=1). Explantation of the keratoprosthesis was performed in one eye due to fungal keratitis.

CONCLUSIONS: Auro keratoprosthesis, a low-cost keratoprosthesis, is a viable option in the end-stage corneal disease in this preliminary study. Multicentre studies with long-term follow-up are required to conclusively prove its safety and efficacy.

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110: Sharma S, Gupta DK. Male cloaca malformation: rare variant of anorectal malformation. *Pediatr Surg Int*. 2015 Aug;31(8):747-52. doi: 10.1007/s00383-015-3738-4. Epub 2015 Jul 5. PubMed PMID: 26143410.

PURPOSE: Experience with male cloaca (MC), a single opening in perineum for passage of urine and meconium is described.

METHODS: Cases of MC were ambispectively studied, prospectively from July 2007 to April 2015 and retrospectively for last three decades.

RESULTS: Seven cases of MC were identified, between the ages of newborn-4 years (median 10 days). Two missed cases underwent a colostomy, posterior sagittal anorectoplasty, and urethroplasty. Two cases underwent perineal urethrostomy and anoplasty followed by urethroplasty. In one case, part of the rectal wall was used to form urethral tube and urethrostomy. For three recent cases, posterior sagittal anorectourethroplasty was done with mobilization of rectal pouch and common channel, separation of common wall between the urethra and rectum, urethroplasty varying from 1.5 to 3 cm, perineal body reconstruction, perineal urethrostomy and anoplasty. Follow-up of 6 patients varied from 3 months to 23 years. One case is lost to follow-up. Three patients have completed repair. Complications included a discharging sinus and a urethral fistula in one case each. One patient died while awaiting urethroplasty. Two patients are awaiting formal urethroplasty.

CONCLUSION: With familiarity of varying anatomy of MC, early recognition can avoid a neonatal colostomy in selected patients.

111: Sharma S, Gupta DK. Management options of congenital pouch colon--a rare variant of anorectal malformation. *Pediatr Surg Int*. 2015 Aug;31(8):753-8. doi: 10.1007/s00383-015-3739-3. Epub 2015 Jul 3. PubMed PMID: 26137872.

PURPOSE: Congenital pouch colon (CPC) was analysed for anatomical variations and surgical options.

METHODS: Records of CPC patients managed between 1999 and 2014 were studied. CPC was classified as complete (CCPC) and incomplete (ICPC) pouch.

RESULTS: Of 400 cases of high anorectal malformations, 68 cases were CPC (17%). Male:female ratio was 2:1. Fistulous communication was colovesical, colocoloacal, colovaginal and absent in 42, 15, 8 and 3 cases. ICPC and CCPC was 48 (70%) and 20 (30%). In neonatal period, proximal/end colostomy (31), ileostomy (6), pouch excision with abdominoperineal pull-through (18 cases) and coloplasty with end colostomy (7) were done. 6 presented as infants including 3 referred cases of CCPC with a window colostomy. Definitive surgery was completed in 56. Severe colonic dilatation after coloplasty was noted in 5, requiring excision of coloplasty segment in 2. Histopathology of excised pouch (45) showed muscle layer disorganization, widened sub mucosa, prominent vasculature and mature and immature ganglion cells, with no hypertrophy of nerve fibres. Diarrhoea and faecal incontinence (soiling) were more frequent in patients with CCPC versus ICPC. Six neonates with CCPC died. Six are awaiting definitive surgery.

CONCLUSION: CPC had 8.8% neonatal mortality. Pouch excision and definitive procedure are feasible in neonates with CPC. Coloplasty in CCPC may result in postoperative colonic dilatation.

112: Sharma S, Gogia V, Garg P, Venkatesh P, Gupta S, Sharma Y. INNOVATIVE MULTIPLANAR RECONSTRUCTION AND VOLUME-RENDERED COMPUTED TOMOGRAPHY IN THE ASSESSMENT OF SCLERAL BUCKLE-RELATED COMPLICATIONS. *Retina*. 2015 Aug;35(8):1656-61. doi: 10.1097/IAE.0000000000000516. PubMed PMID: 25719983.

PURPOSE: To describe the role of multiplanar reconstruction and three-dimensional volume-rendered imaging in the assessment of silicon-based scleral buckle (SB)-related complications.

METHODS: Five eyes of five patients with SB-related complications where the history, surgical notes, and clinical examination proved inconclusive were included. Unenhanced axial orbital computed tomography images of all patients were acquired parallel to orbitomeatal line, and images were reviewed in orthogonal planes. The volume rendition of the imaged volume was evaluated in various tilts, with special reference to the spatial relationship of the band-buckle to the globe and bony orbit. All patients underwent imaging-assisted SB removal.

RESULTS: Imaging assisted in in vivo localization of the obscure band or buckle in all five eyes. Band was seen as hyperdense structure encircling whole of the globe, whereas buckle was seen as segmental, broad, hyperdense structure with scleral indentation. Presence of SB was identified in three patients, and globe integrity was shown in the other two. Abnormal anterior displacement of band and buckle was demonstrated in three cases on volume-rendered imaging in relation to lateral orbital rim. Focal exuberant soft-tissue proliferation around the buckle was present in all patients, suggesting chronic inflammation and infection. Successful removal of band and buckle could be achieved, and all patients were relieved of their preoperative complaints. No complication occurred during intraoperative and postoperative period.

CONCLUSION: Use of multiplanar reconstruction and three-dimensional volume-rendered computed tomography imaging played a pivotal role in surgical success.

113: Singh I, Faruq M, Padma MV, Goyal V, Behari M, Grover A, Mukerji M, Srivastava AK. Investigation of mitochondrial DNA variations among Indian Friedreich's ataxia (FRDA) patients. *Mitochondrion*. 2015 Nov;25:1-5. doi: 10.1016/j.mito.2015.08.003. Epub 2015 Aug 29. PubMed PMID: 26321457.

OBJECTIVE: The loss of function mutations (biallelic) in frataxin (FXN) has primarily been implicated in Friedreich's ataxia (FRDA), an autosomal recessive cerebellar ataxia. The protein product of FXN is a nuclear-encoded mitochondrial protein required for the biogenesis of iron-clusters (Fe-S). FRDA is characterized by neurological and non-neurological features which show variable expression in affected individuals. An inverse relationship has been demonstrated between GAA repeat size and age at onset and explains 50% variability of the age at onset. MtDNA variations and haplogroups could be one of the contributory factors to explain the remaining heterogeneity in FRDA, since mitochondrial oxidative stress is thought to be involved in the pathogenesis of FRDA.

METHODS: In our study, targeted resequencing of the D-loop and coding region of mitochondrial genes (ND1-6 and ATP) was conducted in 30 genetically confirmed FRDA patients and 62 ethnicity-matched unrelated healthy controls to identify the functionally important mtDNA variations and to trace the mitochondrial lineage of Indian FRDA patients. Cumulative mitochondrial SNP scores were computed for the identified variations in the functional region and haplogroups were determined by Haplogrep.

RESULTS: A significantly higher load of overall mitochondrial variations (with a trend toward the coding region) per individual was noted among FRDA cases rather than controls (p -value <0.03). A non-synonymous variation (p. L237M) in ND2 was over-represented among FRDA cases (p -value 0.04). This variation has a reported association with longevity and myocardial infarction. We also observed over-representation of H haplogroup (Caucasian mitochondrial haplogroup) among FRDA patients. We have not observed the influence of mitochondrial variations and haplogroup upon age at onset of FRDA.

CONCLUSIONS: Overall, our study identifies the functionally important variations and mitochondrial lineage of Indian FRDA cases and, that underscores the importance of studying the role of mitochondrial genome variations in FRDA.

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114: Singh J, Sankar MM, Kumar P, Couvin D, Rastogi N, Singh S; Indian TB Diagnostics Network. Genetic diversity and drug susceptibility profile of Mycobacterium tuberculosis isolated from different regions of India. *J Infect.* 2015 Aug;71(2):207-19. doi: 10.1016/j.jinf.2015.04.028. Epub 2015 Apr 29. PubMed PMID: 25934327.

OBJECTIVES: Molecular genotyping profiles of Mycobacterium tuberculosis (MTB) provide a valuable insight into the evolution and transmission of the bacilli. Due to the lack of comprehensive national level data from India on this subject, we performed this study to determine the recent trends and distribution of various MTB lineages circulating in India.

METHODS: A total of 628 MTB isolates were obtained from North, West, South, Central and Eastern India. Spoligotyping and drug susceptibility testing was performed by using manufacturer's instructions.

RESULTS: Spoligotyping detected 102 distinct spoligo-patterns. A total of 536 (85.3%) isolates were distributed into 85 SITs which matched the pre-existing database, whereas 17 SITs were newly created for 34 (5.4%) isolates. Overall, CAS family genotype was predominant, comprising 222 (35.4%) isolates, followed by EAI in 152 (24.2%), Beijing in 108 (17.2%), Manu in 41 (6.5%), T in 30 (4.8%), H in 6 (0.9%), X in 3 (0.5%) and one (0.2%) each in Ural and AFRI. Drug susceptibility testing identified 134 (21.3%) isolates as multi drug resistant (MDR).

CONCLUSIONS: The CAS lineage had a pan India presence but EAI lineage was confined to southern parts of India. Beijing genotype of MTB was significantly associated (p -value <0.0001) with MDR.

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115: Singh L, Pushker N, Sen S, Singh MK, Chauhan FA, Kashyap S. Prognostic significance of polo-like kinases in retinoblastoma: correlation with patient

outcome, clinical and histopathological parameters. Clin Experiment Ophthalmol. 2015 Aug;43(6):550-7. doi: 10.1111/ceo.12517. Epub 2015 May 13. PubMed PMID: 25754767.

BACKGROUND: Retinoblastoma is evolving, but it is still a therapeutic challenge for pediatric oncologists. Polo-like kinases (PLKs) plays an important role in cell cycle events. They play a crucial role in cell proliferation which may lead to tumour formation. The objective of this study is to investigate the role of PLK1 and PLK3 proteins in human retinoblastoma tissues.

DESIGN: Non-randomized, prospective study was performed in the Dr R. P. Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India.

PARTICIPANTS: This study included 74 primary enucleated retinoblastoma tissues.

METHODS: Expression of PLK1 and PLK3 protein were assessed in primary enucleated retinoblastoma tissues by immunohistochemistry and western blotting.

MAIN OUTCOME MEASURES: Expression of PLK1 and PLK3 protein were correlated with clinical and histopathological parameters, tumour staging and overall survival of patients.

RESULTS: Immunohistochemical results revealed expression of PLK1 in 47/74 (63.51%) cases and PLK3 in 31/74 (41.89%) cases. Western blotting confirmed the immunoreactivity results. Expression of PLK1 showed correlation with poor differentiation and tumour invasion. In addition, PLK1 was statistically significant with massive choroidal invasion, whereas PLK3 did not correlate with any of the clinical or histopathological parameters. There was no statistical correlation in the overall survival of patients with PLK1 and PLK3 expression.

CONCLUSIONS: PLK1 expression was associated with poor tumour differentiation and histopathological high-risk factors. These proteins may be involved in tumorigenesis and progression of disease. These results suggest that PLK1 may act as a potential therapeutic target and a promising marker for developing potent small molecule inhibitors of PLK isoforms in retinoblastoma.

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116: Singh N, Sreenivas V, Gupta KB, Chaudhary A, Mittal A, Varma-Basil M, Prasad R, Gakhar SK, Khuller GK, Mehta PK. Diagnosis of pulmonary and extrapulmonary tuberculosis based on detection of mycobacterial antigen 85B by immuno-PCR. Diagn Microbiol Infect Dis. 2015 Dec;83(4):359-64. doi: 10.1016/j.diagmicrobio.2015.08.015. Epub 2015 Aug 31. PubMed PMID: 26422085.

We developed a novel indirect sandwich immuno-polymerase chain reaction (I-PCR) assay for the detection of mycobacterial antigen 85B (Ag85B, 30kDa, Rv1886c) in pulmonary tuberculosis (PTB) and extrapulmonary tuberculosis (EPTB) patients. The amino-modified reporter DNA was covalently attached with the antidetection antibody through a heterobifunctional cross-linking agent succinimidyl 4-[N-maleimidomethyl]-cyclohexane-1-carboxylate. The detection limit of Ag85B by I-PCR was found to be 1 femtogram (fg)/mL, which was 10(6)-fold lower than an analogous enzyme-linked immunosorbent assay (ELISA). The sensitivities of 85% and 77% with I-PCR and 77.6% and 62.5% with ELISA were observed in smear-positive and smear-negative PTB patients, respectively, with high specificity. On the other hand, sensitivities of 84% and 63.7% with I-PCR and 68% and 47.5% with ELISA were observed in confirmed and clinically suspected EPTB cases, respectively, with high specificity.

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117: Singhal KK, Prasad K, Bhatia R, Kumar A, Singh MB. Prescription of "ineffective neuroprotective" drugs to stroke patients: a cross sectional study in North Indian population. Int J Neurosci. 2015 Aug 19:1-6. [Epub ahead of print] PubMed PMID: 26287434.

In a developing country, where patient access to tertiary care is limited and most patients have to pay out of pocket, it is imperative for the physicians to

practice evidence-based medicine. Reports on prescription details and surveys are not available. The aim of this study is to describe the prescribing patterns for various medications used in the treatment of stroke among the first contact physicians in North India; to estimate the proportion of patients being prescribed the non-recommended drugs and to determine any relationship between the economic status of the patient and the prescription pattern. Details of economic status, education level, type of stroke, type of hospital, qualification of treating physician and the number and nature of medications were noted from the prescriptions and patients. Two hundred and sixteen patients with ischemic stroke (71.3% males, average age 51.5 years) were included. Among poor patients, N = (36.8%) received any of the neuroprotective drugs including citicoline 19 (27.5%), piracetam 11 (15.9%) and edaravone 2 (2.9%). Both specialist and private hospitals are associated with higher prescription of "ineffective neuroprotective" drugs in both poor and rich patients. Reasons for overprescribing neuroprotective medications need to be studied and remedial measures need to be taken to practice evidence-based medicine.

118: Soni KD, Dash DP, Aggrawal R, Kumar N, Kumar N. Can differential regional ventilation protect the spared lung in acute respiratory distress syndrome? *Am J Emerg Med.* 2015 Aug;33(8):1111.e5-7. doi: 10.1016/j.ajem.2015.01.009. Epub 2015 Jan 16. PubMed PMID: 25770594.

Acute respiratory distress syndrome (ARDS) is a common clinical problem prevalent in intensive care settings. It can complicate many critical illnesses. The general treatment is mainly supportive. Mechanical ventilation, low tidal volume strategy, and control of plateau pressure form the basis of current management. No specific treatment exists for ARDS. Various interventions have been tested for the lethal condition including steroids, fluid restriction, statins, high-frequency ventilation, nitric oxide, and prone ventilation strategy. However, none has shown improvement apart from prone positioning and low tidal volume ventilation. We report our observation in a patient with ARDS, which may potentially show a new mechanism to protect normal alveoli in ARDS lung and thereby may improve survival.

119: Srivastava A, Koul V, Dwivedi SN, Upadhyaya AD, Ahuja A, Saxena R. Performance analysis of newly developed point-of-care hemoglobinometer (TrueHb) against an automated hematology analyzer (Sysmex XT 1800i) in terms of precision in hemoglobin measurement. *Int J Lab Hematol.* 2015 Aug;37(4):483-5. doi: 10.1111/ijlh.12314. Epub 2014 Nov 22. PubMed PMID: 25418886.

INTRODUCTION: The aim of this study was to evaluate the performance of the newly developed handheld hemoglobinmeter (TrueHb) by comparing its performance against an automated five-part hematology analyzer, Sysmex counter XT 1800i (Sysmex). **METHODS:** Two hundred venous blood samples were subjected through their total hemoglobin evaluation on each device three times. The average of the three readings on each device was considered as their respective device values, that is, TrueHb values and Sysmex values. The two set of values were comparatively analyzed. The repeatability of the performance of TrueHb was also evaluated against Sysmex values. **RESULTS:** The scatter plot of TrueHb values and Sysmex values showed linear distribution with positive correlations ($r = 0.99$). The intraclass correlation (ICC) values between the two set of values was found to be 0.995. Regression coefficients through origin, β , was found to be 0.995, with 95% confidence intervals (CI) ranging between 0.9900 and 1.0000. The mean difference in Bland-Altman plots of TrueHb values against the Sysmex values was found to be -0.02, with limits of agreement between -0.777 and 0.732 g/dL. Statistical analysis suggested good repeatability in results of TrueHb, having a low mean CV of 2.22, against 4.44, that of Sysmex values, and 95% confidence interval of 1.99-2.44, against 3.85-5.03, that of Sysmex values. **CONCLUSION:** These results suggested a strong positive correlation between the two measurements devices. It is thus concluded that TrueHb is a good point-of-care testing tool for estimating hemoglobin.

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120: Subbaiah M, Kumar S, Roy KK, Sharma JB, Singh N. Extrahepatic portal-vein obstruction in pregnancy. *Taiwan J Obstet Gynecol*. 2015 Aug;54(4):394-7. doi: 10.1016/j.tjog.2013.11.012. PubMed PMID: 26384057.

BACKGROUND: Extrahepatic portal-vein obstruction (EHPVO) is a common cause of portal hypertension in developing countries. The main risk in pregnant women with this condition is variceal bleeding, which may be life-threatening. The objective of our study was to assess the outcome of pregnancy in women with EHPVO.

MATERIALS AND METHODS: A retrospective analysis of 21 pregnancies in 12 women with EHPVO was carried out at a tertiary hospital in India.

RESULTS: The mean age of pregnant women with EHPVO was 25.3 years, and the mean duration of disease since diagnosis was 6.1 ± 1.2 years. All the patients had chronic EHPVO, and two patients were diagnosed in the index pregnancy. The incidence of abortion, preterm deliveries, and small for gestational age fetus was 23.8%, 18.7%, and 12.5%, respectively. Thrombocytopenia was found to complicate 61.9% of the pregnancies, while anemia was detected in 40% of the pregnancies. Variceal bleeding occurred in one woman, who was diagnosed during pregnancy and was managed successfully with endoscopic sclerotherapy. None of the patients who were diagnosed prenatally had variceal bleeding during pregnancy. The outcome in nine pregnancies, in which prenatal endoscopic variceal ligation was done, was compared with eight pregnancies, in which endoscopic sclerotherapy was done. No significant difference between the two groups in terms of pregnancy outcome and complications was found. There were no stillbirths or maternal mortality.

CONCLUSION: Women with EHPVO who have been diagnosed and treated prenatally have a good pregnancy outcome. They should be managed in a tertiary care center with a multidisciplinary approach.

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121: Takkar B, Azad R, Azad S, Rathi A. Posterior segment nucleotomy for dislocated sclerotic cataractous lens using chandelier endoilluminator and sharp tipped chopper. *Int J Ophthalmol*. 2015 Aug 18;8(4):833-4. doi: 10.3980/j.issn.2222-3959.2015.04.33. eCollection 2015. PubMed PMID: 26309887; PubMed Central PMCID: PMC4539630.

AIM: To describe a new surgical technique for managing dislocated sclerotic cataractous lens.

METHODS: Six patients with advanced posteriorly dislocated cataracts were operated at a tertiary care centre and analyzed retrospectively. After standard 3 port 23 G pars plana vitrectomy and perfluorocarbon liquid (PFCL) injection, the dislocated white cataract was held with occlusion using phaco fragmatome and then chopped into smaller pieces with a sharp tipped chopper using 25 G chandelier endoilluminator. Each piece was emulsified individually. Following aspiration of PFCL, Fluid Air Exchange was done in all the cases and surgery completed uneventfully.

RESULTS: Best corrected visual acuity (BCVA) in all the patients was better than 6/12 after one month of follow up. No serious complications were noted till minimum 6mo of follow up.

CONCLUSION: Four port posterior segment nucleotomy with a chandelier endoilluminator, fragmatome and a chopper appears to be a safe, easy and effective procedure for managing dislocated sclerotic cataractous nuclei. Ultrasonic energy used and adverse thermal effects of the fragmatome on the sclera may be lesser.

122: Talukdar A, Sharma KA, Rai R, Deka D, Rao DN. Effect of Coenzyme Q10 on Th1/Th2 Paradigm in Females with Idiopathic Recurrent Pregnancy Loss. *Am J Reprod Immunol*. 2015 Aug;74(2):169-80. doi: 10.1111/aji.12376. Epub 2015 Mar 20. PubMed PMID: 25800618.

PROBLEM: Recurrent pregnancy loss is characterized by predominant Th1-type immunity and increased reactive oxygen species. Low levels of Coenzyme Q10 are found in the plasma of RPL as compared to healthy pregnant females. Our aim was to investigate whether in vitro supplementation of PBMCs from such females with CoQ10 could change the observed Th1 bias.

METHOD OF STUDY: PBMCs were isolated from 20 RPL pregnant and non-pregnant females and 16 healthy pregnant females and incubated with CoQ10 in in vitro conditions. Phenotyping of Th1, Th2, and Th17 cells was performed by flow cytometry. Cytokine levels were determined by ELISA.

RESULTS: PBMCs treated with CoQ10 showed significantly decreased percentage of Th1 cells ($P < 0.005$) in pregnant females with history of RPL than in the untreated ones. Also, levels of IFN- γ and TNF- α were significantly decreased in the culture supernatant of treated PBMCs from RPL. DCFDA staining showed significantly reduced production of ROS in the treated PBMCs in RPL females.

CONCLUSION: CoQ10 was effective in maintaining the immune homeostasis by reducing the proportion of IFN- γ -producing T cells and proinflammatory cytokine levels in the RPL pregnant females. This property could be attributed to the capability of CoQ10 in reducing oxidative stress by decreasing ROS production.

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123: Talwar S, Kothari SS, Choudhary SK, Airan B. Stenting of ventricular septal defects to restrain the left ventricle in patients with transposition of the great arteries and restrictive ventricular septal defect. *J Thorac Cardiovasc Surg.* 2015 Nov;150(5):1364-6. doi: 10.1016/j.jtcvs.2015.07.093. Epub 2015 Aug 1. PubMed PMID: 26318352.

124: Thakur V, Asad M, Jain S, Hossain ME, Gupta A, Kaur I, Rathore S, Ali S, Khan NJ, Mohammed A. Eps15 homology domain containing protein of *Plasmodium falciparum* (PfeHD) associates with endocytosis and vesicular trafficking towards neutral lipid storage site. *Biochim Biophys Acta.* 2015 Nov;1853(11 Pt A):2856-69. doi: 10.1016/j.bbamcr.2015.08.007. Epub 2015 Aug 15. PubMed PMID: 26284889.

The human malaria parasite, *Plasmodium falciparum*, takes up numerous host cytosolic components and exogenous nutrients through endocytosis during the intra-erythrocytic stages. Eps15 homology domain-containing proteins (EHDs) are conserved NTPases, which are implicated in membrane remodeling and regulation of specific endocytic transport steps in eukaryotic cells. In the present study, we have characterized the dynamin-like C-terminal Eps15 homology domain containing protein of *P. falciparum* (PfeHD). Using a GFP-targeting approach, we studied localization and trafficking of PfeHD in the parasite. The PfeHD-GFP fusion protein was found to be a membrane bound protein that associates with vesicular network in the parasite. Time-lapse microscopy studies showed that these vesicles originate at parasite plasma membrane, migrate through the parasite cytosol and culminate into a large multi-vesicular like structure near the food-vacuole. Co-staining of food vacuole membrane showed that the multi-vesicular structure is juxtaposed but outside the food vacuole. Labeling of parasites with neutral lipid specific dye, Nile Red, showed that this large structure is neutral lipid storage site in the parasites. Proteomic analysis identified endocytosis modulators as PfeHD associated proteins in the parasites. Treatment of parasites with endocytosis inhibitors obstructed the development of PfeHD-labeled vesicles and blocked their targeting to the lipid storage site. Overall, our data suggests that the PfeHD is involved in endocytosis and plays a role in the generation of endocytic vesicles at the parasite plasma membrane, that are subsequently targeted to the neutral lipid generation/storage site localized near the food vacuole.

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125: Tripathy K, Sharma YR, Chawla R, Basu K, Vohra R, Venkatesh P. Triads in Ophthalmology: A Comprehensive Review. *Semin Ophthalmol*. 2015 Aug 19:1-14. [Epub ahead of print] PubMed PMID: 26148300.

Ophthalmology, like any other clinical science, is constantly evolving. As our knowledge in this field expands, we enumerate and describe classical triads of symptoms or signs with relevance to ophthalmology in this article. Characteristic clinical triads for certain systemic conditions with ocular implications are also discussed.

126: Van Remoortel H, De Buck E, Singhal M, Vandekerckhove P, Agarwal SP. Effectiveness of insecticide-treated and untreated nets to prevent malaria in India. *Trop Med Int Health*. 2015 Aug;20(8):972-82. doi: 10.1111/tmi.12522. Epub 2015 Apr 30. Review. PubMed PMID: 25877758.

OBJECTIVES: India is the most malaria-endemic country in South-East Asia, resulting in a high socio-economic burden. Insecticide-treated or untreated nets are effective interventions to prevent malaria. As part of an Indian first-aid guideline project, we aimed to investigate the magnitude of this effect in India. **METHODS:** We searched MEDLINE, Embase and Central to systematically review Indian studies on the effectiveness of treated or untreated vs. no nets. Parasite prevalence and annual parasite incidence served as malaria outcomes. The overall effect was investigated by performing meta-analyses and calculating the pooled risk ratios (RR) and incidence rate ratios.

RESULTS: Of 479 articles, we finally retained 16 Indian studies. Untreated nets decreased the risk of parasite prevalence compared to no nets [RR 0.69 (95% CI; 0.55, 0.87) in high-endemic areas, RR 0.49 (95% CI; 0.28, 0.84) in low-endemic areas], as was the case but more pronounced for treated nets [RR 0.35 (95% CI; 0.26, 0.47) in high-endemic areas, risk ratio 0.16 (95% CI; 0.06, 0.44) in low-endemic areas]. Incidence rate ratios showed a similar observation: a significantly reduced rate of parasites in the blood for untreated nets vs. no nets, which was more pronounced in low-endemic areas and for those who used treated nets. The average effect of treated nets (vs. no nets) on parasite prevalence was higher in Indian studies (RR 0.16-0.35) than in non-Indian studies (data derived from a Cochrane systematic review; RR 0.58-0.87).

CONCLUSIONS: Both treated and untreated nets have a clear protective effect against malaria in the Indian context. This effect is more pronounced there than in other countries.

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127: Varshney M, Mahapatra A, Krishnan V, Gupta R, Deb KS. Violence and mental illness: what is the true story? *J Epidemiol Community Health*. 2015 Aug 28. pii: jech-2015-205546. doi: 10.1136/jech-2015-205546. [Epub ahead of print] PubMed PMID: 26320232.

128: Venugopalan G, Navinath M, Pradeep B, Sobia N, Chandan Jyoti D, Nitish N, Dey AB. Hypocalcemic Cardiomyopathy Due to Vitamin D Deficiency in a Very Old Man. *J Am Geriatr Soc*. 2015 Aug;63(8):1708-9. doi: 10.1111/jgs.13586. PubMed PMID: 26289698.