List of publications of AIIMS, New Delhi for the month of August, 2018 [Source: www.pubmed.com].

1: A V T, Dinda AK, Koul V. Evaluation of nano hydrogel composite based on gelatin/HA/CS suffused with Asiatic acid/ZnO and CuO nanoparticles for second degree burns. Mater Sci Eng C Mater Biol Appl. 2018 Aug 1;89:378-386. doi: 10.1016/j.msec.2018.03.034. Epub 2018 Apr 9. PubMed PMID: 29752110.

In the present work, a hydrogel platform composed of biopolymer gelatin, and glycosaminoglycan's (Hyaluronic acid and Chondroitin sulfate) incorporated with Asiatic acid (a triterpenoid) and nanoparticles (Zinc oxide and Copper oxide) has been designed and developed to find out the efficacy of healing in second degree burn wounds in Wistar rats. The developed hydrogel composite has been characterized by physico-chemical methods such as; SEM, swelling, mechanical strength, degradation and drug release kinetics. Results showed that the morphology of composite scaffolds are porous with maximum water uptake capacity of 1068% and possessed tensile strength of ~0.196 MPa. Anti-microbial evaluation depicted increase in zone of inhibition with hydrogel containing gelatin + ZnO (5.3 ± 0.2 mm in E. coli and 4.9 ± 0.6 mm in S. aureus) and gelatin + CuO (4.8 ± 0.7 mm in E. coli, 3.8 ± 0.3 mm in S. aureus) in comparison to hydrogel composite scaffold. In-vitro cytocompatibility of developed hydrogel composite was assessed in terms of MTT and DNA quantification on L929 fibroblast cells. In-vivo studies for the composite scaffolds were evaluated on Wistar rats after second degree burn wounds were induced and studied for 28 days which showed the significant wound healing activity in comparison to the control (NeuSkin™ and Cotton guaze) in terms of DNA, total protein, hexosamine and hydroxyproline content. Histopathology studies showed the significant progress in re-epithelization, collagen fibers arrangement and angiogenesis in comparison to control. Additionally, a decrease of TNF-α and increase of MMP-2 expression on day 7 of animal experiment support healing. Furthermore, no toxicity was seen with the developed scaffolds suggesting their suitability to use as a wound dressing in second degree burns.

2: Adhikari N, Biswas A, Gogia A, Sahoo RK, Garg A, Nehra A, Sharma MC, Bhasker S, Singh M, Sreenivas V, Chawla R, Joshi G, Kumar L, Chander S. A prospective phase II trial of response adapted whole brain radiotherapy after high dose methotrexate based chemotherapy in patients with newly diagnosed primary central nervous system lymphoma-analysis of acute toxicity profile and early clinical outcome. J Neurooncol. 2018 Aug;139(1):153-166. doi: 10.1007/s11060-018-2856-y. Epub 2018 Apr 9. PubMed PMID: 29633112.

BACKGROUND: The treatment of primary CNS lymphoma (PCNSL) comprises high dose methotrexate (HDMTX) based chemotherapy followed by whole brain radiotherapy (WBRT), the major drawback of which is long term neurotoxicity. We intended to assess the feasibility of response adapted WBRT in PCNSL in the Indian setting.
METHODS: We screened 32 patients and enrolled 22 eligible patients with PCNSL from 2015 to 2017 in a prospective phase II trial. The patients underwent five 2-weekly cycles of induction chemotherapy with rituximab, methotrexate, vincristine, procarbazine. Patients with complete response(CR) to induction chemotherapy were given reduced dose WBRT 23.4 Gy/13 fractions/2.5 weeks while those with partial response (PR), stable or progressive disease (SD or PD) were given standard dose WBRT 45 Gy/25 fractions/5 weeks. Thereafter two cycles of consolidation chemotherapy with cytarabine were given. The primary endpoints of the study were assessment of response rate (RR) and progression free survival (PFS). The secondary endpoints of the study were assessment of overall survival (OS), toxicity profile of treatment and serial changes in quality of life and neuropsychological parameters.
RESULTS: Out of 19 patients who completed HDMTX based chemotherapy, 10 (52.63%) patients achieved CR, 8 (42.11%) patients had PR and 1 patient had PD. After a median follow-up period of 11.25 months, the estimated median OS was 19 months.

The actuarial rates of PFS and OS were respectively 94.1 and 68.2% at 1 year and 50.2 and 48.5% at 2 years. Three patients in reduced dose WBRT arm had recurrence and two of them died of progressive disease, whereas there was no recurrence or disease related death in standard dose WBRT arm. On univariate analysis of PFS, age≤50 years and use of standard dose WBRT (45 Gy) led to significantly improved outcome (p value 0.03 and 0.02 respectively).
CONCLUSION: In patients with PCNSL, reduced dose WBRT after CR to HDMTX based chemotherapy may lead to suboptimal clinical outcome due to higher risk of recurrence, progression and early death. Trial Registration No CTRI/2015/10/006268.

3: Agrawal M, Devarajan LJ, Singh PK, Garg A, Kale SS. Proposal of a New Safety Margin for Placement of C2 Pedicle Screws on Computed Tomography Angiography. World Neurosurg. 2018 Dec;120:e282-e289. doi: 10.1016/j.wneu.2018.08.052. Epub 2018 Aug 23. PubMed PMID: 30144596.

BACKGROUND: Screw diameters currently available are based on the literature available. No data are available for the safety margin available for C2 pedicle screw placement. The objective of this study was to define the average pedicle size available for placing C2 pedicle screws and to quantify the safety margin available in case of lateral breach of screw.
METHODS: Computed tomography angiograms of 259 patients (161 men, 98 women) were analyzed to calculate the C2 pedicle width, the area of the transverse foramen (TF) and the vertebral artery (VA), and the occupation ratio (OR) of the VA within the TF. The VA was classified into groups based on its lie within the TF (anteromedial, anterolateral, posteromedial, posterolateral, central, ectatic). The distance which the pedicle screw can breach without encountering the VA was calculated (lateral pedicle to vertebral artery distance [LPVA]). The diameters of the VA and the TF were estimated, and their difference gives the safety margin in case of breach of the lateral cortex of the C2 pedicle.
RESULTS: The mean mediolateral diameter of the pedicle isthmus, perpendicular to the pedicle axis, in women was 5.3 mm and in men it was 5.8 mm. This difference was statistically significant. In 53.9% (122/226) of patients, the VA was dominant on the left side. The overall mean OR at the C2 vertebral level was found to be 37.3%. The mean LPVA was 0.9 mm, and the average overall safety margin available was 2.5 mm (range, 0.4-5.3 mm).
CONCLUSIONS: This study describes the relationship of the VA in the C2 TF and the relative risk during pedicle screw fixation.

4: Agrawal M, Borkar SA, Khanna G, Sharma MC, Kale SS. Pigmented Ganglioglioma of the Cerebellum: Case Report and Review. World Neurosurg. 2018 Aug;116:18-24. doi: 10.1016/j.wneu.2018.04.219. Epub 2018 May 9. Review. PubMed PMID: 29753075.

BACKGROUND: Gangliogliomas (GGs) are rare intra-axial tumors. Cerebellar seizures caused by GGs have been described only rarely. Pigmented neural cell tumors are well described in the literature but are infrequent, especially when presenting as primary neuroepithelial tumors. Only 5 cases of pigmented GG have been reported previously, including 4 in the pediatric population.
CASE DESCRIPTION: A 17-year-old female presented to us with cerebellar seizures, which resolved after tumor excision. Histopathological examination revealed a pigmented GG.
CONCLUSIONS: We present the sixth documented case of a pigmented ganglioglioma, the first such case reported in cerebellar location, associated with a rare presentation of cerebellar seizures.

5: Alanee S, Alvarado-Cabrero I, Murugan P, Kumar R, Nepple KG, Paner GP, Patel MI, Raspollini MR, Lopez-Beltran A, Konety BR. Update of the International Consultation on Urological Diseases on bladder cancer 2018: non-urothelial

cancers of the urinary bladder. World J Urol. 2019 Jan;37(1):107-114. doi: 10.1007/s00345-018-2421-5. Epub 2018 Aug 1. PubMed PMID: 30069580.

PURPOSE: To provide a comprehensive update of the joint consultation of the International Consultation on Urological Diseases (ICUD) for the diagnosis and management of non-urothelial cancer of the urinary bladder.
METHODS: A detailed analysis of the literature was conducted reporting on the epidemiology, etiology, diagnosis, treatment and outcomes of non-urothelial cancer of the urinary bladder. An international, multidisciplinary expert committee evaluated and graded the evidence according to the Oxford System of Evidence-based Medicine modified by the ICUD.
RESULTS: The major non-urothelial cancers of the urinary bladder are squamous cell carcinoma, adenocarcinoma, and neuroendocrine tumors. Several other non-urothelial tumors are rare but important to identify because of their aggressive behavior when compared to urothelial bladder tumors. Radical cystectomy and urinary diversion, preceded by neoadjuvant radiation or chemotherapy in some of these tumors, is the main method or treatment for resectable disease. Adjuvant therapy is not usually successful and no novel targeted or immunotherapeutic agents have been identified to provide benefit. Patients with small cell neuroendocrine tumors of the bladder should be offered chemotherapy before surgery. Because non-urothelial cancers are usually locally advanced and/or metastatic at the time of diagnosis, 5-year survival is generally poor.
CONCLUSIONS: Non-urothelial cancers of the urinary bladder are rare and mostly lack established protocols for treatment. The prognosis of most of these tumors is poor because they are usually advanced at the time of diagnosis. A multimodal treatment approach should be considered to improve outcomes.

6: Anand S, Patcharu R, Yadav DK, Kandasamy D, Sharma S. Does Pneumomediastinum and Pneumoretroperitoneum Always Necessitate Surgical Treatment? Indian J Pediatr. 2018 Aug;85(8):688-689. doi: 10.1007/s12098-017-2578-8. Epub 2018 Jan 5. PubMed PMID: 29305765.

7: Arora M, Mathur C, Rawal T, Bassi S, Lakshmy R, Nazar GP, Gupta VK, Park MH, Kinra S. Socioeconomic differences in prevalence of biochemical, physiological, and metabolic risk factors for non-communicable diseases among urban youth in Delhi, India. Prev Med Rep. 2018 Aug 9;12:33-39. doi: 10.1016/j.pmedr.2018.08.006. eCollection 2018 Dec. PubMed PMID: 30155404; PubMed Central PMCID: PMC6111063.

This study examined whether the distribution of biochemical, physiological, and metabolic risk factors for non-communicable diseases (NCDs) among children and youth in urban India vary by socioeconomic status (SES). Data were derived from a cross-sectional survey of students enrolled in the 2nd and 11th grades in 19 randomly selected schools in Delhi (N = 1329) in 2014-15. Mixed-effect regression models were used to determine the prevalence of risk factors for NCDs among private (higher SES) and government (lower SES) school students. After adjusting for age, gender, and grade we found the percentage of overweight (13.16% vs. 3.1%, p value < 0.01) and obese (8.7% vs. 0.3%, p value < 0.01) students was significantly higher among private relative to government school students. Similarly, significantly higher percentage of private school students had higher waist circumference values (7.72% vs. 0.58%, p value < 0.01) than government school students. Furthermore, similar trend was observed across schools in the distribution of other NCD risk factors: raised blood pressure, raised total cholesterol, and low-density lipoprotein. Surprisingly, despite a higher prevalence of all risk factors, significantly higher percentage of private school students had adequate/ideal levels of high-density lipoprotein. Overall, the risk

profile of private school students suggests they are more vulnerable to future NCDs.

8: Arora S, Passah A, Damle NA, Narang R, Sharma A, Yadav MP, Ballal S, Bhasin D, Bal C. Somatostatin Receptor PET/CT Features of Carcinoid Heart Disease. Clin Nucl Med. 2018 Aug;43(8):e280-e281. doi: 10.1097/RLU.0000000000002139. PubMed PMID: 29916914.

We present the case of a 35-year-old woman with metastatic neuroendocrine tumor undergoing treatment with long-acting octreotide and Lu-DOTATATE therapy. We present features of carcinoid heart disease on Ga-DOTANOC PET/CT, which revealed dilated right atrium, pericardial effusion, ascites, and congestive hepatopathy apart from the metastatic lesions in the liver. The scan cardiac findings were confirmed by echocardiography. This highlights the significance of identifying such patients early because additional management is required for carcinoid heart disease per se and a cautious approach is needed in administering amino acid infusion during PRRT that can result in fluid overload.

9: Ayachit A, Kumar V, Raj N, Ayachit G. Smokestack leak on indocyanine green angiography in acute central serous chorioretinopathy. Indian J Ophthalmol. 2018 Aug;66(8):1181-1182. doi: 10.4103/ijo.IJO_140_18. PubMed PMID: 30038170; PubMed Central PMCID: PMC6080448.

10: Balhara YPS. Behavioural addictions: Need to correct misnomers. Asian J Psychiatr. 2018 Aug;36:118. doi: 10.1016/j.ajp.2018.07.014. Epub 2018 Jul 24. PubMed PMID: 30064046.

11: Bhatt M, George N, Soneja M, Kumar P, Vyas S, Biswas A. Recurrent chylous effusions and venous thrombosis: Uncommon presentation of a common condition. Intractable Rare Dis Res. 2018 Aug;7(3):200-203. doi: 10.5582/irdr.2018.01073. PubMed PMID: 30181942; PubMed Central PMCID: PMC6119668.

Spontaneous bilateral chylothorax and chylous ascites rarely develop in conjunction with systemic venous thrombosis, and the most common cause of non-traumatic chylous effusion is a malignancy. A 23-year-old immunocompetent female presented with a fever of 5 months' duration associated with progressive shortness of breath and abdominal distension. Evaluation revealed bilateral chylothorax, chylous ascites, and multiple venous thrombosis. Anti-tubercular drugs were initiated on the basis of a lymph node biopsy and computed tomography findings, but her symptoms worsened, and she developed massive bilateral pleural effusions with type 2 respiratory failure requiring invasive mechanical ventilation. She was managed with anti-tubercular drugs, chest tube drainage, octreotide, anticoagulants, and other supportive treatments. A multipronged approach to the management of chylous effusions and addition of octreotide led to resolution of symptoms. The challenges faced in diagnosing and managing this case are discussed in this report.

12: Bir R, Mohapatra S, Kumar A, Tyagi S, Sood S, Das BK, Kapil A. Comparative evaluation of in-house Carba NP test with other phenotypic tests for rapid detection of carbapenem-resistant Enterobacteriaceae. J Clin Lab Anal. 2019 Jan;33(1):e22652. doi: 10.1002/jcla.22652. Epub 2018 Aug 20. PubMed PMID: 30129058.

BACKGROUND: The prevalence of carbapenem-resistant Enterobacteriaceae (CRE) is alarming worldwide causing serious infections. Rapid and accurate identification of CRE is crucial to reduce the mortality and morbidity. In this study, we tried to develop an in-house Carba NP test for detection of CRE and evaluate its performance with others.

METHODS: A prospective study was conducted with 40 nonrepeating Enterobacteriaceae isolates over a period of 3 months. All the isolates were screened for carbapenem resistance as per CLSI 2016 guidelines followed by PCR for blaNDM-1, blaOXA-48, blaKPC, blaVIM, and blaIMP genes. All the isolates were subjected to five phenotypic tests, that is, in-house Carba NP (iCarba NP), commercial Carba NP (cCarba NP), Blue-Carba, modified Hodge test (MHT), and CHROMagar.
RESULTS: Among the 40 isolates, 87.5% were identified as Escherichia coli, 7.5% were Klebsiella pneumoniae, 2.5% were Enterobacter cloacae, and 2.5% were Citrobacter freundii. Thirty-three of 40 (82.5%) isolates were found to harbor one or more resistant genes. Considering PCR to be the gold standard test, sensitivity of the phenotypic methods for CRE detection ranged from 63.6% (MHT) to 96.9% (CHROMagar). Both cCarba NP and iCarba NP observed to have highest specificity. The performance of iCarba NP was found comparable with cCarba NP by kappa score 1 and found approximately 10 times less expensive than cCarba NP.
CONCLUSION: CHROMagar was observed most sensitive assay for detection of CRE followed by both Carba NP tests. iCarba NP was proved cheaper and equally good as cCarba NP for detection of CRE.

13: Biswal S, Barhwal KK, Das D, Dhingra R, Dhingra N, Nag TC, Hota SK. Salidroside mediated stabilization of Bcl -x(L) prevents mitophagy in CA3 hippocampal neurons during hypoxia. Neurobiol Dis. 2018 Aug;116:39-52. doi: 10.1016/j.nbd.2018.04.019. Epub 2018 May 1. PubMed PMID: 29723606.

Chronic hypoxic stress results in deposition of lipofuscin granules in the CA3 region of hippocampal neurons which contributes to neurodegeneration and accelerated neuronal aging. Oxidative stress and mitophagy during hypoxia are crucial to cause aggregation of these lipofuscin granules in hypoxic neurons. Salidroside, a glucoside derivative of β-Tyrosol, has been reported to protect hypoxic neurons through maintenance of mitochondrial activity. The present study is aimed at investigating the potential of Salidroside in preventing mitophagy during chronic hypoxia and identification of the molecular targets and underlying signaling mechanisms. In-silico analysis for interaction of salidroside with Bcl-xL was carried out using VLife MDS software. The prophylactic efficacy of Salidroside for amelioration of global hypoxia induced neuronal aging was studied in adult male Sprague-Dawley rats exposed to hypobaric hypoxia simulating an altitude of 7600 m for 21 days. Salidroside was supplemented at a daily dose of 25 mg kg-1b.w. p.o. during hypoxic exposure. Ultra-structural and immune-histological studies were conducted to study lipofuscin aggregation and mitophagy. In-silico findings on salidroside mediated stabilization of Bcl-xL were validated by investigating its effect on downstream signaling molecules involved in mitophagy. Administration of Salidroside reduced deposition of lipofuscin in hypoxic CA3 hippocampal neurons and prevented mitophagy. Salidroside stabilizes Bcl-xL in hypoxic neurons resulting in inhibition of PGAM5 phosphatase activity and maintenance of FUNDC1 in phosphorylated state. Salidroside mediated inhibition of pFUNDC1 dephosphorylation prevents FUNDC1-LC3 II interaction which is crucial for mitophagy. The present study demonstrates potential of Salidroside in preventing lipofuscin deposition during chronic hypoxic stress.

14: Braun DA, Shril S, Sinha A, Schneider R, Tan W, Ashraf S, Hermle T, Jobst-Schwan T, Widmeier E, Majmundar AJ, Daga A, Warejko JK, Nakayama M, Schapiro D, Chen J, Airik M, Rao J, Schmidt JM, Hoogstraten CA, Hugo H, Meena J, Lek M, Laricchia KM, Bagga A, Hildebrandt F. Mutations in WDR4 as a new cause of Galloway-Mowat syndrome. Am J Med Genet A. 2018 Nov;176(11):2460-2465. doi: 10.1002/ajmg.a.40489. Epub 2018 Aug 6. PubMed PMID: 30079490; PubMed Central

PMCID: PMC6289609.

Galloway-Mowat syndrome (GAMOS) is a phenotypically heterogeneous disorder characterized by neurodevelopmental defects combined with renal-glomerular disease, manifesting with proteinuria. To identify additional monogenic disease causes, we here performed whole exome sequencing (WES), linkage analysis, and homozygosity mapping in three affected siblings of an Indian family with GAMOS. Applying established criteria for variant filtering, we identify a novel homozygous splice site mutation in the gene WDR4 as the likely disease-causing mutation in this family. In line with previous reports, we observe growth deficiency, microcephaly, developmental delay, and intellectual disability as phenotypic features resulting from WDR4 mutations. However, the newly identified allele additionally gives rise to proteinuria and nephrotic syndrome, a phenotype that was never reported in patients with WDR4 mutations. Our data thus expand the phenotypic spectrum of WDR4 mutations by demonstrating that, depending on the specific mutated allele, a renal phenotype may be present. This finding suggests that GAMOS may occupy a phenotypic spectrum with other microcephalic diseases. Furthermore, WDR4 is an additional example of a gene that encodes a tRNA modifying enzyme and gives rise to GAMOS, if mutated. Our findings thereby support the recent observation that, like neurons, podocytes of the renal glomerulus are particularly vulnerable to cellular defects resulting from altered tRNA modifications.

15: Chakraborty S, Chopra M, Mani K, Giri AK, Banerjee P, Sahni NS, Siddhu A, Tandon N, Bharadwaj D. Prevalence of vitamin B(12) deficiency in healthy Indian school-going adolescents from rural and urban localities and its relationship with various anthropometric indices: a cross-sectional study. J Hum Nutr Diet. 2018 Aug;31(4):513-522. doi: 10.1111/jhn.12541. Epub 2018 Feb 22. PubMed PMID: 29468754.

BACKGROUND: Micronutrient deficiency is a global health burden, especially among developing countries. The present cross-sectional study aimed to determine the prevalence of vitamin B12 deficiency in healthy Indian school-going adolescents, based on area of residence, sex and body mass index (BMI). Furthermore, the relationship of serum B12 concentration with dietary vitamin B12 intake and anthropometric indices was assessed among adolescents from rural and urban India.
METHODS: A total of 2403 school-going adolescents (11-17 years) from National Capital Region and rural areas of Haryana, India were selected. Serum B12 concentrations were estimated using an electrochemiluminescence immunoassay. Dietary assessments were conducted on 65% of total participants (n = 1556) by two 24-h diet recalls.
RESULTS: The prevalence of vitamin B12 deficiency in the total study population was 32.4% (rural: 43.9% versus urban: 30.1%, $P < 0.001$; male: 34.4% versus female: 31.0%, $P < 0.05$; normal weight: 28.1%, versus overweight: 39.8%, versus obese: 51.2%, $P < 0.001$). More than half (51.2%) of obese adolescents were vitamin B12 deficient. On multiple linear regression analysis, serum B12 in rural adolescents was associated with age ($\beta = -0.12$, $P < 0.05$). Among urban adolescents, serum B12 was associated with BMI ($\beta = -0.08$, $P < 0.05$) and adjusted dietary vitamin B12 intake ($\beta = 0.14$, $P < 0.001$). Serum vitamin B12 levels were found to be lower in rural females ($\beta = -0.12$, $P = 0.030$) and urban males (β: 0.11, $P < 0.001$) compared to their respective contemporaries.
CONCLUSIONS: Vitamin B12 deficiency was higher among rural school-going adolescents. Boys had a higher B12 deficiency than girls. Inverse associations of serum B12 with adiposity indices were observed. Serum B12 levels were positively associated with dietary vitamin B12 intake.

16: Chauhan S, Khan SA, Prasad A. Irradiation-Induced Compositional Effects on Human Bone After Extracorporeal Therapy for Bone Sarcoma. Calcif Tissue Int. 2018

Aug;103(2):175-188. doi: 10.1007/s00223-018-0408-2. Epub 2018 Mar 2. PubMed PMID: 29500623.

The present study investigates Raman scattering of human bone irradiated with 50 Gy single dose during therapeutic treatment of Ewing and Osteosarcoma. Bone quality was evaluated via mineral-to-matrix ratio, degree of crystallinity, change in amount of calcium, and carbonate substitution. Alteration in collagen and its cross-links was quantified through second-derivative deconvolution of Amide I peak. A dose of 50 Gy radiation leads to almost 50% loss of mineral content, while maintaining mineral crystallinity, and small changes in carbonate substitution. Deconvolution of Amide I suggested modifications in collagen structure via increase in amount of enzymatic trivalent cross-linking ($p < 0.05$). Overall irradiation led to detrimental effect on bone quality via changes in its composition, consequently reducing its elastic modulus with increased plasticity. The study thus quantifies effect of single-dose 50 Gy radiation on human bone, which in turn is necessary for designing improved radiation dosage during ECRT and for better understanding post-operative care.

17: Chawla B, Chaurasia S, Sharma S, Pattebahadur R, Hasan F, Seth R, Kashyap S, Sen S. Magnetic resonance imaging for tumor restaging after chemotherapy in retinoblastoma with optic nerve invasion. Ophthalmic Genet. 2018 Oct;39(5):584-588. doi: 10.1080/13816810.2018.1502790. Epub 2018 Aug 8. PubMed PMID: 30089224.

PURPOSE: Extraocular retinoblastoma with optic nerve invasion is treated by a multimodal protocol consisting of neoadjuvant chemotherapy, enucleation, and adjuvant therapy. This study was conducted to evaluate the performance of magnetic resonance imaging (MRI) used for tumor restaging in these children after systemic chemotherapy administration.
METHODS: Contrast-enhanced MRI scan of orbits and brain was performed at diagnosis and patients were treated with neoadjuvant chemotherapy. After chemotherapy, MRI scan was repeated for tumor restaging and residual post-laminar thickening and/or enhancement of the affected optic nerve, if any, was recorded. MRI findings were correlated with histopathology in enucleated specimens. The main outcome measures were specificity, sensitivity, and accuracy of MRI in predicting post-laminar invasion after neoadjuvant chemotherapy.
RESULTS: A total of 46 eyes (46 patients) were studied. Optic nerve thickening on MRI had a sensitivity, specificity, and accuracy of 100% (95% Confidence Interval (CI): 64.6-100%), 76.9% (95% CI: 61.7-87.4%), and 80.4% (95% CI: 66.8-89.4%), respectively. Optic nerve enhancement had a sensitivity, specificity, and accuracy of 85.7% (95% CI: 48.7-97.4%), 79.5 % (95% CI: 64.5-89.2%), and 80.4% (95% CI: 66.8-89.4%), respectively. Combined thickening and enhancement of the optic nerve had a sensitivity, specificity, and accuracy of 100% (95% CI: 60.9-100%), 82.4% (95% CI: 66.5-91.7%), and 85% (95% CI: 70.9-92.9%), respectively.
CONCLUSION: MRI is a valuable tool for restaging of retinoblastoma and predicting residual optic nerve disease after neoadjuvant chemotherapy. Combined thickening and enhancement on MRI appeared to be a more reliable indicator of post-laminar invasion as compared to thickening or enhancement alone.

18: Chowdhury UK, Avneesh S, Ray R, Reddy SM, Kalaivani M, Hasija S, Kumari L. A Comparative Study of Histopathological Changes in the Ascending Aorta and the Risk Factors Related to Histopathological Conditions and Aortic Dilatation in Patients With Tetralogy of Fallot and a Functionally Univentricular Heart. Heart Lung Circ. 2018 Aug;27(8):1004-1010. doi: 10.1016/j.hlc.2017.08.011. Epub 2017 Sep 6. PubMed PMID: 29111162.

BACKGROUND: The purposes of this study were to prospectively evaluate the

histologic characteristics of the aortic wall of patients undergoing univentricular type of repair and compare the same with the findings observed in patients undergoing intracardiac repair of tetralogy of Fallot (TOF).
PATIENTS AND METHODS: Operatively excised full-thickness aortic wall tissue from 99 consecutive patients undergoing either intracardiac repair of TOF (group I; n=42) or univentricular repair (group II; n=57) were studied by light microscopy. Age at operation was 13 months to 28 years (mean 99.97±73.21months) for group I and 9 months to 25 years (mean 79.52±60.09) months for group II patients.
RESULTS: Dilatation of the ascending aorta was present in 85.7% patients with TOF and 91.2% patients with a univentricular heart. Seventeen (17.2%) aortic specimens were histologically normal and were used as normal controls (group I, n=5; group II, n=12). A lamellar count of less than 60 was associated with a sensitivity of 97.2% and a specificity of 66.7% in patients undergoing repair of TOF and a sensitivity of 84.6% and a specificity of 80% in patients undergoing univentricular type of repairs respectively. Patients undergoing intracardiac repair of TOF and those undergoing univentricular repair exhibited 23.67 times (15.91-147.40) and 8.48 times (3.62-15.84) increased risk of aortic dilatation respectively.
CONCLUSIONS: Our findings indicate the existence of significant elastic fragmentation, muscle disarray, medionecrosis and fibrosis involving the ascending aortic media in patients with a functionally univentricular heart and dilated aorta. These histopathological changes are similar to those encountered in patients with TOF and dilated aorta.

19: Chuang L, Berek J, Randall T, McCormack M, Schmeler K, Manchanda R, Rebbeck T, Jeng CJ, Pyle D, Quinn M, Trimble E, Naik R, Lai CH, Ochiai K, Denny L, Bhatla N. Collaborations in gynecologic oncology education and research in low- and middle- income countries: Current status, barriers and opportunities. Gynecol Oncol Rep. 2018 Jun 9;25:65-69. doi: 10.1016/j.gore.2018.05.005. eCollection 2018 Aug. Review. PubMed PMID: 29928684; PubMed Central PMCID: PMC6008286.

Eighty-five percent of the incidents and deaths from cervical cancer occur in low and middle income countries. In many of these countries, this is the most common cancer in women. The survivals of the women with gynecologic cancers are hampered by the paucity of prevention, screening, treatment facilities and gynecologic oncology providers. Increasing efforts dedicated to improving education and research in these countries have been provided by international organizations. We describe here the existing educational and research programs that are offered by major international organizations, the barriers and opportunities provided by these collaborations and hope to improve the outcomes of cervical cancer through these efforts.

20: Dabas Y, Xess I, Bakshi S, Mahapatra M, Seth R. Emergence of Azole-Resistant Aspergillus fumigatus from Immunocompromised Hosts in India. Antimicrob Agents Chemother. 2018 Jul 27;62(8). pii: e02264-17. doi: 10.1128/AAC.02264-17. Print 2018 Aug. PubMed PMID: 29891597; PubMed Central PMCID: PMC6105863.

This prospective study shows that the rate of azole-resistant Aspergillus fumigatus (ARAF) in an immunocompromised Indian patient population with invasive aspergillosis (IA) is low, 6/706 (0.8%). This low rate supports the continued use of voriconazole as the first line of treatment. However, the ARAF isolates from India in this study exhibited three kinds of unreported cyp51A mutations, of which two were at hot spots, G54R and P216L, while one was at codon Y431C.

21: Das S, Maras JS, Maiwall R, Shasthry SM, Hussain S, Sharma S, Sukriti S, Singh TP, Sarin SK. Molecular Ellipticity of Circulating Albumin-Bilirubin ComplexÂ Associates With Mortality in Patients With SevereÂ Alcoholic Hepatitis.

Clin Gastroenterol Hepatol. 2018 Aug;16(8):1322-1332.e4. doi: 10.1016/j.cgh.2017.11.022. Epub 2017 Nov 16. PubMed PMID: 29155355.

BACKGROUND & AIMS: Hyperbilirubinemia and hypoalbuminemia are features of hepatic dysfunction that associate with disease severity. This is because hepatic insufficiency causes hypoalbuminemia, which indirectly increases the circulating levels of free bilirubin. Circular dichroism (CD) spectroscopy can be used to quantify the molecular ellipticity (ME) of the albumin-bilirubin complex, and might associate with the severity or outcome of severe alcoholic hepatitis (SAH).
METHODS: We performed a cross-sectional study of 265 patients with SAH admitted in the Department of Hepatology, Institute of Liver and Biliary Sciences in New Delhi, India from January 2014 through January 2016. Blood samples were collected and patients were followed for 12 months or death. The molar ratios of bilirubin: albumin and albumin-bilirubin complexes were determined for a discovery cohort (30 patients who survived the study period and 60 patients who did not survive) and compared with those of 60 patients with alcoholic cirrhosis and 30 healthy individuals (controls). Optical activities of albumin-bilirubin complexes in blood samples were determined by CD spectroscopy and compared among groups. Findings were validated in a separate cohort of 150 patients with SAH from the same institute. We studied the correlation between ME and albumin binding capacity (ABiC).
RESULTS: The molar ratio of bilirubin: albumin was higher in patients with SAH than with alcoholic cirrhosis or controls ($P < .05$). Patients with SAH had different CD spectra and higher ME than the other groups ($P < .01$); ME correlated with model for end-stage liver disease score (with and without Na) and discriminant function ($r2 > .3$; $P < .01$). ME values above a cut off of 1.84 mdeg predicted 3-month mortality in patients with SAH with an area under receiver operating characteristic curve of 0.87 (95% CI, 0.79-0.95), a 77% positive predictive value, and a 90% negative predictive value. The hazard ratio and concordance index of ME values for 3-month mortality in patients with SAH was 10% higher than the hazard ratio and concordance index of model for end-stage liver disease score. In patients with SAH, there was an inverse correlation between ME and ABiC ($r2 > 0.7$; $P < .01$). We observed a significant reduction in ABiC with increasing levels of bilirubin in vitro prepared albumin-bilirubin complex.
CONCLUSION: In a cross-sectional study of patients with SAH, we associated ME of the albumin-bilirubin complex, measured by CD spectroscopy, with outcomes of patients with SAH. Increased loading of bilirubin on albumin could explain reduced albumin function. Bilirubin removal by albumin dialysis might benefit patients with SAH.

22: Deepti S, Bansal R, Singh S. ST segment elevation myocardial infarction with normal coronary arteries. Heart Asia. 2018 Aug 17;10(2):e011084. doi: 10.1136/heartasia-2018-011084. eCollection 2018. PubMed PMID: 30167000; PubMed Central PMCID: PMC6109945.

Case presentation: A middle-aged patient presented to the emergency department with intermittent chest pain of 4-hour duration. The patient had been recently diagnosed with metastatic adenocarcinoma of the colon and was receiving 5-fluorouracil (5-FU)-based chemotherapy at the time of presentation. The ECG at presentation showed 1 mm ST segment elevation in leads II, III and aVF, with reciprocal changes in leads aVL, V1 and V2 (figure 1A). Serum cardiac troponin I level was elevated at 0.11 ng/mL (normal: 0.00-0.02 ng/mL). The patient was given sublingual nitrate and loading doses of aspirin, clopidogrel and atorvastatin, and was taken up for coronary angiography with an intent to perform primary percutaneous coronary intervention.Figure 1(A) 12-lead ECG done at presentation to the emergency department. (B) 12-lead ECG done 30 min after coronary angiography.The images of the coronary angiogram are shown in figure 2. The patient was angina-free by this time. A repeat ECG done 30 min after coronary

angiography is shown in figure 1B. Two-dimensional transthoracic echocardiogram revealed normal left ventricle (LV) systolic function and no regional wall motion abnormality.Figure 2Images of the coronary angiogram of the patient. (A) Right anterior oblique view with a caudal angulation showing left anterior descending (LAD) artery and left circumflex (LCx) artery. (B) Left anterior oblique view with a cranial angulation showing right coronary artery (RCA).
Question: What is the likely mechanism of myocardial infarction in this patient?In situ coronary artery thrombosis with spontaneous recanalisation.Epicardial coronary artery vasospasm.Coronary artery embolism.Coronary microvascular dysfunction.

23: Desai D, Gupta K, Kumar R, Biswas A. Levosulpiride-induced neuroleptic malignant syndrome in rheumatoid arthritis. BMJ Case Rep. 2018 Aug 11;2018. pii: bcr-2018-224679. doi: 10.1136/bcr-2018-224679. PubMed PMID: 30100569.

A 53-year-old woman, known case of diabetes mellitus and rheumatoid arthritis, presented with a 4-day history of hyperthermia, rigidity, tremor and altered sensorium. She developed these symptoms after having been administered parenteral levosulpiride to control vomiting due to secondary adrenal insufficiency. We managed her as a case of life-threatening neuroleptic malignant syndrome (NMS) requiring mechanical ventilation, bromocriptine and other supportive care. She subsequently recovered and was discharged in a stable condition. To the best of our knowledge, this is the first documented case report describing levosulpiride-induced NMS.

24: Devasenapathy S, Midha R, Naskar T, Mehta A, Prajapati B, Ummekulsum M, Sagar R, Singh NC, Sinha S. A pilot Indian family-based association study between dyslexia and Reelin pathway genes, DCDC2 and ROBO1, identifies modest association with a triallelic unit TAT in the gene RELN. Asian J Psychiatr. 2018 Oct;37:121-129. doi: 10.1016/j.ajp.2018.08.020. Epub 2018 Aug 25. PubMed PMID: 30199849.

Dyslexia is a neurodevelopmental disorder that manifests as a reading disability despite normal intelligence and adequate educational opportunity. Twin and family studies have indicated a genetic component, while genome-wide studies have implicated a number of susceptibility genes, most of which have direct or indirect roles in neuronal migration. Reelin (RELN) has important biological functions facilitating migration of neurons. Polymorphisms in RELN have been implicated in related disorders like autism and schizophrenia but have not been examined in dyslexia. We hypothesized that not only RELN, but its interactors in the neuronal migration pathway may play roles in the etiology of dyslexia. Twenty two functional variants across six RELN signalling genes (RELN, VLDLR, APOER2, DAB1, LIS1 and NDEL1) and two dyslexia candidate genes (DCDC2 and ROBO1) were analyzed for association in twenty six nuclear and three extended families with individuals affected with dyslexia. Univariate association analysis was suggestive of association (puncorrected=0.01) with rs362746 in RELN which however did not withstand Bonferroni corrections (pcorrected=0.21). Multimarker tests indicated significant association (p=0.037), based on which we tested for haplotype associations. Although there were no significant haplotypic associations, we found that a three marker unit with rs3808039 and rs2072403 flanking and independently in linkage disequilibrium with rs362746 was significantly overtransmitted (risk allelic combination - TAT) to dyslexia affected individuals in the sample (p=0.002). Our results suggest preliminary evidence for a new potential risk variant in the RELN locus for dyslexia.

25: Dhiman R, Prakash SC, Sreenivas V, Puliyel J. Correlation between Non-Polio Acute Flaccid Paralysis Rates with Pulse Polio Frequency in India. Int J Environ

Res Public Health. 2018 Aug 15;15(8). pii: E1755. doi: 10.3390/ijerph15081755. PubMed PMID: 30111741; PubMed Central PMCID: PMC6121585.

The last case of polio from India was reported in 2011. That year, the non-polio acute flaccid paralysis (NPAFP) rate in India was 13.35/100,000, where the expected rate is 1–2/100,000. A previous study of data from 2000 to 2010 has detailed the NPAFP rate in a state correlated with the pulse polio rounds conducted there, and the strongest correlation with the NPAFP rate was found when the number of doses from the previous 4 years were used. However, a simple association being found with regression analysis does not prove a causal relationship. After publication of those findings, as the threat of polio had lessened, the number of rounds of OPV administration was brought down. The present study has been done to look at data till the end of 2017, to see if the incidence of NPAFP declined with this reduction in polio immunization rounds. We used polio surveillance data acquired by the Government of India from 2000–2017. Correlation of the NAFP rate to the number of polio rounds in the state was examined, and the cumulative effect of polio doses administered in previous years was sought. NPAFP rate correlated with the OPV pulse polio rounds in that year ($R = 0.46$; $p < 0.001$), and the NPAFP rate started to decrease from 2012 when the number of pulse polio rounds had decreased. NPAFP rates in the states of Uttar Pradesh (UP) and Bihar were the highest in the country. Looking at the high-NPAFP states of UP and Bihar, we found that the correlation coefficient was strongest when doses used over 5 years was considered ($R = 0.76$; $p < 0.001$). The response to the reduction in OPV rounds (de-challenging) adds credence to the assumption that OPV was responsible for the change in the NPAFP rate. Now that India has been polio-free for over 6 years, we propose that we may be able to reduce NPAFP by further reducing pulse polio rounds.

26: Dondi M, Rodella C, Giubbini R, Camoni L, Karthikeyan G, Vitola JV, Einstein AJ, Arends BJ, Morozova O, Pascual TN, Paez D; I-MAP investigators. Inter-reader variability of SPECT MPI readings in low- and middle-income countries: Results from the IAEA-MPI Audit Project (I-MAP). J Nucl Cardiol. 2018 Aug 30. doi: 10.1007/s12350-018-1407-4. [Epub ahead of print] PubMed PMID: 30168029.

BACKGROUND: Consistency of results between different readers is an important issue in medical imaging, as it affects portability of results between institutions and may affect patient care. The International Atomic Energy Agency (IAEA) in pursuing its mission of fostering peaceful applications of nuclear technologies has supported several training activities in the field of nuclear cardiology (NC) and SPECT myocardial perfusion imaging (MPI) in particular. The aim of this study was to verify the outcome of those activities through an international clinical audit on MPI where participants were requested to report on studies distributed from a core lab.
METHODS: The study was run in two phases: in phase 1, SPECT MPI studies were distributed as raw data and full processing was requested as per local practice. In phase 2, images from studies pre-processed at the core lab were distributed. Data to be reported included summed stress score (SSS); summed rest score (SRS); summed difference score (SDS); left ventricular (LV) ejection fraction (EF) and end- diastolic volume (EDV). Qualitative appraisals included the assessment of perfusion and presence of ischemia, scar or mixed patterns, presence of transient ischemic dilation (TID), and risk for cardiac events (CE). Twenty-four previous trainees from low- and middle-income countries participated (core participants group) and their results were assessed for inter-observer variability in each of the two phases, and for changes between phases. The same evaluations were performed for a group of eleven international experts (experts group). Results were also compared between the groups.
RESULTS: Expert readers showed an excellent level of agreement for all parameters in both phase 1 and 2. For core participants, the concordance of all parameters

in phase 1 was rated as good to excellent. Two parameters which were re-evaluated in phase 2, namely SSS and SRS, showed an increased level of concordance, up to excellent in both cases. Reporting of categorical variables by expert readers remained almost unchanged between the two phases, while core participants showed an increase in phase 2. Finally, pooled LVEF values did not show a significant difference between core participants and experts. However, significant differences were found between LVEF values obtained using different software packages for cardiac analysis.
CONCLUSIONS: In this study, inter-observer agreement was moderate-to-good for core group readers and good-to-excellent for expert readers. The quality of reporting is affected by the quality of processing. These results confirm the important role of the IAEA training activities in improving imaging in low- and middle-income countries.

27: Farooque K, Yadav R, Chowdhury B, Gamanagatti S, Kumar A, Meena PK. Computerized Tomography-Based Morphometric Analysis of Subaxial Cervical Spine Pedicle in Asymptomatic Indian Population. Int J Spine Surg. 2018 Aug 3;12(2):112-120. doi: 10.14444/5017. eCollection 2018 Apr. PubMed PMID: 30276069; PubMed Central PMCID: PMC6159543.

Background: The purpose of this study was to analyze morphometry of the subaxial cervical spine pedicles in an Indian population based on computed tomography (CT), and thus assess the safety and feasibility of cervical pedicle screw in the subaxial cervical spine.
Methods: CT scans of 500 subaxial cervical spine vertebrae were analyzed from 100 patients presenting to our institution and undergoing cervical spine CT scan for an unrelated cause as part of ATLS protocol. Pedicle width (PW), pedicle axis length (PAL), pedicle transverse angulation (PTA), and lateral pedicle distance (LPD) were calculated on axial CT scans, and pedicle height (PH), pedicle length (PL), superior pedicle distance (SPD), and pedicle sagittal angulation (PSA) were calculated on sagittal CT scans.
Results: The mean PW ranged from 4.3 mm at C3 to 5.7 mm at C7. Mean PH ranged from 5.5 mm at C3 to 6.1 mm at C7. Mean PTA ranged from 44.5° at C3 to 37.1° at C7. PSA ranged from 16.65° at C3 to 3.29° at C7. Mean LPD ranged from 1.6 mm at C3 to 3.4 mm at C6. Mean SPD ranged from 3.5 mm at C3 to 1.15 mm at C7. Mean PAL ranged from 29.6 mm at C3 to 33.04 mm at C7. Mean PL ranged from 5.2 mm at C3 to 5.78 mm at C7.
Conclusions: Our CT-based morphometric study confirms that cervical pedicle screw placement is possible in most of the Indian population except at C3 in females. A thorough understanding of pedicle anatomy with proper CT-based preoperative planning can mitigate the risk associated with pedicle screw placement in subaxial cervical spine.

28: Garg B, Mehta N. Current status of 3D printing in spine surgery. J Clin Orthop Trauma. 2018 Jul-Sep;9(3):218-225. doi: 10.1016/j.jcot.2018.08.006. Epub 2018 Aug 7. Review. PubMed PMID: 30202152; PubMed Central PMCID: PMC6128322.

Three-dimensional printing (3DP) is one of the latest tools in the armamentarium of the modern spine surgeon. The yearning to be more precise and reliable whilst operating on the spine has led to an interest in this technology which has claimed to achieve these goals. 3D printing has been used pre-operatively for surgical planning and for resident or patient education. It has also found its way to the operation theatre where it is used to fabricate customized surgical tools or patient-specific implants. Several authors have highlighted significant benefits when 3D printing is used for specific indications in spine surgery. Novel applications of this technology in spine surgery have also been described and though still in a nascent stage, these are important for this technology to sustain itself in the future. However, major limitations have also come to light

with this technology in use. This article seeks to review the current status and applications of 3D printing in spinal surgery and its major drawbacks while briefly describing the essentials of the technology. It is imperative that the modern spine surgeon knows about this important innovation and when and how it can be applied to improve surgical outcomes.

29: Garg M, Shambanduram S, Singh PK, Sebastian LJD, Sawarkar DP, Kumar A, Gaikwad S, Chandra PS, Kale SS. Management of Pediatric Posterior Circulation Aneurysms-12-Year Single-Institution Experience. World Neurosurg. 2018 Aug;116:e624-e633. doi: 10.1016/j.wneu.2018.05.056. Epub 2018 May 17. PubMed PMID: 29778599.

BACKGROUND: Pediatric posterior circulation aneurysms are rare, complex, poorly understood lesions on which only limited literature is currently available. We report our 12-year experience of managing this condition to enhance knowledge of this rare entity.
METHODS: Patients <18 years old with posterior circulation aneurysms managed at our institution from January 2005 to April 2017 were included. Demographic, clinical, radiologic and management details were retrieved from hospital records and characteristics of the aneurysms and treatment were analyzed.
RESULTS: During this period, 20 pediatric patients (male-to-female ratio 15:6; mean age, 13.1 years) with posterior circulation aneurysms were treated. Most of the patients (75%) presented with subarachnoid hemorrhage. The most common location was the vertebrobasilar junction and vertebral artery (31.81%) followed by the basilar artery and the posterior cerebral artery (27.72% each). Dissecting (81.8%) and large (63.63%) aneurysms were the most common types noted. Of the15 patients with 22 aneurysms treated, 13 underwent endovascular management (parent vessel sacrifice in 8 aneurysms and parent vessel preservation in 5 aneurysms), 1 patient underwent surgery, and 1 patient received medical management for central nervous system tuberculosis. During follow-up, 1 patient had recurrence of aneurysm, and 1 patient died after discharge from the hospital. Overall good outcome was recorded in 90% of patients (Glasgow Outcome Scale score 4-5).
CONCLUSIONS: Vertebrobasilar junction and vertebral artery was the most common location for posterior circulation aneurysms and most were dissecting aneurysms. Endovascular treatment was the mainstay of management. Overall good outcome was observed at long-term follow-up.

30: Gautam D, Malhotra R. Total Hip Arthroplasty in Ankylosing Spondylitis With Extension Contracture of Hips. J Arthroplasty. 2019 Jan;34(1):71-76. doi: 10.1016/j.arth.2018.08.025. Epub 2018 Aug 29. PubMed PMID: 30342954.

BACKGROUND: Despite significant pain relief following total hip arthroplasty (THA) in patients with ankylosing spondylitis, a small subset of patients presenting with extra-articular extension contracture of hips remains unsatisfied.
METHODS: We retrospectively evaluated the patients with ankylosing spondylitis who underwent simultaneous bilateral THA and had extensor tightness of both hips preoperatively. They were managed with modified Z-plasty of iliotibial band. Patients with windswept deformity, commonly seen in bilateral hip arthritis caused by ankylosing spondylitis, were excluded.
RESULTS: Between July 2011 and June 2015, out of 148 patients with bilateral hip involvement, 10 patients (20 hips) had extension contracture of both hips that was addressed during surgery. All patients were followed up for a minimum of 2 years. They could sit comfortably on a chair of height 18 inches with hips and knees flexed to at least 90°. The mean postoperative sum range of motion was 144.6° with an average hip flexion of 95° (range, 90°-105°). None of them had recurrence of extension contracture. There was significant improvement in range of motion and hence ambulation and function. No radiolucent lines exceeding 2 mm

were seen in any of the zones around either of the components as evaluated in latest X-rays.
CONCLUSION: Extension contracture of hip although rare is a noticeable problem and needs to be addressed during THA. Modified Z-plasty technique of iliotibial band is a reliable method in managing these patients.

31: Govindaswamy A, Bajpai V, Trikha V, Mittal S, Malhotra R, Mathur P. Multidrug resistant Elizabethkingia meningoseptica bacteremia - Experience from a level 1 trauma centre in India. Intractable Rare Dis Res. 2018 Aug;7(3):172-176. doi: 10.5582/irdr.2018.01077. PubMed PMID: 30181936; PubMed Central PMCID: PMC6119665.

Elizabethkingia meningoseptica (E. meningoseptica) is a non-fermenting gram negative organism that is commonly detected in the soil and water but is rarely reported to cause human infection. However it is emerging as a nosocomial pathogen in patients admitted in intensive care units (ICUs). Infections caused by this organism have a high mortality rate due to lack of effective therapeutic regimens and its intrinsic resistance to multiple antibiotics. We report our experience in managing Elizabethkingia meningoseptica (E. meningoseptica) septicemia in our ICU patients with septic shock during prolonged intensive care management. Over a two year period four cases were admitted into the polytrauma ICU developed sepsis due to E. meningoseptica. All these patients were on mechanical ventilation, had central venous catheter (CVC) and were exposed to various broad spectrum antibiotics. Of the four patients, three died and one recovered. E. meningoseptica infection should be considered as a possible etiological agent of sepsis in patients who do not respond to empirical therapy, as this results in an inappropriate choice of antimicrobial therapy, leading to increased morbidity and mortality of patients. Its unusual resistance pattern along with inherent resistance to colistin makes this organism difficult to treat unless susceptibility patterns are available.

32: Goyal A, Gupta Y, Kalaivani M, Sankar MJ, Kachhawa G, Bhatla N, Gupta N, Tandon N. Long term (>1â€¯year) postpartum glucose tolerance status among Indian women with history of Gestational Diabetes Mellitus (GDM) diagnosed by IADPSG criteria. Diabetes Res Clin Pract. 2018 Aug;142:154-161. doi: 10.1016/j.diabres.2018.05.027. Epub 2018 May 24. PubMed PMID: 29802954.

AIM: To determine prevalence of long term dysglycemia and its risk factors among women with history of GDM diagnosed using IADPSG criteria at a tertiary care hospital in North India.
METHODS: Women with GDM diagnosed between 2012 and 2016 were invited. Socio-demographic, anthropometric, medical data were collected and 75 gm OGTT with serum insulin estimation, HbA1c and fasting lipid profile were done at the hospital visit.
RESULTS: Women (N = 267) were tested at 32.5 (±4.6) years of age and at a median (q25-q75) of 20 (12-44) months following the index delivery. Dysglycemia was found in 57.7% by ADA criteria [Diabetes in 10.5% and prediabetes in 47.2%]. Risk factors for cardiovascular disease were significantly more prevalent among these women. On multivariable analysis, HOMA-IR correlated positively, while insulinogenic index correlated negatively with postpartum dysglycemia.
CONCLUSION: This is possibly the first long term (>1 year) glucose tolerance outcome study in South Asian women with history of GDM diagnosed by IADPSG criteria, which demonstrates significantly elevated risk of postpartum dysglycemia. While the IADPSG criteria identify women with a lower future conversion to diabetes compared with previous criteria, prediabetes conversion remains high, thereby offering an opportunity to intervene early and prevent progression to future diabetes.

33: Gunjan D, Jain S, Garg P. Dislodged hood stuck in submucosal tunnel:

retrieval during peroral endoscopic myotomy. Endoscopy. 2018 Nov;50(11):E314-E315. doi: 10.1055/a-0658-0955. Epub 2018 Aug 14. PubMed PMID: 30107630.

34: Gupta A, Parakh N, Bansal R, Verma SK, Roy A, Sharma G, Yadav R, Naik N, Juenja R, Bahl VK. Correlation of pacing site in right ventricle with paced QRS complex duration. Indian Pacing Electrophysiol J. 2018 Nov - Dec;18(6):210-216. doi: 10.1016/j.ipej.2018.08.001. Epub 2018 Aug 17. PubMed PMID: 30125639; PubMed Central PMCID: PMC6302778.

BACKGROUND: Pacing from RV mid septum and outflow tract septum has been proposed as a more physiological site of pacing and narrower paced QRS complex duration. The paced QRS morphology and duration in different RV pacing sites is under continued discussion. Hence, this study was designed to address the correlation of pacing sites in right ventricle with paced QRS complex duration.
METHODS: Two hundred fifty-two consecutive patients who underwent pacemaker implantation were enrolled. Baseline clinical characteristics were recorded for each patient. All patient underwent fluoroscopy, electrocardiogram and echocardiography post pacemaker implantation. Paced QRS duration was calculated from the leads with maximum QRS duration.
RESULTS: Mean paced QRS (pQRS) duration was significantly higher in apical septum group with a mean of 148.9±14.8 ms compared to mid septum (139.6±19.9 ms; p-value 0.003) and RVOT septum (139.6±14.8 ms; p-value 0.002) groups, respectively. There was no significant difference between mid-septal and RVOT septal pQRS duration. On multivariate analysis, female gender, baseline QRS duration and RVOT septal pacing were the only predictors for narrow pQRS duration (<150 msec).
CONCLUSION: RV mid-septal and RVOT septal pacing were associated with significantly lower pQRS duration as compared with apical pacing. Based on multivariate analysis RVOT septal pacing appears to be preferred and more physiological pacing site.

35: Gupta A, Mishra P, Pati HP, Tyagi S, Mahapatra M, Seth T, Saxena R. Spectrum of hemostatic disorders in Indian females presenting with bleeding manifestations. Int J Lab Hematol. 2018 Aug;40(4):437-441. doi: 10.1111/ijlh.12806. Epub 2018 Mar 25. PubMed PMID: 29575615.

INTRODUCTION: Hemostatic disorders are often missed in women with bleeding particularly menorrhagia. Preexisting hemostatic disorders are now known as common risk factor for postpartum hemorrhage and prolonged bleeding in puerperium. Females with bleeding complaints constitute an important population referred to hematology clinic. Hence, we aim to evaluate the type and frequency of hemostatic disorders among females presenting with bleeding in a tertiary care hospital and a basic hemostatic laboratory.
METHODS: Three-year data were retrospectively analyzed for 200 females with various bleeding complaints. Due to resource constraints, a hemostatic workup was done with prothrombin time, activated partial thromboplastin time, thrombin time, fibrinogen assay, clot solubility test, mixing studies, specific factor assays, platelet function test, and von Willebrand factor antigen level.
RESULTS: A total of 200 females were investigated to identify the cause of their bleeding. Thirty-five of 200 (17.5%) females were found with an underlying bleeding disorder. Of these 35 females, 65.7% presented with bleeding from more than 1 site. Most common bleeding manifestation was spontaneous bruising in 18 of 35 (51.4%) patients followed by petechiae (48.6%). Inherited bleeding disorders were noted in majority. The most common inherited bleeding disorder identified was von Willebrand disease (VWD) in 34.3% females. Second most common disorder was Glanzmann's thrombasthenia accounting for 22.8%. Rare coagulation factor

deficiency, such as factors VII, X, and XIII deficiencies, was noted. Three cases revealed acquired causes of coagulation defects.
CONCLUSION: Underlying hemostatic defects should be searched for in women with unexplained bleeding complaints. This will not only help in diagnosis but also in proper management for future hemostatic challenges.

36: Gupta P, Mohan S, Johnson C, Garg V, Thout SR, Shivashankar R, Krishnan A, Neal B, Prabhakaran D. Stakeholders' perceptions regarding a salt reduction strategy for India: Findings from qualitative research. PLoS One. 2018 Aug 6;13(8):e0201707. doi: 10.1371/journal.pone.0201707. eCollection 2018. PubMed PMID: 30080888; PubMed Central PMCID: PMC6078292.

BACKGROUND: Scientific evidence indicates that high dietary salt intake has detrimental effects on blood pressure and associated cardiovascular disease (CVD). However, limited information is available on how to implement salt reduction in low and middle-income countries (LMICs) such as India, where the burden of hypertension and CVD is increasing rapidly. As part of a large study to create the evidence base required to develop a salt reduction strategy for India, we assessed the perspectives of various stakeholders regarding developing an India specific salt reduction strategy.
METHODS: A qualitative research design was deployed to elicit various stakeholder's (government and policy-related stakeholders, industry, civil Society, consumers) perspectives on a salt reduction strategy for India, using in-depth interviews (IDIs) and focus group discussions (FGDs). We used an inductive approach for data analysis. Data were analyzed using thematic content analysis method.
RESULTS: Forty-two IDIs and eight FGDs were conducted with various stakeholders of interest and relevance. Analysis indicated three major themes: 1. Barriers for salt reduction 2. Facilitators for salt reduction; 3. Strategies for salt reduction. Most of the stakeholders were in alignment with the need for a salt reduction programme in India to prevent and control hypertension and related CVD. Major barriers indicated by the stakeholders for salt reduction in India were social and cultural beliefs, a large unorganized food retail sector, and the lack of proper implementation of even existing food policies. Stakeholders from the food industry reported that there might be decreased sales due to salt reduction. Major facilitators included the fact that: salt reduction is currently a part of the National Multi-Sectoral Action Plan for the prevention and control of NCDs, salt reduction and salt iodine programme are compatible, and that few of the multinational food companies have already started working in the direction of initiating efforts for salt reduction. Based on the barriers and facilitators, few of the recommendations are to generate awareness among consumers, promote salt reduction by processed food industry, and implement consumer friendly food labelling.
CONCLUSIONS: In this study of multiple key influential stakeholders in India, most of the stakeholders were in alignment with the need for a salt reduction programme in India to prevent and control hypertension and related CVD. The development and adoption of the National Multi-sectoral Action Plan to reduce premature non-communicable diseases (NCDs) in India, provides a potential platform that can be leveraged to drive, implement and monitor salt reduction efforts.

37: Gupta SK, Bakhshi S, Chopra A, Kamal VK. Molecular genetic profile in BCR-ABL1 negative pediatric B-cell acute lymphoblastic leukemia can further refine outcome prediction in addition to that by end-induction minimal residual disease detection. Leuk Lymphoma. 2018 Aug;59(8):1899-1904. doi: 10.1080/10428194.2017.1408087. Epub 2017 Dec 3. PubMed PMID: 29199525.

The recently proposed molecular genetic criteria promise improved risk-prediction

in B-cell acute lymphoblastic leukemia (B-ALL). This study assesses their utility in BCR-ABL1 negative pediatric B-ALL, particularly with respect to end-induction minimal residual disease (MRD). The DNA was analyzed for copy number alterations in CDKN2A/B, PAX5, IKZF1, and other genes. Seventy-six cases with median age 7 years (2 months-18 years) included MRD-positive (24; 32%), and MRD negative-standard (20; 26%), intermediate (20; 26%), & high risk (12;16%) cases. The risk classification was based on age, initial total leukocyte count, central nervous system involvement, cytogenetics, day 8 prednisolone response and MRD status after induction chemotherapy. The genetic profile based on Moorman's criteria identified two subgroups with different event free survival (EFS) (0.77 vs. 0.38; p = .045) and overall survival (OS) (0.90 vs. 0.30; p = .037) in the MRD-negative intermediate-risk group. The genetic profile also separated two subgroups with different EFS (0.75 vs. 0.41; p = .036) in the MRD-positive group, however the OS was not different (0.75 vs. 0.57; p = .293).

38: Gupta VG, Gogia A, Sharma V, Mallick S. Lymphomatoid Granulomatosis with Isolated Cutaneous Lesions: Prolonged Remission After DA-EPOCH Protocol. Turk J Haematol. 2018 Aug 3;35(3):213-214. doi: 10.4274/tjh.2018.0020. Epub 2018 Jun 1. PubMed PMID: 29856361; PubMed Central PMCID: PMC6110445.

39: Gyawali S, Sarkar S, Balhara YPS, Kumar S, Patil V, Singh S. Perceived stigma and its correlates among treatment seeking alcohol and opioid users at a tertiary care centre in India. Asian J Psychiatr. 2018 Oct;37:34-37. doi: 10.1016/j.ajp.2018.07.018. Epub 2018 Aug 2. PubMed PMID: 30103185.

BACKGROUND AND AIMS: Perceived stigma is related to the beliefs that members of stigmatized group have about the stigmatizing attitudes present in society. We present the data on perceived stigma in alcohol and opioid users seeking treatment.
METHODS: This study was conducted at a tertiary care de-addiction facility with recruitment of patients with substance use disorders (alcohol and opioid use). Perceived stigma was assessed using Perceived Stigma of Substance Abuse Scale (PSAS).
RESULTS: The study included 201 participants, majority of whom were males (99.5%), educated up to 10th std. (65.7%), with mean duration of substance use of 11.4 years. Opiates were the primary substance of abuse in the majority (83.6%) with ever-injecting drug use present in a considerable proportion (29.4%). The mean perceived stigma scale score was 21.23 ± 3.03. The perceived stigma was higher in patients from rural background, but was not associated with age, educational status, current living situation, duration of substance use and injecting drug use.
CONCLUSION: Stigma remains an important issue among patients with alcohol and opioid use disorders. Perceived stigma could affect participation in society and health seeking behavior in substance using population, thus needs further exploration.

40: Hari P, Khandelwal P, Satpathy A, Hari S, Thergaonkar R, Lakshmy R, Sinha A, Bagga A. Effect of atorvastatin on dyslipidemia and carotid intima-media thickness in children with refractory nephrotic syndrome: a randomized controlled trial. Pediatr Nephrol. 2018 Dec;33(12):2299-2309. doi: 10.1007/s00467-018-4036-x. Epub 2018 Aug 8. PubMed PMID: 30091061.

BACKGROUND: Dyslipidemia is an important cardiovascular risk factor in steroid-resistant nephrotic syndrome (SRNS). Efficacy of statins for treatment of hyperlipidemia in children with SRNS is unclear.
METHODS: This prospective, randomized, double-blind, placebo-controlled, parallel-group clinical trial enrolled 30 patients with SRNS, aged 5-18 years,

with serum low-density lipoprotein cholesterol (LDL-C) levels between 130 and 300 mg/dl, to receive a fixed dose of atorvastatin (n =15, 10 mg/d) or placebo (n =15) by block randomization in a 1:1 ratio. Primary outcome was change in serum LDL-C at 12 months. Change in levels of other lipid fractions, carotid intima-media thickness (cIMT), flow-mediated dilation (FMD) of the brachial artery, and adverse events were also evaluated.
RESULTS: At the end of 12 months, atorvastatin was not superior to placebo in reducing plasma LDL-C levels, median percentage reduction 15.8% and 9.5% respectively, in atorvastatin and placebo arms (n=14 in each; P=0.40). Apolipoprotein B levels significantly declined with atorvastatin in modified intention-to-treat analysis (P=0.01) but not in the per-protocol analysis. There was no significant effect on other lipid fractions, cIMT and FMD. Adverse events were similar between groups. Change in serum albumin was negatively associated with change in serum LDL-C, very low-density lipoprotein cholesterol, total cholesterol, triglyceride, and apolipoprotein B (P<0.001), irrespective of receiving atorvastatin, age, gender, body mass index, and serum creatinine.
CONCLUSIONS: Atorvastatin, administered at a fixed daily dose of 10 mg, was not beneficial in lowering lipid levels in children with SRNS; rise in serum albumin was associated with improvement in dyslipidemia.

41: Hermle T, Schneider R, Schapiro D, Braun DA, van der Ven AT, Warejko JK, Daga A, Widmeier E, Nakayama M, Jobst-Schwan T, Majmundar AJ, Ashraf S, Rao J, Finn LS, Tasic V, Hernandez JD, Bagga A, Jalalah SM, El Desoky S, Kari JA, Laricchia KM, Lek M, Rehm HL, MacArthur DG, Mane S, Lifton RP, Shril S, Hildebrandt F. GAPVD1 and ANKFY1 Mutations Implicate RAB5 Regulation in Nephrotic Syndrome. J Am Soc Nephrol. 2018 Aug;29(8):2123-2138. doi: 10.1681/ASN.2017121312. Epub 2018 Jun 29. PubMed PMID: 29959197; PubMed Central PMCID: PMC6065084.

BACKGROUND: Steroid-resistant nephrotic syndrome (SRNS) is a frequent cause of CKD. The discovery of monogenic causes of SRNS has revealed specific pathogenetic pathways, but these monogenic causes do not explain all cases of SRNS.
METHODS: To identify novel monogenic causes of SRNS, we screened 665 patients by whole-exome sequencing. We then evaluated the in vitro functional significance of two genes and the mutations therein that we discovered through this sequencing and conducted complementary studies in podocyte-like Drosophila nephrocytes.
RESULTS: We identified conserved, homozygous missense mutations of GAPVD1 in two families with early-onset NS and a homozygous missense mutation of ANKFY1 in two siblings with SRNS. GAPVD1 and ANKFY1 interact with the endosomal regulator RAB5. Coimmunoprecipitation assays indicated interaction between GAPVD1 and ANKFY1 proteins, which also colocalized when expressed in HEK293T cells. Silencing either protein diminished the podocyte migration rate. Compared with wild-type GAPVD1 and ANKFY1, the mutated proteins produced upon ectopic expression of GAPVD1 or ANKFY1 bearing the patient-derived mutations exhibited altered binding affinity for active RAB5 and reduced ability to rescue the knockout-induced defect in podocyte migration. Coimmunoprecipitation assays further demonstrated a physical interaction between nephrin and GAPVD1, and immunofluorescence revealed partial colocalization of these proteins in rat glomeruli. The patient-derived GAPVD1 mutations reduced nephrin-GAPVD1 binding affinity. In Drosophila, silencing Gapvd1 impaired endocytosis and caused mistrafficking of the nephrin ortholog.
CONCLUSIONS: Mutations in GAPVD1 and probably in ANKFY1 are novel monogenic causes of NS. The discovery of these genes implicates RAB5 regulation in the pathogenesis of human NS.

42: Islamuddin M, Khan WH, Gupta S, Tiku VR, Khan N, Akdag AI, Chaudhary S, Upadhyay A, Kumar P, Ghatwala G, Ray P. Surveillance and genetic characterization of rotavirus strains circulating in four states of North Indian children. Infect

Genet Evol. 2018 Aug;62:253-261. doi: 10.1016/j.meegid.2018.04.030. Epub 2018 Apr 24. PubMed PMID: 29698770.

Acute gastroenteritis due to Rotavirus (RV) infection is a major cause of morbidity and mortality in infants and young children worldwide. In India, around 0.1 million death reported annually due to RV illness. So, to assess the disease burden continuous surveillance of the circulating genotypes is needed. This study aimed to ascertain the genetic variance of 429 rotavirus positive specimens observed during the period October 2013-September 2014 at four study centers from North India. Out of 1057 patients enrolled, 1018 stool samples were collected at four centers in four different states of North India. Children aged <5 years who showed the symptoms of severe diarrhea and needed hospitalization were enrolled. The stool samples collected were screened by Enzyme Immuno Assay (EIA), and the RV positive samples were characterized by semi-nested PCR. During the study period October 2013 through September 2014, ~42% patients were found to be rotavirus positive of 1018 collected specimen. In Delhi, Rohtak and Meerut, we observed that Rotavirus is seasonal compared to Tanda (HP). The rate of rotavirus detection was significantly higher among children aged below 2 years, and a total of 21.5% of rotavirus infections comprised children aged <6 months. Genotype G1(48.0%) was predominant and frequently circulating strain whereas G12 (16.8%) and G9 (10.0%) was second and third prevalent strain in the four states of North India. High frequency of G1 genotypes was detected under the age group of 6-11 months which is followed by G12, similarly high rate severe disease was observed due to G1 genotypes followed by P[8], P[6] and G12. The most common types of strains were G1P[8] (27.73% of strains), G12P[6] (13.28%), G9P[4] (7.23%) and G1P[6] (6.75%). The rare strain reported were G1P[9]; P[11] strain was detected in combination with G1, G2, and G12. These data emphasized G12 is the second most predominant strain circulating among Northern Indian children highlights the needs for inclusion in the future polyvalent vaccine to break the burden of rotavirus infection.

43: Jain S, Goyal A, Kumar V. Lipaemia retinalis in familial chylomicronaemia syndrome. Lancet. 2018 Aug 25;392(10148):e7. doi: 10.1016/S0140-6736(18)31796-3. PubMed PMID: 30152345.

44: Jain S, Kumawat D, Kumar V. Multimodal imaging of torpedo-shaped fundus lesions: New insights. Indian J Ophthalmol. 2018 Aug;66(8):1211-1213. doi: 10.4103/ijo.IJO_118_18. PubMed PMID: 30038186; PubMed Central PMCID: PMC6080479.

The purpose of this case series is to describe the varied presentation of Torpedo lesions of the fundus and multimodal imaging features in three eyes of three patients. Two patients presented with typical topography, i.e., temporal to the fovea. One patient revealed lesion inferonasal to disc with the head pointing toward the disc. All three patients had an attenuation of outer retinal layers on optical coherence tomography. One patient showed an additional large subretinal cleft. Variable hypoautofluorescence in the area of the torpedo was noted. To conclude torpedo lesions can present at atypical locations, have both retinal and choroidal atrophy and head point toward the optic disc.

45: Jaiswal RK, Kumar P, Kumar M, Yadava PK. hTERT promotes tumor progression by enhancing TSPAN13 expression in osteosarcoma cells. Mol Carcinog. 2018 Aug;57(8):1038-1054. doi: 10.1002/mc.22824. Epub 2018 May 18. PubMed PMID: 29722072.

Telomerase complex maintains the length of the telome, cbre, and protects erosion of the physical ends of the eukaryotic chromosome in all actively dividing cells including cancer cells. Telomerase activation extends the lifespan of cells in

culture by maintaining the length of the telomere. Compared to terminally differentiated somatic cells, telomerase activity remains high in over 90% of cancer cells. It has now become clear that the role of telomerase is much more complex than just telomere lengthening. The remaining 10% of cancers deploy ALT (alternative lengthening of telomeres) pathway to maintain telomere length. Telomerase inhibitors offer a good therapeutic option. Also, telomerase-associated molecules can be targeted provided their roles are clearly established. In any case, it is necessary to understand the major role of telomerase in cancer cells. Many studies have already been done to explore gene profiling of a telomerase positive cell by knocking down expression of hTERT (telomerase reverse transcriptase). To complement these studies, we performed global gene profiling of a telomerase negative cell by ectopically expressing hTERT and studied changes in the global gene expression patterns. Analysis of microarray data for telomerase negative cells ectopically expressing telomerase showed 76 differentially regulated genes, out of which 39 genes were upregulated, and 37 were downregulated. Three upregulated genes such as TSPAN13, HMGCS2, DLX5, and three downregulated genes like DHRS2, CRYAB, and PDLIM1 were validated by real-time PCR. Knocking down of TSAPN13 in hTERT overexpressing U2OS cells enhanced the apoptosis of the cells. TSPAN13 knockdown in these cells suppressed mesenchymal properties and enhanced epithelial character.

46: Jat KR, Kumar A. Sublingual Immunotherapy in Allergic Rhinitis: Search for a Suitable Biomarker Continues! Indian J Pediatr. 2018 Oct;85(10):834-835. doi: 10.1007/s12098-018-2773-2. Epub 2018 Aug 20. Review. PubMed PMID: 30128633.

47: Kakkar A, Antony VM, Pramanik R, Sakthivel P, Singh CA, Jain D. SMARCB1 (INI1)-deficient sinonasal carcinoma: a series of 13 cases with assessment of histologic patterns. Hum Pathol. 2019 Jan;83:59-67. doi: 10.1016/j.humpath.2018.08.008. Epub 2018 Aug 16. PubMed PMID: 30120966.

A significant proportion of sinonasal malignancies comprise poorly differentiated/undifferentiated carcinomas that defy accurate histologic classification and behave aggressively. Recent years have seen a refinement of this spectrum by inclusion of novel entities harboring specific genetic alterations, including SMARCB1 (INI1)-deficient sinonasal carcinoma (SDSC), characterized by inactivating alterations in SMARCB1 gene, as demonstrated by loss of INI1 immunoexpression. Cyclin D1 is a cell-cycle regulatory protein downstream of INI1. Loss of INI1 leads to derepression of cyclin D1 transcription, suggesting its role as a putative therapeutic target. However, cyclin D1 expression has not been assessed in SDSCs. We retrieved all sinonasal carcinomas, including sinonasal undifferentiated carcinoma, undifferentiated carcinoma, poorly differentiated squamous cell carcinoma, and adenocarcinoma. Histopathologic features were reviewed. INI1 immunohistochemistry was performed. Cyclin D1 was performed in cases showing INI1 loss. Loss of INI1 staining was seen in 13 cases (5.8%), including 11 males and 2 females (age range, 11-65 years). Original diagnoses included SDSC (3/13), sinonasal undifferentiated carcinoma (3/13), adenocarcinoma (3/13), poorly differentiated squamous cell carcinoma (2/13), and poorly differentiated carcinoma (2/13). Tumors were predominantly basaloid in 6 cases and plasmacytoid/rhabdoid in 5 cases. We identified 2 cases having oncocytoid cells arranged in a gland-like pattern. Significant cyclin D1 immunoexpression was absent. SDSC is a rare, emerging entity that resembles a poorly differentiated carcinoma. Histomorphologic spectrum of these tumors is evolving. In addition to basaloid and plasmacytoid/rhabdoid cells, oncocytoid/adenocarcinoma-like pattern can also be seen in SDSC and predicts INI1 loss. These histologic patterns can further be subjected to INI1 immunohistochemistry for correct diagnosis.

48: Kalra P, Mishra SK, Kaur S, Kumar A, Prasad HK, Sharma TK, Tyagi JS. G-Quadruplex-Forming DNA Aptamers Inhibit the DNA-Binding Function of HupB and Mycobacterium tuberculosis Entry into Host Cells. Mol Ther Nucleic Acids. 2018 Dec 7;13:99-109. doi: 10.1016/j.omtn.2018.08.011. Epub 2018 Aug 22. PubMed PMID: 30245472; PubMed Central PMCID: PMC6148841.

The entry and survival of Mycobacterium tuberculosis (Mtb) within host cells is orchestrated partly by an essential histone-like protein HupB (Rv2986c). Despite being an essential drug target, the lack of structural information has impeded the development of inhibitors targeting the indispensable and multifunctional C-terminal domain (CTD) of HupB. To bypass the requirement for structural information in the classical drug discovery route, we generated a panel of DNA aptamers against HupB protein through systemic evolution of ligands by exponential (SELEX) enrichment. Two G-quadruplex-forming high-affinity aptamers (HupB-4T and HupB-13T) were identified, each of which bound two distinct sites on full-length HupB, with an estimated KD of ~1.72 μM and ~0.17 μM, respectively, for the high-affinity sites. While HupB-4T robustly inhibited DNA-binding activity of HupB in vitro, both the aptamers recognized surface-located HupB and significantly blocked Mtb entry into THP-1 monocytic cells ($p < 0.0001$). In summary, DNA aptamers generated in this study block DNA-binding activity of HupB, inhibit virulent Mtb infection in host cells, and demonstrate aptamers to be inhibitors of HupB functions. This study also illustrates the utility of SELEX in developing inhibitors against essential targets for whom structural information is not available.

49: Katiyar V, Vora Z, Agarwal S, Sharma R, Gurjar H. Prognostic Scoring for Chronic Subdural Hematoma: Is Decision Making Easier? World Neurosurg. 2018 Aug;116:481. doi: 10.1016/j.wneu.2018.03.056. PubMed PMID: 30049034.

50: Katwa U, Kabra SK. Advances in Asthma. Indian J Pediatr. 2018 Aug;85(8):641-642. doi: 10.1007/s12098-018-2709-x. Epub 2018 May 31. PubMed PMID: 29850976.

51: Kaur M, Goth A, Subramaniam R. Low flow vascular malformations of cervico facial area: An airway challenge. J Clin Anesth. 2018 Aug;48:58-59. doi: 10.1016/j.jclinane.2018.04.016. Epub 2018 May 9. PubMed PMID: 29753265.

52: Kaushal A, Bindra A, Singh S. Mobile phone holder as an ultrasound transducer stabilisation device: A novel technique. Indian J Anaesth. 2018 Aug;62(8):635-636. doi: 10.4103/ija.IJA_375_18. PubMed PMID: 30166662; PubMed Central PMCID: PMC6100279.

53: Khan AA, Mangalaparthi KK, Advani J, Prasad TSK, Gowda H, Jain D, Chatterjee A. Data from quantitative proteomic analysis of lung adenocarcinoma and squamous cell carcinoma primary tissues using high resolution mass spectrometry. Data Brief. 2018 Jun 22;19:1631-1637. doi: 10.1016/j.dib.2018.06.035. eCollection 2018 Aug. PubMed PMID: 30229035; PubMed Central PMCID: PMC6141215.

Lung cancer is the leading cause of preventable death globally and is broadly classified into adenocarcinoma and squamous cell carcinoma. In this study, we carried out mass spectrometry based quantitative proteomic analysis of lung adenocarcinoma and squamous cell carcinoma primary tissue by employing the isobaric tags for relative and absolute quantitation (iTRAQ) approach. Proteomic data analyzed using SEQUEST algorithm resulted in identification of 25,998 peptides corresponding to 4342 proteins of which 610 proteins were differentially expressed (≥ 2-fold) between adenocarcinoma and squamous cell carcinoma. These differentially expressed proteins were further classified by gene ontology for their localization and biological processes. Pathway analysis of differentially

expressed proteins revealed distinct alterations in networks and pathways in both adenocarcinoma and squamous cell carcinoma. We identified a subset of proteins that show inverse expression pattern between lung adenocarcinoma and squamous cell carcinoma. Such proteins may serve as potential markers to distinguish between the two subtypes. Mass spectrometric data generated in this study was submitted to the ProteomeXchange Consortium (http://proteomecentral.proteomexchange.org) via the PRIDE partner repository with the dataset identifier PXD008700.

54: Khan MFJ, Little J, Nag TC, Mossey PA, Autelitano L, Meazzini MC, Merajuddin A, Singh A, Rubini M. Ultrastructural analysis of collagen fibril diameter distribution in cleft lip. Oral Dis. 2018 Aug 24. doi: 10.1111/odi.12962. [Epub ahead of print] PubMed PMID: 30144227.

OBJECTIVE: A preliminary study to determine collagen fibril diameter (CF-ED) distribution on medial and lateral sides of cleft lip (CL).
MATERIAL AND METHODS: Tissue samples from medial and lateral sides of CL were fixed in 2.5% glutaraldehyde and 1% osmium tetroxide and embedded in Araldite CY212 resin for transmission electron microscopy. The analysis of CF-ED was performed using the ImageJ program. To characterize the packaging of collagen fibrils (CFs) in the two tissues, we estimated the collagen number density (CF-ND) and fibril-area-fraction (FAF). Differences in measurements across the two sides were calculated using Wilcoxon signed-rank test.
RESULTS: The CF-ED was statistically significantly ($p < 0.001$) smaller on the medial side (45.69 ± 7.89 nm) than on the lateral side (54.18 ± 7.62 nm). The medial side had a higher CF-ND and a higher percentage of FAF than the lateral side.
CONCLUSION: Our finding of a smaller CF-ED and higher CF-ND and FAF for the medial side suggests possible differences in size and distribution of CFs between medial and lateral sides of CL. This finding provides knowledge toward underlying tissue biomechanics that may help reconstruction of perioral tissue scaffolds, ultimately resulting in better treatment of patients with oral clefts.

55: Khandelwal S, Swamy MK, Patil K, Kondal D, Chaudhry M, Gupta R, Divan G, Kamate M, Ramakrishnan L, Bellad MB, Gan A, Kodkany BS, Martorell R, Srinath Reddy K, Prabhakaran D, Ramakrishnan U, Tandon N, Stein AD. The impact of DocosaHexaenoic Acid supplementation during pregnancy and lactation on Neurodevelopment of the offspring in India (DHANI): trial protocol. BMC Pediatr. 2018 Aug 4;18(1):261. doi: 10.1186/s12887-018-1225-5. PubMed PMID: 30077178; PubMed Central PMCID: PMC6090734.

BACKGROUND: Evidence suggests a strong association between nutrition during the first 1000 days (conception to 2 years of life) and cognitive development. Maternal docosahexaenoic acid (DHA) supplementation has been suggested to be linked with cognitive development of their offspring. DHA is a structural component of human brain and retina, and can be derived from marine algae, fatty fish and marine oils. Since Indian diets are largely devoid of such products, plasma DHA levels are low. We are testing the effect of pre- and post-natal DHA maternal supplementation in India on infant motor and mental development, anthropometry and morbidity patterns.
METHODS: DHANI is a double-blinded, parallel group, randomized, placebo controlled trial supplementing 957 pregnant women aged 18-35 years from ≤20 weeks gestation through 6 months postpartum with 400 mg/d algal-derived DHA or placebo. Data on the participant's socio-demographic profile, anthropometric measurements and dietary intake are being recorded at baseline. The mother-infant dyads are followed through age 12 months. The primary outcome variable is infant motor and mental development quotient at 12 months of age evaluated by Development Assessment Scale in Indian Infants (DASII). Secondary outcomes are gestational

age, APGAR scores, and infant anthropometry. Biochemical indices (blood and breast-milk) from mother-child dyads are being collected to estimate changes in DHA levels in response to supplementation. All analyses will follow the intent-to-treat principle. Two-sample t test will be used to test unadjusted difference in mean DASII score between placebo and DHA group. Adjusted analyses will be performed using multiple linear regression.
DISCUSSION: Implications for maternal and child health and nutrition in India: DHANI is the first large pre- and post-natal maternal dietary supplementation trial in India. If the trial finds substantial benefit, it can serve as a learning to scale up the DHA intervention in the country.
TRIAL REGISTRATION: The trial is retrospectively registered at clinicaltrials.gov (NCT01580345 , NCT03072277) and ctri.nic.in (CTRI/2013/04/003540 , CTRI/2017/08/009296).

56: Khor WB, Prajna VN, Garg P, Mehta JS, Xie L, Liu Z, Padilla MDB, Joo CK, Inoue Y, Goseyarakwong P, Hu FR, Nishida K, Kinoshita S, Puangsricharern V, Tan AL, Beuerman R, Young A, Sharma N, Haaland B, Mah FS, Tu EY, Stapleton FJ, Abbott RL, Tan DT; ACSIKS Group. The Asia Cornea Society Infectious Keratitis Study: A Prospective Multicenter Study of Infectious Keratitis in Asia. Am J Ophthalmol. 2018 Nov;195:161-170. doi: 10.1016/j.ajo.2018.07.040. Epub 2018 Aug 9. PubMed PMID: 30098351.

PURPOSE: To survey the demographics, risk factors, microbiology, and outcomes for infectious keratitis in Asia.
DESIGN: Prospective, nonrandomized clinical study.
METHODS: Thirteen study centers and 30 sub-centers recruited consecutive subjects over 12-18 months, and performed standardized data collection. A microbiological protocol standardized the processing and reporting of all isolates. Treatment of the infectious keratitis was decided by the managing ophthalmologist. Subjects were observed for up to 6 months. Main outcome measures were final visual acuity and the need for surgery during infection.
RESULTS: A total of 6626 eyes of 6563 subjects were studied. The majority of subjects were male (n = 3992). Trauma (n = 2279, 34.7%) and contact lens wear (n = 704, 10.7%) were the commonest risk factors. Overall, bacterial keratitis was diagnosed in 2521 eyes (38.0%) and fungal keratitis in 2166 eyes (32.7%). Of the 2831 microorganisms isolated, the most common were Fusarium species (n = 518, 18.3%), Pseudomonas aeruginosa (n = 302, 10.7%), and Aspergillus flavus (n = 236, 8.3%). Cornea transplantation was performed in 628 eyes to manage ongoing infection, but 289 grafts (46%) had failed by the end of the study. Moderate visual impairment (Snellen vision less than 20/60) was documented in 3478 eyes (53.6%).
CONCLUSION: Demographic and risk factors for infection vary by country, but infections occur predominantly in male subjects and are frequently related to trauma. Overall, a similar percentage of bacterial and fungal infections were diagnosed in this study. Visual recovery after infectious keratitis is guarded, and corneal transplantation for active infection is associated with a high failure rate.

57: Kumar A, Das S, Chauhan S, Kiran U, Satapathy S. Perioperative Anxiety and Stress in Children Undergoing Congenital Cardiac Surgery and Their Parents: Effect of Brief Intervention-A Randomized Control Trial. J Cardiothorac Vasc Anesth. 2018 Aug 22. pii: S1053-0770(18)30823-1. doi: 10.1053/j.jvca.2018.08.187. [Epub ahead of print] PubMed PMID: 30243867.

OBJECTIVE: To know the effects of psychological preparation on perioperative stress, anxiety, and mood in children undergoing cardiac surgery and their parents.
DESIGN: Prospective randomized control nonblinded trial.

SETTING: Single-center tertiary teaching hospital.
PARTICIPANTS: A total of 60 children aged 5 to 15 years undergoing cardiac surgery were included in the study. One of the parents, preferably the father, was selected from the respective children.
INTERVENTIONS: Subjects were randomized into 2 groups: noninterventional (group 1) and interventional (group 2). Intervention was in the form of toys and video games in children, and counseling and information in parents. Preoperative and postoperative anxiety in parents was measured using the State-Trait Anxiety Inventory (STAI), stress using the Index of Clinical Stress (ICS) scale by Abell, and the Ottawa mood scale. In children, the STAI-C (child version of STAI), Ottawa mood and Ottawa stress scales, and Wong-Baker faces pain scale were applied and serum cortisol was measured.
MEASUREMENTS AND MAIN RESULTS: Group 2 children had significantly less ($p < 0.001$) stress, anxiety, and pain and improved mood. Group 2 parents had a significant reduction in state anxiety (42 ± 4.4 v 54.5 ± 7.8; $p < 0.001$) and ICS score (68.1±9.6 v 84.2 ± 9.2; $p < 0.001$) and an improvement in mood (7.5 ± 0.7 v 5.9 ± 1; $p < 0.001$) compared with group 1. Postoperatively, cortisol levels in group 2 were lower than group 1 (571.3 nmol/L [123.3 -1247.14] v 718.9 nmol/L [53-1642.0]).
CONCLUSION: Providing video games and toys preoperatively reduced postoperative stress and anxiety and improved mood in children undergoing congenital cardiac surgery. Parents were relieved of anxiety and stress with proper counseling and information.

58: Kumar A, Jat KR, Srinivas M, Lodha R. Nebulized N-Acetylcysteine for Management of Plastic Bronchitis. Indian Pediatr. 2018 Aug 15;55(8):701-703. PubMed PMID: 30218522.

BACKGROUND: Plastic bronchitis is characterized by formation of extensive obstructive endobronchial casts and high recurrence rates.
CASE CHARACTERISTICS: Two children (1-year-old girl, 7-year-old boy) who had recurrent episodes of respiratory distress with acute worsening. Bronchoscopy revealed membrane-like casts. Both children were managed with nebulized N-acetylcysteine in addition to management for asthma.
OUTCOME: Symptom-free without recurrence for more than 9 months of follow-up.
MESSAGE: Nebulized N- acetylcysteine may be helpful in prevention of recurrence of plastic bronchitis due to asthma.

59: Kumar A, Mutha V, Sundar DM. Commentary: Long-term efficacy and safety of verteporfin photodynamic therapy in combination with anti-vascular endothelial growth factor for polypoidal choroidal vasculopathy. Indian J Ophthalmol. 2018 Aug;66(8):1128-1129. doi: 10.4103/ijo.IJO_529_18. PubMed PMID: 30038156; PubMed Central PMCID: PMC6080469.

60: Kumar A, Sundar DM, Mutha V. Commentary: The changing scenario of cluster endophthalmitis. Indian J Ophthalmol. 2018 Aug;66(8):1079. doi: 10.4103/ijo.IJO_530_18. PubMed PMID: 30038145; PubMed Central PMCID: PMC6080435.

61: Kumar A, Nayak S, Pathak P, Purkait S, Malgulawar PB, Sharma MC, Suri V, Mukhopadhyay A, Suri A, Sarkar C. Identification of miR-379/miR-656 (C14MC) cluster downregulation and associated epigenetic and transcription regulatory mechanism in oligodendrogliomas. J Neurooncol. 2018 Aug;139(1):23-31. doi: 10.1007/s11060-018-2840-6. Epub 2018 Jun 21. PubMed PMID: 29931616; PubMed Central PMCID: PMC6061222.

INTRODUCTION: Although role of individual microRNAs (miRNAs) in the pathogenesis of gliomas has been well studied, their role as a clustered remains unexplored in gliomas.

METHODS: In this study, we performed the expression analysis of miR-379/miR-656 miRNA-cluster (C14MC) in oligodendrogliomas (ODGs) and also investigated the mechanism underlying modulation of this cluster.
RESULTS: We identified significant downregulation of majority of the miRNAs from this cluster in ODGs. Further data from The Cancer Genome Atlas (TCGA) also confirmed the global downregulation of C14MC. Furthermore, we observed that its regulation is maintained by transcription factor MEF2. In addition, epigenetic machinery involving DNA and histone-methylation are also involved in its regulation, which is acting independently or in synergy. The post-transcriptionally regulatory network of this cluster showed enrichment of key cancer-related biological processes such as cell adhesion and migration. Also, there was enrichment of several cancer related pathways viz PIK3 signaling pathway and glioma pathways. Survival analysis demonstrated association of C14MC (miR-487b and miR-409-3p) with poor progression free survival in ODGs.
CONCLUSION: Our work demonstrates tumor-suppressive role of C14MC and its role in pathogenesis of ODGs and therefore could be relevant for the development of new therapeutic strategies.

62: Kumar A, Ravani R, Mehta A, Simakurthy S, Dhull C. Outcomes of microscope-integrated intraoperative optical coherence tomography-guided center-sparing internal limiting membrane peeling for myopic traction maculopathy: a novel technique. Int Ophthalmol. 2018 Aug;38(4):1689-1696. doi: 10.1007/s10792-017-0644-x. Epub 2017 Jul 4. PubMed PMID: 28676991.

PURPOSE: To evaluate the outcomes of pars plana vitrectomy (PPV) with microscope-integrated intraoperative optical coherence tomography (I-OCT)-guided traction removal and center-sparing internal limiting membrane (cs-ILM) peeling.
METHODS: Nine eyes with myopic traction maculopathy as diagnosed on SD-OCT underwent PPV with I-OCT-guided cs-ILM peeling and were evaluated prospectively for resolution of central macular thickness (CMT) and improvement in best-corrected visual acuity (BCVA), and complications, if any, were noted. All patients were followed up for more than 9 months.
RESULTS: Resolution of the macular retinoschisis was seen in all nine eyes on SD-OCT. At 36 weeks, there was a significant improvement in mean BCVA from the preoperative BCVA (P = 0.0089) along with a reduction in the CMT from 569.77 ± 263.19 to 166.0 ± 43.91 um (P = 0.0039). None of the eyes showed worsening of BCVA or development of full-thickness macular hole in the intraoperative or follow-up period.
CONCLUSION: PPV with I-OCT-guided cs-ILM peeling helps in complete removal of traction, resolution of retinoschisis and good functional recovery with low intraoperative and postoperative complications.

63: Kumar D, Hussain A, Srivastava AK, Mukerji M, Mukherjee O, Faruq M. Generation of three spinocerebellar ataxia type-12 patients derived induced pluripotent stem cell lines (IGIBi002-A, IGIBi003-A and IGIBi004-A). Stem Cell Res. 2018 Aug;31:216-221. doi: 10.1016/j.scr.2018.08.008. Epub 2018 Aug 14. PubMed PMID: 30130680.

Spinocerebellar ataxia type-12 (SCA12) is a neurological disorder caused due to triplet (CAG) repeat expansion in 5' UTR of PPP2R2B. It is one of the most prominent SCA-subtype in Indian population and till date no patient specific models have been described. Human-induced-pluripotent-stem cell (HiPSC) based disease modelling has become the next generation tool for studying various human pathologies. In the present study we established three SCA12 patient specific iPSC lines. All the generated lines have shown pluripotency markers, normal karyotype, in-vitro three germ layers differentiation potential, vector clearance, SCA12 mutation, parental genomic identity and contamination free culture.

64: Kumar P, Ravani R, Kakkar P, Sharma A, Kumar A. Crystalline retinopathy association with flupentixol intake. Int Ophthalmol. 2018 Aug;38(4):1769-1773. doi: 10.1007/s10792-017-0624-1. Epub 2017 Jul 4. PubMed PMID: 28676993.

AIM: To report the first case report of an association between flupentixol and crystalline retinopathy.
STUDY DESIGN: Observational, Case report.
CASE REPORT: We report a case of crystalline retinopathy in a 36-year-old female who was suffering from depression and being treated with tablet flupentixol in a cumulative dose of 4380 mg over two years. Fundus examination of both eyes showed multiple, discrete, yellowish white refractile intraretinal deposits over the macula and peripapillary region, located in the inner retina as shown by OCT.
CONCLUSION: We propose regular retinal evaluation in patients with chronic flupentixol intake and larger studies to establish causal relationship between flupentixol and crystalline retinopathy.

65: Kumar R, Kumar S, Gogia A, Kakkar A, Mathur SR. Laryngeal metastases from breast cancer: A rare clinical entity. Curr Probl Cancer. 2019 Apr;43(2):130-134. doi: 10.1016/j.currproblcancer.2018.07.010. Epub 2018 Aug 4. PubMed PMID: 30119910.

Breast cancer is the most common malignancy in females. The common site for metastases is bone, lungs, liver, and regional lymph nodes. Larynx as a metastatic site from breast cancer is extremely rare. The authors report a 63-year-old female treated for carcinoma of right breast 5 years back who presented with hoarseness of voice. Clinicoradiological examination revealed a soft tissue lesion in larynx. Pathological evaluation of the laryngeal lesion revealed metastases secondary to breast cancer. The patient received systemic chemotherapy and local radiotherapy. Patients with a history of breast cancer presenting with hoarseness and shortness of breath should not only be evaluated for laryngeal primary but also for metastases. This case is reported in view of rarity of the case with laryngeal metastases from breast cancer masquerading as primary laryngeal disease. To the best of our knowledge, less than 20 cases of laryngeal metastases from breast cancer had been reported in literature till date. Patients with a history of breast cancer presenting with hoarseness and shortness of breath should not only be evaluated for laryngeal primary but also for metastases. Once the diagnosis is confirmed, the treatment of laryngeal metastases is multidisciplinary. Recognizing metastatic disease and prompt early treatment are very important to improve the quality of life.

66: Kumar R, Singh A, Sagar P, Behera C, Kumar R. Access to Round Window Niche via Posterior Tympanotomy and Impact of Drilling Its Overhangs: A Cadaveric Descriptive Study. Indian J Otolaryngol Head Neck Surg. 2018 Dec;70(4):510-514. doi: 10.1007/s12070-018-1469-2. Epub 2018 Aug 25. PubMed PMID: 30464907; PubMed Central PMCID: PMC6224826.

We intended to study the morphological parameters of round window region and assess the gain in exposure achieved by drilling the round window niche overhang. The Exposure of the round window membrane (RWM) is of prime importance to carry out atraumatic electrode insertion for cochlear implantation. The anatomy of round window has been a subject of considerable debate in literature. Fifty-one Formalin preserved adult cadaveric temporal bones were micro-dissected to carry out an 'optimal' posterior tympanotomy to expose the round window region. The bony overhangs of round window niche (RWN) were next drilled to achieve maximal possible exposure the RWM without violating the annulus of the same. The exposure was classified as per St Thomas' Hospital classification. The round window could not be visualized in 3 bones (5.9%). The commonest morphology of RWN was dome

shaped, found in 18 (37.5%) and that of the RWM was oval shaped, found in 14 (29.2%) bones. Pre drilling 41 bones had a >50% exposure of RWM while post drilling >50% exposure could be achieved in all the bones except the 3 bones in which RWN could not be visualized to begin with. The drilling of the RWN overhangs exposed RWM in entirety in 91.7% of bones with a visible morphology of RWN pre drilling. RWN and RWM exhibit varied morphology. Drilling of the round window niche overhangs can considerably enhance the exposure of RWM.

67: Kumar R, Kumari R, Khan L, Sankhyan A, Parray HA, Tiwari A, Wig N, Sinha S, Luthra K. Isolation and Characterization of Cross-Neutralizing Human Anti-V3 Single-Chain Variable Fragments (scFvs) Against HIV-1 from an Antigen Preselected Phage Library. Appl Biochem Biotechnol. 2018 Aug 28. doi: 10.1007/s12010-018-2862-8. [Epub ahead of print] PubMed PMID: 30151637.

Recently conducted human phase- I trials showed protective effect of anti-HIV-1 broadly neutralizing antibodies (bnAbs). The V3 region of the HIV-1 envelope is highly conserved as it is the co-receptor binding site, and is highly immunogenic. Recombinant single-chain antibody fragments (scFvs) can serve as potential tools for construction of chimeric/bispecific antibodies that can target different epitopes on the HIV-1 envelope. Previously, we have constructed a V3 specific human scFv phage recombinant library by a combinational approach of Epstein-Barr virus (EBV) transformation and antigen (V3) preselection, using peripheral blood mononuclear cells (PBMCs), from a subtype C HIV-1 infected antiretroviral naive donor. In the present study, by biopanning this recombinant scFv phage library with V3B (subtype B) and V3C (subtype C) peptides, we identified unique cross reactive anti-V3 scFv monoclonals. These scFvs demonstrated cross-neutralizing activity when tested against subtype A, subtype B, and subtype C viruses. Further, molecular modeling of the anti-V3 scFvs with V3C and V3B peptides predicted their sites of interaction with the scFvs, providing insights for future immunogen design studies. A large collection of such monoclonal antibody fragments with diverse epitope specificities can be useful immunotherapeutic reagents along with antiretroviral drugs to prevent HIV-1 infection and disease progression.

68: Kumar S, Singh MB, Kumar A, Shukla G, Padma Srivastava MV, Goyal V, V Y V. Are epilepsy patients bypassing primary care? A cross-sectional study from India. Seizure. 2018 Aug;60:149-154. doi: 10.1016/j.seizure.2018.07.001. Epub 2018 Jul 4. PubMed PMID: 29990708.

PURPOSE: Lack of epilepsy primary and secondary care and an arbitrary referral system causes many epilepsy patients to seek tertiary care even when they may not need it. This causes overcrowding, increased waiting times and also compromises the quality of tertiary care. We conducted this study to identify what proportion of epilepsy patients presenting to tertiary care actually needed it.
METHODS: To test appropriateness of candidacy for tertiary care, we formulated Modified NICE criteria (MNC) based on NICE criteria. Modified NICE criteria were used to dichotomize participants into two groups: a) those who needed tertiary care and b) those who did not need tertiary care. We also looked at agreement between MNC and original NICE criteria.
RESULTS: Four hundred and twenty two patients were recruited. According to the MNC, 240 patients (57%) qualified for tertiary care while 182 (43%) did not. The agreement between MNC and original NICE criteria was 86.7%, kappa 0.73(95% CI 0.66-0.79, $p < 0.001$). The most frequently cited reason for seeking tertiary care was 'Unsatisfactory response to treatment', although; many of these patients were actually non-adherent to treatment. Amongst variables that predicted non-eligibility for tertiary care, the most important was not having been referred.

CONCLUSION: Many epilepsy patients seeking tertiary care do not need it. Access and quality of epilepsy care can be improved if there is a rational and need-based distribution of patients between primary, secondary and tertiary care. Referral systems also need to be developed and used to transition patients from one level of care to another.

69: Kumar S, Singh S, Parmar A, Verma R, Kumar N. Effect of high-frequency repetitive transcranial magnetic stimulation (rTMS) in patients with comorbid panic disorder and major depression. Australas Psychiatry. 2018 Aug;26(4):398-400. doi: 10.1177/1039856218771517. Epub 2018 May 8. PubMed PMID: 29737182.

OBJECTIVE: To explore the role of dorsolateral prefrontal cortex (DLPFC) stimulation in the treatment of panic disorder with comorbid depression.
METHODS: The present study reports findings from retrospective analysis of 13 treatment-resistant patients diagnosed with comorbid panic disorder and depression, given 20 sessions of high-frequency transcranial magnetic stimulation (rTMS) over left-DLPFC over a period of 1 month.
RESULTS: There was a significant reduction in both the panic and depressive symptom severity, assessed by applying Panic Disorder Severity Scale (PDSS) and Hamilton Depression Rating Scale (HDRS) at baseline and after 20 sessions of rTMS. There was a 38% and 40% reduction of PDSS and HDRS scores, respectively, in the sample. The changes in PDSS and HDRS scores were not significantly correlated ($\rho = -0.103$, $p = 0.737$).
CONCLUSIONS: High-frequency rTMS delivered at left-DLPFC may have a potential role in treatment of comorbid panic disorder and depression. Future studies done on a larger sample in a controlled environment are required to establish its role.

70: Kumar V, Chawla A, Kaur A. Multiple Idiopathic Cervical Root Resorptions in Patients with Hepatitis B Virus Infection. J Endod. 2018 Oct;44(10):1575-1577. doi: 10.1016/j.joen.2018.06.017. Epub 2018 Aug 23. PubMed PMID: 30144987.

Multiple idiopathic cervical root resorptions are a rare finding. The diagnosis is perplexing, and treatment is a challenge. It is a debilitating condition that often leads to extraction of all the involved teeth. Various theories have been given for explanation of the disease entity; however, the etiology remains elusive. This report describes a case of an 18-year-old man with idiopathic cervical resorption that progressed aggressively and involved 20 teeth. The medical history of hepatitis B virus infection made this case unique in the literature. The mechanism of increased osteoclastic activity in patients with hepatitis B virus infection is discussed as a predisposing factor for the development of root resorption.

71: Kumar V, Chatra K. Fibrotic pillar leads to focal choroidal excavation in Best vitelliform dystrophy. Graefes Arch Clin Exp Ophthalmol. 2018 Nov;256(11):2083-2087. doi: 10.1007/s00417-018-4120-8. Epub 2018 Aug 31. PubMed PMID: 30171352.

PURPOSE: To study focal choroidal excavations in patients with Best vitelliform dystrophy using optical coherence tomography and their topographical relation with fibrotic pillars.
METHODS: This is a retrospective cross-sectional study of consecutive patients diagnosed with Best vitelliform dystrophy at a tertiary eye care center. Records of patients with Best vitelliform dystrophy were reviewed for best-corrected visual acuity, color fundus photographs, shortwave autofluorescence, optical coherence tomography, and electrooculogram with special emphasis on the presence of focal choroidal excavation (FCE) and fibrotic pillar. Main outcome measure was

to study the fibrotic pillar in relation to the FCE.
RESULTS: Thirty-eight eyes of 19 patients with mean age of 34.6 years were enrolled in the study. FCE was seen in eight eyes of six patients. Two patients had bilateral FCE and all the FCEs were located in the area of vitelliform lesion. Six out of eight eyes with FCE were in vitelliruptive stage of disease; one was in pseudohypopyon stage and one in atrophic stage. A fibrotic pillar was seen lying directly above the FCE in seven eyes. In one eye, hyper-reflective material not amounting to fibrotic pillar was seen lying above the FCE.
CONCLUSION: A focal choroidal excavation in the setting of Best vitelliform dystrophy is seen predominantly in the vitelliruptive stage of the disease. Fibrotic pillars appear to play a role in the formation of these FCEs.

72: Kumar V, Gupta PN, Christy MC, Azad SV. Retinal incarceration in the needle perforation track. Indian J Ophthalmol. 2018 Aug;66(8):1194. doi: 10.4103/ijo.IJO_517_18. PubMed PMID: 30038178; PubMed Central PMCID: PMC6080463.

73: Kumawat D, Sachan A, Sahay P, Kumar V. Delayed presentation of post-traumatic pseudo-phacocoele. BMJ Case Rep. 2018 Aug 16;2018. pii: bcr-2018-226957. doi: 10.1136/bcr-2018-226957. PubMed PMID: 30115730.

74: Kusuma YS, Babu BV. Migration and health: A systematic review on health and health care of internal migrants in India. Int J Health Plann Manage. 2018 Oct;33(4):775-793. doi: 10.1002/hpm.2570. Epub 2018 Aug 3. Review. PubMed PMID: 30074640.

The objective of this paper is to review published studies on various health conditions and health care access of internal migrants in India. The guidelines under PRISMA Statement for Reporting Systematic Reviews and Meta-Analysis were followed. We searched 3 databases-Web of Science, Medline (PubMed), and Google Scholar. By applying selection criteria, we identified a total of 42 papers to include in the review. These studies reported various health problems/morbid conditions, and some studies reported health care access. Major health issues of poor migrants included work-related injuries, noncommunicable diseases like diabetes and hypertension, and communicable diseases like malaria and HIV. In addition, behavioural risks such as the use of tobacco and alcohol are reported. Information on health care seeking and poor access to government health care system are available. This review demonstrates the need to improve the health status and health care access of poor migrants. As health systems-related factors also influence the health care seeking behaviour, they are to be considered along with improving the living conditions of this population. Thus, a comprehensive migrant-sensitive health care should be the part of the urban health care system.

75: Mahalingam K, Chaurasia AK, Gowtham L, Gupta S, Somarajan BI, Velpandian T, Sihota R, Gupta V. Therapeutic potential of valproic acid in advanced glaucoma: A pilot study. Indian J Ophthalmol. 2018 Aug;66(8):1104-1108. doi: 10.4103/ijo.IJO_108_18. PubMed PMID: 30038151; PubMed Central PMCID: PMC6080453.

Purpose: Oral valproic acid (VPA) used as an anticonvulsant has been shown to improve contrast threshold sensitivities in patients receiving it on long-term. This study aimed to evaluate the efficacy of oral VPA in improving visual function in eyes with advanced stage glaucoma.
Methods: In this prospective randomized study, 31 patients (n = 31 eyes) with advanced stage glaucoma (with an intraocular pressure <16 mmHg) in at least one eye received oral VPA 500 mg once a day for 3 months and 33 patients (n = 33 eyes) continued on glaucoma therapy. Patients were followed up at 3 and 12 months (to evaluate the legacy effect of the drug). Blood VPA concentrations were measured at 3 months. Following parameters were assessed at baseline, 3 months and 12 months: log of the minimum angle of resolution (LogMAR) visual acuity,

mean deviation on visual fields, and multifocal electroretinogram (ERG).
Results: Median LogMar visual acuity in the VPA group improved from 0.3 at baseline to 0.18 and 0.18 at 3 and 12 months, respectively (P < 0.01). In comparison, the median visual acuity in control group at baseline was 0.18 and showed neither worsening nor improvement over 3 and 12 months (P = 0.56). The improvement in VPA group was significant compared to the control group (P < 0.01; Wilcoxon Signed-rank test). An improvement in one line was experienced in 11 out of 31 eyes in the VPA group compared to 1 out of 33 eyes among controls (P = 0.003). No significant improvement was noted in the mean deviation, and the multifocal ERG (Latency and amplitudes) in the VPA-treated patients. The average blood VPA concentration measured at 3 months of therapy was 26 ± 8.9 µg/ml (range 8-55 µg/ml) which is much lower than that achieved during anticonvulsant therapy. None of the patients complained of any adverse effects that required stopping VPA therapy.
Conclusion: A 3 months oral VPA therapy results in some improvement in visual acuity in a subgroup of eyes with advanced glaucoma and the effect was seen to persist 9 months after the drug was stopped.

76: Malhotra R, Gautam D. 'Weeping Leg'. BMJ Case Rep. 2018 Aug 27;2018. pii: bcr-2018-225567. doi: 10.1136/bcr-2018-225567. PubMed PMID: 30150342.

77: Mallick S, Benson R, Melgandi W, Giridhar P, Rath GK. Grade II Pleomorphic Xanthoastrocytoma; a meta-analysis of data from previously reported 167 cases. J Clin Neurosci. 2018 Aug;54:57-62. doi: 10.1016/j.jocn.2018.05.003. Epub 2018 May 24. Review. PubMed PMID: 29803334.

Pleomorphic Xanthoastrocytoma [PXA] is a rare low grade glial tumor commonly affecting young adults. We did this systematic review and meta-analysis to identify prognostic factors and optimal treatment in these patients. A thorough search of the PubMed, Google scholar was made to find all possible publications related to grade II PXA. A total of 167 patients from 89 articles were included in the analysis. Median age of the entire cohort was 20 years. Headache was the most common presentation in 49.1% of the patients followed by seizure in 27.9%. Temporal lobe was the most common location of the tumor. 63% patents underwent a gross total resection [GTR] and 26.7% underwent a sub total excision [STR]. Adjuvant radiation was given to 17.6% of patients. Median follow-up for the entire cohort was 33 months. Estimated median overall survival [OS] for the entire cohort was 209.0 months [96% CI: 149.7-268.3]. Estimated median progression free survival [PFS] was 48 months [95% CI: 31.9-64.0]. In univariate and multivariate analysis younger patients and patients who underwent a GTR had a significantly better survival outcome. Use of adjuvant therapy was not found to be a significant factor affecting PFS or OS. Radiotherapy was used in salvage treatment in 76.1% of the patients. Younger patients and patients who undergo a GTR, have better survival outcomes. There is inadequate evidence to recommend routine adjuvant radiation or chemotherapy in all patients with grade II PXA.

78: Mehrotra R, Tulsyan S, Hussain S, Mittal B, Singh Saluja S, Singh S, Tanwar P, Khan A, Javle M, Hassan MM, Pant S, De Aretxabala X, Sirohi B, Rajaraman P, Kaur T, Rath GK. Genetic landscape of gallbladder cancer: Global overview. Mutat Res. 2018 Oct - Dec;778:61-71. doi: 10.1016/j.mrrev.2018.08.003. Epub 2018 Aug 23. Review. PubMed PMID: 30454684.

Gallbladder cancer (GBC) is a rare malignancy of biliary tract cancer (BTC), characterized by late presentation and poor prognosis. It exhibits wide geographical as well as ethnical variations. So, diverse epidemiology along with etiological factors have been discussed in the current article. Present review unravels the germ line polymorphisms contributing to GBC susceptibility through

candidate gene approach and GWAS. GBC is enriched with multiple mutations consisting of both passenger and driver mutations. The identification of the hotspot driver mutations which are involved in the etiopathogenesis of this cancer is necessary, before targeted therapies could be implemented clinically. Thus, this review sheds lights on both traditional low throughput methods along with high throughput NGS used to determine somatic mutations in cancer. With the advent of GWAS and high throughput sequencing methods, it is possible to comprehend the mutational landscape of this enigmatic disease. This article is the first one to provide insights into the genetic heterogeneity of GBC along with somatic mutational data from Catalogue of Somatic Mutations in Cancer (COSMIC) database. In addition, management of tumor heterogeneity as a therapeutic challenge has been discussed. Future goals involve liquid biopsy based research for better clinical management of the disease. Therefore, research efforts involving discovery of non- invasive markers for early stage cancer detection along with novel therapies should be directed.

79: Menon V, Kattimani S, Sarkar S, Sathyanarayanan G, Subramanian K, Velusamy SK. Age at onset of first suicide attempt: Exploring the utility of a potential candidate variable to subgroup attempters. Asian J Psychiatr. 2018 Oct;37:40-45. doi: 10.1016/j.ajp.2018.08.006. Epub 2018 Aug 6. PubMed PMID: 30107315.

PURPOSE: Our objective was to explore the utility of age at first suicide attempt in identifying subgroups of suicide attempters.
METHODS: In a retrospective study design, we collected information from the clinical charts of 895 patients assessed over a seven-year period. Admixture analysis was used to determine the best fitting theoretical model for distribution of age at first attempt that divided the sample. Subsequently, multivariate analysis was performed to identify variables that distinguished the subgroups identified.
RESULTS: The theoretical solution that best explained the observed distribution of age at first suicide attempt was a mixture of two Gaussian distributions with a cut-off of 31 years for the two subgroups. In logistic regression analysis, male gender (Odds ratios [OR] 3.047, 95% Confidence Interval (CI) 1.818-5.106), fewer years of formal schooling (OR 3.384, 95% CI 1.701-6.734) and being married (OR 23.36, 95% CI 10.753-50.000), were more commonly associated with the late onset subgroup (age at first attempt >31 years). Further, the late onset subgroup had poorer global functioning (OR 0.980, 95% CI 0.962 to 0.998).
CONCLUSION: Age at onset of first suicide attempt is a useful candidate marker to delineate an early and late onset subgroup among suicide attempters. These results are likely to inform customization of suicide prevention strategies.

80: Mishra B, Joshi MK, Gupta B, Farooque K. Internal iliac artery transposition for vascular reconstruction in a patient with life-threatening iatrogenic common iliac artery injury. BMJ Case Rep. 2018 Aug 20;2018. pii: bcr-2016-219138. doi: 10.1136/bcr-2016-219138. PubMed PMID: 30131408.

Major vascular injury during surgery is life threatening and can be a nightmare for any surgeon.We share our experience of a 42-year-old woman where right common iliac artery and both common iliac veins were accidentally injured during lumbar discectomy leading to haemorrhagic shock. Patient was resuscitated and explored. A 4 cm segment of right common iliac artery was found lacerated along with perforations of both iliac veins. Proximal segment of internal iliac artery was mobilised quickly and vascular continuity was restored by end-to-end anastomosis of this segment to the proximal segment of common iliac artery after excising the damaged segment. Iliac veins were repaired primarily. Patient made an uneventful recovery. We share this technique as it was found expeditious and effective and may benefit surgeons working in this field.

81: Mittal S, Madan K. Bronchial Stenosis: Another "Rheumatoid" Pulmonary Manifestation. Chest. 2018 Aug;154(2):462-464. doi: 10.1016/j.chest.2018.01.058. PubMed PMID: 30080515.

82: Nadella V, Singh S, Jain A, Jain M, Vasquez KM, Sharma A, Tanwar P, Rath GK, Prakash H. Low dose radiation primed iNOSâ€‰+â€‰M1macrophages modulate angiogenic programming of tumor derived endothelium. Mol Carcinog. 2018 Nov;57(11):1664-1671. doi: 10.1002/mc.22879. Epub 2018 Aug 10. PubMed PMID: 30035346.

Solid tumors are covered by stroma, which is hypoxic in nature and composed of various non-malignant components such as endothelial cells, fibroblasts, and pericytes that support tumor growth. Tumor stroma represents a mechanical barrier for tumor infiltration of CD8+ effector T cells in particular. In this context, our previous studies have demonstrated the therapeutic impact of Low-Dose Radiation (LDR)-primed and M1-retuned (iNOS+) peritumoral macrophages that produce inducible nitric oxide, have immunological roles on tumor infiltration of effector T cells, cancer-related inflammation, and subsequent tumor immune rejection in a mouse model of pancreatic cancer. These findings suggested a possible modification of tumor endothelium by LDR-primed macrophages. In line with these observations, here we demonstrate the influence of LDR in down-modulating HIF-1 in irradiated tumors in the course of polarization of irradiated tumor-associated macrophages toward an M1 phenotype. Furthermore, we demonstrate that M1 macrophages which are primed by LDR can directly influence angiogenic responses in eNOS+ endothelial cells which produce nitric oxide having both vascular and physiological roles. Furthermore, we demonstrate that naïve macrophages, upon differentiating to an M1 phenotype either by Th1 stimuli or LDR, potentially modify sphingosine-1-phosphate/VEGF-induced angiogenic signaling in tumor-derived endothelial cells with tumorigenic potential, thus indicating the significance of iNOS+ macrophages in modulating signaling in eNOS+ tumor-derived endothelium. Our study suggests that iNOS+ macrophages can activate tumor endothelium which may contribute to cancer-directed immunotherapy in particular.

83: Global Burden of Disease 2016 Injury Collaborators, Naghavi M, Marczak LB, Kutz M, Shackelford KA, Arora M, Miller-Petrie M, Aichour MTE, Akseer N, Al-Raddadi RM, Alam K, Alghnam SA, Antonio CAT, Aremu O, Arora A, Asadi-Lari M, Assadi R, Atey TM, Avila-Burgos L, Awasthi A, Ayala Quintanilla BP, Barker-Collo SL, BÃ¤rnighausen TW, Bazargan-Hejazi S, Behzadifar M, Behzadifar M, Bennett JR, Bhalla A, Bhutta ZA, Bilal AI, Borges G, Borschmann R, Brazinova A, Campuzano Rincon JC, Carvalho F, CastaÃ±eda-Orjuela CA, Dandona L, Dandona R, Dargan PI, De Leo D, Dharmaratne SD, Ding EL, Phuc Do H, Doku DT, Doyle KE, Driscoll TR, Edessa D, El-Khatib Z, Endries AY, Esteghamati A, Faro A, Farzadfar F, Feigin VL, Fischer F, Foreman KJ, Franklin RC, Fullman N, Futran ND, Gebrehiwot TT, GutiÃ©rrez RA, Hafezi-Nejad N, Haghparast Bidgoli H, Hailu GB, Haro JM, Hassen HY, Hawley C, Hendrie D, HÃ-jar M, Hu G, Ilesanmi OS, Jakovljevic M, James SL, Jayaraman S, Jonas JB, Kahsay A, Kasaeian A, Keiyoro PN, Khader Y, Khalil IA, Khang YH, Khubchandani J, Ahmad Kiadaliri A, Kieling C, Kim YJ, Kosen S, Krohn KJ, Kumar GA, Lami FH, Lansingh VC, Larson HJ, Linn S, Lunevicius R, Magdy Abd El Razek H, Magdy Abd El Razek M, Malekzadeh R, Carvalho Malta D, Mason-Jones AJ, Matzopoulos R, Memiah PTN, Mendoza W, Meretoja TJ, Mezgebe HB, Miller TR, Mohammed S, Moradi-Lakeh M, Mori R, Nand D, Tat Nguyen C, Le Nguyen Q, Ningrum DNA, Akpojene Ogbo F, Olagunju AT, Patton GC, Phillips MR, Polinder S, Pourmalek F, Qorbani M, Rahimi-Movaghar A, Rahimi-Movaghar V, Rahman M, Rai RK, Ranabhat CL, Rawaf DL, Rawaf S, Rowhani-Rahbar A, Safdarian M, Safiri S, Sagar R, Salama JS, Sanabria J, Santric Milicevic MM, Sarmiento-SuÃ¡rez R, Sartorius B, Satpathy M, Schwebel DC, Seedat S, Sepanlou SG, Shaikh MA, Sharew NT, Shiue I, Singh JA, Sisay M, Skirbekk V, Soares Filho AM, Stein DJ, Stokes MA, Sufiyan MB, Swaroop M,

Sykes BL, TabarÃ©s-Seisdedos R, Tadese F, Tran BX, Thanh Tran T, Ukwaja KN, Vasankari TJ, Vlassov V, Werdecker A, Ye P, Yip P, Yonemoto N, Younis MZ, Zaidi Z, El Sayed Zaki M, Hay SI, Lim SS, Lopez AD, Mokdad AH, Vos T, Murray CJL. Global Mortality From Firearms, 1990-2016. JAMA. 2018 Aug 28;320(8):792-814. doi: 10.1001/jama.2018.10060. Erratum in: JAMA. 2018 Sep 25;320(12):1288. PubMed PMID: 30167700; PubMed Central PMCID: PMC6143020.

Importance: Understanding global variation in firearm mortality rates could guide prevention policies and interventions.
Objective: To estimate mortality due to firearm injury deaths from 1990 to 2016 in 195 countries and territories.
Design, Setting, and Participants: This study used deidentified aggregated data including 13 812 location-years of vital registration data to generate estimates of levels and rates of death by age-sex-year-location. The proportion of suicides in which a firearm was the lethal means was combined with an estimate of per capita gun ownership in a revised proxy measure used to evaluate the relationship between availability or access to firearms and firearm injury deaths.
Exposures: Firearm ownership and access.
Main Outcomes and Measures: Cause-specific deaths by age, sex, location, and year.
Results: Worldwide, it was estimated that 251 000 (95% uncertainty interval [UI], 195 000-276 000) people died from firearm injuries in 2016, with 6 countries (Brazil, United States, Mexico, Colombia, Venezuela, and Guatemala) accounting for 50.5% (95% UI, 42.2%-54.8%) of those deaths. In 1990, there were an estimated 209 000 (95% UI, 172 000 to 235 000) deaths from firearm injuries. Globally, the majority of firearm injury deaths in 2016 were homicides (64.0% [95% UI, 54.2%-68.0%]; absolute value, 161 000 deaths [95% UI, 107 000-182 000]); additionally, 27% were firearm suicide deaths (67 500 [95% UI, 55 400-84 100]) and 9% were unintentional firearm deaths (23 000 [95% UI, 18 200-24 800]). From 1990 to 2016, there was no significant decrease in the estimated global age-standardized firearm homicide rate (-0.2% [95% UI, -0.8% to 0.2%]). Firearm suicide rates decreased globally at an annualized rate of 1.6% (95% UI, 1.1-2.0), but in 124 of 195 countries and territories included in this study, these levels were either constant or significant increases were estimated. There was an annualized decrease of 0.9% (95% UI, 0.5%-1.3%) in the global rate of age-standardized firearm deaths from 1990 to 2016. Aggregate firearm injury deaths in 2016 were highest among persons aged 20 to 24 years (for men, an estimated 34 700 deaths [95% UI, 24 900-39 700] and for women, an estimated 3580 deaths [95% UI, 2810-4210]). Estimates of the number of firearms by country were associated with higher rates of firearm suicide ($P < .001$; $R2 = 0.21$) and homicide ($P < .001$; $R2 = 0.35$).
Conclusions and Relevance: This study estimated between 195 000 and 276 000 firearm injury deaths globally in 2016, the majority of which were firearm homicides. Despite an overall decrease in rates of firearm injury death since 1990, there was variation among countries and across demographic subgroups.

84: Nagori SA, Jose A, Gopalakrishnan V, Roy ID, Chattopadhyay PK, Roychoudhury A. The efficacy of dextrose prolotherapy over placebo for temporomandibular joint hypermobility: A systematic review and meta-analysis. J Oral Rehabil. 2018 Dec;45(12):998-1006. doi: 10.1111/joor.12698. Epub 2018 Aug 3. Review. PubMed PMID: 30024045.

OBJECTIVE: The aim of the systematic review was to analyse the available evidence in order to assess the efficacy of dextrose prolotherapy in improving outcomes in temporomandibular joint (TMJ) hypermobility patients as compared to placebo.
METHODS: An electronic search of PubMed, Scopus, CENTRAL and Google scholar databases was performed for English language papers published up to February

2018. Randomised clinical trials (RCTs) and controlled clinical trials (CCTs) comparing dextrose prolotherapy with placebo for TMJ hypermobility were included. RESULTS: Three RCTs were included in the review. Frequency of subluxation/dislocation was reported by two trials which found no difference between dextrose and placebo. A statistical significant difference in reduction of MMO with the use of dextrose prolotherapy was seen on pooling of data (random: MD = -3.32, 95% CI -5.26 to -1.28; P = 0.0008; I2 = 0%). A statistical significant difference in pain reduction was also seen with dextrose as compared to placebo (random: MD = -1, 95% CI -1.58 to -0.42; P = 0.0007; I2 = 0%). CONCLUSION: Within the limitations of the study, dextrose prolotherapy may cause significant reduction in mouth opening and pain associated with TMJ hypermobility. Conclusions with regard to reduction of episodes of subluxation/dislocation cannot be drawn. There is a need of more high-quality RCTs with larger sample size and homogenous prolotherapy protocol to draw stronger conclusions on the effect of dextrose prolotherapy in patients with TMJ hypermobility.

85: Naik A, Singh B, Yadav R, Pandurangi U, Kler TS, Shankar B, Radhakrishnan R, Rajan V, Bhatia V, Kaul U, Varma J, Dora S, Narasimhan C. Cardiac resynchronization therapy is associated with improvement in clinical outcomes in Indian heart failure patients: Results of a large, long-term observational study. Indian Heart J. 2018 Dec;70 Suppl 3:S377-S383. doi: 10.1016/j.ihj.2018.07.010. Epub 2018 Aug 25. PubMed PMID: 30595293; PubMed Central PMCID: PMC6310707.

BACKGROUND: Heart failure (HF) is a common health problem in South Asia, and its incidence and prevalence are projected to rise. Cardiac resynchronization therapy (CRT) has been shown to improve mortality, reduce hospitalizations, and improve symptoms in selected patients with HF. The South Asian Systolic Heart Failure Registry (SASHFR) was designed to be a large and comprehensive registry of Indian HF patients with the purpose of enhancing the quality of care and clinical outcomes of HF patients by promoting the adoption of evidence-based, guideline-recommended therapies, in particular CRT.
METHODS: Overall, 471 patients on optimized medical therapy and meeting CRT implantation guidelines were followed up in 12 Indian hospitals. During the 2-year follow-up period, clinical response in terms of clinical composite score, overall performance and changes in HF performance metrics, mortality and hospitalizations rates were evaluated.
RESULTS: Of 471 patients, 116 (24.6%) accepted to be implanted with a CRT device, while 355 (75.4%) refused, financial constraints being the main reason for refusing a CRT device. The study met its primary outcome, as the number of patients associated with an improvement in clinical composite score at 24 months was significantly higher (69.1%) in the CRT group than in the no-CRT group (44.7%) [odds ratio = 2 (95% confidence interval 1.25-3.20), p = 0.004]. Also, changes in HF metrics, mortality and hospitalizations rates indicated a more favorable response among patients who underwent CRT.
CONCLUSIONS: The results from the SASHFR registry show a clear superiority of CRT over optimal pharmacological therapy in terms of improvement in clinical conditions among HF patients. The low rate of CRT acceptance, in patients indicated to this therapy, highlights the need for new health-care policies to improve awareness about HF disease and its therapies and possibly to enhance financial coverage of indicated therapies.

86: Natarajan H, Kumar L, Bakhshi S, Sharma A, Velpandian T, Kabra M, Gogia A, Ranjan Biswas N, Gupta YK. Imatinib trough levels: a potential biomarker to predict cytogenetic and molecular response in newly diagnosed patients with chronic myeloid leukemia. Leuk Lymphoma. 2018 Aug 20:1-8. doi: 10.1080/10428194.2018.1485907. [Epub ahead of print] PubMed PMID: 30124353.

Therapeutic drug monitoring of imatinib in patients with chronic myeloid leukemia (CML) is an ongoing debate. We studied the influence of imatinib trough levels on therapeutic response in 206 newly diagnosed patients with CML. We also compared the drug levels in patients taking branded and generic imatinib. Imatinib levels were measured using liquid chromatography-tandem mass spectrometry (LC-MS/MS). Marked inter-individual variability was seen in imatinib levels (coefficient of variation = 69%). Trough levels were significantly higher in patients who attained complete cytogenetic response than those who did not (2213.9±1101 vs. 1648.6±1403.4ng/mL; p<.001). Patients with major molecular response (MMR) had higher trough levels than those without MMR (2333.4±1112 vs. 1643.4±1383.9ng/mL; p=.001). Patients with trough levels ≤1000ng/mL were at high risk for failure of imatinib therapy [RR =1.926; 95%CI (1.562, 2.374); p<.001]. Trough levels emerged as an independent predictor of imatinib response in multivariate analysis. To conclude, imatinib trough levels significantly influence cytogenetic and molecular response and might emerge as a potential biomarker for therapeutic response in CML.

87: Negi N, Mojumdar K, Singh R, Sharma A, Das BK, Sreenivas V, Vajpayee M. Comparative Proliferation Capacity of Gag-C-Specific Naive and Memory CD4+ and CD8+ T Lymphocytes in Rapid, Viremic Slow, and Slow Progressors During Human Immunodeficiency Virus Infection. Viral Immunol. 2018 Sep;31(7):513-524. doi: 10.1089/vim.2018.0012. Epub 2018 Aug 29. PubMed PMID: 30156469.

The exact cause of altered dynamics in T cells compartment during HIV infection remains elusive to date. In this longitudinal study, the proliferation frequency of different T cell subsets was investigated in untreated HIV-1-infected Indian individuals stratified as rapid (R), viremic slow (VS), slow (S) progressors, and healthy controls. Ten healthy and 20 treatment-naive HIV-1-infected individuals were enrolled. Expression of Ki67 nuclear antigen was examined on HIV-specific T cell subsets in peripheral blood lymphocytes. Upon stimulation with HIV-1 Gag-C peptide pools, effector memory (EM) CD4 T cells (R vs. S, EM CD4, $p<0.05$) of R progressors proliferated significantly compared with those of S progressors at baseline. However, central memory (CM) CD8 T cell subsets proliferated significantly in VS and S progressors compared with those in R progressors, wherein highest proliferation frequency of EM CD8 T cells was observed. At follow-up visit, the proliferation frequency of naive CD8 T cells was significantly higher in R progressors than S progressors (R vs. S naive CD8, $p<0.05$). The findings suggest altered dynamics of different CD4+ and CD8+ T cell subsets in R, VS, and S progressors. The increase in CM T cell proliferation in VS and S progressors could be attributed to slower progression of the HIV infection. Hence, treatment strategies must be focused on restoring the homeostatic balance to restore T cell functionality.

88: Pal A, Pegwal N, Kaur S, Mehta N, Behari M, Sharma R. Deficit in specific cognitive domains associated with dementia in Parkinson's disease. J Clin Neurosci. 2018 Nov;57:116-120. doi: 10.1016/j.jocn.2018.08.016. Epub 2018 Aug 24. PubMed PMID: 30150061.

Impairment in different cognitive domains such as executive functions, language, memory and visuospatial skills occur frequently in Parkinson disease (PD) leading to significant disability and deterioration in quality of life. Heterogeneity of cognitive impairment enhances risk of developing dementia as disease progress. The objective is to explore the pattern of cognitive impairment with reference to the affected domains in PD with or without dementia relative to healthy controls. In this study, 110 PD patients and 26 healthy control were categorized into groups using Mini Mental State Examination and Clinical Dementia Rating scores as PD without dementia (PDND, n=65; MMSE score >24; CDR=0-1), PD with dementia

(PDD, n = 45; MMSE score ≤24; CDR = 0.5-3) and healthy control (HC, n = 26; MMSE score >26; CDR = 0). Both Patients and controls underwent individual assessments of working memory, semantic memory, attention, language, executive functions, psychomotor and visuospatial skills and dementia using different cognitive function tests. Findings revealed lower scores of word memory, attention, psychomotor speed, visuospatial skills and executive functions in PDD compared to PDND. Interestingly, in PDD scores of picture memory, semantic memory and language functions were comparable with PDND. Compared to HC, PDND had no impairment in working memory, attention and executive functions, whereas PDD had lower scores in all the cognitive domains tested. Results indicate that the deficits in word memory, attention, psychomotor speed, visuospatial skills and executive functions distinguishes PDD from PDND. Impairment in specific cognitive domains may be a biomarker for predicting onset of dementia in Parkinson's disease.

89: Panda PK, Sriranga R, Kaur K, Sood R. Lane Hamilton Syndrome. Indian J Pediatr. 2018 Aug;85(8):699. doi: 10.1007/s12098-017-2548-1. Epub 2017 Dec 14. PubMed PMID: 29238941.

90: Panda S, Phalak M, Thakar A, Dharanipathy S. Cerebrospinal Fluid Leak in Juvenile Nasopharyngeal Angiofibroma-Rare Sequelae of Flutamide-Induced Tumor Shrinkage. World Neurosurg. 2018 Dec;120:78-81. doi: 10.1016/j.wneu.2018.07.288. Epub 2018 Aug 9. PubMed PMID: 30099189.

BACKGROUND: Nonsteroidal androgen receptor blockers like flutamide have been described as an adjuvant treatment for preoperative shrinkage of extensive juvenile nasopharyngeal angiofibroma. We present a case of cerebrospinal fluid (CSF) leak due to flutamide-induced tumor shrinkage.
CASE REPORT: A 15-year-old male with a prior diagnosis of juvenile nasopharyngeal angiofibroma stage IIIB on preoperative flutamide for 3.5 weeks presented with altered sensorium, meningeal signs, and clear watery nasal discharge consistent with CSF leak. Computed tomogram of the head revealed air in the ventricle and repeat contrast-enhanced magnetic resonance imaging showed significant tumor shrinkage in the area of the anterior skull base. This patient had an atypical pattern of tumor extension into the anterior skull base through the roof of posterior ethmoid and sphenoid sinus, which are inherently weak areas of the skull base, thereby predisposing the CSF leak on tumor shrinkage.
CONCLUSION: CSF leak is a rare complication following flutamide therapy, especially if large areas of the anterior skull base are involved.

91: Pandey H, Talukdar A, Gangte JS, Gupta SD, Chandra NC. Cholesterol homeostasis and cell proliferation by mitogenic homologs: insulin, benzo-Î±-pyrene and UV radiation. Cell Biol Toxicol. 2018 Aug;34(4):305-319. doi: 10.1007/s10565-017-9415-8. Epub 2017 Nov 3. PubMed PMID: 29101605.

Low-Density Lipoprotein (LDL) is known to promote the unregulated proliferation of cells that is progression of cancer. We aimed to investigate the effect of mitogens on the expression of cell cycle proteins, nuclear cholesterol and cell proliferation. We observed that insulin and benzo-α-pyrene (BaP) induced the expression of Low-Density Lipoprotein receptor (LDLR) on HepG2 cells, thereby enhancing the uptake of LDL. The internalized LDL increased the concentration of cholesterol in the cytoplasm and nucleus of the cell. At the same time, insulin and BaP also stimulated the expression of cell cycle proteins viz., Cyclin E and Cdk2, and thus induced more incorporation of Bromodeoxyuridine (BrdU) in cultured cells indicating increased DNA synthesis. Increased expression of cell cycle proteins and DNA synthesis are the indications of DNA replication and new cell synthesis. This suggests a link between the enhanced nuclear cholesterol concentration and new cell formation. On the other hand, UV irradiation with

selectively given dose of cell death eventually decreases nuclear cholesterol concentration and LDLR expression. Reduced LDLR shows low functional activity. This, again, repeated the plausibility of the same link between intracellular cholesterol concentration and cell population. The biasness of adverse effect observed by UV irradiation has been compromised by inactivating LDLR with anti-LDLR antibody, resulting in similar effects on Cyclin E expression in the cultured cells. Hence, we concluded that in all the conditions, LDLR expression was found to be a translational event of its transcription factor, SREBP-2, by the induction of insulin, BaP and UV irradiation.

92: Pandey NN, Sharma A, Shaw M, Kumar S. Anomalous Left Internal Mammary Artery: A Cardiologist's Conundrum. Ann Thorac Surg. 2019 Jan;107(1):e63. doi: 10.1016/j.athoracsur.2018.06.063. Epub 2018 Aug 14. PubMed PMID: 30118704.

93: Panwar R, Mohapatra V, Raichurkar K, Sahni P. Development and validation of a new score for measuring post-operative complications. Langenbecks Arch Surg. 2018 Dec;403(8):1021-1027. doi: 10.1007/s00423-018-1701-2. Epub 2018 Aug 9. PubMed PMID: 30094627.

PURPOSE: Assigning a numerical value to post-operative morbidity may improve its usefulness as an outcome measure. The recently developed Comprehensive Complication Index (CCI) is a step forward in this process but assigns an inappropriately high score to a combination of complications.
METHODS: We developed a new score called the complication severity score (CSS) using a mathematical process and compared it with the CCI using a questionnaire-based survey of 49 experienced gastrointestinal and hepato-pancreatico-biliary surgeons. The CSS was modified based on the results of this survey and was correlated with other patient-centered outcomes in a prospective cohort of consecutive patients undergoing elective surgery.
RESULTS: Of the nine sets of scenarios, experienced surgeons' opinion matched with CSS in 6, CSS as well as CCI in 1, and neither CSS nor CCI in 2 scenarios. Of the total 441 responses, 281 matched with CSS while 143 matched with CCI ($p = 0.0001$, odds ratio: 3.7; 95% CI: 2.8 to 4.8). The modified CSS significantly correlated with the post-operative length of stay ($r = 0.76$; 95% CI: 0.68 to 0.82; $p < 0.001$), the length of ICU stay ($r = 0.61$; 95% CI: 0.50 to 0.70; $p < 0.001$) and with the difference between pre-operative and post-operative quality of life scores in the physical ($r = 0.29$; 95% CI: 0.14 to 0.42; $p < 0.001$) and social ($r = 0.29$; 95% CI: 0.14 to 0.43; $p < 0.001$) domains.
CONCLUSIONS: The CSS more often matched the opinion of experienced senior surgeons compared to CCI. The modified CSS significantly correlated with other patient-centered outcomes.

94: Parveen B, Tiwari AK, Jain M, Pal S, Chattopadhyay N, Tripathi M, Vohora D. The anti-epileptic drugs valproate, carbamazepine and levetiracetam cause bone loss and modulate Wnt inhibitors in normal and ovariectomised rats. Bone. 2018 Aug;113:57-67. doi: 10.1016/j.bone.2018.05.011. Epub 2018 May 12. PubMed PMID: 29758362.

Secondary osteoporosis is the major concern associated with long term intake of antiepileptic drugs (AEDs). Women are the vulnerable targets owing to post-menopausal bone loss. In the present work, we evaluated the effect of 10 weeks of treatment with AED therapy (carbamazepine, CBZ, 75 mg/kg; sodium valproate, SVP, 300 mg/kg; levetiracetam, LTM, 150 mg/kg) on bone mineral density and microarchitecture at femoral epiphysis, lumbar vertebrae and proximal tibia of normal and ovariectomised Wistar rats. In addition, we measured serum levels of vitamin D, receptor activator of nuclear factor kappa β-ligand (RANKL), procollagen type 1 amino-terminal propeptide (P1NP) and wnt inhibitors

(sclerostin and DKK-1) following AED therapy. Micro-computed tomography analysis of bones revealed significant reduction in BMD at femur epiphysis and lumbar vertebrae with all the three AEDs evaluated. At proximal tibia, only CBZ showed a significant decline. The reduction in BMD was more pronounced in ovariectomised rats. AEDs also resulted in alteration of micro-CT parameters. These changes were accompanied by an increased serum RANKL with all AEDs while vitamin D levels were reduced only with CBZ treatment and P1NP levels were reduced with SVP and CBZ. Serum sclerostin levels were elevated following all AEDs in normal and ovariectomised rats except with CBZ in normal rats. However, increase in DKK-1 levels was observed with only LTM. Ovariectomy itself resulted in increased RANKL, sclerostin and DKK-1 and reduced vitamin D and P1NP levels. Significant differences were discernible between normal and ovariectomised rats treated with AEDs in all the parameters. However, while sclerostin increased further upon AEDs treatment, P1NP decreased with SVP and CBZ and serum DKK-1 levels showed a declining trend with all the three AEDs studied. We confirm adverse effects on bone following AEDs in female rats. Further, our results demonstrate for the first time that these effects are more pronounced in ovariectomised rats as compared to normal rats and that this could be related to estrogen deficiency which in turn enhances bone resorption via increased RANKL and reduces bone formation via increased sclerostin and reduced P1NP. Finally, our study demonstrated for the first time that AED treatment displayed changes in the serum levels of wnt inhibitors and hence modulation of wnt inhibitors might be partly involved in their adverse effects on bone.

95: Patel A, Sharma MC, Bakhshi S. Demographic Challenges of Pediatric NHL: A Report on 280 Patients. Indian J Pediatr. 2018 Aug;85(8):697-698. doi: 10.1007/s12098-017-2563-2. Epub 2017 Dec 14. PubMed PMID: 29238937.

96: Patel NK, Nivethitha L, Mooventhan A. Effect of a Yoga Based Meditation Technique on Emotional Regulation, Self-compassion and Mindfulness in College Students. Explore (NY). 2018 Nov;14(6):443-447. doi: 10.1016/j.explore.2018.06.008. Epub 2018 Aug 2. PubMed PMID: 30366832.

BACKGROUND: Emotion regulation is often a challenge for the college students. Yoga practice has been shown to reduce stress and improve mindfulness that is related to emotion regulation. Mastering emotions technique (MEMT) is one of the yoga-based meditation techniques that are designed to control emotions among practitioners. However, to the best of our knowledge, there is no known study reporting its scientific evidence-based effects on emotion and its related variables. Thus, this study was conducted to evaluate the effect of MEMT on emotion regulation, self-compassion, and mindfulness in college students.
MATERIALS AND METHODS: Seventy-two subjects with the age varied from 18 to 25 years were recruited from a residential college. All the subjects underwent MEMT for the duration of 45 min a day for a period of 2 weeks. Assessments such as Emotional Regulation Questionnaire (ERQ), The Positive and Negative Affect Schedule (PANAS), Self-Compassion Scale (SCS), and Mindful Attention Awareness Scale (MAAS) were taken before and after the intervention.
RESULTS: Results of this study showed a significant increase in the scores of cognitive reappraisal, positive affect, self-compassion, and MAAS along with a significant reduction in the scores of negative affect, and expressive suppression after the practice of MEMT compared to its respective baseline.
CONCLUSIONS: Results of this study suggest that practice of MEMT is effective in improving emotion regulation, positive affects, self-compassion, and mindfulness while in reducing negative affects among college students.

97: Pathania A, Kabra SK. Depression Among Caregivers of Children with Cystic Fibrosis: Causes and Solutions. Indian J Pediatr. 2018 Nov;85(11):955-956. doi: 10.1007/s12098-018-2763-4. Epub 2018 Aug 11. Review. PubMed PMID: 30099690.

98: Paudel YN, Shaikh MF, Shah S, Kumari Y, Othman I. Role of inflammation in epilepsy and neurobehavioral comorbidities: Implication for therapy. Eur J Pharmacol. 2018 Oct 15;837:145-155. doi: 10.1016/j.ejphar.2018.08.020. Epub 2018 Aug 17. Review. PubMed PMID: 30125565.

Epilepsy is a devastating condition affecting around 70 million people worldwide. Moreover, the quality of life of people with epilepsy (PWE) is worsened by a series of comorbidities. The neurobehavioral comorbidities discussed herein share a reciprocal and complex relationship with epilepsy, which ultimately complicates the treatment process in PWE. Understanding the mechanistic pathway by which these comorbidities are associated with epilepsy might be instrumental in developing therapeutic interventions. Inflammatory cytokine signaling in the brain regulates important brain functions including neurotransmitter metabolism, neuroendocrine function, synaptic plasticity, dopaminergic transmission, the kynurenine pathway, and affects neurogenesis as well as the neural circuitry of moods. In this review, we hypothesize that the complex relationship between epilepsy and its related comorbidities (cognitive impairment, depression, anxiety, autism, and schizophrenia) can be unraveled through the inflammatory mechanism that plays a prominent role in all these individual conditions. An ample amount of evidence is available reporting the role of inflammation in epilepsy and all individual comorbid condition but their complex relationship with epilepsy has not yet been explored through the prospective of inflammatory pathway. Our review suggests that epilepsy and its neurobehavioral comorbidities are associated with elevated levels of several key inflammatory markers. This review also sheds light on the mechanistic association between epilepsy and its neurobehavioral comorbidities. Moreover, we analyzed several anti-inflammatory therapies available for epilepsy and its neurobehavioral comorbidities. We suggest, these anti-inflammatory therapies might be a possible intervention and could be a promising strategy for preventing epileptogenesis and its related neurobehavioral comorbidities.

99: Paul D, Dixit A, Srivastava A, Tripathi M, Prakash D, Sarkar C, Ramanujam B, Banerjee J, Chandra PS. Altered transforming growth factor beta/SMAD3 signalling in patients with hippocampal sclerosis. Epilepsy Res. 2018 Oct;146:144-150. doi: 10.1016/j.eplepsyres.2018.08.004. Epub 2018 Aug 20. PubMed PMID: 30153648.

Transforming growth factor beta (TGFβ) signalling cascade has been implicated in enhancing neuronal excitability and excitatory synaptogenesis following blood brain barrier (BBB) damage and inflammation. We aimed to study if TGFβ signalling expression is altered in patients with Hippocampal Sclerosis (HS). We probed into the protein expression level of the ligand transforming growth factor beta 1 (TGFβ1), transforming growth factor beta receptor II (TGFβRII) and downstream signalling molecule SMAD3 and phosphorylated SMAD3 (pSMAD3) on surgically resected hippocampal samples of thirty-four patients with HS through immuno-blotting. The increase in protein expression level of the ligand TGFβ1 was 285±1.15% higher and its receptor TGFβRII was 170±0.98% higher in hippocampus of patients with HS in comparison to the autopsy hippocampal control samples. The expression of the downstream signalling molecules, SMAD3 is 157±0.13% and 106±0.17% higher in patients with HS as compared to both types of non-seizure controls. The expression of active form of SMAD3, pSMAD3 (2.6010±1.2735) was significantly upregulated in hippocampus of patients with HS compared to autopsy hippocampal controls (0.7899±0.3688). While the expression of pSMAD3 (1.527±0.9425) was significantly upregulated in hippocampus of patients with HS with another type of non-seizure control viz. tumour periphery tissue (0.5791±0.2679), hence strongly supporting the altered expression of the pathway. This study provides the first evidence of alteration of TGFβ pathway in

patients with HS which could be a potential therapeutic target.

100: Peshin SS, Gupta YK. Poisoning due to household products: A ten years retrospective analysis of telephone calls to the National Poisons Information Centre, All India Institute of Medical Sciences, New Delhi, India. J Forensic Leg Med. 2018 Aug;58:205-211. doi: 10.1016/j.jflm.2018.07.005. Epub 2018 Jul 10. PubMed PMID: 30015223.

Extensive use of different chemicals in various fields and their easy availability has led to an increased incidence of accidental and intentional poisoning in developing countries including India. A diverse range of household products commonly used for domestic purposes comprise pesticides, household cleaners, thermometer mercury, antiseptics, kerosene, paint thinners etc. Any of these products, if misused or mishandled can cause poisoning. In India, the National Poisons Centre (NPIC) at the All India Institute of Medical Sciences, New Delhi, provides information on management of poisoning to treating physicians. Analysis of data based on telephone calls received by the NPIC (April 2006-March 2016) has highlighted a high incidence of poisoning due to household products, followed by pharmaceuticals, agricultural pesticides and industrial chemicals. The objective of the present retrospective study was to determine the incidence of poisoning due to various household products as reported to the NPIC during the ten years period. The total number of calls received by the Centre was 16,420. There were 7114 calls (45.5%) due to household products with adults (>18yrs.) and children (<1-18yrs.) constituting 38.7% and 61.2% calls respectively. Males outnumbered females (M = 62.4%, F = 37.5%). The mode of poisoning was mainly unintentional (66.8%) followed by intentional mode (33.2%). The commonest route of exposure was oral (95.6%). Household pesticides were commonly implicated (43.7%) followed by household cleaners (21.8%), thermometer mercury (5.2%) naphthalene balls (5%), antiseptics (3%), kerosene (2%) and paint thinner (2%). Miscellaneous products comprising of camphor, silica gel, hair dye, nail polish remover, cosmetics, adhesives etc were also involved in poisoning (17.1%). The trend and pattern of poisoning varies in different parts of the country, because all calls on poisoning are not reported to the Centre. So the data as such may not be a true reflection of the scenario in India. However, the results do indicate an increasing incidence of poisoning due to household products especially in children. The probable reasons for high incidence could be careless storage, ignorance, non compliance with prescribed instructions for use and negligible parental supervision in case of children. The results of the study highlight, an urgent need to identify high risk circumstances, common toxic products involved and implementation of prevention and awareness programmes, to achieve poisons control at home.

101: Phillips LM, Vitola JV, Shaw LJ, Giubbini R, Karthikeyan G, Alexanderson E, Dondi M, Paez D, Peix A. Value of gated-SPECT MPI for ischemia-guided PCI of non-culprit vessels in STEMI patients with multivessel disease after primary PCI. J Nucl Cardiol. 2018 Oct;25(5):1616-1620. doi: 10.1007/s12350-018-1368-7. Epub 2018 Aug 1. PubMed PMID: 30069820.

There remains a clinical question of which patients benefit from revascularization of non-culprit coronary artery stenosis in the setting of acute ST-segment elevation myocardial infraction (STEMI). This is a large population of patients with prior studies showing 40 to 70% of patients with STEMI having non-culprit stenosis. This article reviews the current state of the literature evaluating outcomes of those previously randomized to revascularization of non-culprit stenosis around the time of the STEMI. We propose a new study design to utilize gated-SPECT in the decision process by using an ischemic burden of > 5% as a cut-off for revascularization vs. complete revascularization without ischemia assessment.

102: Prabhu M, Jain D, Gupta SD, Bal C, Kumar R. Detection of Solitary Axillary Lymph Node Metastases from HÃ¼rthle Cell Carcinoma of the Thyroid on (18)F-FDG PET/CT. Nucl Med Mol Imaging. 2018 Oct;52(5):389-393. doi: 10.1007/s13139-018-0539-4. Epub 2018 Aug 27. PubMed PMID: 30344789; PubMed Central PMCID: PMC6177346.

Thyroid carcinoma is the most common neoplasm of endocrine malignancies. Differentiated thyroid carcinoma (DTC) constitutes 90% of the thyroid carcinomas, rest being medullary thyroid carcinoma (MTC), and anaplastic thyroid carcinoma (ATC). Distant metastases occur in up to 10% of patients with DTC. Metastases to axillary lymph nodes (ALN) are very rare. As per literature, only 25 cases have been reported. We report an unusual case of 47-year-old male with Hürthle cell carcinoma of the thyroid presenting with a solitary axillary lymph node metastasis 17 years after thyroidectomy, along with review of literature.

103: Prakash H, Ghosh AK, Rudramurthy SM, Singh P, Xess I, Savio J, Pamidimukkala U, Jillwin J, Varma S, Das A, Panda NK, Singh S, Bal A, Chakrabarti A. A prospective multicenter study on mucormycosis in India: Epidemiology, diagnosis, and treatment. Med Mycol. 2018 Aug 1. doi: 10.1093/mmy/myy060. [Epub ahead of print] PubMed PMID: 30085158.

Mucormycosis due to Mucorales is reported at large numbers in uncontrolled diabetics across India, but systematic multicenter epidemiological study has not been published yet. The present prospective study was conducted at four major tertiary care centers of India (two in north and two in south India) during 2013-2015 to compare the epidemiology, treatment strategies and outcome of mucormycosis between the two regions. Molecular techniques were employed to confirm the identity of the isolates or to identify the agent in biopsy samples. A total of 388 proven/probable mucormycosis cases were reported during the study period with overall mortality at 46.7%. Uncontrolled diabetes (n = 172, 56.8%) and trauma (n = 31, 10.2%) were the common risk factors. Overall, Rhizopus arrhizus (n = 124, 51.9%) was the predominant agent identified, followed by Rhizopus microsporus (n = 30, 12.6%), Apophysomyces variabilis (n = 22, 9.2%) and Rhizopus homothallicus (n = 6, 2.5%). On multivariate analysis, the mortality was significantly associated with gastrointestinal (OR: 18.70, P = .005) and pulmonary infections (OR: 3.03, P = .015). While comparing the two regions, majority (82.7%) cases were recorded from north India; uncontrolled diabetes (n = 157, P = .0001) and post-tubercular mucormycosis (n = 21, P = .006) were significantly associated with north Indian cases. No significant difference was noted among the species of Mucorales identified and treatment strategies between the two regions. The mortality rate was significantly higher in north Indian patients (50.5%) compared to 32.1% in south India (P = .016). The study highlights higher number of mucormycosis cases in uncontrolled diabetics of north India and emergence of R. microsporus and R. homothallicus across India causing the disease.

104: Prasad J, Goswami B, Gowda SH, Gupta N, Kumar S, Agarwal K, Mehra P, Pahuja BK, Chauhan A. Does Hypoxia-Inducible Factor -1 Î± (HIF-1Î±) C1772T polymorphism predict short-term prognosis in patients with oral squamous cell carcinoma (OSCC)? J Oral Pathol Med. 2018 Aug;47(7):660-664. doi: 10.1111/jop.12718. Epub 2018 May 16. PubMed PMID: 29675970.

BACKGROUND: Oral squamous cell carcinoma (OSCC) is a cancer of the oral cavity that is a major health problem in India. There is an urgent need to identify biomarkers that have prognostic significance. We studied HIF-1α levels as well as single-nucleotide polymorphism of HIF-1α gene in cancer and healthy controls. METHODS: Fifty newly diagnosed OSCC patients and 50 age and sex-matched healthy

control were included in the study. Serum concentrations of HIF-1α were measured by sandwich ELISA; whereas HIF-1α gene polymorphism study was performed using restriction enzyme digestion by HpH I.
RESULTS: The major genotype observed was CC genotype in both control (84%) and patients (86%) followed by CT genotype (control 16%, cases 14%). CT genotype led to more aggressive tumors. On subgroup analysis based on prognosis, the median overall survival of patients who were treatment responders was 488 days (16.2 months) and that of the patients with progressive disease was 365 days (12.1 months). The patients who expired during the study observation period had median survival of 330 days (11 months).
CONCLUSION: Our study showed that CT genotype for C1772T polymorphism of HIF-1α predisposes to aggressive tumor phenotype in patients with OSCC. Moreover, patients with CT genotype had poor survival rate as compared to CC genotype. A cut-off value of 460 pg/mL of HIF-1α can help to segregate patients with OSCC from healthy controls.

105: Saha S, Kumar A, Kumar C, Kataria K. Paraneoplastic cerebellar degeneration as a manifestation of metastatic recurrent carcinoma breast: rare scenario. BMJ Case Rep. 2018 Aug 27;2018. pii: bcr-2017-222575. doi: 10.1136/bcr-2017-222575. PubMed PMID: 30150330.

Carcinoma breast presenting with paraneoplastic cerebellar degeneration is a rare scenario. We report a case of a 52-year-old woman, which is a follow-up case of completely treated carcinoma breast presenting with paraneoplastic cerebellar degeneration which, on investigation, revealed metastatic disease with recurrence at previous scar site and metastasis to contralateral axilla. The patient was given pulse methyl prednisolone therapy and underwent wide local excision of nodule and right axillary lymph node dissection with 14 cycles of trastuzumab and paclitaxel as adjuvant therapy. However, there was no detectable change in neurological symptoms at 6-month follow-up postoperatively. This case report highlights the need for clinicians to be aware of all possible presentations of carcinoma breast and its recurrence, including rare manifestations as in this case.

106: Sahay P, Maharana PK, Temkar S, Chawla R. Corneal epithelial toxicity with intravitreal methotrexate in a case of B-cell lymphoma with ocular involvement. BMJ Case Rep. 2018 Aug 27;2018. pii: bcr-2018-226005. doi: 10.1136/bcr-2018-226005. PubMed PMID: 30150351.

A 49-year-old woman, known case of diffuse large B-cell lymphoma, presented with complaints of floater in both eyes since 3 days. On examination, visual acuity was 0.18 logMAR in both eyes. Indirect ophthalmoscopy revealed presence of vitreous clumps. Vitreous biopsy was done and the histopathological report suggested a diagnosis of ocular lymphoma. The patient was treated with weekly injections of intravitreal methotrexate in both eyes. The patient developed severe photophobia, watering, redness and diminution of vision in the both eyes 2 days following the fifth dose of intravitreal methotrexate. Severe limbitis with annular corneal epitheliopathy and corneal haze was noted on slit-lamp examination. The patient was started on topical lubricants, antibiotic, ciclosporin, loteprednol, folinic acid and oral folic acid. Complete resolution was noted at 2-week follow-up. The patient, however, refused further injections and was kept on close follow-up to look for recurrence of the disease.

107: Sahu AK, Verma VK, Mutneja E, Malik S, Nag TC, Dinda AK, Arya DS, Bhatia J. Mangiferin attenuates cisplatin-induced acute kidney injury in rats mediating modulation of MAPK pathway. Mol Cell Biochem. 2019 Feb;452(1-2):141-152. doi: 10.1007/s11010-018-3420-y. Epub 2018 Aug 6. PubMed PMID: 30083783.

Cisplatin has been confined due to the reported cases of nephrotoxicity. In the present study, an active xanthone, Mangiferin (from Mangifera indica) was investigated for its defensive role in cisplatin-induced nephrotoxicity. Male wistar albino rats were divided into six groups i.e., group 1 (normal); group 2 (cisplatin control); group 3, 4, and 5 (mangiferin 10, 20, and 40 mg/kg, i.p.); and per se (40 mg/kg; i.p.). The treatment was given for 10 days. On day 7, single dose of cisplatin 8 mg/kg i.p. was administered to induce nephrotoxicity in all groups except normal and per se. On day 11, animals were anesthetized, blood was taken from heart and serum was separated. Thereafter, rats were sacrificed and kidneys were isolated and preserved for histopathological, ultrastructural, immunohistochemical, and western blot analysis. Cisplatin control group showed significant impairment in renal function due to increased inflammation and oxidative stress which was also confirmed by histopathology and MAPK pathway proteins expression. However, pretreatment with mangiferin 20 and 40 mg/kg significantly reversed the renal function along with the structural changes and the levels of antioxidants. Mangiferin treatment attenuated DNA damage and apoptotic pathway.

108: Saini C, Tarique M, Ramesh V, Khanna N, Sharma A. Î³Î´ T cells are associated with inflammation and immunopathogenesis of leprosy reactions. Immunol Lett. 2018 Aug;200:55-65. doi: 10.1016/j.imlet.2018.07.005. Epub 2018 Jul 11. PubMed PMID: 30006101.

BACKGROUND: Leprosy reactions appear episodically in leprosy patients, which lead to high inflammation, morbidity and peripheral nerve damage. The role of Th17 cell has been well studied in leprosy reactions but the role of γδ or unconventional T cells which is an other major source of IL-17 in many diseases, not studied in leprosy reactional episodes.
OBJECTIVE: The aim of the present study to elucidate the role of γδ T cells in leprosy reactions.
METHODOLOGY: A total of 40 untreated non-reaction and reactions patients were recruited. PBMCs were isolated and stimulated with M. leprae sonicated antigen (MLSA) for 48 h and immuno-phenotyping was done using flow cytometry. Moreover, γδ T cells were isolated by Magnetic beads technology and mRNA expression of IL-17, IFN-γ, TGF-β and FOXP3 were analyzed by real-time PCR (qPCR) and cytokine was estimated in the culture supernatant by ELISA.
RESULTS: γδ T cells were significantly increased in both Reversal reaction (RR) and Erythema nodosum leprosum (ENL) reaction patients. These cells produced significant amount of IL-17 and IFN-γ. Furthermore, CD3+TCRγδ+ T cells expressed transient FOXP3 with a low amount of TGF-β in both reactions as compared to stable patients. Moreover, low TGF-β producing TCR-γδ cells were associated with low phosphorylation of STAT5A.
CONCLUSION: This study will add to our understanding of the immunological features that mediate and regulate the pathogenesis of leprosy and may helpful to reduce the immuno-pathogenesis of leprosy reaction by targeting these cells.

109: Saito S, Horinouchi T, Nakagami Y, Ii T, Sarkar S, McSweeney A, Yoshida L, Aniwattanapong D, Xin LM, Segrec N, Varbanov SV, Shams SF, Suzuki K, Mariano MPV, Tomlin SC, Kuno K, Freedman R, Riba MB, Akiyama T, Kawanishi C. Approaches to suicide prevention: Ideas and models presented by Japanese and international early career psychiatrists. Psychiatry Clin Neurosci. 2018 Sep;72(9):741. doi: 10.1111/pcn.12737. Epub 2018 Aug 6. PubMed PMID: 29989263.

110: Saluja G, Takkar B, Agarwal E, Sharma B, Khokhar S. Planning a new intraocular lens library in the Indian scenario. Indian J Ophthalmol. 2018 Aug;66(8):1227-1228. doi: 10.4103/ijo.IJO_634_18. PubMed PMID: 30038193; PubMed Central PMCID: PMC6080443.

111: Sankaranarayanan R, Joshi S, Muwonge R, Esmy PO, Basu P, Prabhu P, Bhatla N, Nene BM, Shaw J, Poli URR, Verma Y, Zomawia E, Pimple S, Tommasino M, Pawlita M, Gheit T, Waterboer T, Sehr P, Pillai MR; Indian HPV vaccine study group. Can a single dose of human papillomavirus (HPV) vaccine prevent cervical cancer? Early findings from an Indian study. Vaccine. 2018 Aug 6;36(32 Pt A):4783-4791. doi: 10.1016/j.vaccine.2018.02.087. Epub 2018 Mar 15. PubMed PMID: 29551226.

BACKGROUND: Human papillomavirus (HPV) vaccination is a major strategy for preventing cervical and other ano-genital cancers. Worldwide HPV vaccination introduction and coverage will be facilitated if a single dose of vaccine is as effective as two or three doses or demonstrates significant protective effect compared to 'no vaccination'.
METHODS: In a multi-centre cluster randomized trial of two vs three doses of quadrivalent HPV vaccination (Gardasil™) in India, suspension of the vaccination due to events unrelated to the study led to per protocol and partial vaccination of unmarried 10-18 year old girls leading to four study groups, two by design and two by default. They were followed up for the primary outcomes of immunogenicity in terms of L1 genotype-specific binding antibody titres, neutralising antibody titres, and antibody avidity for the vaccine-targeted HPV types and HPV infections. Analysis was per actual number of vaccine doses received. This study is registered with ISRCTN, number ISRCTN98283094; and with ClinicalTrials.gov, number NCT00923702.
FINDINGS: Of the 17,729 vaccinated girls, 4348 (25%) received three doses on days 1, 60, 180 or later, 4979 (28%) received two doses on days 1 and 180 or later, 3452 (19%) received two doses on days 1 and 60, and 4950 (28%) received one dose. One dose recipients demonstrated a robust and sustained immune response against HPV 16 and 18, albeit inferior to that of 3- or 2-doses and the antibody levels were stable over a 4 year period. The frequencies of cumulative incident and persistent HPV 16 and 18 infections up to 7 years of follow-up were similar and uniformly low in all the vaccinated study groups; the frequency of HPV 16 and 18 infections were significantly higher in unvaccinated age-matched control women than among vaccine recipients. The frequency of vaccine non-targeted HPV types was similar in the vaccinated groups but higher in the unvaccinated control women.
CONCLUSION: Our results indicate that a single dose of quadrivalent HPV vaccine is immunogenic and provides lasting protection against HPV 16 and 18 infections similar to the three- and two-dose vaccine schedules, although the study suffer from some limitations. Data on long term protection beyond 7 years against HPV infection and cervical precancerous lesions are needed before policy guidelines regarding a single dose can be formulated and implemented. Significant and long-lasting protective effect of a single dose can be a strong argument to introduce one dose of the HPV vaccine in many low income countries where the current standard of care for cervical cancer prevention is 'no intervention'.

112: Sarkar S, Jain R, Kethawath SM, Gupta R, Kumar M. Serum BDNF levels in patients with opioid dependence during the early withdrawal period: A case control study. Neurosci Lett. 2018 Aug 10;681:100-104. doi: 10.1016/j.neulet.2018.05.048. Epub 2018 May 31. PubMed PMID: 29859931.

BACKGROUND AND AIMS: Brain-Derived Neurotrophic Factor (BDNF), a neuropeptide important for neural growth and differentiation has been explored in patients with opioid dependence. We aimed to compare the serum BDNF levels in patients with opioid dependence with age and gender matched controls, and to assess change in BDNF levels during initial withdrawal period.
METHODS: Thirty cases with a diagnosis of opioid dependence were compared to forty healthy controls. BDNF levels were measured at inclusion for all

participants. Additionally, BDNF levels were measured in patients with opioid dependence after 10 days of inpatient detoxification.
RESULTS: There were no group differences in BDNF levels between cases and controls for day 1 BDNF levels. Also, there was no significant difference observed in the BDNF levels in patients at day 1 and 10 of inpatient detoxification. BDNF levels did not correlate with severity of nicotine dependence, age of the cases or duration of opioid dependence.
CONCLUSION: The results from the study provide further insights into the relationship of BDNF levels and opioid dependence.

113: Sharma H, Chauhan P, Singh S. Evaluation of the anti-arthritic activity of Cinnamomum cassia bark extract in experimental models. Integr Med Res. 2018 Dec;7(4):366-373. doi: 10.1016/j.imr.2018.08.002. Epub 2018 Aug 10. PubMed PMID: 30591891; PubMed Central PMCID: PMC6303416.

Background: Cinnamomum cassia iswidely used as a traditional medicinal plant for the treatment of rheumatoid arthritis.
Objective: The present study aimed to assess the anti-arthritic activity of C. cassia bark hydroalcoholic extract (CCHE) in different arthritic animal models.
Methods: In formaldehyde model, sub-plantar administration of 0.1 ml of formaldehyde (2% v/v) into the right hind paws of Wistar albino rats on days 0 and 3. The rats were divided into six groups as follows: normal control, disease control, indomethacin group (3 mg/kg, p.o.) and three groups, treated with 50, 100 and 200 mg/kg CCHE (p.o.). Joint diameter was measured, and ankle joints were collected for MDA and GSH measurements. In complete Freund's adjuvant (CFA)-induced arthritis model, CFA was injected into the sub-plantar surface of the right hind paw in rats. Joint diameter was measured, and serum TNF-α and IL-1β were measured. Histopathological and immunohistochemical analyses were also performed.
Results: CCHE treatment significantly ($p < 0.01$) reduced MDA levels and joint swelling in a concentration-dependent manner in rats with formaldehyde-induced arthritis, in which GSH levels were elevated ($p < 0.01$). In rats with CFA-induced arthritis, CCHE treatment significantly reduced joint swelling as well as IL-1β and TNF-α levels ($p < 0.01$). TNF-α receptor expression was decreased in rats treated with indomethacin or CCHE.
Conclusion: Based on these findings, it can be concluded that C. cassia possesses anti-arthritic properties.

114: Sharma P, Baloda V, Gahlot GP, Singh A, Mehta R, Vishnubathla S, Kapoor K, Ahuja V, Gupta SD, Makharia GK, Das P. Clinical, endoscopic, and histological differentiation between celiac disease and tropical sprue: A systematic review. J Gastroenterol Hepatol. 2019 Jan;34(1):74-83. doi: 10.1111/jgh.14403. Epub 2018 Aug 30. PubMed PMID: 30069926.

BACKGROUND AND AIM: While the prevalence of celiac disease (CD) is increasing globally, the prevalence of tropical sprue (TS) is declining. Still, there are certain regions in the world where both patients with CD and TS exist and differentiation between them is a challenging task. We conducted a systematic review of the literature to find out differentiating clinical, endoscopic, and histological characteristics between CD and TS.
METHODS: Medline, PubMed, and EMBASE databases were searched for keywords: celiac disease, coeliac, celiac, tropical sprue, sprue, clinical presentation, endoscopy, and histology. Studies published between August 1960 and January 2018 were reviewed. Out of 1063 articles available, 12 articles were included in the final analysis.
RESULTS: Between the patients with CD and TS, there was no difference in the prevalence and duration of chronic diarrhea, abdominal distension, weight loss,

extent of abnormal fecal fat content, and density of intestinal inflammation. The following features were more common in CD: short stature, vomiting/dyspepsia, endoscopic scalloping/attenuation of duodenal folds, histological high modified Marsh changes, crescendo type of IELosis, surface epithelial denudation, surface mucosal flattening, thickening of subepithelial basement membrane and celiac seropositivity; while those in TS include anemia, abnormal urinary D-xylose test, endoscopic either normal duodenal folds or mild attenuation, histologically decrescendo type of IELosis, low modified Marsh changes, patchy mucosal changes, and mucosal eosinophilia.
CONCLUSIONS: Both patients with CD and TS have overlapping clinical, endoscopic, and histological characteristics, and there is no single diagnostic feature for differentiating CD from TS except for celiac specific serological tests.

115: Sharma P, Gaur N. Commentary: Reoperation following strabismus surgery among Medicare beneficiaries: Associations with geographic region, academic affiliation, surgeon volume, and adjustable suture technique - Operations again! What lessons do we gain? Indian J Ophthalmol. 2018 Aug;66(8):1154-1155. doi: 10.4103/ijo.IJO_949_18. PubMed PMID: 30038163; PubMed Central PMCID: PMC6080460.

116: Sharma R, Katiyar V, Gurjar H, Monga A, Vora Z. Clinical Utility of Diffusion Tensor Imaging Metrics in Lumbar Disk Herniation. World Neurosurg. 2018 Aug;116:475. doi: 10.1016/j.wneu.2018.03.215. PubMed PMID: 30049029.

117: Sharma R, Katiyar V, Sharma P, Vora Z, Gurjar H. Posterior fossa crowdedness in idiopathic trigeminal neuralgia: Is it the real perpetrator? J Clin Neurosci. 2018 Aug;54:165-166. doi: 10.1016/j.jocn.2018.04.068. Epub 2018 May 21. PubMed PMID: 29793777.

118: Sharma S, Singh AD, Sharma SK, Tripathi M, Das CJ, Kumar R. Gallium-68 DOTA-NOC PET/CT as an alternate predictor of disease activity in sarcoidosis. Nucl Med Commun. 2018 Aug;39(8):768-778. doi: 10.1097/MNM.0000000000000869. PubMed PMID: 29851772.

INTRODUCTION: We evaluated the role of gallium-68-labeled [1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid]-1-Nal3-octreotide (Ga-DOTA-NOC) PET/CT in assessing sarcoidosis disease activity.
PATIENTS AND METHODS: Patients diagnosed with sarcoidosis underwent Ga-DOTA-NOC-PET/CT. The maximum standardized uptake value (SUVmax) at the pathological site and in the descending thoracic aorta (reference standard, SUVmed) were assessed. A SUVmax/SUVmed ratio (disease activity score) of more than one was considered a marker of active disease and was compared with the clinical symptoms and serum angiotensin-converting enzyme and computed tomography (CT) scan. The primary outcome was to assess the efficacy of the scan in estimating disease activity.
RESULTS: Of the 39 patients enrolled in the study, 27 patients were symptomatic and the rest were asymptomatic at enrollment. Increased disease activity was present in 25 (92%) of the 27 symptomatic patients and two (16%) of the 12 asymptomatic patients. The sensitivity and specificity of the test were 92.5% (95% confidence interval=75.7-99.0) and 83.3% (95% confidence interval=51.5-97.9), respectively. Seven out of nine patients who became asymptomatic after treatment showed a significant decrease in the mean disease activity score in post-treatment scans (3.38±1.05 vs 1.20±0.82, P<0.001).
CONCLUSION: Ga-DOTA-NOC PET/CT emerged as a useful tool to assess the disease activity and treatment response in patients with sarcoidosis with thoracic involvement.

119: Sharma SC, Sakthivel P. Whistling Cough. N Engl J Med. 2018 Aug 9;379(6):e10. doi: 10.1056/NEJMicm1716704. PubMed PMID: 30089074.

120: Sharma U, Agarwal K, Sah RG, Parshad R, Seenu V, Mathur S, Gupta SD, Jagannathan NR. Can Multi-Parametric MR Based Approach Improve the Predictive Value of Pathological and Clinical Therapeutic Response in Breast Cancer Patients? Front Oncol. 2018 Aug 15;8:319. doi: 10.3389/fonc.2018.00319. eCollection 2018. PubMed PMID: 30159254; PubMed Central PMCID: PMC6104482.

The potential of total choline (tCho), apparent diffusion coefficient (ADC) and tumor volume, both individually and in combination of all these three parameters (multi-parametric approach), was evaluated in predicting both pathological and clinical responses in 42 patients with locally advanced breast cancer (LABC) enrolled for neoadjuvant chemotherapy (NACT). Patients were sequentially examined by conventional MRI; diffusion weighted imaging and in vivo proton MR spectroscopy at 4 time points (pre-therapy, after I, II, and III NACT) at 1.5 T. Miller Payne grading system was used for pathological assessment of response. Of the 42 patients, 24 were pathological responders (pR) while 18 were pathological non-responders (pNR). Clinical response determination classified 26 patients as responders (cR) while 16 as non-responders (cNR). tCho and ADC showed significant changes after I NACT, however, MR measured tumor volume showed reduction only after II NACT both in pR and cR. After III NACT, the sensitivity to detect responders was highest for MR volume (83.3% for pR and 96.2% for cR) while the specificity was highest for ADC (76.5% for pR and 100% for cR). Combination of all three parameters exhibited lower sensitivity (66.7%) than MR volume for pR prediction, however, a moderate improvement was seen in specificity (58.8%). For the prediction of clinical response, multi-parametric approach showed 84.6% sensitivity with 100% specificity compared to MR volume (sensitivity 96.2%; specificity 80%). Kappa statistics demonstrated substantial agreement of clinical response with MR volume (k = 0.78) and with multi-parametric approach (k = 0.80) while moderate agreement was seen for tCho (k = 0.48) and ADC (k = 0.46). The values of k for tCho, MR volume and ADC were 0.31, 0.38, and 0.18 indicating fair, moderate, and slight agreement, respectively with pathological response. Moderate agreement (k = 0.44) was observed between clinical and pathological responses. Our study demonstrated that both tCho and ADC are strong predictors of assessment of early pathological and clinical responses. Multi-parametric approach yielded 100% specificity in predicting clinical response. Following III NACT, MR volume emerged as highly suitable predictor for both clinical and pathological assessments. PCA demonstrated separate clusters of pR vs. pNR and cR vs. cNR at post-therapy while with some overlap at pre-therapy.

121: Shaw SC, Sankar MJ, Thukral A, Agarwal R, Deorari AK, Paul VK. Assisted Physical Exercise and Stress in Preterm Neonates. Indian Pediatr. 2018 Aug 15;55(8):679-682. PubMed PMID: 30218515.

OBJECTIVE: To evaluate the markers of stress before and after a session of assisted physical exercise in infants born before 35 weeks' gestation.
METHODS: 25 infants born at 280/7 to 346/7 weeks were subjected to assisted physical exercise daily for about 10-15 min at one week of postnatal age or 33 weeks of post menstrual age, whichever was later. Primary outcome was salivary cortisol and secondary outcome was Premature infant pain profile (PIPP) score. Outcomes were measured, on day 5 (±1) of exercise.
RESULTS: There was no difference in salivary cortisol between baseline and immediately after (P=0.16), at 90 min (P=0.6) or 120 min (P=0.7) after exercise. Salivary cortisol was lower at 30 min after exercise as compared to baseline (mean difference -0.08 µg/dL; 95% CI -0.16 to -0.002; P=0.04). The median (IQR) PIPP score was significantly higher at 5 min into exercise (4 (3-6) vs 4 (3-5); P=0.04) and at completion of exercise 6 (4-8) vs 4 (3-5); P<0.01), as compared to baseline.
CONCLUSION: Assisted physical exercise does not seem to result in stress in

premature infants.

122: Shetty GB, Shetty B, Mooventhan A. Efficacy of Acupuncture in the Management of Primary Dysmenorrhea: A Randomized Controlled Trial. J Acupunct Meridian Stud. 2018 Aug;11(4):153-158. doi: 10.1016/j.jams.2018.04.001. Epub 2018 Apr 12. PubMed PMID: 29654840.
INTRODUCTION: Dysmenorrhea constitutes one of the most frequent disorders in women of a fertile age. The present study was conducted to evaluate the efficacy of acupuncture in the management of primary dysmenorrhea.
MATERIALS AND METHODS: Sixty females aged 17-23 years were randomly assigned to either a study group or a control group. The study group received acupuncture for the duration of 20 minutes/day, for 15 days/month, for the period of 90 days. The control group did not receive acupuncture for the same period. Baseline, during, and post assessments of both the groups were taken on day 1; day 30 and day 60; and day 90, respectively. Statistical analysis was performed by repeated measures of analysis of variance followed by post hoc analysis with Bonferroni adjustment for multiple comparisons, independent samples t test for visual analog scale score, and Mann-Whitney U test for rest of the variables using statistical package for the social sciences, version 16.
RESULTS: This study showed a significant reduction in all the variables such as the visual analog scale score for pain, menstrual cramps, headache, dizziness, diarrhea, faint, mood changes, tiredness, nausea, and vomiting in the study group compared with those in the control group.
CONCLUSION: Acupuncture could be considered as an effective treatment modality for the management of primary dysmenorrhea.

123: Sihota R, Kamble N, Sharma AK, Bhari A, Gupta A, Midha N, Selvan H, Dada T, Gupta V, Pandey RM. 'Van Herick Plus': a modified grading scheme for the assessment of peripheral anterior chamber depth and angle. Br J Ophthalmol. 2018 Aug 1. pii: bjophthalmol-2018-312132. doi: 10.1136/bjophthalmol-2018-312132. [Epub ahead of print] PubMed PMID: 30068514.

AIM: To evaluate the accuracy of a new, modified grading scheme involving a short vertical slit beam, at the inferior angle for peripheral anterior chamber depth (PAC) and angle estimation and its correlation with anterior segment optical coherence tomography (ASOCT).
METHODS: A cross-sectional study of consecutive phakic patients, above 40 years of age, was performed. Using a short, vertical slit beam not reaching the pupil, the inferior angle at the sclerolimbal junction was evaluated, photographed and assessed by a ratio of peripheral anterior chamber depth to peripheral corneal thickness (PAC:PCT) and iridocorneal angle (ICA) on ImageJ software. The inferior angle at the same meridian was also recorded on ASOCT.
RESULTS: Based on the PAC:PCT ratio, the subjects were divided into four groups: I (<1/4), II (1/4-1/2), III (>1/2-1) and IV (>1). The clinically assessed angle by short vertical slit beam correlated well with ASOCT values, trabecular-iris angle (TIA) ($r=0.918$; $p<0.001$) and scleral spur angle ($r=0.903$, $p<0.001$). The mean difference between ICA and TIA on ASOCT was 0.7970; 95% limits of agreement:-5.7670 to 7.3610 (±1.96SD). For angles graded narrow on ASOCT (TIA <200), using a cut-off of peripheral PAC:PCT <1/4, the area under the curve was 0.918 with a sensitivity of 85.2% and a specificity of 88.2%. There was good agreement between ImageJ parameters with those assessed subjectively on photograph of the slit beam examination by a glaucoma fellow (weighted kappa=0.74) as compared with a general ophthalmologist, where there was moderate agreement (weighted kappa=0.57).
CONCLUSION: A short, vertical slit lamp beam evaluation at the inferior angle is an easy and relatively accurate method for both peripheral anterior chamber depth and angle assessment. It correlated well with ASOCT and can be used as a more reliable screening tool to identify eyes with possibly occludable angles.

124: Sihota R, Agarwal E, James M, Verma M, Kumar L, Dada T, Gupta V, Kapoor KS. In Reply: Long-term Evaluation of Specular Microscopic Changes Following Nd: YAG Iridotomy in Chronic Primary Angle-closure Glaucoma Eyes. J Glaucoma. 2018 Aug;27(8):e143-e144. doi: 10.1097/IJG.0000000000000975. PubMed PMID: 29750720.

125: Singh G, K Ganguly K, Banerji M, Addlakha R, Shah U, Tripathi M, Saxena V, Vohra H, Wakankar Y, Sharma M, Radhakrishnan K. Marriage in people with epilepsy: A compelling theme for psycho-behavioral research. Seizure. 2018 Nov;62:127-130. doi: 10.1016/j.seizure.2018.08.005. Epub 2018 Aug 9. Review. PubMed PMID: 30122424.

People with epilepsy frequently experience problems in marriage including reduced marital prospects, poor marital outcomes and diminished quality of married life. Conversely, marriage might impact epilepsy self-management and quality of life in people with epilepsy. There is little in published literature on marriage and epilepsy, so there is a need for psycho-behavioral research. Here, we focus on arranged marriages which, although now rare in western cultures, are widely prevalent in South Asian communities. Arranged marriages, in which families rather than individuals choose marital partners, are particularly problematic because epilepsy is frequently hidden during marital negotiations as well as later. From the psycho-behavioral perspective, marital prospects, outcomes and satisfaction should be examined in relation to the type of marriage (arranged vs. love) and whether or not epilepsy is hidden. Additionally, culturally-relevant tools to appraise marital quality and epilepsy self-management within marriage should be developed. The main objective should be to develop a multi-sectorial action plan with interventions at several different levels involving different stakeholders to mitigate stigma associated with epilepsy in matrimony.

126: Singh G, Pradeep I, Agarwal S, Barwad A, Dinda A. Paraffin Immunofluorescence: A Role Beyond Kidney Biopsies. Appl Immunohistochem Mol Morphol. 2018 Aug 8. doi: 10.1097/PAI.0000000000000685. [Epub ahead of print] PubMed PMID: 30095462.

Paraffin immunofluorescence is a well established "salvage" technique in renal pathology when representative glomeruli are not found in the fresh frozen tissue sent for routine direct immunofluorescence studies. A step of enzymatic digestion of the formalin-fixed paraffin-embedded biopsy exposes the antigenic immune complexes and allows staining with fluorochrome-tagged antibodies. We explored the utility of the technique of paraffin immunofluorescence outside the kidney in certain specific scenarios including extra renal amyloid and duodenal macroglobulinemia.

127: Singh J, Gupta R, Prajapati DC, Rao R. Use of opium containing herbal drug and associated mania. Asian J Psychiatr. 2018 Aug;36:36-37. doi: 10.1016/j.ajp.2018.06.006. Epub 2018 Jun 21. PubMed PMID: 29957528.

128: Singh MB. Telephonic review of patients with epilepsy - An underutilized resource. Epilepsy Behav. 2018 Oct;87:246. doi: 10.1016/j.yebeh.2018.08.015. Epub 2018 Aug 18. PubMed PMID: 30131225.

129: Singh MB. What should drive epilepsy research? Seizure. 2018 Nov;62:1-2. doi: 10.1016/j.seizure.2018.08.018. Epub 2018 Aug 24. PubMed PMID: 30176392.

130: Singh N, Gupta DK, Sharma S, Sahu DK, Mishra A, Yadav DK, Rawat J, Singh AK. Single-nucleotide and copy-number variance related to severity of hypospadias. Pediatr Surg Int. 2018 Sep;34(9):991-1008. doi: 10.1007/s00383-018-4330-5. Epub 2018 Aug 4. PubMed PMID: 30078147.

BACKGROUND: The genetic association of hypospadias-risk studies has been conducted in Caucasians, Chinese-Han populations and few in Indian populations. However, no comprehensive approach has been followed to assess genetic involvement in the severity of the disorder.
METHODS: The study evaluated to establish the correlation between genotyped single nucleotide and copy number variants (SNPs/CNVs) and severity of hypospadias by an association in a total 30 SNPs in genes related to sex hormone-biosynthesis and metabolism; embryonic-development and phospholipase-D-signalling pathways on 138 surgery-confirmed hypospadias-cases from North India (84 penile and 28 cases of penoscrotal-hypospadias as compared with 31 cases of glanular+coronal), and analyzed and identified CNVs in four familial cases (18 members) and three paired-sporadic cases (6 members) using array-based comparative-genomic-hybridization and validated in 32 hypospadias samples by TaqMan assay.
RESULTS: Based on odds ratio at 95% CI, Z Statistic and Significance Levels, STS gene-rs17268974 was associated with Penile-Hypospadias and 9-SNPs [seven-SNPs (rs5934740; rs5934842; rs5934913; rs6639811; rs3923341; rs17268974; rs5934937)] of STS gene; rs7562326-SRD5A2 and rs1877031-STARD3 were associated with penoscrotal-hypospadias. On aggregate analysis with $p<0.001$, we identified homozygous-loss of Ch7:q34 (PRSS3P2, PRSS2). On validation in previously CNV-characterized and new (32 hypospadias cases), we identified PRSS3P2-loss in most of the grade 3 and 4 hypospadias. Hence, Grade 1 and 2 (coronal and granular) show no-PRSS3P2-loss and no-association with SNPs in STS; SRD5A2; STARD3-gene but Grade 3 and 4 (Penile and Penoscrotal) show PRSS3P2-loss accompanied with the association of SNPs in STS; SRD5A2; STARD3.
CONCLUSIONS: Hence, homozygous-loss of PRSS3P2 accompanied with the association of STS; SRD5A2; STARD3 may link to the severity of the disease.

131: Singh S, Chouhan RS, Bindra A, Radhakrishna N. Comparison of effect of dexmedetomidine and lidocaine on intracranial and systemic hemodynamic response to chest physiotherapy and tracheal suctioning in patients with severe traumatic brain injury. J Anesth. 2018 Aug;32(4):518-523. doi: 10.1007/s00540-018-2505-9. Epub 2018 May 3. PubMed PMID: 29725828.

PURPOSE: Chest physiotherapy and tracheal suction cause sympathetic stimulation and increase heart rate (HR), mean arterial pressure (MAP) and intracranial pressure (ICP) which may have deleterious effect in the head injured. We planned to compare the effect of intravenous dexmedetomidine and lidocaine on intracerebral and systemic hemodynamic response to chest physiotherapy (CP) and tracheal suctioning (TS) in patients with severe traumatic brain injury (sTBI).
METHODS: Prospective, randomized study in patients with sTBI, 18-60 years of age, undergoing mechanical ventilation and intraparenchymal ICP monitoring. Patients were randomized to receive either iv dexmedetomidine 0.5 mcg/kg (group I; n = 30) or iv lidocaine 2 mg/kg (group II; n = 30) over 10 min. After infusion of test drug, CP with vibrator and manual compression was performed for 2 min and TS was done over next 15-20 s. The hemodynamic response was recorded before, during and at interval of 1 min for 10 min after CP and TS. A 20% change in hemodynamic parameters was considered significant.
RESULTS: The baseline hemodynamic (HR, MAP), intracranial (ICP, CPP) and respiratory (SPO2, AWPpeak) parameters were normal and comparable in both the groups. After dexmedetomidine infusion, MAP and CPP decreased significantly from baseline value. In group II, there was no significant change in HR, MAP, ICP and CPP. At end of CP and TS, HR, MAP and CPP in group I was lower as compared to group II. During the 10-min observation period following CP and TS, MAP and CPP in group I remained significantly lower as compared to baseline and group II. There was no significant change in value of other measured parameters.

CONCLUSIONS: Both dexmedetomidine and lidocaine were effective to blunt rise in HR, MAP and ICP in response to CP and TS in patients with sTBI. However, intravenous dexmedetomidine caused significant decrease in MAP and CPP as compared to the baseline and lidocaine.

132: Singhal R, Chawla S, Batra H, Gupta S, Ojha A, Rathore DK, Seth T, Guchhait P. Engulfment of Hb-activated platelets differentiates monocytes into pro-inflammatory macrophages in PNH patients. Eur J Immunol. 2018 Aug;48(8):1285-1294. doi: 10.1002/eji.201747449. Epub 2018 May 17. PubMed PMID: 29677388.

The distinct response shown by different phenotypes of macrophages and monocytes under various clinical conditions has put the heterogeneity of these cells into focus of investigation for several diseases. Recently, we have described that after engulfing hemoglobin (Hb)-activated platelets, classical monocytes differentiated into pro-inflammatory phenotypes, which were abundant in the circulation of paroxysmal nocturnal hemoglobinuria (PNH) and sickle cell disease patients. Our current study shows that upon engulfment of Hb-activated platelets, monocytes differentiate into M1-macrophages under M1-polarization stimulus (GM-CSF, IFN-γ + LPS). When grown under M2-polarization stimulus (M-CSF, IL-4 + IL13), the cells exhibited an M1-like phenotype, secreted elevated levels of pro-inflammatory cytokines including TNF-α and IL-1β, and displayed loss of the secretion of cytokine such as IL-10 and also phagocytic ability unlike the conventional M2 macrophages. Interestingly, when differentiated under the above polarization stimulus, monocytes from PNH patients expressed high levels of CD80 and phospho-STAT1, like M1 macrophages. Hemolytic mice also exhibited a gradual increase in monocyte-platelet aggregates in circulation and accumulation of CD80high macrophages in thioglycollate-induced inflamed peritoneum. The spleen of the mice was also populated by CD80high macrophages with compromised phagocytic capacity. Our findings suggest that the hemolytic environment and specifically the Hb-activated platelets, which are abundant in circulation during intravascular hemolysis, closely regulate monocyte differentiation.

133: Singla V, Gattu T, Aggarwal S, Bhambri A, Agarwal S. Evaluation of Epworth Sleepiness Scale to Predict Obstructive Sleep Apnea in Morbidly Obese Patients and Increasing Its Utility. J Laparoendosc Adv Surg Tech A. 2019 Mar;29(3):298-302. doi: 10.1089/lap.2018.0329. Epub 2018 Aug 15. PubMed PMID: 30109974.

INTRODUCTION: Studies have shown that Epworth sleepiness scale (ESS) is not a good tool to predict obstructive sleep apnea (OSA). However, data regarding the accuracy of ESS in the prediction of OSA among morbidly obese patients are scarce.
METHODS: The study involved a retrospective review of the charts of the consecutive patients who underwent bariatric surgery at a tertiary care teaching hospital. All the patients underwent polysomnography (PSG) and undertook the ESS questionnaire. The sensitivity and specificity of ESS were calculated based on its correlation with the PSG findings. Furthermore, a new score was devised to improve the utility of ESS to predict OSA.
RESULTS: A total of 232 consecutive patients from January 2014 to July 2017 were included in the study. The mean age and body mass index (BMI) were 40.5 ± 11.8 years and 47.6 ± 7.3 kg/m2, respectively. Among the 162 patients who had an ESS <10, 57.4% had moderate-to-severe OSA. The sensitivity of ESS to predict moderate-to-severe OSA was found to be 38.8% and the positive predictive value was 84.2% (positive likelihood ratio 2.82, 95% confidence interval = 1.57-5.06). A predictive score was identified as 0.031Age (years) +0.039BMI (kg/m2) + 0.038ESS + Gender (1 for male, 0 for female). The score had a sensitivity of 80%

at a cutoff of 3.3.
CONCLUSIONS: Among the morbidly obese, ESS is a poor predictor of OSA. Its utility as a tool for prediction of moderate-to-severe OSA can be improved by use of a new formula incorporating age, gender, and BMI beside ESS.

134: Sinha A, Bagga A. Screening Urinalysis in Detection of Chronic Kidney Disease in Children. Indian J Pediatr. 2018 Aug;85(8):603-604. doi: 10.1007/s12098-018-2707-z. Epub 2018 May 23. Review. PubMed PMID: 29790006.

135: Sirohi B, Chalkidou K, Pramesh CS, Anderson BO, Loeher P, El Dewachi O, Shamieh O, Shrikhande SV, Venkataramanan R, Parham G, Mwanahamuntu M, Eden T, Tsunoda A, Purushotham A, Stanway S, Rath GK, Sullivan R. Developing institutions for cancer care in low-income and middle-income countries: from cancer units to comprehensive cancer centres. Lancet Oncol. 2018 Aug;19(8):e395-e406. doi: 10.1016/S1470-2045(18)30342-5. Review. PubMed PMID: 30102234.

Global cancer centres operate across different sizes, scales, and ecosystems. Understanding the essential aspects of the creation, organisation, accreditation, and activities within these settings is crucial for developing an affordable, equitable, and quality cancer care, research, and education system. Robust guidelines are scarce for cancer units, cancer centres, and comprehensive cancer centres in low-income and middle-income countries. However, some robust examples of the delivery of complex cancer care in centres in emerging economies are available. Although it is impossible to create an optimal system to fit the unique needs of all countries for the delivery of cancer care, we summarise what has been published about the development and management of cancer centres in low-income and middle-income countries so far and highlight the need for clinical and political leadership.

136: Srinivasapura Venkateshmurthy N, Ajay VS, Mohan S, Jindal D, Anand S, Kondal D, Tandon N, Rao MB, Prabhakaran D. m-Power Heart Project - a nurse care coordinator led, mHealth enabled intervention to improve the management of hypertension in India: study protocol for a cluster randomized trial. Trials. 2018 Aug 7;19(1):429. doi: 10.1186/s13063-018-2813-2. PubMed PMID: 30086778; PubMed Central PMCID: PMC6081824.

BACKGROUND: The proportion of patients with controlled hypertension (<140/90 mmHg) is very low in India. Thus, there is a need to improve blood pressure management among patients with uncontrolled hypertension through innovative strategies directed at health system strengthening.
METHODS: We designed an intervention consisting of two important components - an electronic decision support system (EDSS) used by a trained nurse care coordinator (NCC). Based on preliminary data, we hypothesized that this intervention will be able to reduce mean systolic blood pressure by 6.5 mmHg among those with uncontrolled blood pressure in the intervention arm compared to the standard treatment arm (paper-based hypertension treatment guidelines). The study will adopt a cluster randomized trial design with the community health center (CHC) as the unit of randomization. The trial will be conducted in Visakhapatnam district (southern India). A total of 1876 participants aged ≥30 years with high blood pressure - systolic blood pressure (SBP) ≥160 mmHg or diastolic blood pressure (DBP) ≥90 mmHg will be enrolled from 12 CHCs. The intervention consists of trained NCCs equipped with an evidence-based hypertension treatment algorithm in the form of the EDSS with regular SMSs to patients with hypertension to promote hypertension treatment and blood pressure control for 12 months. The primary outcome will be difference in the mean change of SBP, from baseline to 12 months, between the intervention and the standard treatment arm. The secondary outcomes are the difference in mean change of DBP;

difference in the proportion of patients with controlled blood pressure (<140/90 mmHg); difference in mean change of fasting blood sugar, HbA1C, eGFR, and albumin to creatinine ratio; difference in the proportion of patients visiting the CHC regularly (number of actual visits to the CHC/number of visits suggested by the EDSS >80%); difference in proportion of patients compliant to anti-hypertensive medication/s; cost-effectiveness of intervention versus enhanced care. All the outcomes will be assessed at 12 months.
DISCUSSION: The study is expected to provide evidence on the effectiveness of NCC-led, EDSS-based hypertension management in India and can likely offer an exemplar for improving cardiovascular disease (CVD) management in India within the resource-constrained public healthcare system.
TRIAL REGISTRATION: ClinicalTrials.gov, ID: NCT03164317). Registered retrospectively on 23 May 2017 (first patient enrolled on 6 April 2017) because the authors did not receive a response to their original registration submission (5 January 2017) to the Clinical Trial Registry - India (CTRI).

137: Takkar B, Gaur N, Obedulla H, Chauhan RC, Temkar S, Venkatesh P, Chawla R, Kumar A. Observer variation in quantitative assessment of retinal shortening with ultrasound in patients of total rhegmatogenous retinal detachment. Indian J Ophthalmol. 2018 Aug;66(8):1115-1118. doi: 10.4103/ijo.IJO_186_18. PubMed PMID: 30038154; PubMed Central PMCID: PMC6080477.

Purpose: To evaluate the interobserver variation in the assessment of retinal length to choroidal length ratio (RCR) as a marker for proliferative vitreoretinopathy (PVR) in cases of rhegmatogenous retinal detachment (RRD).
Methods: This was a double-masked, prospective study at a tertiary center. Ultrasound was used to calculate RCR in 50 eyes with total RRD by two observers. Both observers were trained after the first round of calculations, and all the calculations were repeated as before. Difference between the RCR values was stratified into four categories (<0.01, 0.01-0.05, 0.06-0.1, and >0.1) for descriptive analysis. A difference of 0.05 was set as the maximal limit for defining interobserver agreement. Correlation between RCR and interobserver difference was assessed.
Results: The mean interobserver difference in RCR values was found to be 0.06 ± 0.0 (P = 0.41) and was reduced to 0.04 ± 0.02 (P = 0.81) following training. The interobserver difference was <0.1 in 82% of the cases before training and in 98% of cases after training. The worst interobserver agreement was noted in cases with RCR < 0.8, and there was a good negative correlation between RCR and interobserver difference (r = -0.6, P ≤ 0.001).
Conclusion: There is good interobserver agreement in assessing RCR with ultrasound in eyes with RRD, which improves further with training. RCR needs careful assessment in eyes with very low RCR. This technique may be useful in prognostication of surgical outcomes in cases with advanced PVR.

138: Tanwar P, Das P, Barwad A, Shukla N, Ramteke P. Aspirate from an abdominal lump in a known case of breast carcinoma. Cytopathology. 2018 Aug;29(4):394-395. doi: 10.1111/cyt.12546. Epub 2018 May 7. PubMed PMID: 29732667.

139: Thakkar PA, Rohit HR, Ranjan Das R, Thakkar UP, Singh A. Effect of oral stimulation on feeding performance and weight gain in preterm neonates: a randomised controlled trial. Paediatr Int Child Health. 2018 Aug;38(3):181-186. doi: 10.1080/20469047.2018.1435172. Epub 2018 Feb 19. PubMed PMID: 29457986.

BACKGROUND: In preterm infants, oral stimulation enhances muscle tone and movement which facilitates normal oral motor developmental patterns improving oral feeding performance.
AIM: To study the effects on feeding performance, transition to independent oral

feeding, weight gain and length of hospital stay of an oral stimulation programme in preterm neonates.
STUDY DESIGN: This randomised controlled trial was conducted in a tertiary care teaching hospital over a period of 10 months. Altogether, 102 preterm neonates (30-34 weeks gestation) were randomised into the intervention group (oro-motor stimulation for 5 min twice a day, n = 51) or the control group (routine care only, n = 51). The primary outcome measures were feeding performance, and transition period to reach independent oral feeding.
RESULTS: There was better feeding performance (overall intake and rate of milk transfer), shorter transition to independent oral feeding, better weight gain and shorter length of hospital stay in the intervention group ($p < 0.001$).
CONCLUSIONS: Oral stimulation improves feeding performance, weight gain rate and reduces hospital stay in preterm neonates born between 30 and 34 weeks of gestation. [Trial registration number: CTRI/2017/05/008630].

140: Thangam EB, Jemima EA, Singh H, Baig MS, Khan M, Mathias CB, Church MK, Saluja R. The Role of Histamine and Histamine Receptors in Mast Cell-Mediated Allergy and Inflammation: The Hunt for New Therapeutic Targets. Front Immunol. 2018 Aug 13;9:1873. doi: 10.3389/fimmu.2018.01873. eCollection 2018. Review. PubMed PMID: 30150993; PubMed Central PMCID: PMC6099187.

Histamine and its receptors (H1R-H4R) play a crucial and significant role in the development of various allergic diseases. Mast cells are multifunctional bone marrow-derived tissue-dwelling cells that are the major producer of histamine in the body. H1R are expressed in many cells, including mast cells, and are involved in Type 1 hypersensitivity reactions. H2R are involved in Th1 lymphocyte cytokine production. H3R are mainly involved in blood-brain barrier function. H4R are highly expressed on mast cells where their stimulation exacerbates histamine and cytokine generation. Both H1R and H4R have important roles in the progression and modulation of histamine-mediated allergic diseases. Antihistamines that target H1R alone are not entirely effective in the treatment of acute pruritus, atopic dermatitis, allergic asthma, and other allergic diseases. However, antagonists that target H4R have shown promising effects in preclinical and clinical studies in the treatment of several allergic diseases. In the present review, we examine the accumulating evidence suggesting novel therapeutic approaches that explore both H1R and H4R as therapeutic targets for histamine-mediated allergic diseases.

141: Tiwari V, Gamanagatti S, Mittal R, Nag H, Khan SA. Correlation between MRI and hip arthroscopy in children with Legg-Calve-Perthes disease. Musculoskelet Surg. 2018 Aug;102(2):153-157. doi: 10.1007/s12306-017-0513-9. Epub 2017 Oct 12. PubMed PMID: 29027115.

BACKGROUND: Most of the information available about Legg-Calve-Perthes disease (LCPD) at present is gained through imaging modalities including plain radiographs and magnetic resonance imaging (MRI). But the accuracy of MRI in this disease and its predictive value to reveal various intra-articular pathologies is not known. We correlated the findings of MRI with those seen on hip arthroscopy in children with active stage of LCPD.
METHODS: We conducted a prospective observational study in which MRI findings were correlated with corresponding findings on hip arthroscopy in a cohort of 25 patients of active LCPD below 12 years of age. The parameters noted on MRI included status of ligamentum teres, status of the labrum, synovial effusion if any, condition of the femoral and acetabular articular cartilage including chondral flaps, chondral indentation and intra-articular loose bodies. The indication of performing hip arthroscopy was persistent severe hip pain (Wong-Baker FACES pain scale ≥ 3) after 6 months of conservative management. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated for MRI considering arthroscopy as a gold standard.

RESULTS: Synovial effusion was seen in a large number of patients on both MRI (17) and hip arthroscopy (24). The sensitivity (95% confidence interval) of MRI was found to be low, especially with respect to labral tears [25% (0.63-80.6)] and intra-articular loose bodies [20% (0.51-71.6)]. NPV for synovial effusion was also found to be low [12.5% (0.32-52.7)], although specificity and PPV of MRI were found to be good for all the parameters.
CONCLUSIONS: MRI cannot be completely relied upon for identifying all the intra-articular pathologies in children with LCPD, although it has a good complimentary role. In patients with severe persistent pain with suspicion for joint changes, hip arthroscopy can provide a safe and efficient procedure (better than MRI) for eliciting the associated joint pathology.

142: Tripathy K, Bypareddy R, Chawla R. Congenital retinal macrovessel may be associated with unilateral foveal hypoplasia/small foveal avascular zone. Can J Ophthalmol. 2019 Feb;54(1):139. doi: 10.1016/j.jcjo.2018.06.018. Epub 2018 Aug 25. PubMed PMID: 30851769.

143: Vellarikkal SK, Jayarajan R, Verma A, Ravi R, Senthilvel V, Kumar A, Saini L, Gulati S, Lal M, Mathur A, Chhetri MK, Faruq M, Scaria V, Sivasubbu S. A founder mutation MLC1 c.736delA associated with megalencephalic leukoencephalopathy with subcortical cysts-1 in north Indian kindred. Clin Genet. 2018 Aug;94(2):271-273. doi: 10.1111/cge.13251. Epub 2018 Apr 18. PubMed PMID: 29667716.

144: Velpandian T, Halder N, Nath M, Das U, Moksha L, Gowtham L, Batta SP. Un-segregated waste disposal: an alarming threat of antimicrobials in surface and ground water sources in Delhi. Environ Sci Pollut Res Int. 2018 Oct;25(29):29518-29528. doi: 10.1007/s11356-018-2927-9. Epub 2018 Aug 22. PubMed PMID: 30136185.

Exposure of active pharmaceutical compounds (APCs) to the environment during human use is of potential importance in the emergence of drug resistance, changing soil microbiota and their residual effect on living organisms. Thus, this study aimed to assess the extent of exposure of APCs in the hydrologic cycle in and around New Delhi. This study analyzed the presence of 28 drugs from different classes in the surface water (river Yamuna) and aquifers collected from 48 places in Delhi (within the radius of 40 km). The collected water samples were quantified for APCs content using LC-MS/MS. This study revealed that aquifers are extensively affected in most areas based on the accumulation of APCs in water resources to the levels >0.01 µg/L. Interestingly, a geographical plot of total APCs studied indicated clustering in aquifers with such high levels closer to an unscientific landfill. This 30-year-old un-segregated landfill is found to drain leachate into surface water that had high APCs. This study further revealed that apart from therapeutic usage, the main source of ecological exposure could be due to the disposal of unused and expired pharmaceutical compounds into landfills. For the first time, this study revealed the existence of antimicrobial agents and other APCs in the aquifers of Delhi with levels >0.1 µg/L, which is a matter of serious concern in terms of multi-drug resistance and other environmental perils. This study warrants the enforcement of regulations for the disposal of unused/expired APCs in high-density population areas.

145: Verma P, K Sharma A, Shankar H, Sharma A, Rao DN. Role of Trace Elements, Oxidative Stress and Immune System: a Triad in Premature Ovarian Failure. Biol Trace Elem Res. 2018 Aug;184(2):325-333. doi: 10.1007/s12011-017-1197-6. Epub 2017 Nov 27. PubMed PMID: 29181820.

The risk of premature ovarian failure (POF) increases in association with

alteration in immunological parameters and oxidative stress (OS). Adequate intake of trace elements is required for antioxidant property and immune defense mechanism. The aim of this study was to explore the involvement of trace elements, OS, and immunological parameters in POF. This was a cross-sectional, case-control study, involving 65 participants divided into the POF (n = 35) and control (n = 30) groups. Serum levels of Se, Zn, and Cu were determined along with hormonal, OS, and immunological markers. POF group had significantly lower levels of Zn, Cu, Se, and Zn:Cu ratio. However, Se:Cu ratio was not significant between the groups. FSH and LH levels were negatively correlated with Zn and Cu levels and positively correlated with Se levels. Estrogen levels were negatively correlated with all the studied trace elements. Inter-element association between Zn and Se was significant in POF ($r = -0.39$, $p = 0.02$) compared to control group ($r = -0.078$, $p = 0.65$). In all the POF patients, SOD and GPx activities were significantly ($p < 0.05$) lower and MDA level was higher ($p > 0.05$) than control group. B cell marker CD19 was significantly ($p < 0.0001$) high in POF group. There are involvement of trace elements in hormonal regulation and antioxidant defense mechanism, which once gets altered leads to high ROS generation and affect functions of the immune system. Exaggereative immune system causing higher expression of B cell associated markers (CD19) leading to autoimmune condition in POF.

146: Vig S, Mishra S, Rustagi K, Bhan S. Opioid toxicity with underlying tumour lysis syndrome in a patient with CMML: a diagnostic and therapeutic challenge. BMJ Case Rep. 2018 Aug 27;2018. pii: bcr-2018-225646. doi: 10.1136/bcr-2018-225646. PubMed PMID: 30150344.

Use of strong opioids like morphine as analgesics for painful conditions in haematological malignancies is a challenging task. We report a unique case of chronic myelomonocytic leukaemia presenting with opioid toxicity overlapping with tumour lysis syndrome. The patient was on hydroxyurea-based chemotherapy for the primary disease. She was receiving oral morphine for abdominal pain due to splenomegaly. She was brought to the emergency in unresponsive state with pinpoint pupils. Opioid overdose leading to unconsciousness was suspected as the first diagnosis. Further workup revealed a final diagnosis of tumour lysis syndrome overlapping with opioid overdose. The patient was ventilated and started on naloxone infusion, and supportive measures for managing tumour lysis were added. The patient gradually improved and was extubated on the fifth day of ventilation. This case presents several learning points for the treating physician. Haematological malignancies have a dynamic course of disease with waxing and waning tumour burden during the course of chemotherapy. This fact should be kept in mind when prescribing strong opioids like morphine on outpatient basis to these patients. Massive tumour cell lysis during the course of chemotherapy may precipitate tumour lysis syndrome and may lead to renal dysfunction which makes the patient susceptible to morphine-related adverse effects. Pain physician should keep a watch for therapy-related adverse effects to avoid diagnostic and therapeutic dilemma associated with coexisting features of these two fatal conditions.

147: Webster R, Salam A, de Silva HA, Selak V, Stepien S, Rajapakse S, Amarasekara S, Amarasena N, Billot L, de Silva AP, Fernando M, Guggilla R, Jan S, Jayawardena J, Maulik PK, Mendis S, Mendis S, Munasinghe J, Naik N, Prabhakaran D, Ranasinghe G, Thom S, Tisserra N, Senaratne V, Wijekoon S, Wijeyasingam S, Rodgers A, Patel A; TRIUMPH Study Group. Fixed Low-Dose Triple Combination Antihypertensive Medication vs Usual Care for Blood Pressure Control in Patients With Mild to Moderate Hypertension in Sri Lanka: A Randomized Clinical Trial. JAMA. 2018 Aug 14;320(6):566-579. doi: 10.1001/jama.2018.10359. Erratum in: JAMA. 2018 Nov 13;320(18):1940. PubMed PMID: 30120478.

Importance: Poorly controlled hypertension is a leading global public health problem requiring new treatment strategies.
Objective: To assess whether a low-dose triple combination antihypertensive medication would achieve better blood pressure (BP) control vs usual care.
Design, Setting, and Participants: Randomized, open-label trial of a low-dose triple BP therapy vs usual care for adults with hypertension (systolic BP >140 mm Hg and/or diastolic BP >90 mm Hg; or in patients with diabetes or chronic kidney disease: >130 mm Hg and/or >80 mm Hg) requiring initiation (untreated patients) or escalation (patients receiving monotherapy) of antihypertensive therapy. Patients were enrolled from 11 urban hospital clinics in Sri Lanka from February 2016 to May 2017; follow-up ended in October 2017.
Interventions: A once-daily fixed-dose triple combination pill (20 mg of telmisartan, 2.5 mg of amlodipine, and 12.5 mg of chlorthalidone) therapy (n=349) or usual care (n=351).
Main Outcomes and Measures: The primary outcome was the proportion achieving target systolic/diastolic BP (<140/90 mm Hg or <130/80 mm Hg in patients with diabetes or chronic kidney disease) at 6 months. Secondary outcomes included mean systolic/diastolic BP difference during follow-up and withdrawal of BP medications due to an adverse event.
Results: Among 700 randomized patients (mean age, 56 years; 58% women; 29% had diabetes; mean baseline systolic/diastolic BP, 154/90 mm Hg), 675 (96%) completed the trial. The triple combination pill increased the proportion achieving target BP vs usual care at 6 months (70% vs 55%, respectively; risk difference, 12.7% [95% CI, 3.2% to 22.0%]; P<.001). Mean systolic/diastolic BP at 6 months was 125/76 mm Hg for the triple combination pill vs 134/81 mm Hg for usual care (adjusted difference in postrandomization BP over the entire follow-up: systolic BP, -9.8 [95% CI, -7.9 to -11.6] mm Hg; diastolic BP, -5.0 [95% CI, -3.9 to -6.1] mm Hg; P<.001 for both comparisons). Overall, 419 adverse events were reported in 255 patients (38.1% for triple combination pill vs 34.8% for usual care) with the most common being musculoskeletal pain (6.0% and 8.0%, respectively) and dizziness, presyncope, or syncope (5.2% and 2.8%). There were no significant between-group differences in the proportion of patient withdrawal from BP-lowering therapy due to adverse events (6.6% for triple combination pill vs 6.8% for usual care).
Conclusions and Relevance: Among patients with mild to moderate hypertension, treatment with a pill containing low doses of 3 antihypertensive drugs led to an increased proportion of patients achieving their target BP goal vs usual care. Use of such medication as initial therapy or to replace monotherapy may be an effective way to improve BP control.
Trial Registration: anzctr.org.au Identifier: ACTRN12612001120864; slctr.lk Identifier: SLCTR/2015/020.

148: Yadav A, Aggarwal R, Kundu R, Soni KD. Unusual Cause of Hypotension in a Polytrauma Victim: A Case of Fahr's Syndrome. Indian J Crit Care Med. 2018 Aug;22(8):621-623. doi: 10.4103/ijccm.IJCCM_2_18. PubMed PMID: 30186019; PubMed Central PMCID: PMC6108303.

149: Yadav D, Khandpur S, Ramam M, Singh MK, Sharma VK. Utility of Horizontal Sections of Scalp Biopsies in Differentiating between Androgenetic Alopecia and Alopecia Areata. Dermatology. 2018;234(3-4):137-147. doi: 10.1159/000490459. Epub 2018 Aug 9. PubMed PMID: 30092597.

BACKGROUND: Androgenetic alopecia (AGA) and alopecia areata (AA) are common causes of alopecia which can sometimes be difficult to differentiate clinically. Horizontal sections of scalp biopsies are used to study non-cicatricial alopecias due to the ability to perform both quantitative and morphometric analysis of hair

follicles on them.
METHODS: It was a prospective, cross-sectional study conducted to assess the utility of horizontal sections to differentiate between the alopecias. Fifty-two cases were included: 20 cases of male AGA, 11 of female AGA and 21 cases of AA. After clinical examination and dermoscopy, a skin biopsy was taken and subjected to transverse sectioning. Histopathological assessment was done by two dermatopathologists blinded to clinical details.
RESULTS: Among the quantitative parameters, terminal:vellus hair ratio (3.08 in AGA and 1.83 in AA, p = 0.0091) and anagen:non-anagen hair ratio (9.25 in AGA and 3.56 in AA, p = 0.0021) were significantly lower in AA. In qualitative parameters, peribulbar inflammation was seen in 63% of AA cases (p = 0.0001). Pigment casts were seen in twice the number of AA (57%) than AGA (26%) cases. Broad avascular stelae and focal trichomalacia were seen in 9.5% of AA cases.
CONCLUSION: Besides peribulbar inflammation, we found a lower anagen:non-anagen hair ratio and presence of pigment casts in transverse sections of scalp biopsies favouring AA over AGA.