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

1: Aggarwal S, John S, Sapra L, Sharma SC, Das SN. Targeted disruption of PI3K/Akt/mTOR signaling pathway, via PI3K inhibitors, promotes growth inhibitory effects in oral cancer cells. Cancer Chemother Pharmacol. 2019 Mar;83(3):451-461. doi: 10.1007/s00280-018-3746-x. Epub 2018 Dec 5. PubMed PMID: 30519710.

PURPOSE: The phosphoinositide-3-kinase (PI3K) pathway is the frequently altered in human cancer. This has led to the development and study of novel PI3K inhibitors for targeted therapy and also to overcome resistance to radiotherapy.
METHOD: The anti-tumour effects of PI3K inhibitors (PI-828, PI-103 and PX-866) in terms of cell proliferation, colony formation, induction of apoptosis, cell cycle arrest, invasion, autophagy, and pNF-κB/p65 translocation in SCC-4, SCC-9 and SCC-25 cells were studied by performing MTT, clonogenic, DAPI staining, propidium iodide staining, annexin-V binding, matrigel invasion, acridine orange staining and immuno-fluorescence assay. Western blot assay was performed to assess the alteration in the expression of various proteins.
RESULT: PI-828 and PI-103 treatment exhibited dose-dependent inhibition of growth and proliferation of OSCC cells with a concomitant induction of apoptosis, altered cell cycle regulation and decreased invasiveness ($p < 0.01$). PX-866 induced apoptosis, cell cycle arrest, autophagy and a significant decrease in the invasiveness of oral cancer cells as compared to untreated cells ($p < 0.01$). These compounds significantly reduced expression of COX-2, cyclin-D1 and VEGF in the treated cells besides cytoplasmic accumulation of pNF-κB/p65 protein. In addition to PI3Kα, inactivation of downstream components, i.e. Akt and mTOR was seen.
CONCLUSION: PI3K inhibitors such as PI-103, PI-828 and PX-866 may be developed as potential therapeutic agents for effective treatment of oral squamous cell carcinoma (OSCC) patients, associated with activated PI3K/Akt pathway.

2: 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.

3: Agrawal S, Bhattacharya A, Manhas J, Kholakiya Y, Khera N, Roychoudhury A, Sen S. Increased Mucin Expression in Oral Mucosal Epithelial Cells in vitro: A Potential New Role of Mycophenolate Mofetil. Tokai J Exp Clin Med. 2018 Dec 20;43(4):132-138. PubMed PMID: 30488399.

OBJECTIVE: Autologous cultured explants of human oral mucosal epithelial cells

(OMEC) are a potential therapeutic modality in patients of bilateral ocular surface disease (OSD) with incapacitating dry eye. Mycophenolate mofetil (MMF) has been found to upregulate the mucin production in conjunctival goblet cells in vitro. The aim of this study was to evaluate the effects of MMF on mucin expression in primary cultures of OMEC.
METHODS: With informed consent, oral mucosal epithelial tissue samples were obtained from patients undergoing oral surgery for non-malignant conditions. OMEC were cultured on human amniotic membrane (HAM) scaffold for 2 weeks. Mucin expression was quantified using RT-PCR and qPCR before and after treating cultured OMEC with MMF.
RESULTS: Morphological studies revealed a confluent sheet of proliferating, stratified oral mucosal epithelial cells. Mucin mRNAs were elucidated by RT-PCR. Compared to untreated controls, MUC1, MUC15 and MUC16 mRNAs and MUC1 protein expression were found to be upregulated in MMF treated primary cultures of OMEC, as assessed by qPCR and immunocytochemistry respectively.
CONCLUSION: Our findings demonstrate that MMF can act as a novel enhancer of mucin production in OMEC in vitro. It has the potential to improve dry eye in patients undergoing OMEC transplantation for bilateral OSD.

4: Ahuja K, Garg B, Chowdhuri B, Yadav RK, Chaturvedi PK. A Comparative Analysis of the Metabolic and Coagulative Profiles in Patients with Idiopathic Scoliosis, Congenital Scoliosis and Healthy Controls: A Case-Control Study. Asian Spine J. 2018 Dec;12(6):1028-1036. doi: 10.31616/asj.2018.12.6.1028. Epub 2018 Oct 16. PubMed PMID: 30322254; PubMed Central PMCID: PMC6284126.

STUDY DESIGN: Single-center, observational, case-control study.
PURPOSE: Comparison and analysis of the metabolic and coagulative profiles in patients with idiopathic scoliosis, patients with congenital scoliosis, and healthy controls.
OVERVIEW OF LITERATURE: Serum melatonin deficiency has been a controversial topic in the etiopathogenesis of scoliosis. Low bone mineral density, low vitamin D3 levels, and high parathyroid hormone levels are common metabolic abnormalities associated with scoliosis that may be responsible for its pathogenesis. In addition to metabolic defects, several studies have shown coagulation defects that either persist from the preoperative period or occur during surgery and usually lead to more than the expected amount of blood loss in patients undergoing deformity correction for scoliosis.
METHODS: The study population (n=73) was classified into those having congenital scoliosis (n=31), those with idiopathic scoliosis (n=30), and healthy controls (n=12). After detailed clinicoradiological evaluation of all the subjects, 10-mL blood samples were collected, measured, and analyzed for various metabolic and coagulation parameters.
RESULTS: The mean serum melatonin levels in patients with idiopathic scoliosis were significantly lower than those in the healthy controls. Although the mean serum melatonin level in the congenital group was also low, the difference was not statistically significant. Serum alkaline phosphatase and parathyroid hormone levels were higher in the scoliosis groups, whereas the vitamin D level was lower. No differences were observed in the coagulation profiles of the different groups.
CONCLUSIONS: Low serum melatonin levels associated with scoliosis can be a cause or an effect of scoliosis. Moreover, low bone mineral density, high bone turn over, and negative calcium balance appear to play an important role in the progression, if not the onset, of the deformity.

5: 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.

6: Arora V, Aggarwal S, Bijarnia S, Lall M, Joshi A, Dua-Puri R, Arora U, Verma I. Extending the Phenotype and Identification of a Novel Candidate Gene for Immunodeficiency in 5q11 Microdeletion Syndrome. Mol Syndromol. 2019 Jan;9(6):312-318. doi: 10.1159/000494995. Epub 2018 Dec 14. PubMed PMID: 30800048; PubMed Central PMCID: PMC6381899.

Array CGH has led to the delineation of innumerable microdeletion syndromes. We present a patient with a 7-Mb deletion at 5q11.2 with previously unreported features, such as immunodeficiency, asymmetry of hands and feet, joint laxity, and agenesis of corpus callosum. The clinical features of this patient are compared with 13 patients reported previously. A common critical region (CCR) of 1.4 Mb (54-55.4 Mb) is defined in all cases including the present one. Of the 14 genes present in CCR, IL6ST is proposed to be the candidate gene for immunodeficiency observed in some of these patients. IL6ST encodes gp130, a signal transduction protein for various interleukins and cytokines. It is involved in the generation of both T and B lymphocytes as well as the production of acute-phase reactants. Microdeletion 5q11.2 should be considered as a recognisable syndrome based on the common phenotype and the novel features described.

7: Bagga B, Das CJ. MRI of radial cutaneous nerve abscess in recurrent neural leprosy. BMJ Case Rep. 2018 Dec 14;11(1). pii: e228704. doi: 10.1136/bcr-2018-228704. PubMed PMID: 30567278.

8: Balhara YPS, Singh S, Sarkar S. Are the Patients Ready for the Change?: An Empirical Study to Evaluate the Impact of Change in Formulation of Buprenorphine-Naloxone on Prescription Pattern, Treatment Adherence, and Patient Satisfaction. Subst Use Misuse. 2019;54(2):307-314. doi: 10.1080/10826084.2018.1517799. Epub 2018 Dec 4. PubMed PMID: 30513249.

BACKGROUND: Therapeutic adherence is one of the most important determinants of the outcome with OST. There are no published studies that have explored the impact of change in tablet formulation of buprenorphine-naloxone from one brand to another among patients receiving OST.
OBJECTIVES: The current study is aimed at evaluation of the impact of change in buprenorphine-naloxone formulation on prescription pattern, treatment adherence, and patient satisfaction with OST.
METHODS: Our study was a cross sectional study based on a cohort of patients who were receiving OST at the study setting. Changes in prescription pattern, reports of subjective opioid withdrawal symptoms, or observation of objective opioid withdrawal symptoms were noted from the case records. The satisfaction and concerns of the patients with buprenorphine-naloxone formulations were assessed using a semi-structured proforma.
RESULTS: An increase in dose of buprenorphine-naloxone was noted in 22

participants, since formulation change. Twenty participants reported that the color of the formulation was different from the previous one, the intensity of effect was reported to be different by 87% participants. Seventy-three percent participants endorsed that increase in dose can be a possible solution to address the perceived differences in the effects of two formulations. Changes in physical attributes of the formulation, perception among treatment seeking peers regarding such changes in treatment, and lack of sense of autonomy regarding one's treatment play a more important role in determining response of the patients to changes in formulation of buprenorphine-naloxone.

9: Banerjee M, Sharma P, Gaur N, Takkar B. Infiltrative chiasmatopathy in xanthoma disseminatum: a rare entity. BMJ Case Rep. 2018 Dec 9;11(1). pii: e227207. doi: 10.1136/bcr-2018-227207. PubMed PMID: 30567219.

10: Baxla M, Kumari C, Kaler S. Bilateral thyrolinguofacial trunk: unusual and rare branching pattern of external carotid artery. Anat Cell Biol. 2018 Dec;51(4):302-304. doi: 10.5115/acb.2018.51.4.302. Epub 2018 Dec 29. PubMed PMID: 30637166; PubMed Central PMCID: PMC6318451.

Prior knowledge of arterial supply to the head and neck is of substantial importance for well-planned surgeries involving the concerned region. We are reporting an unusual and rare variation in the branching pattern of external carotid artery in a 60-year-old female cadaver. A common trunk known as thyrolinguofacial trunk, originating from the anterior surface of the external carotid artery (right and left) giving of superior thyroid artery and a linguofacial trunk during a routine neck dissection. The linguofacial trunk then divided into a lingual and a facial artery. Vascular abnormalities are usually detected either on the dissection table or by the radiologists during imaging or accidently during surgeries leading to serious consequences.

11: Bhargava A, Srivastava RK, Mishra DK, Tiwari RR, Sharma RS, Mishra PK. Dendritic cell engineering for selective targeting of female reproductive tract cancers. Indian J Med Res. 2018 Dec;148(Supplement):S50-S63. doi: 10.4103/ijmr.IJMR_224_18. Review. PubMed PMID: 30964081.

Female reproductive tract cancers (FRCs) are considered as one of the most frequently occurring malignancies and a foremost cause of death among women. The late-stage diagnosis and limited clinical effectiveness of currently available mainstay therapies, primarily due to the developed drug resistance properties of tumour cells, further increase disease severity. In the past decade, dendritic cell (DC)-based immunotherapy has shown remarkable success and appeared as a feasible therapeutic alternative to treat several malignancies, including FRCs. Importantly, the clinical efficacy of this therapy is shown to be restricted by the established immunosuppressive tumour microenvironment. However, combining nanoengineered approaches can significantly assist DCs to overcome this tumour-induced immune tolerance. The prolonged release of nanoencapsulated tumour antigens helps improve the ability of DC-based therapeutics to selectively target and remove residual tumour cells. Incorporation of surface ligands and co-adjuvants may further aid DC targeting (in vivo) to overcome the issues associated with the short DC lifespan, immunosuppression and imprecise uptake. We herein briefly discuss the necessity and progress of DC-based therapeutics in FRCs. The review also sheds lights on the future challenges to design and develop clinically effective nanoparticles-DC combinations that can induce efficient anti-tumour immune responses and prolong patients' survival.

12: Bhatt M, Soneja M, Tripathi M, Biswas A. Curious case of fever of unknown origin. BMJ Case Rep. 2018 Dec 3;11(1). pii: bcr-2018-227258. doi: 10.1136/bcr-2018-227258. PubMed PMID: 30567178.

A 58-year-old immunocompetent woman presented with fever and significant weight loss of 4-month duration. She had mild pallor; rest of the examination was unremarkable. Investigations revealed anaemia with raised inflammatory markers. Cultures, serologies, routine urine examination, bone marrow examination,

contrast enhanced CT and two-dimensional echocardiography examination were unremarkable. An 18F-fluorodeoxyglucose positron emission tomography with CT (18F-FDG-PET/CT) scan was performed which revealed atypical heterogenous uptake in bilateral renal cortex. Subsequently, urine GeneXpert came positive for Mycobacterium tuberculosis with sensitivity to rifampicin. She responded to category 1 antitubercular therapy. The challenges in diagnosis of genitourinary tuberculosis, low sensitivity of conventional diagnostic tests and potential role of GeneXpert and 18F-FDG-PET/CT scan are discussed in this report.

13: Chadda RK, Deb KS, Mahapatra A, Gupta R. Referral patterns in a consultation liaison psychiatry service in India: A comparison with the Western world. Gen Hosp Psychiatry. 2018 Dec 15. pii: S0163-8343(18)30376-1. doi: 10.1016/j.genhosppsych.2018.10.011. [Epub ahead of print] PubMed PMID: 30745228.

14: Chandra PS, Singh P. Reply to the letter to editor regarding the article "Treatment of vertebral body hemangiomas with direct ethanol injection and short segment stabilization". Spine J. 2018 Dec;18(12):2372-2373. doi: 10.1016/j.spinee.2018.07.011. PubMed PMID: 30551848.

15: Chawla AS, Kanodia P, Mukherjee A, Jain V, Kaur G, Coshic P, Chatterjee K, Wadhwa N, Natchu UCM, Sopory S, Bhatnagar S, Majumder PP, George A, Bal V, Rath S, Prabhu SB. Cell-intrinsic regulation of peripheral memory-phenotype T cell frequencies. PLoS One. 2018 Dec 17;13(12):e0200227. doi: 10.1371/journal.pone.0200227. eCollection 2018. PubMed PMID: 30557341; PubMed Central PMCID: PMC6296671.

Memory T and B lymphocyte numbers are thought to be regulated by recent and cumulative microbial exposures. We report here that memory-phenotype lymphocyte frequencies in B, CD4 and CD8 T-cells in 3-monthly serial bleeds from healthy young adult humans were relatively stable over a 1-year period, while Plasmablast frequencies were not, suggesting that recent environmental exposures affected steady state levels of recently activated but not of memory lymphocyte subsets. Frequencies of memory B and CD4 T cells were not correlated, suggesting that variation in them was unlikely to be determined by cumulative antigenic exposures. Immunophenotyping of adult siblings showed high concordance in memory, but not of recently activated lymphocyte subsets. To explore the possibility of cell-intrinsic regulation of T cell memory, we screened effector memory-phenotype T cell (TEM) frequencies in common independent inbred mice strains. Using two pairs from these strains that differed predominantly in either CD4 TEM and/or CD8 TEM frequencies, we constructed bi-parental bone marrow chimeras in F1 recipient mice, and found that memory T cell frequencies in recipient mice were determined by donor genotypes. Together, these data suggest cell-autonomous determination of memory T niche size, and suggest mechanisms maintaining immune variability.

16: Chawla N, Mandal P, Chatterjee B, Dhawan A. Tramadol-associated pica. Psychiatry Clin Neurosci. 2019 Jan;73(1):43. doi: 10.1111/pcn.12789. Epub 2018 Dec 2. PubMed PMID: 30367530.

17: Choudhary V, Sinha VK. Transdiagnostic applications of dialectical behaviour therapy's distress tolerance skills in psychological management of OCD. Asian J Psychiatr. 2018 Dec;38:1-2. doi: 10.1016/j.ajp.2018.10.012. Epub 2018 Oct 15. PubMed PMID: 30359843.

18: Dada T, Mittal D, Mohanty K, Faiq MA, Bhat MA, Yadav RK, Sihota R, Sidhu T, Velpandian T, Kalaivani M, Pandey RM, Gao Y, Sabel BA, Dada R. Mindfulness Meditation Reduces Intraocular Pressure, Lowers Stress Biomarkers and Modulates Gene Expression in Glaucoma: A Randomized Controlled Trial. J Glaucoma. 2018 Dec;27(12):1061-1067. doi: 10.1097/IJG.0000000000001088. PubMed PMID: 30256277.

BACKGROUND: Reducing intraocular pressure (IOP) in primary open-angle glaucoma (POAG) is currently the only approach to prevent further optic nerve head damage. However, other mechanisms such as ischemia, oxidative stress, glutamate excitotoxicity, neurotrophin loss, inflammation/glial activation, and vascular

dysregulation are not addressed. Because stress is a key risk factor affecting these mechanisms, we evaluated whether mindfulness-based stress reduction can lower IOP and normalize typical stress biomarkers.
MATERIALS AND METHODS: In a prospective, randomized trial 90 POAG patients (180 eyes; age above 45 y) were assigned to a waitlist control or mindfulness meditation group which practiced daily for 21 days. We measured IOP (primary endpoint), quality of life (QOL), stress-related serum biomarkers [cortisol, β-endorphins, IL6, TNF-α, brain-derived neurotrophic factor (BDNF), reactive oxygen species (ROS), total antioxidant capacity (TAC)], and whole genome expression.
RESULTS: Between-group comparisons revealed significantly lowered IOP in meditators (OD: 18.8 to 12.7, OS 19.0 to 13.1 mm Hg) which correlated with significantly lowered stress-biomarker levels including cortisol (497.3 to 392.3 ng/mL), IL6 (2.8 to 1.5 ng/mL), TNF-α (57.1 to 45.4 pg/mL), ROS (1625 to 987 RLU/min/104 neutrophils), and elevated β-endorphins (38.4 to 52.7 pg/mL), BDNF (56.1 to 83.9 ng/mL), and TAC (5.9 to 9.3) (all $P<0.001$). These changes correlated well with gene expression profiling. Meditators improved in QOL ($P<0.05$).
CONCLUSIONS: A short course of mindfulness-based stress reduction by meditation in POAG, reduces IOP, improves QOL, normalizes stress biomarkers, and positively modifies gene expression. Mindfulness meditation can be recommended as adjunctive therapy for POAG.

19: Das MK, Arora NK, Poluru R, Seth A, Aggarwal A, Dubey AP, Goyal PC, Gathwala G, Malik A, Goel AK, Chakravarty A, Arya S, Upadhyay A, Gupta M, Mathew T, Pillai RK, Mathai J, Manivasagan S, Ramesh S, Aggarwal MK, Maure CG, Zuber PL. Pediatric Appropriate Evaluation Protocol for India (PAEP-India): Tool for Assessing Appropriateness of Pediatric Hospitalization. Indian Pediatr. 2018 Dec 15;55(12):1041-1045. PubMed PMID: 30745474.

OBJECTIVE: To develop and assess Pediatric Appropriateness Evaluation Protocol for India (PAEP-India) for inter-rater reliability and appropriateness of hospitalization.
DESIGN: Cross-sectional study.
SETTING: The available PAEP tools were reviewed and adapted for Indian context by ten experienced pediatricians following semi-Delphi process. Two PAEP-India tools; newborn (≤28 days) and children (>28 days-18 years) were developed. These PAEP-India tools were applied to cases to assess appropriateness of admission and inter-rater reliability between assessors.
PARTICIPANTS: Two sets of case records were used: (i) 274 cases from five medical colleges in Delhi-NCR [≤28 days (n=51); >28 days to 18 years (n=223)]; (ii) 622 infants who were hospitalized in 146 health facilities and were part of a cohort (n= 30688) from two southern Indian states.
INTERVENTIONS: Each case-record was evaluated by two pediatricians in a blinded manner using the appropriate PAEP-India tools, and 'admission criteria' were categorized as appropriate, inappropriate or indeterminate.
OUTCOME MEASURES: The proportion of appropriate hospitalizations and inter-rater reliability between assessors (using kappa statistic) were estimated for the cases.
RESULTS: 97.8% hospitalized cases from medical colleges were labelled as appropriate by both reviewers with inter-rater agreement of 98.9% (k=0.66). In the southerm Indian set of infants, both reviewers labelled 80.5% admissions as appropriate with inter-rater agreement of 96.1% (k= 0.89).
CONCLUSIONS: PAEP-India (newborn and child) tools are simple, objective and applicable in diverse settings and highly reliable. These tools can potentially be used for deciding admission appropriateness and hospital stay and may be evaluated later for usefulness for cost reimbursements for insurance proposes.

20: Das U, Singh E, Dharavath S, Tiruttani Subhramanyam UK, Pal RK, Vijayan R, Menon S, Kumar S, Gourinath S, Srinivasan A. Structural insights into the substrate binding mechanism of novel ArgA from Mycobacterium tuberculosis. Int J Biol Macromol. 2019 Mar 15;125:970-978. doi: 10.1016/j.ijbiomac.2018.12.163. Epub

2018 Dec 18. PubMed PMID: 30576731.

The Mycobacterium tuberculosis (Mtb) Rv2747 gene encodes for a functional protein known as ArgA, which plays an important role in the first step of the l-arginine biosynthesis pathway. ArgA transfers the acetyl group from the acetyl-CoA to either l-glutamate or l-glutamine, which are the known substrates. Here, we present two crystal structures of ArgA: one complexed with CoA and product bound N-acetylglutamine and the other complexed with acetyl-CoA and the inhibitor l-arginine at 2.3 and 3.0 Å resolution respectively. The Mtb ArgA protomer was found to have a "V" cleft and a "β" bulge, archetypal of a classical GCN5-related N-acetyltransferase superfamily of proteins. The product bound form implies that ArgA can also acetylate l-glutamine like l-glutamate. The active site is strongly inhibited by l-arginine resulting in a closed conformation of ArgA and both l-arginine and N-acetylglutamine were found to occupy at the same active site. Together with structural analysis, molecular docking studies, microscale thermophoresis and enzyme inhibition assays, we conclude that l-glutamine, l-glutamate and l-arginine, all occupy at the same active site of ArgA. Furthermore in case of Mtb ArgA, l-arginine does not act as an allosteric inhibitor unlike other N-acetylglutamate synthase family of proteins.

21: Deepti S, Roy A, Patel CD, Tandon N, Naik N, Singh S, Sharma G, Bahl VK. Assessment of asymptomatic ischemic heart disease using stress myocardial perfusion imaging in patients with type 2 diabetes mellitus. Indian Heart J. 2018 Dec;70 Suppl 3:S157-S160. doi: 10.1016/j.ihj.2018.08.023. Epub 2018 Sep 19. PubMed PMID: 30595249; PubMed Central PMCID: PMC6310734.

BACKGROUND: Coronary artery disease (CAD) is the leading cause of death in patients with type 2 diabetes mellitus (T2DM) and may be asymptomatic.
OBJECTIVE: The objective of this study was to assess the prevalence of asymptomatic myocardial ischemia in patients with T2DM using stress myocardial perfusion imaging.
METHODS: We evaluated 97 consecutive patients with T2DM without clinical evidence of CAD presenting to Cardiology and Endocrinology clinics using Tc-99m MIBI gated single-photon emission-computed tomography (SPECT) myocardial perfusion imaging for the presence of asymptomatic CAD.
RESULTS: Abnormal myocardial perfusion was observed in 10 patients (10.3%). Of these, one half of patients had reversible myocardial perfusion defects suggestive of inducible myocardial ischemia. The other half had fixed perfusion defects suggestive of previous silent myocardial infarctions. Small and moderate reversible perfusion defects were observed in 3 and 2 patients, respectively. The fixed perfusion defects observed in 5 patients were medium sized. The presence of asymptomatic ischemia was significantly associated with age and smoking but not with other traditional cardiac risk factors.
CONCLUSION: Ten percent of patients with T2DM with no clinical evidence of CAD were found to have evidence of asymptomatic ischemia or infarction.

22: Dhawan V, Kumar M, Deka D, Malhotra N, Dadhwal V, Singh N, Dada R. Meditation & yoga: Impact on oxidative DNA damage & dysregulated sperm transcripts in male partners of couples with recurrent pregnancy loss. Indian J Med Res. 2018 Dec;148(Supplement):S134-S139. doi: 10.4103/ijmr.IJMR_1988_17. PubMed PMID: 30964091.

Background & objectives: Recurrent pregnancy loss (RPL) is one of the devastating complications of pregnancy and current focus lies in addressing the management of paternal factors. Dysregulation in selective transcripts delivered to oocyte at fertilization can result in pregnancy losses and adversely affect embryogenesis. The objective of this study was to assess the effect of yoga-based lifestyle intervention (YBLI) on seminal oxidative stress (OS), DNA damage and spermatozoal transcript levels.
Methods: The present study was a part of a prospective ongoing exploratory study

and 30 male partners of couples with RPL were included from August 2016 to June 2017. Semen samples were obtained at baseline and at the end of YBLI (21 days). Gene expression analysis was performed by quantitative polymerase chain reaction on spermatozoal FOXG1, SOX3, OGG1, PARP1, RPS6, RBM9, RPS17 and RPL29. The levels of seminal OS and sperm DNA damage was assessed by measuring levels of reactive oxygen species (ROS) by chemiluminescence and DNA fragmentation index (DFI) by sperm chromatin structure assay.
Results: SOX3, OGG1 and PARP1 were observed to be upregulated, while FOXG1, RPS6, RBM9, RPS17 and RPL29 showed downregulation. A significant reduction in ROS levels, an increase in sperm motility, sperm count (done twice) and a decrease in DFI was seen after YBLI.
Interpretation & conclusions: Adopting YBLI may help in a significant decline in oxidative DNA damage and normalization of sperm transcript levels. This may not only improve pregnancy outcomes but also improve the health trajectory of the offspring.

23: Dhiman A, Anand A, Malhotra A, Khan E, Santra V, Kumar A, Sharma TK. Rational truncation of aptamer for cross-species application to detect krait envenomation. Sci Rep. 2018 Dec 12;8(1):17795. doi: 10.1038/s41598-018-35985-1. PubMed PMID: 30542057; PubMed Central PMCID: PMC6290766.

In majority of snakebite cases, the snake responsible for the bite remains unidentified. The traditional snakebite diagnostics method relies upon clinical symptoms and blood coagulation assays that do not provide accurate diagnosis which is important for epidemiological as well as diagnostics point of view. On the other hand, high batch-to-batch variations in antibody performance limit its application for diagnostic assays. In recent years, nucleic acid aptamers have emerged as a strong chemical rival of antibodies due to several obvious advantages, including but not limited to in vitro generation, synthetic nature, ease of functionalization, high stability and adaptability to various diagnostic formats. In the current study, we have rationally truncated an aptamer developed for α-Toxin of Bungarus multicinctus and demonstrated its utility for the detection of venom of Bungarus caeruleus. The truncated aptamer α-Tox-T2 (26mer) is found to have greater affinity than its 40-mer parent counterpart α-Tox-FL. The truncated aptamers are characterized and compared with parent aptamer for their binding, selectivity, affinity, alteration in secondary structure and limit of detection. Altogether, our findings establish the cross-species application of a DNA aptamer generated for α-Toxin of Bungarus multicinctus (a snake found in Taiwan and China) for the reliable detection of venom of Bungarus caeruleus (a snake found in the Indian subcontinent).

24: Dhiman R, Prakash SC, Sreenivas V, Puliyel J. Reply to Comment on Dhiman, R. et al. Correlation of Non-Polio Acute Flaccid Paralysis Rate with Pulse Polio Frequency in India. Int. J. Environ. Res. Public Health 2018, 15, 1755. Int J Environ Res Public Health. 2018 Dec 27;16(1). pii: E63. doi: 10.3390/ijerph16010063. PubMed PMID: 30591650; PubMed Central PMCID: PMC6339160.

25: Dhiman R, Gorimanipalli B, Swamy DR, Sharma S, Garg A, Saxena R. Congenital Third Nerve Palsy Associated With Midbrain Hypoplasia Due to Bilateral Segmental Internal Carotid Artery Agenesis. J Neuroophthalmol. 2018 Dec;38(4):483-485. doi: 10.1097/WNO.0000000000000666. PubMed PMID: 29738350.

A 15-year-old girl, diagnosed with a partial right third nerve palsy, was found to have bilateral internal carotid artery agenesis. Neuroimaging with 3D-constructive interference in steady state scanning identified the possible etiology of the third nerve palsy as midbrain hypoplasia.

26: Dhochak N, Kabra SK, Lodha R. Dengue and Chikungunya Infections in Children : Guest Editor: Bhim S. Pandhi. Indian J Pediatr. 2019 Mar;86(3):287-295. doi: 10.1007/s12098-018-2794-x. Epub 2018 Dec 4. Review. PubMed PMID: 30511272.

Dengue and Chikungunya are two important mosquito-borne acute febrile illnesses

in children. With increased urbanization and newer strains of chikungunya virus with improved transmission with Aedes albopictus, the at-risk population for these infections has greatly increased. Dengue fever has been classified by WHO as dengue with/ without warning signs and severe dengue. Severe dengue is associated with hemorrhagic manifestations, hypovolemia and hypotension secondary to third space loss due to capillary leak or severe end organ dysfunction. NS1 antigen detection and dengue polymerase chain reaction, [polymerase chain reaction (PCR during first 5 d)] and IgM for dengue (6th day of fever onwards) are commonly utilized diagnostic tests. Appropriate fluid therapy with timely tapering of intravenous fluid rate with hematocrit, treatment of hemorrhagic manifestations and clinical monitoring are the mainstay of dengue treatment. Chikungunya has less severe course with shorter febrile phase with prominent and persistent joint symptoms. PCR and IgM against chikungunya are appropriate investigations. Treatment is supportive for chikungunya infection with appropriate joint pain relief.

27: Ekstrand ML, Heylen E, Mazur A, Steward WT, Carpenter C, Yadav K, Sinha S, Nyamathi A. The Role of HIV Stigma in ART Adherence and Quality of Life Among Rural Women Living with HIV in India. AIDS Behav. 2018 Dec;22(12):3859-3868. doi: 10.1007/s10461-018-2157-7. PubMed PMID: 29789984.

HIV stigma continues to be a barrier to physical and mental health among people living with HIV globally, especially in vulnerable populations. We examined how stigma is associated with health outcomes and quality of life among rural women living with HIV in South India (N = 600). Interviewer-administered measures assessed multiple dimensions of stigma, as well as loneliness, social support, ART adherence, time since diagnosis, and quality of life. Internalized stigma and a lack of social support were associated with a lower quality of life, while the association between internalized stigma and adherence was mediated by the use of stigma-avoidant coping strategies, suggesting that keeping one's diagnosis a secret may make it more difficult to take one's medications. These findings suggest that these women constitute a vulnerable population who need additional services to optimize their health and who might benefit from peer support interventions and stigma-reduction programs for family and community members.

28: Galhotra P, Prabhakar P, Meghwani H, Mohammed SA, Banerjee SK, Seth S, Hote MP, Reeta KH, Ray R, Maulik SK. Beneficial effects of fenofibrate in pulmonary hypertension in rats. Mol Cell Biochem. 2018 Dec;449(1-2):185-194. doi: 10.1007/s11010-018-3355-3. Epub 2018 May 14. PubMed PMID: 29761247.

Pulmonary hypertension (PH) is a morbid complication of cardiopulmonary as well as several systemic diseases in humans. It is rapidly progressive and fatal if left untreated. In the present study, we investigated the effect of PPARα agonist fenofibrate (FF) on monocrotaline (MCT)-induced PH in rats. FF, because of its pleiotropic property, could be helpful in reducing inflammation, oxidative stress, and reactive oxygen species. On day 1, MCT (50 mg/kg, s.c.) was given to all the rats in MCT, sildenafil, and FF group except normal control rats. After 3 days of giving MCT, sildenafil (175 µg/kg, orally) and FF (120 mg/kg, orally) were given for 25 days. Echocardiography, hemodynamic parameters, fulton's index, histopathology, oxidative stress parameters, inflammatory markers, Bcl2/Bax gene expression ratio in the right ventricle, and protein expression for NOX-1 in lungs were studied in all the groups. FF has shown to prevent decrease in ratio of pulmonary artery acceleration time to ejection time, increase in ratio of right ventricular outflow tract dimension to aortic outflow dimension, rise in right ventricular systolic pressure, right ventricular hypertrophy, increase in the percentage medial wall thickness (%MWT), increase in oxidative stress and inflammation, increase in NADPH oxidase-1 (NOX-1) expression, and decrease in mRNA expression of Bcl2/Bax ratio caused by MCT. To conclude, FF prevented MCT-induced PH in rats by various mechanisms. It might be helpful in preventing PH in patients who are likely to develop PH.

29: Garg G, Sharma A, Sharma A, Sankhwar S. Metastatic adenocarcinoma of bladder presenting with skin and visceral metastasis. BMJ Case Rep. 2018 Dec 3;11(1).

pii: bcr-2018-227042. doi: 10.1136/bcr-2018-227042. PubMed PMID: 30567174.

A 62-year-old male patient presented with multiple subcutaneous swellings over neck, axilla and scapular region for last 3 months. Further evaluation revealed the presence of bladder mass, deranged kidney function tests with multiple rounded opacities in lung. The patient was stabilised with haemodialysis and bilateral percutaneous nephrostomy tube placement. The patient was planned for multiagent chemotherapy after stabilisation but died within 2 weeks due to progressive disease. Fine needle aspiration cytology (FNAC) from the above-mentioned skin and lymph nodes swellings was suggestive of adenocarcinoma. We herein report this rare case of a metastatic adenocarcinoma of the bladder with extensive skin and visceral metastasis. The presence of skin metastasis confers a poor prognostic sign to the patient. They are usually resistant to available treatment modalities. To our knowledge, this is the first reported case of adenocarcinoma metastatic to skin and viscera.

30: Giammarile F, Schilling C, Gnanasegaran G, Bal C, Oyen WJG, Rubello D, Schwarz T, Tartaglione G, Miller RN, Paez D, van Leeuwen FWB, Valdés Olmos RA, McGurk M, Delgado Bolton RC. The EANM practical guidelines for sentinel lymph node localisation in oral cavity squamous cell carcinoma. Eur J Nucl Med Mol Imaging. 2019 Mar;46(3):623-637. doi: 10.1007/s00259-018-4235-5. Epub 2018 Dec 18. PubMed PMID: 30564849; PubMed Central PMCID: PMC6351508.

PURPOSE: Sentinel lymph node biopsy is an essential staging tool in patients with clinically localized oral cavity squamous cell carcinoma. The harvesting of a sentinel lymph node entails a sequence of procedures with participation of specialists in nuclear medicine, radiology, surgery, and pathology. The aim of this document is to provide guidelines for nuclear medicine physicians performing lymphoscintigraphy for sentinel lymph node detection in patients with early N0 oral cavity squamous cell carcinoma.
METHODS: These practice guidelines were written and have been approved by the European Association of Nuclear Medicine (EANM) and the International Atomic Energy Agency (IAEA) to promote high-quality lymphoscintigraphy. The final result has been discussed by distinguished experts from the EANM Oncology Committee, and national nuclear medicine societies. The document has been endorsed by the Society of Nuclear Medicine and Molecular Imaging (SNMMI). These guidelines, together with another two focused on Surgery and Pathology (and published in specialised journals), are part of the synergistic efforts developed in preparation for the "2018 Sentinel Node Biopsy in Head and Neck Consensus Conference".
CONCLUSION: The present practice guidelines will help nuclear medicine practitioners play their essential role in providing high-quality lymphatic mapping for the care of early N0 oral cavity squamous cell carcinoma patients.

31: Godolphin PJ, Hepburn T, Sprigg N, Walker L, Berge E, Collins R, Gommans J, Ntaios G, Pocock S, Prasad K, Wardlaw JM, Bath PM, Montgomery AA. Central masked adjudication of stroke diagnosis at trial entry offered no advantage over diagnosis by local clinicians: Secondary analysis and simulation. Contemp Clin Trials Commun. 2018 Nov 10;12:176-181. doi: 10.1016/j.conctc.2018.11.002. eCollection 2018 Dec. Review. PubMed PMID: 30533551; PubMed Central PMCID: PMC6249966.

Background: Central adjudication of stroke type is commonly implemented in large multicentre clinical trials. We investigated the effect of central adjudication of diagnosis of stroke type at trial entry in the Efficacy of Nitric Oxide in Stroke (ENOS) trial.
Methods: ENOS recruited patients with acute ischaemic or haemorrhagic stroke, and diagnostic adjudication was carried out using cranial scans. For this study, diagnoses made by local site clinicians were compared with those by central, masked adjudicators using kappa statistics. The trial primary analysis and subgroup analysis by stroke type were re-analysed using stroke diagnosis made by local clinicians, and simulations were used to assess the impact of increased non-differential misclassification and subgroup effects.

Results: Agreement on stroke type (Ischaemic, Intracerebral Haemorrhage, Unknown stroke type, No-stroke) was high (κ = 0.92). Adjudication of stroke type had no impact on the primary outcome or subgroup analysis by stroke type. With misclassification increased to 10 times the level observed in ENOS and a simulated subgroup effect present, adjudication would have affected trial conclusions.
Conclusions: Stroke type at trial entry was diagnosed accurately by local clinicians in ENOS. Adjudication of stroke type by central adjudicators had no measurable effect on trial conclusions. Diagnostic adjudication may be important if diagnosis is complex and a treatment-diagnosis interaction is expected.

32: Goel V, Kumar N, Saxena V, Chaturvedi H. Catheter Fracture of Subclavian Venous Chemoport Device at Costoclavicular Junction: Pinch-off Syndrome. Indian J Surg Oncol. 2018 Dec;9(4):595-597. doi: 10.1007/s13193-018-0802-2. Epub 2018 Jul 30. PubMed PMID: 30538396; PubMed Central PMCID: PMC6265163.

Chemoport is most commonly used venous access devices for instillation of chemotherapeutic drugs in cancer care. Mechanical complications like catheter fracture can lead to serious morbidity, albeit occurring rarely. We present a case of a 35-year-old lady, a case of carcinoma breast, who had spontaneous fracture of chemoport access device in subclavian vein at the level of clavicle after four successful cycles of chemotherapy. The fracture was suspected on chest x-ray and was subsequently confirmed on contrast linogram. The patient was successfully managed with endovascular interventional technique without suffering any ill effects. It is a rare presentation of pinch-off syndrome.

33: Goswami D, Garg H, Carounagarane H, Deb KS. Dexmedetomidine-assisted drug interviews: an observation in psychiatric setting. BMJ Case Rep. 2018 Dec 14;11(1). pii: e227195. doi: 10.1136/bcr-2018-227195. PubMed PMID: 30567267.

Drug-assisted interviews are an effective tool in the management of various psychiatric illnesses where psychopharmacological, as well as routine psychological interventions, do not prove beneficial. These have most commonly been done by using barbiturates and benzodiazepines that have given favourable results for a long time. However, they carry the risk of respiratory depression and difficulty in maintaining the plane of sedation where the patient is amenable to interviewing. In our experience of drug-assisted interviews with two patients we used intravenous dexmedetomidine, which is being used in anaesthesia practice for conscious sedation or sedation in the intensive care unit. We found dexmedetomidine to be superior to thiopentone in achieving a level of conscious sedation where the patients were amenable for an interview, with no significant adverse events and faster post-anaesthetic recovery.

34: Grewal KS, Bhatia R, Singh N, Singh R, Dash D, Tripathi M. Confusional state in a pregnant woman: A case of NMDA receptor encephalitis during pregnancy. J Neuroimmunol. 2018 Dec 15;325:29-31. doi: 10.1016/j.jneuroim.2018.10.008. Epub 2018 Oct 19. PubMed PMID: 30366206.

We report the case of a pregnant female presenting with behavioral change and hallucinations followed by focal seizures with impaired awareness. EEG revealed generalized slowing interspersed with extreme delta-brush pattern and MRI brain was normal. Both Serum and CSF anti-N-methyl-d-aspartate receptor (NMDAR) antibodies were positive. Patient had a prolonged hospital stay with full recovery and delivered a healthy baby, highlighting the significance of early diagnosis and management in this disorder.

35: Gupta A, Tripathi P, Tyagi S. Cytoplasmic azurophilic inclusion bodies in reactive plasmacytosis. Blood Res. 2018 Dec;53(4):265. doi: 10.5045/br.2018.53.4.265. Epub 2018 Dec 17. PubMed PMID: 30588458; PubMed Central PMCID: PMC6300679.

36: Gupta A, Mallick P, Sharma O, Gupta R, Duggal R. PCSeg: Color model driven probabilistic multiphase level set based tool for plasma cell segmentation in multiple myeloma. PLoS One. 2018 Dec 12;13(12):e0207908. doi: 10.1371/journal.pone.0207908. eCollection 2018. PubMed PMID: 30540767; PubMed Central PMCID: PMC6291116.

Plasma cell segmentation is the first stage of a computer assisted automated diagnostic tool for multiple myeloma (MM). Owing to large variability in biological cell types, a method for one cell type cannot be applied directly on the other cell types. In this paper, we present PCSeg Tool for plasma cell segmentation from microscopic medical images. These images were captured from bone marrow aspirate slides of patients with MM. PCSeg has a robust pipeline consisting of a pre-processing step, the proposed modified multiphase level set method followed by post-processing steps including the watershed and circular Hough transform to segment clusters of cells of interest and to remove unwanted cells. Our modified level set method utilizes prior information about the probability densities of regions of interest (ROIs) in the color spaces and provides a solution to the minimal-partition problem to segment ROIs in one of the level sets of a two-phase level set formulation. PCSeg tool is tested on a number of microscopic images and provides good segmentation results on single cells as well as efficient segmentation of plasma cell clusters.

37: Gupta P, Panda U, Parmar A, Bhad R. Internalized stigma and its correlates among treatment seeking opium users in India: A cross-sectional observational study. Asian J Psychiatr. 2019 Jan;39:86-90. doi: 10.1016/j.ajp.2018.12.004. Epub 2018 Dec 24. PubMed PMID: 30594880.

Opium has been used in India since ancient times for social, recreational, religious and medicinal purposes. Opium users seem to constitute a distinct sub-population among opioid users, who have minimal complications, better functioning and socio-cultural acceptance. Prominent levels of stigma have been reported against people who use opioid drugs, but the same cannot be extrapolated to opium users. There is a vast number of opium users in India, and it is prudent to understand the stigma faced by them to better address their problems. Hence, in the current study we aimed to assess the internalized stigma and its correlates among opium users who seek treatment at a tertiary care drug treatment centre in North India. 117 adult male participants having opioid dependence (opium being the most common opioid in last 3 months) were assessed using Internalized Stigma of Mental Illness (ISMI) scale - Hindi version. The stigma scores were in the mild to moderate range, which was less than that found in previous studies among heroin and alcohol users in similar setting. Moreover, higher stigma scores were associated with lower educational status and higher proportions of income spent on substances. This is the first study to document stigma among opium users. Further research needs to be conducted to understand the determinants of stigma in this population.

38: Gupta R, Kaur G, Kumar L, Rani L, Mathur N, Sharma A, Dahiya M, Shekhar V, Khan S, Mookerjee A, Sharma OD. Nucleic acid based risk assessment and staging for clinical practice in multiple myeloma. Ann Hematol. 2018 Dec;97(12):2447-2454. doi: 10.1007/s00277-018-3457-8. Epub 2018 Jul 28. PubMed PMID: 30056581.

The recently introduced Revised International Staging System (R-ISS) for multiple myeloma (MM) integrates albumin, β2 microglobulin, lactate dehydrogenase (LDH) with high-risk cytogenetic aberrations (CA), i.e., t(4;14) and t(14;16) and del17p using fluorescent in situ hybridization (FISH). We evaluated utility of nucleic acid-based tests of multiplex ligation-based probe amplification (MLPA) and quantitative real-time polymerase chain reaction (qRT-PCR) to define the CA and the R-ISS categories as per this approach were evaluated for their ability to predict outcome in terms of response, progression-free (PFS), and overall survival (OS). In this study (n = 180), 17 (9.4%), 118 (65.6%), and 45 (25%)

patients were assigned to R-ISS1, R-ISS2, and R-ISS3 categories with statistically significant differences in median PFS (p = 0.02) and OS (p < 0.001).On univariate analysis, serum creatinine, LDH, 17p deletion, chromosome 1q gain, and response after first induction therapy were associated with statistically significant differences (p < 0.05) in PFS and in addition, age > 65 years and use of triplet therapy with OS. On multivariate analysis, only serum creatinine, LDH, and response after first induction therapy retained significance for predicting PFS and in addition, use of triplet therapy retained significance for the OS. The proposed nucleic acid-based algorithm using qRT-PCR and MLPA for R-ISS is resource-effective in terms of small quantities of sample required; feasibility of batch processing and reduced overall cost for the total number of regions evaluated and retained the prognostic significance of R-ISS, making it suitable for clinical practice for molecular characterization of MM.

39: Gupta S, Shankar Jangra R, Gupta S. A simple and swift radiofrequency based epilation technique for gray and blonde hair. J Am Acad Dermatol. 2018 Dec 21. pii: S0190-9622(18)33103-7. doi: 10.1016/j.jaad.2018.12.030. [Epub ahead of print] PubMed PMID: 30582988.

40: Hadda V, Kumar R, Khilnani GC, Kalaivani M, Madan K, Tiwari P, Mittal S, Mohan A, Bhalla AS, Guleria R. Trends of loss of peripheral muscle thickness on ultrasonography and its relationship with outcomes among patients with sepsis. J Intensive Care. 2018 Dec 12;6:81. doi: 10.1186/s40560-018-0350-4. eCollection 2018. PubMed PMID: 30564367; PubMed Central PMCID: PMC6292013.

Background and aims: Data regarding trends of muscle loss on ultrasonography (USG) and its relationship with various outcomes among critically ill patients is limited. This study aimed to describe the trends of loss of muscle thickness of the arm and thigh (assessed using USG) and to determine the relationship between loss of muscle thickness and in-hospital and post-discharge outcomes.
Methods: Muscle thickness of 70 patients with sepsis was measured at the level of the mid-arm and mid-thigh using bedside USG on days 1, 3, 5, 7, 10 and 14 and then weekly till discharge or death. Patients were followed up for 90 days after discharge.
Results: The muscle thickness (mean ± SD) at the level of the mid-arm and mid-thigh on day 1 was 23.13 ± 4.83 mm and 31.21 ± 8.56 mm, respectively. The percentage muscle thickness [median (min, max)] decline at the mid-arm and mid-thigh was 7.61 (-1.51, 32.05)% and 10.62 (-1.48, 32.06)%, respectively on day 7 as compared to baseline (p < 0.001). The decline in muscle thickness at the mid-arm and mid-thigh were higher among non-survivors compared to survivors at all time points. Also, the decline in muscle thickness was significantly higher among patients with worse outcome at day 90. Patients with ICU-acquired weakness also had significantly higher decline in muscle thickness (p < 0.05). Early decline (from day 1 to day 3) in muscle thickness was associated with in-hospital mortality. The probability of death by day 14 was higher for patients who had early decline (from day 1 to day 3) in muscle thickness of ≥ 6.59% and ≥ 5.20% at the mid-arm [HR 7.3 (95% CI 1.5, 34.2)] and the mid-thigh [HR 8.1 (95% CI 1.7, 37.9)], respectively. Decline in thickness from day 1 to day 3 was a good predictor of in-hospital mortality with area under the curve (AUC) of 0.81 and 0.86 for arm and thigh muscles, respectively.
Conclusions: Critically ill patients with sepsis exhibit a gradual decline in muscle thickness of both the arm and thigh. Decline in muscle thickness was associated with in-hospital mortality. USG has a potential to identify patients at risk of worse in-hospital and post-discharge outcomes.

41: 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.

42: Hasija S, Talwar S, Makhija N, Chauhan S, Malhotra P, Chowdhury UK, Krishna NS, Sharma G. Randomized Controlled Trial of Heparin Versus Bivalirudin Anticoagulation in Acyanotic Children Undergoing Open Heart Surgery. J Cardiothorac Vasc Anesth. 2018 Dec;32(6):2633-2640. doi: 10.1053/j.jvca.2018.04.028. Epub 2018 Apr 12. PubMed PMID: 30482701.

OBJECTIVE: To determine the safety and efficacy of bivalirudin as an anticoagulant for pediatric open heart surgery (OHS) and to determine its appropriate dosage for this purpose.
DESIGN: Prospective, randomized controlled trial.
SETTING: Tertiary care hospital.
PARTICIPANTS: Fifty acyanotic children aged 1-12 years undergoing OHS.
INTERVENTIONS: The children were randomized to receive either 4 mg/kg of heparin (n = 25, group H) or 1 mg/kg of bivalirudin bolus followed by 2.5 mg/kg/h infusion (n = 25, group B) as the anticoagulant. The doses were adjusted to maintain activated clotting time (ACT) above 480 seconds. At the conclusion of surgery, protamine (1.3 mg/100 U of heparin) was administered to children in group H.
MEASUREMENTS AND MAIN RESULTS: The children were comparable in both groups with regard to demographic characteristics. The mean age and weight were 51.5 months and 13.4 kg in group H, and 59.3 months and 13.4 kg in group B. The dose of anticoagulant required was 4.0 ± 0.2 mg/kg in group H and 1.7 ± 0.2 mg/kg followed by 3.0 ± 0.7 mg/kg/h infusion in group B ($p < 0.001$). One child in group H required an additional dose compared to 13 (54.2%) children in group B. Intraoperatively, the ACT achieved was higher in group H compared to group B ($p < 0.05$). The ACT returned to baseline value after protamine administration in group H, but it remained elevated for 2 hours after termination of cardiopulmonary bypass (CPB) in group B ($p < 0.01$). The ACT was higher in group B compared to group H for 6 hours after termination of CPB ($p < 0.05$). Heparin prolonged the onset of clotting, decreased the rate and strength of thrombus formation, and inhibited platelet function to a greater extent than bivalirudin on viscoelastic coagulation testing. The total duration of surgery was prolonged in group B. The postoperative chest tube drainage was similar in group B (4.9 mL/kg) as in group H (5.9 mL/kg) in spite of higher ACT. The transfusion requirements were similar. No adverse event occurred in any patient.
CONCLUSION: Bivalirudin is a safe and effective anticoagulant for pediatric OHS. Though it is not suitable as a routine anticoagulant for this purpose, it may be used as a heparin alternative in instances when heparin cannot be used. The dose

required to maintain ACT for more than 480 seconds was 1.7 ± 0.2 mg/kg followed by 3.0 ± 0.7 mg/kg/h infusion. The ACT remained elevated for 2 hours after stopping the infusion. Bivalirudin did not increase postoperative bleeding and transfusion requirement.

43: Hussain SY, Kaur M. Perioperative concerns of a patient with Escobar syndrome for ocular surgery. Indian J Anaesth. 2018 Dec;62(12):1007-1009. doi: 10.4103/ija.IJA_585_18. PubMed PMID: 30636811; PubMed Central PMCID: PMC6299758.

44: Jagannath S, Garg PK. Recurrent Acute Pancreatitis: Current Concepts in the Diagnosis and Management. Curr Treat Options Gastroenterol. 2018 Dec;16(4):449-465. doi: 10.1007/s11938-018-0196-9. Review. PubMed PMID: 30232693.

PURPOSE OF REVIEW: There have been significant developments in the diagnosis, clinical approach, and management of patients with recurrent acute pancreatitis (RAP) in the last decade. This review systematically summarizes our current understanding of RAP.
NEW FINDINGS: Gallstones and alcohol are common causes of RAP. Non-alcohol non-biliary RAP (nAnB RAP) is a difficult group of patients after excluding these two causes because extensive workup is required to elucidate the etiology. Idiopathic RAP is diagnosed after excluding all the known causes and recurrence is noted to be higher in such patients. Patients with non-biliary RAP are prone to develop chronic pancreatitis (CP) suggesting a continuum from acute to recurrent to chronic pancreatitis. Often, patients destined to develop CP present at an earlier stage with RAP. Endoscopic ultrasound and magnetic resonance cholangiopancreatography (MRCP) are the investigations of choice to detect microlithiasis, choledocholithiasis, ductal abnormalities, peri-ampullary malignancies, and early changes of chronic pancreatitis. The role of pancreas divisum, sphincter of Oddi dysfunction, and anomalous pancreatobiliary union in causing RAP is controversial. Genetic testing may be advisable in younger patients.
CONCLUSION: With a focused approach and appropriate investigations, the etiology of RAP can be identified in a significant proportion of patients. Therapeutic options are limited and future research is needed to improve understanding of the disease.

45: Jain A, Sankar J, Anubhuti A, Yadav DK, Sankar MJ. Prevalence and Outcome of Sepsis-induced Myocardial Dysfunction in Children with 'Sepsis' 'With' and 'Without Shock'-A Prospective Observational Study. J Trop Pediatr. 2018 Dec 1;64(6):501-509. doi: 10.1093/tropej/fmx105. PubMed PMID: 29304220.

Objective: To estimate the prevalence and effects of sepsis-induced myocardial dysfunction (SIMD) in children with septic shock.
Methodology: Enrolled children with septic shock (n = 31) and sepsis (n = 30) underwent echocardiography and cardiac troponin-I (cTnI) estimation within first 3 h. SIMD was defined as presence of systolic/diastolic dysfunction by echocardiography.
Results: The prevalence of SIMD was 71% in 'septic shock' and 23% in 'sepsis'. Diastolic dysfunction (45.2%) was more prevalent than systolic dysfunction (32.3%). Children with SIMD had higher requirement of inotropes [81 vs. 44%; adjusted odds ratio: 1.41 (1.04-1.92)] in first 48 h. cTnI had low sensitivity (62.5%) and specificity (55.1%) for detecting SIMD. On follow-up at 3 months, there was no residual dysfunction in the majority (71.3%).
Conclusion: SIMD, especially diastolic dysfunction, is common in septic shock and may increase inotrope requirement. It is reversible in majority. Sepsis patients may have asymptomatic underlying SIMD. cTnI does not correlate with the degree of SIMD.

46: Jain D, Sukumar S, Mohan A, Iyer VK. Programmed death-ligand 1 immunoexpression in matched biopsy and liquid-based cytology samples of advanced stage non-small cell lung carcinomas. Cytopathology. 2018 Dec;29(6):550-557. doi: 10.1111/cyt.12605. Epub 2018 Jul 30. PubMed PMID: 29938855.

OBJECTIVE: Programmed death-ligand 1 (PD-L1) immunohistochemistry (IHC) is essential in patients of advanced non-small-cell lung cancer to determine eligibility for immunotherapy. PD-L1 IHC assays have been clinically validated only on formalin-fixed paraffin-embedded tissue; however, lung cancer is frequently diagnosed on cytology. PD-L1 immunocytochemistry (ICC) has shown high concordance of immunoexpression between cytology samples and paired small biopsies. Feasibility of liquid-based cytology (LBC) smears for PD-L1 ICC has not been analysed previously.
METHODS: PD-L1 ICC and IHC (clone SP263) were performed on paired LBC smears and small biopsies, respectively, in patients with advanced non-small-cell lung cancer. Cases with fewer than 100 viable tumour cells on LBC smear/biopsy were excluded from analysis. PD-L1 was interpreted positive when 25% or more tumour cells showed membranous and/or cytoplasmic protein expression of any intensity greater than background staining.
RESULTS: A total of 26 patients, harbouring adenocarcinomas (50%) and squamous cell carcinomas (50%), had available bronchial brushings/washings processed as LBC smears and concurrently obtained endobronchial biopsies. PD-L1 IHC was interpreted positive in 46% (12/26) biopsies. PD-L1 ICC was interpreted positive in 35% (9/26) LBC smears, all of which were IHC-positive. No IHC-negative case was positive on cytology. The overall concordance between LBC smears and small biopsies was 88.4%.
CONCLUSION: PD-L1 ICC can be performed on LBC processed smears, with certain challenges in interpretation inherent to LBC smears and their processing methods. Nevertheless, they represent a potential resource for ICC, especially when alternate histology material is not available. Future studies are required to validate the predictive value of PD-L1 ICC on LBC smears.

47: Jain G, Kumar C, Damle N, Kumar M, Ranjan A, Tanwar P. Esophageal Squamous Cell Carcinoma Metastatic to Umbilicus: a Case Report with Review of Literature. J Gastrointest Cancer. 2018 Dec 14. doi: 10.1007/s12029-018-00185-7. [Epub ahead of print] PubMed PMID: 30552555.

48: Jauhari P, Saini L, Chakrabarty B, Kumar A, Gulati S. Juvenile Canavan Disease: A Leukodystrophy without White Matter Changes. Neuropediatrics. 2018 Dec;49(6):420-421. doi: 10.1055/s-0038-1672175. Epub 2018 Oct 10. PubMed PMID: 30304741.

49: Kakkar A, Guleria P, Madan K, Kumar R, Kumar S, Jain D. Immunohistochemical Assessment of BAP1 Protein in Mucoepidermoid Carcinomas. Indian J Otolaryngol Head Neck Surg. 2019 Mar;71(1):33-37. doi: 10.1007/s12070-018-1549-3. Epub 2018 Dec 19. PubMed PMID: 30906710; PubMed Central PMCID: PMC6401040.

Mucoepidermoid carcinomas are common malignant salivary gland tumors. Despite recent advances in diagnosis and treatment, there has not been much improvement in outcome of these patients, necessitating identification of novel targeted therapeutic agents. Genomic profiling of mucoepidermoid carcinomas has recently revealed aberrations in BAP1 gene. Therefore, we conducted this study to identify BAP1 loss by immunohistochemistry in these tumors. Mucoepidermoid carcinoma cases were retrieved; hematoxylin-and-eosin stained sections were reviewed. Immunohistochemistry for BAP1 was performed. Forty cases were assessed, including 25 salivary gland and 15 pulmonary mucoepidermoid carcinomas. There were 19 cases in the parotid (76%), two in submandibular gland (8%), and remaining 16% from minor salivary gland locations. Ten (40%) were low grade, nine (36%) were intermediate grade, and six (24%) were high grade mucoepidermoid carcinomas. Thirteen (86.7%) pulmonary mucoepidermoid carcinomas were tracheobronchial, while two (13.3%) were intraparenchymal; all were low grade mucoepidermoid carcinomas. On immunohistochemistry, BAP1 nuclear staining was retained in all cases (100%), irrespective of tumor location or grade. Therapeutic connotations necessitate the identification of readily applicable techniques to detect BAP1 loss in mucoepidermoid carcinomas. Using immunohistochemistry, loss of BAP1 staining was not seen in any of our cases, suggesting insensitivity of BAP1 IHC to detect aberrations at genomic level in these tumors. Analysis of BAP1 alterations by targeted sequencing may therefore be performed prior to excluding the possibility

of response to BAP1-targeted therapeutics based on immunohistochemistry alone.

50: 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.

51: Kapil U. Adaptations in the IMCI Algorithm in Diagnosis of Acute Respiratory Tract Infections. Indian J Pediatr. 2018 Dec;85(12):1057-1058. doi: 10.1007/s12098-018-2804-z. Epub 2018 Nov 16. Review. PubMed PMID: 30446931.

52: Kar M, Nisheetha A, Kumar A, Jagtap S, Shinde J, Singla M, M S, Pandit A, Chandele A, Kabra SK, Krishna S, Roy R, Lodha R, Pattabiraman C, Medigeshi GR. Isolation and molecular characterization of dengue virus clinical isolates from pediatric patients in New Delhi. Int J Infect Dis. 2018 Dec 7. pii: S1201-9712(18)34953-1. doi: 10.1016/j.ijid.2018.12.003. [Epub ahead of print] PubMed PMID: 30528666.

OBJECTIVE: To characterize the in vitro replication fitness, viral diversity, and phylogeny of dengue viruses (DENV) isolated from Indian patients.
METHODS: DENV was isolated from whole blood collected from patients by passaging in cell culture. Passage 3 viruses were used for growth kinetics in C6/36 mosquito cells. Parallel efforts also focused on the isolation of DENV RNA from plasma samples of the same patients, which were processed for next-generation sequencing.
RESULTS: It was possible to isolate 64 clinical isolates of DENV, mostly DENV-2. Twenty-five of these were further used for growth curve analysis in vitro, which showed a wide range of replication kinetics. The highest viral titers were associated with isolates from patients with dengue with warning signs and severe dengue cases. Full genome sequences of 21 DENV isolates were obtained. Genome analysis mapped the circulating DENV-2 strains to the Cosmopolitan genotype.
CONCLUSIONS: The replication kinetics of isolates from patients with mild or severe infection did not differ significantly, but the viral titers varied by two orders of magnitude between the isolates, suggesting differences in replication fitness among the circulating DENV-2.

53: Kar SK, Singh A, Garg K, Gupta B. Source of information about mental illness among medical students in a tertiary care centre of North India. Asian J Psychiatr. 2019 Jan;39:101-103. doi: 10.1016/j.ajp.2018.12.013. Epub 2018 Dec 23. PubMed PMID: 30599449.

54: Kaur G, Gupta R, Mathur N, Rani L, Kumar L, Sharma A, Singh V, Gupta A, Sharma OD. Clinical impact of chromothriptic complex chromosomal rearrangements

in newly diagnosed multiple myeloma. Leuk Res. 2019 Jan;76:58-64. doi: 10.1016/j.leukres.2018.12.005. Epub 2018 Dec 15. PubMed PMID: 30576858.

Complex Chromosomal Rearrangements (CCRs) are increasingly being reported as genetic risk factors of clinical significance in cancer owing to their identification using high resolution whole genome profiling technologies. This study employed high resolution CGH+SNP microarrays for whole genome copy number variations (CNV) profiling and identified CCRs in 11/107(10%) newly diagnosed Multiple Myeloma (MM) patients. Six patients exhibited Chromothripsis (CTH) among seven chromosomes that were confirmed with automated CTLPscanner web tool and; five cases displayed chromoplexy (CPL) which involved multiple chromosomes. Presence of chromothripsis in chromosome 17 in three out of six patients indicate a link between TP53 aberrations and incidence of CTH. Multivariable Cox regression model demonstrated a significant association of CTH with poor PFS (HR=3.09, p=0.010) and OS (HR=3.31, p=0.024) which suggests that CTH is an additional independent prognostic marker in multiple myeloma. Addition of CTH in risk stratification models in clinical setting in multiple myeloma may help in upfront identification of high risk patients for suitable customized therapy.

55: Kaushal A, Goyal P, Dhiraaj S, Agarwal A, Singh PK. Identification of Various Perioperative Risk Factors Responsible for Development of Postoperative Hypoxaemia. Turk J Anaesthesiol Reanim. 2018 Dec;46(6):416-423. doi: 10.5152/TJAR.2018.82160. Epub 2018 Mar 1. PubMed PMID: 30505603; PubMed Central PMCID: PMC6223866.

Objective: Identification of risk factors that might be responsible for postoperative hypoxaemia, in view of changing profile of surgical patients and better but more complex perioperative care nowadays.
Methods: We conducted a prospective observational study that included patients aged 18-65 years, who underwent elective surgery and required general anaesthesia. Oxygen saturation was monitored before the induction in operating room and continued 72 hours post-surgery. Patients were maintained on room air if SpO2 remained >94%. If SpO2 was between 90% and 94%, then patients were provided oxygen therapy via face mask (flow rate at 5-6 litre min-1). If SpO2 was between 89%-85% despite oxygen therapy with face mask, the Bilevel Positive Airway Pressure (BiPAP) was applied. If SpO2 was <85% despite therapy with face mask, or if patient was unable to maintain SpO2>90% on BiPAP, then patient was intubated, and ventilatory support was provided.
Results: Out of 452 patients, 61 developed SpO2 ≤94% requiring oxygen therapy (13.5%). Oxygen therapy by face mask was required in 51 patients, BiPAP in 8 and ventilatory support with endotracheal intubation in 2. Age, body mass index (BMI), smoking status, presence of preoperative respiratory disease, SPO2 (on room air) at baseline and immediately after the transfer to the post-anaesthesia care unit (PACU) were independently associated with postoperative oxygen therapy.
Conclusion: The risk of postoperative hypoxaemia was highest in patients aged 51-65 years, BMI higher than 30, current and former smokers, pre-existing respiratory disease, chronic obstructive pulmonary disease, patients with 96% oxygen saturation or less at baseline or after shifting to PACU. The type of surgical incision, duration of surgery and dose of opioids administered were not independent risk factors.

56: Khandelwal A, Gupta S, Prabhakar H, Burman S. Venous air embolism following application of Mayfield head clamp: A word of caution. Indian J Anaesth. 2018 Dec;62(12):1002-1003. doi: 10.4103/ija.IJA_477_18. PubMed PMID: 30636808; PubMed Central PMCID: PMC6299772.

57: Khandelwal A, Chaturvedi A, Singh GP, Mishra RK. Intractable brain swelling during cerebral arteriovenous malformation surgery due to contralateral acute subdural haematoma. Indian J Anaesth. 2018 Dec;62(12):984-987. doi: 10.4103/ija.IJA_491_18. PubMed PMID: 30636801; PubMed Central PMCID: PMC6299763.

Severe brain swelling during routine neurosurgery can herald serious consequences. Failure to control brain swelling despite adequate measures warns

of a surgical cause and should be dealt efficiently. We report a case of an adult female who developed intraoperative acute subdural haematoma (SDH) and consequent intractable brain swelling during surgery of supratentorial arteriovenous malformation (AVM). Such a manifestation of contralateral acute SDH during supratentorial AVM surgery has not been reported earlier.

58: Khanna K, Agarwala S, Bakhshi S, Srinivas M, Jana M, Devasenathipathy K, Bajpai M, Bhatnagar V. Need for urodynamic evaluation as a regular follow-up tool in assessment of long-term urological outcomes in patients with sacrococcygeal teratoma. J Pediatr Surg. 2018 Dec 29. pii: S0022-3468(18)30811-X. doi: 10.1016/j.jpedsurg.2018.11.020. [Epub ahead of print] PubMed PMID: 30686521.

AIM: To assess the long-term urologic outcomes in follow-up of patients of sacrococcygeal teratoma (SCT) using urodynamic study (UDS) in addition to clinical and radiologic evaluation.
METHODS: A prospective study of clinical, radiological and urodynamic evaluation in patients with SCT who underwent resection between January 2002-June 2015 and were followed up till January 2016 was conducted.
RESULTS: Total 57 patients, 42 (73.7%) females and 15 (26.3%) males with 35 (62.4%) following treatment for benign and 22 (38.5%) for malignant disease were included. Twenty-eight of 57 (49.12%) had urological problems. Clinical complaints in 21 (36.8%) patients included stress urinary incontinence-14 (66.7%), enuresis-9 (42.9%), and poor stream or dribbling of urine-6 (28.6%). Eight of 51 patients (15.7%) had abnormal ultrasound findings, which included contracted, trabeculated thick walled bladder (3), bilateral hydronephrosis (3) and significant post void residue (PVR) (6). Seven of 57 underwent micturating cystourethrogram (MCU), 5 had an abnormal report[significant PVR (4), small trabeculated bladder (3), reflux (2) and large capacity bladder (1)]. Urodynamic study was done in 27 patients, 18/27 (66.7%) had abnormalities. Six patients without any clinical or ultrasonographic abnormalities had abnormal UDS. Total 28 (49.12%) had urological comorbidities. Three patients had overactive bladder, five dysfunctional voiding, one underactive bladder and one had giggle incontinence. Children were managed by behaviour therapy and pharmacotherapy.
CONCLUSION: Urodynamic evaluation could detect abnormalities in patients who had no urinary complaints or abnormality on ultrasound. The abnormalities have a potential for progressive upper tract damage. Urodynamics should be an integral part of urological surveillance in patients operated for SCT.
TYPE OF STUDY: Prognostic study.
LEVEL OF EVIDENCE: Level II (Prospective cohort study).

59: Khanna K, Khanna V, Bhatnagar V. Peutz-Jeghers syndrome: need for early screening. BMJ Case Rep. 2018 Dec 13;11(1). pii: e225076. doi: 10.1136/bcr-2018-225076. PubMed PMID: 30567229.

Peutz-Jeghers syndrome (PJS) is an autosomal dominant cancer-predisposing condition characterised by intestinal hamartomatous polyps and distinct melanin depositions in skin and mucosa. Small intestinal cancer in patients with PJS usually presents by the third decade. A 7-year-old-PJS boy presented with recurrent episodes of colicky abdominal pain and melena requiring repeated blood transfusions. Abdominal CT scan revealed multiple jejunal polyps with jejunoileal intussusception. On exploration, the intussuscepted bowel was resected along with its mesentery and anastomosed. Simultaneously, multiple enterotomies with resection of palpable polyps were performed. The resected bowel showed well-differentiated stage 2A adenocarcinoma with clear resected margins. Postoperatively, the complaints were relieved. On follow-up, he was asymptomatic and is now on yearly cancer surveillance. This is probably the youngest reported case of small bowel cancer in PJS.

60: Khanna K, Dhua AK, Bhatnagar V. Antenatally Diagnosed Surgical Conditions: Fetus As Our Patient. Indian J Pediatr. 2018 Dec;85(12):1101-1109. doi: 10.1007/s12098-018-2732-y. Epub 2018 Jul 3. Review. PubMed PMID: 29968133.

In today's era of improved antenatal care and screening modalities (3D

high-resolution fetal ultrasound, fetal magnetic resonance imaging, fetal echocardiography, maternal serum markers and fetal blood sampling), an early diagnosis of surgical fetal abnormalities is routinely possible. A thorough knowledge about the incidence of such defects, the means of detection and evaluation, the scope of fetal intervention, postnatal management and long-term outcomes of common surgical conditions diagnosed antenatally is essential. This knowledge would not only help in proper patient care and management but also to ensure appropriate counselling of the expectant parents. This article highlights the fetal anomalies which are amenable to some form of fetal intervention from a pediatric surgical perspective as also those which can be treated after birth.

61: Khera D, John J, Singh K, Faruq M. Tay-Sachs disease: a novel mutation from India. BMJ Case Rep. 2018 Dec 13;11(1). pii: e225916. doi: 10.1136/bcr-2018-225916. PubMed PMID: 30567231.

Lysosomal storage disorders or lipidoses are a wide spectrum of inherited diseases caused by deficiency of a specific lysosomal hydrolase. About 134 mutations have been described so far and this number is gradually increasing with newer mutations being reported. We report a 28-month-old child who presented to us with neurodevelopment regression, seizures and cherry red spot in both eyes. His hexosaminidase A enzyme activity was reduced and genetic testing revealed a homozygous novel variation in HEXA (hexosaminidase A) gene in the DNA sample of the patient.

62: Khokhar S, Takkar B, Agarwal E, Gaur N, Ravani R, Venkatesh P. Biometric evaluation of myopic eyes without posterior staphyloma: disproportionate ocular growth. Int Ophthalmol. 2018 Dec;38(6):2427-2434. doi: 10.1007/s10792-017-0745-6. Epub 2017 Oct 24. PubMed PMID: 29067532.

PURPOSE: To evaluate changes in the anterior segment of myopic eyes and assess anterior biometry as a function of axial length (AL).
DESIGN: Retrospective investigational study.
PARTICIPANTS: Patients evaluated for phakic intraocular lens surgery at a tertiary eye care centre.
METHODS: Patients with corrected visual acuity > 20/40 and AL > 24.5 mm were included in the study. Posterior staphyloma and maculopathy were ruled out in all the patients, and 176 eyes were included for analysis. AL was measured with partial coherence interferometry, while keratometry, central corneal thickness (CCT), anterior chamber depth (ACD), and horizontal white to white (WTW) were measured with slit-scanning topography. Group 1 included 55 eyes with AL < 26.5 mm, group 2 had 57 eyes with AL between 26.5 and 28.5 mm while group 3 had 64 eyes with AL > 28.5 mm.
MAIN OUTCOME MEASURE: Correlation of AL with anterior biometry.
RESULTS: The mean AL of the study eyes was 27.88 + 2.14 mm. The mean values of ACD (2.99 mm), CCT (0.52 mm), WTW (11.68 mm), and keratometry (43.62 D) were within the normal range. Overall, very weak correlations could be established between AL and CCT (R = 0.17, p = 0.02), AL and keratometry (R = - 0.28, p < 0.001), and AL and WTW (R = 0.22, p = 0.002), while ACD did not relate to AL significantly. The ACD and CCT did not relate significantly to AL in any of the three groups. Keratometry had a weak negative relation with AL in groups 1 and 2, while WTW had a weakly positive relation with AL in group 2 only. No variable had any significant relation with AL in group 3.
CONCLUSION: There is disproportionate elongation of the eyeball in myopic patients with very weak or no correlation between anterior biometry and AL. This discord is more in longer eyes. Such a scenario can be challenging to a refractive surgeon treating highly myopic eyes and needs further evaluation.

63: Khurana S, Kumari M, Bhardwaj N, Kumar S, Sagar S, Malhotra R, Mathur P. T-helper-17, Regulatory T-helper Cells Related Serum Markers and IL-13 in the Outcome of Polytraumatic Patients with Bacteremia. Iran J Immunol. 2018 Dec;15(4):302-308. doi: 10.22034/IJI.2018.39399. PubMed PMID: 30593744.

BACKGROUND: Bacteremia and sepsis are associated with high mortality, increased

hospital stays, and associated costs, especially in trauma patients. Sepsis is a fatal immunological disorder and its pathophysiology is still poorly understood.
OBJECTIVE: To ascertain the role of T-helper lymphocyte-related inflammatory serum cytokines in trauma patients with blood culture positive with Gram-negative bacteria.
METHODS: Peripheral blood samples (5 ml) were collected from 40 trauma patients on the day of obtaining positive blood culture (i.e., day 0), followed by an appropriate antimicrobial treatment and sample acquisition on day 4 and only once from 40 age-matched healthy controls. Bead-based cytometric analysis was used to quantify extracellular levels of 16 serum cytokines. The cytokine profiles were compared with those in healthy controls and then correlated to clinical outcomes.
RESULTS: A total of 40 patients were enrolled during the study period. Of these, 24 patients (60%) were discharged while 16 (40%) had a fatal outcome. Statistically significant elevated levels of serum IL-6, IFN-γ, TNF-α, IL-17A, IL-17F, and IL-4 were observed in septic patients, while lowered IL-13 levels correlated significantly with a favorable outcome.
CONCLUSION: Sepsis following trauma elicits a heightened immune response in the body and provokes the production of a diverse array of cytokines that is both pro-inflammatory and anti-inflammatory. However, the unique cytokine profile of septic trauma patients is still not well understood.

64: Khurana U, Majumdar K, Kapoor N, Joshi D, Goel G, Sharma T, Biswas D. Spectrum of parasitic infections in centrifuged urine sediments from a newly developed tertiary care centre in Central India. J Parasit Dis. 2018 Dec;42(4):608-615. doi: 10.1007/s12639-018-1043-6. Epub 2018 Oct 29. PubMed PMID: 30538361; PubMed Central PMCID: PMC6261132.

Detection of urinary parasites is relatively rare and incidental finding in routine urine examination. Common urinary parasitic infections as described in literature include Trichomonas, Schistosoma hematobium and Microfilaria. Trichomonas vaginalis is known to cause vaginitis and urethritis, and may be found in urine sediments. In this study, the spectrum of urinary parasitic infections that had been reported in the last one and a half year was evaluated, and point prevalence in this zone was estimated. Microbiologist opinion had been taken in the difficult cases. Out of the total centrifuged urine sediments examined, urinary parasitic infection was found in 33 cases. The calculated point prevalence is 0.39%. Most common parasitic infection reported was flagellates (27 cases: 25 T. vaginalis, 2 commensal flagellate closest to Chylomastix), followed by three cases showing eggs of Enterobius vermicularis, one case showing larvae of Strongyloides stercoralis and two cases of ciliate protozoa. One of the ciliate protozoa was Balantidium coli and the other one was Balantidium like ciliate morphologically closest to Chilodonella spp. Pyuria was found in 22 out of the 33 cases and hematuria in 17 out of 33 cases. A fairly wide morphological spectrum of parasites may be diagnosed through microscopic examination of centrifuged urine sediment. They may cause pyuria and haematuria, and morphological awareness helps in prompt and effective management in most cases.

65: Kovic B, Jin X, Kennedy SA, Hylands M, Pedziwiatr M, Kuriyama A, Gomaa H, Lee Y, Katsura M, Tada M, Hong BY, Cho SM, Hong PJ, Yu AM, Sivji Y, Toma A, Xie L, Tsoi L, Waligora M, Prasad M, Bhatnagar N, Thabane L, Brundage M, Guyatt G, Xie F. Evaluating Progression-Free Survival as a Surrogate Outcome for Health-Related Quality of Life in Oncology: A Systematic Review and Quantitative Analysis. JAMA Intern Med. 2018 Dec 1;178(12):1586-1596. doi: 10.1001/jamainternmed.2018.4710. PubMed PMID: 30285081.

Importance: Progression-free survival (PFS) has become a commonly used outcome to assess the efficacy of new cancer drugs. However, it is not clear if delay in progression leads to improved quality of life with or without overall survival benefit.
Objective: To evaluate the association between PFS and health-related quality of life (HRQoL) in oncology through a systematic review and quantitative analysis of published randomized clinical trials. Eligible trials addressed oral, intravenous, intraperitoneal, or intrapleural chemotherapy or biological

treatments, and reported PFS or health-related quality of life.
Data Sources: For this systematic review and quantitative analysis of randomized clinical trials of patients with cancer, we searched Medline, Embase, and the Cochrane Central Register of Controlled Trials from January 1, 2000, through May 4, 2016.
Study Selection: Paired reviewers independently screened citations, extracted data, and assessed risk of bias of included studies.
Data Extraction and Synthesis: We examined the association of difference in median PFS duration (in months) between treatment groups with difference in global, physical, and emotional HRQoL scores between groups (standardized to a range of 0-100, with higher scores representing better HRQoL) using weighted simple regressions.
Main Outcome and Measure: The association between PFS duration and HRQoL.
Results: Of 35 960 records screened, 52 articles reporting on 38 randomized clinical trials involving 13 979 patients across 12 cancer types using 6 different HRQoL instruments were included. The mean (SD) difference in median PFS between the intervention and the control arms was 1.91 (3.35) months. The mean (SD) differences in change of HRQoL adjusted to per-month values were -0.39 (3.59) for the global domain, 0.26 (5.56) for the physical domain, and 1.08 (3.49) for the emotional domain. The slope of the association between the difference in median PFS and the difference in change for global HRQoL (n = 30 trials) was 0.12 (95% CI, -0.27 to 0.52); for physical HRQoL (n = 20 trials) it was -0.20 (95% CI, -0.62 to 0.23); and for emotional HRQoL (n = 13 trials) it was 0.78 (95% CI, -0.05 to 1.60).
Conclusions and Relevance: We failed to find a significant association between PFS and HRQoL in cancer clinical trials. These findings raise questions regarding the assumption that interventions prolonging PFS also improve HRQoL in patients with cancer. Therefore, to ensure that patients are truly obtaining important benefit from cancer therapies, clinical trial investigators should measure HRQoL directly and accurately, ensuring adequate duration and follow-up.

66: Kumar A, Hasan N, Kakkar P, Mutha V, Karthikeya R, Sundar D, Ravani R. Comparison of clinical outcomes between "heads-up" 3D viewing system and conventional microscope in macular hole surgeries: A pilot study. Indian J Ophthalmol. 2018 Dec;66(12):1816-1819. doi: 10.4103/ijo.IJO_59_18. PubMed PMID: 30451186; PubMed Central PMCID: PMC6256912.

Purpose: To compare clinical outcomes of patients undergoing macular hole surgery with heads-up three-dimensional (3D) viewing system and conventional microscope.
Methods: In all, 50 eyes of 50 patients with stage 3 or 4 macular hole were randomized and macular hole surgery [inverted internal limiting membrane (ILM) flap technique] was performed in 25 eyes using 3D viewing system and 25 eyes using conventional microscope. All surgeries were performed by a single surgeon. Patients were followed up for a period of 3 months. Logarithm of the minimum angle of resolution (logMAR) visual acuity, macular hole index, intraoperative parameters such as total surgical time, total ILM peel time, number of flap initiations, duration of Brilliant Blue G dye exposure, illumination intensity, postoperative logMAR visual acuity, and macular hole closure rates were recorded and compared between the two groups.
Results: The mean age was 67.92 ± 7.95 and 67.96 ± 4.78 years in both groups, respectively (P = 0.98). Gender (P = 0.38) and right versus left eye (P = 0.39) were also comparable. Preoperative and postoperative best-corrected visual acuity (P = 0.86, 0.92), macular hole index (P = 0.96), total surgical time (P = 0.56), total ILM peel time (P = 0.49), number of flap initiations (P = 0.11), and macular hole closure rates (P = 0.61) were not statistically significant when compared between the two groups. Illumination intensity of microscope (100% vs 45%) and endoillumination (40% vs 13%) were significantly less in the 3D viewing system.
Conclusion: The clinical outcomes of macular hole surgery using 3D viewing system are not inferior to that of conventional microscopes, and it has the added advantages of better ergonomics, reduced phototoxicity, peripheral visualization, magnification, and less asthenopia, and it serves as a good educational tool.

67: Kumar A, Padhy SK. Commentary: Influence of orientation of the external linear incision created by the 25-gauge trocar and related factors on sclerotomy closure: A clinical and optical coherence tomographic study. Indian J Ophthalmol. 2018 Dec;66(12):1815. doi: 10.4103/ijo.IJO_1640_18. PubMed PMID: 30451185; PubMed Central PMCID: PMC6256866.

68: Kumar J, Singh A, Seth R, Xess I, Jana M, Kabra SK. Prevalence and Predictors of Invasive Fungal Infections in Children with Persistent Febrile Neutropenia Treated for Acute Leukemia - A Prospective Study. Indian J Pediatr. 2018 Dec;85(12):1090-1095. doi: 10.1007/s12098-018-2722-0. Epub 2018 Jun 29. PubMed PMID: 29956075.

OBJECTIVE: To ascertain the prevalence of invasive fungal infections (IFI), predictors of IFI, identify etiological species and outcome (mortality/discharge) in persistent febrile neutropenia in children with acute leukemia.
METHODS: It was a prospective, observational study conducted from January 2013 through June 2014 in a tertiary care centre in New Delhi. Children between 1 and 12 y of age, on chemotherapy for acute leukemia with persistent febrile neutropenia (> 96 h) were enrolled. These children were not on any antifungal prophylaxis. Diagnosis of IFI was based on European Organization for Research and Treatment of Cancer and Mycoses Study Group (EORTC/MSG) criteria. Prevalence and outcome was reported in mean ± 95% CI form and etiological species were presented in the form of the frequency distribution.
RESULTS: Three hundred nineteen episodes involving 187 children of febrile neutropenia were screened and 74 were enrolled. Prevalence of IFI was 22.97% (13.99-34.21). Positive cases were further classified into proven 3(17.6%), probable 11(64.8%) and possible 3(17.6%) according to EORTC/MSG criteria. On multivariate analysis, abnormal CXR and clinical sinusitis were important predictors of IFI. Most common fungi isolated was Aspergillus sp. followed by Candida sp. Mortality rate was 9.45% (3.89-18.52).
CONCLUSIONS: Thus, prevalence of IFI is very high in children with persistent febrile neutropenia who are not on antifungal prophylaxis. Abnormal chest x- ray and clinical sinusitis are important predictors of IFI.

69: 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.

70: Kumar R, Gupta N, Himani, Sharma A. Novel combination of tanshinone I and lenalidomide induces chemo-sensitivity in myeloma cells by modulating telomerase

activity and expression of shelterin complex and its associated molecules. Mol Biol Rep. 2018 Dec;45(6):2429-2439. doi: 10.1007/s11033-018-4409-z. Epub 2018 Oct 11. PubMed PMID: 30311125.

Shelterin complex and its associated molecules are imperative for proper functioning and maintenance of human telomeres. These molecules in association with human telomerase have been found altered in most cancers including multiple myeloma thereby proposed them as suitable therapeutic targets. Further, due to aggressive and recurring behavior of myeloma novel, efficacious and safe therapeutic agents for disease prevention are primary requirements for treatment of this disease. This maiden attempt evaluated the anti-proliferative properties of tanshinone I (TanI) alone or in combination with lenalidomide (Len) on myeloma cancer cell lines (RPMI8226 and U226). Further, after drug treatment levels of telomerase activity (TA) and molecular expression (mRNA & protein) of shelterin complex and its associated molecules have also been investigated. Results demonstrated that, TanI significantly inhibited proliferation of myeloma cells in dose and time dependent manner as observed through cytotoxicity assay. Additionally, induction of apoptosis by TanI and in combination with Len was observed in myeloma cells through propidium iodide (PI) staining, annexin V-FITC/PI staining, TUNEL and caspase-3/7 activity assays. Further, drug treatment significantly decreased ($p < 0.01$) TA and molecular expression of ACD, TERF2IP and TANK1 in comparison to vehicle control (0.1% DMSO) myeloma cells. Thus, this maiden in-vitro study provided initial evidences of therapeutic potential of TanI alone or in combination with chemotherapeutic agent Len as novel anticancer agents in myeloma cells which need further evaluation in future. Lastly, down-regulation of TA and decreased expression of these molecules underscores their potential as plausible therapeutic targets.

71: Kumar R, Gautam M, Prasoon P, Gupta S, Ray SB. Comparison of the peripheral antinociceptive effect of somatostatin with bupivacaine and morphine in the rodent postoperative pain model. Eur J Anaesthesiol. 2018 Dec;35(12):955-965. doi: 10.1097/EJA.0000000000000825. PubMed PMID: 29762151.

BACKGROUND AND OBJECTIVES: Infiltration of surgical wound with local anaesthetics attenuate postoperative pain. However, side effects can also occur. Somatostatin (SST) and its analogues like octreotide reportedly reduce peripheral sensitisation. The current study evaluates peripherally mediated antinociceptive effect of SST in a rat model of postoperative pain. This was compared with bupivacaine and morphine under identical experimental conditions.
DESIGN: Randomised vehicle-controlled blind study.
SETTING: Pain research laboratory, All India Institute of Medical Sciences, New Delhi from February 2014 to July 2017.
EXPERIMENTAL SUBJECT: Rodent hind paw incision model.
INTERVENTIONS: Sprague-Dawley rats were subjected to incision and one of the following drugs administered into the open wound once by a micropipette: SST (10, 30 or 100μg), bupivacaine (3, 10, 30, 50 or 100μg) or morphine (100μg). Antinociceptive effect of SST was further evaluated for its reversibility, site of action, effect on spinal c-fos expression and blood glucose level. The site of action of morphine was also investigated.
MAIN OUTCOME MEASURE: Nociception was estimated by nonevoked (guarding behaviour) and evoked (mechanical allodynia and thermal hyperalgesia) pain behaviours between 2h and days 4 to 7.
RESULTS: Nociception was maximum 2h after incision. SST (10 to 100μg) significantly attenuated guarding behaviour between 2h and day 2. A delayed inhibitory effect was observed on allodynia. Bupivacaine (10 to 100μg doses) similarly decreased guarding score up to day 2 though evoked pain behaviours were relatively unaffected. In contrast, morphine produced a potent but transient inhibitory effect on guarding score at 2h, which was mediated by both peripheral and central opioid receptors. The antinociceptive effect of SST was peripherally mediated by type 2 receptors and was associated with decreased c-fos staining. Blood glucose level was unaltered.
CONCLUSION: Guarding behaviour, which likely represents pain-at-rest following

surgery, was attenuated by both bupivacaine and SST to comparable extents. This novel peripherally mediated antinociceptive effect of SST needs further evaluation.

72: Kumar S, Sharawat SK. Epigenetic regulators of programmed death-ligand 1 expression in human cancers. Transl Res. 2018 Dec;202:129-145. doi: 10.1016/j.trsl.2018.05.011. Epub 2018 Jun 9. Review. PubMed PMID: 30401465.

The programmed cell death protein 1-programmed death-ligand 1 (PD-L1) axis has been successfully targeted in clinics and the use of immune check-point inhibitors have shown durable antitumor response in untreated or heavily treated advanced stage cancer. PD-L1 upregulation has been found to correlate with poor prognosis in multiple cancer types and expression of PD-L1 in intratumoral compartment has been suggested to influence immune response and act as a key determinant of checkpoint immunotherapy efficacy. Hence it becomes critical to understand the regulation of PD-L1 expression in cancer. Role of oncogenic signaling pathways and transcription factors such as PI3K-AKT, MEK-ERK, JAK-STAT, MYC, HIF-1α, AP-1 and NF-κB is well established in inducing PD-L1 expression. Even the structural variations resulting in the truncation of the 3' untranslated region (UTR) of PD-L1 has been shown to upregulate PD-L1 expression in multiple cancer types. Since microRNAs carry out post-transcriptional gene silencing by binding to the 3' UTR of its target messenger RNA, truncation of PD-L1 3' UTR can result in alleviation of PD-L1 suppression mediated by microRNA, leading to its overexpression. Other epigenetic modifications, such as promoter DNA methylation and histone modifications can also play crucial role in regulating PD-L1 expression. Here, we review recent findings and evidence on epigenetic mechanisms that regulate PD-L1 expression and the biological and clinical implications of such regulation in cancer.

73: Kumar S, Gosain M, Sharma H, Swetts E, Amarchand R, Kumar R, Lafond KE, Dawood FS, Jain S, Widdowson MA, Read JM, Krishnan A. Who interacts with whom? Social mixing insights from a rural population in India. PLoS One. 2018 Dec 21;13(12):e0209039. doi: 10.1371/journal.pone.0209039. eCollection 2018. PubMed PMID: 30576333; PubMed Central PMCID: PMC6303083.

Acute lower respiratory infections (ALRI) are a leading cause of morbidity and mortality globally, with most ALRI deaths occurring in children in developing countries. Computational models can be used to test the efficacy of respiratory infection prevention interventions, but require data on social mixing patterns, which are sparse in developing countries. We describe social mixing patterns among a rural community in northern India. During October 2015-February 2016, trained field workers conducted cross-sectional face-to-face standardized surveys in a convenience sample of 330 households in Faridabad District, Haryana State, India. Respondents were asked about the number, duration, and setting of social interactions during the previous 24 hours. Responses were compared by age and gender. Among the 3083 residents who were approached, 2943 (96%) participated, of whom 51% were male and the median age was 22 years (interquartile range (IQR) 9-37). Respondents reported contact (defined as having had a face-to-face conversation within 3 feet, which may or may not have included physical contact) with a median of 17 (IQR 12-25) people during the preceding 24 hours. Median total contact time per person was 36 person-hours (IQR 26-52). Female older children and adults had significantly fewer contacts than males of similar age (Kruskal-Wallis $\chi2 = 226.59$, $p<0.001$), but spent a longer duration in contact with young children (Kruskal-Wallis $\chi2 = 27.26$, $p<0.001$), suggesting a potentially complex pattern of differential risk of infection between genders. After controlling for household size and day of the week, respondent age was significantly associated with number and duration of contacts. These findings can be used to model the impact of interventions to reduce lower respiratory tract infections in India.

74: Kumar V, Kumawat D, Kumar P. Swept source optical coherence tomography analysis of choroidal thickness in macular telangiectasia type 2: a case-control study. Graefes Arch Clin Exp Ophthalmol. 2019 Mar;257(3):567-573. doi:

10.1007/s00417-018-04215-9. Epub 2018 Dec 17. PubMed PMID: 30560414.

PURPOSE: There has been a recent interest in the association of macular telangiectasia (MacTel) type 2 with central serous choroidopathy and other pachychoroid disorders. This study was performed to assess the subfoveal choroidal thickness (SFCT) in patients with MacTel type 2 and compare it with healthy controls using swept source optical coherence tomography (SS-OCT).
METHODS: It was a retrospective case-control study performed at a tertiary eye care center. The cases constituted patients with MacTel type 2 detected over the last 2 years (April 2016 to March 2018). The controls were healthy adults with no posterior segment pathology. The patients were evaluated with color fundus photography, SS-OCT (Triton, Topcon Inc., Oakland, New Jersey, USA) and fundus fluorescein angiography. The cases were staged based on Gass and Blodi classification. SFCT was compared between the two groups.
RESULTS: Sixty-five eyes of 33 patients with MacTel were included. The controls consisted of 61 eyes of 33 healthy age-matched (p = 0.81) and sex-matched (p = 0.31) adults. The mean SFCT in cases (353.0 ± 91.2 µm) was higher than controls (289.2 ± 69.0 µm), and this difference was statistically significant (p = 0.0001). The mean SFCT was different in various stages: 346.6 ± 86.3 µm (stage 2), 334.6 ± 90.2 µm (stage 3), 374.6 ± 94.0 µm (stage 4), and 294.8 ± 68.8 µm (stage 5), though this was not statistically significant (p = 0.28).
CONCLUSIONS: The choroid in MacTel type 2 patients was significantly thickened as compared to controls. SFCT may vary as the structural changes worsen over time.

75: Kumar V, Goel N. Congenital retinal macrovessel in a patient with rhegmatogenous retinal detachment. Indian J Ophthalmol. 2018 Dec;66(12):1860-1861. doi: 10.4103/ijo.IJO_838_18. PubMed PMID: 30451202; PubMed Central PMCID: PMC6256884.

76: Kumari V, Joshi P, Dhua AK, Sapra S, Srinivas M, Agarwala S, Bhatnagar V. Developmental Status of Children Operated for Esophageal Atresia with or without Tracheoesophageal Fistula Along with Maternal Stress, Their Quality of life, and Coping Abilities at AIIMS, New Delhi. Eur J Pediatr Surg. 2019 Feb;29(1):125-131. doi: 10.1055/s-0038-1676825. Epub 2018 Dec 31. PubMed PMID: 30597492.

INTRODUCTION: Esophageal atresia with or without tracheoesophageal fistula (EA with or without TEF) is one of the neonatal surgical emergencies requiring surgical intervention in the early neonatal period, influencing the developmental outcome in the operated children. This study was aimed to assess the developmental status of children operated for EA with or without TEF along with maternal stress, their quality of life (QOL), and coping abilities.
MATERIALS AND METHODS: A descriptive cross-sectional survey was conducted on 51 children aged up to 5 years after EA with or without TEF repair and their mothers' in a tertiary care facility. The tools used were, namely, demographic datasheet of child and mother, anthropometry assessment, Developmental Assessment Scale for Indian Infants, and modified Vineland Social Maturity Scale for the developmental evaluation, Child Behavior Checklist (1.5-5 years) caregiver report form, Parental Stress Scale, WHOQOL BREF, and Coping Strategies Checklist.
RESULTS: The majority of children had low weight (47.1%) and height (31.4%), for reference age. The overall and social developmental delay was observed in 40.7 and 37.5% of children, respectively, and few children (7.4%) had behavioral problems in the borderline range. Among the mothers, 47% had moderate stress and relatively poor QOL in environmental (60.1 ± 18.9) and psychological (60.8 ± 18.8) domains. The most commonly used coping strategy by the mothers was an emotional outlet (29.4%).
CONCLUSION: Developmental delay was present in children operated for EA with or without TEF caused significant stress among mothers, affecting their QOL for which the emotional outlet was the most commonly used coping strategy.

77: Kusuma YS, Pal M, Babu BV. Health Insurance: Awareness, Utilization, and its Determinants among the Urban Poor in Delhi, India. J Epidemiol Glob Health. 2018

Dec;8(1-2):69-76. doi: 10.2991/j.jegh.2018.09.004. PubMed PMID: 30859791.

This study reports the awareness, access, and utilization of health insurance by the urban poor in Delhi, India. The study included 2998 households from 85 urban clusters spread across Delhi. The data were collected through a pretested, interviewer-administered questionnaire. Logistic regression was performed for determinants of health insurance possession. Only 19% knew about health insurance; 18% had health insurance (8% Employees State Insurance Scheme - ESIS - 8% Central Government Health Scheme - CGHS - 1.4%; Rashtriya Swasthya Bima Yojana (RSBY) - 9.4% of the eligible households). In case of health needs, 95% of CGHS, 71% ESIS beneficiaries, and 9.5% of RSBY beneficiaries utilized the schemes for episodic and chronic illnesses. For hospitalization needs, 54% of RSBY, 86% of ESIS, 100% CGHS utilized respective services. Residential area, migration period, possession of ration card, household size, and occupation of the head of the household were significantly associated with possession of RSBY. RSBY played a limited role in meeting the healthcare needs of the people, thus may not be capable of contributing significantly in the efforts of achieving equity in healthcare for the poor. Relatively, ESIS and CGHS served the healthcare needs of the beneficiaries better. Expansion of ESIS to the informal workers may be considered.

78: Madaan P, Jauhari P, Chakrabarty B, Gulati S. Jeavons Syndrome: An Overlooked Epilepsy Syndrome. Pediatr Neurol. 2019 Apr;93:63. doi: 10.1016/j.pediatrneurol.2018.12.016. Epub 2018 Dec 28. PubMed PMID: 30683501.

79: Madhusudhan KS, Kilambi R, Shalimar, Sahni P, Sharma R, Srivastava DN, Gupta AK. Measurement of splenic stiffness by 2D-shear wave elastography in patients with extrahepatic portal vein obstruction. Br J Radiol. 2018 Dec;91(1092):20180401. doi: 10.1259/bjr.20180401. Epub 2018 Sep 18. PubMed PMID: 30226081; PubMed Central PMCID: PMC6319854.

OBJECTIVE:: To assess the accuracy of splenic stiffness (SS) measured by 2D-shear wave elastography (SWE) for predicting variceal bleeding in the patients with extrahepatic portal vein obstruction (EHPVO).
METHODS:: 52 patients with EHPVO (mean age: 22.29 years; 26 each males and females) were included in the study after obtaining approval from the institute ethics committee. All patients initially underwent upper gastrointestinal endoscopy followed by ultrasonography, including 2D-SWE on the Aixplorer Supersonic Imagine scanner. The SS was measured through the anterior abdominal wall and an average of three measurements was taken. The SS was then compared with clinical symptoms, variceal grade, and other ultrasonography (USG) parameters. USG parameters were also compared with variceal grade.
RESULTS:: The mean SS was 44.92 ± 12.35 kPa. There was no significant difference in the mean SS of patients with high grade varices (44.30 kPa; n = 25) from those with low grade varices (46.91 kPa; n = 20). The ROC analysis showed a poor area under the curve of 0.477 for the prediction of high grade varices by the SS. The SS did not show any significant correlation with other ultrasonography parameters except splenic size, with which there was a weak but significant correlation. The measurement of SS by 2D-SWE was reliable and Cronbach's alpha was 0.905.
CONCLUSION:: The SS measured by 2D-SWE is not an accurate predictor of variceal grade and thus bleeding in patients of EHPVO.
ADVANCES IN KNOWLEDGE:: EHPVO is a vascular pathology with most patients showing splenomegaly and preserved liver function. Although, elastography of spleen has been shown to be useful in patients with cirrhosis for predicting portal hypertension, it does not seem to be helpful in patients with EHPVO.

80: Maharana PK, Sahay P, Titiyal JS, Sharma N. Sinsky hook assisted roll preparation (SHARP): A modified technique for Descemet membrane endothelial keratoplasty donor preparation. Saudi J Ophthalmol. 2019 Jan-Mar;33(1):28-33. doi: 10.1016/j.sjopt.2018.12.002. Epub 2018 Dec 8. PubMed PMID: 30930660; PubMed Central PMCID: PMC6424714.

Purpose: To describe a simple technique of sinsky hook assisted roll preparation

(SHARP) for Descemet membrane endothelial keratoplasty (DMEK) donor preparation. Methods: This experimental study was conducted at National Eye Bank, India with 40 optical grade human donor corneoscleral tissues found not suitable for surgery. 25 tissues were initially used to standardize the technique and remaining 15 for establishing the final technique. Donor corneal tissues were initially placed on a sterile Teflon block partially filled with tissue culture media. Initially, a partial thickness trephination was done followed by sinsky assisted 360° separation of the Descemet membrane (DM) from the underlying stroma (2 mm from the edge). The separation was further extended by 3-4 mm from the edge for 4-5 clock hours followed by bimanual peeling of the DM. This was followed by central 8 mm trephination. The primary outcome measures were a complete success (8 mm roll without peripheral edge tears) and partial success (8 mm roll with peripheral edge tears).
Results: DMEK roll was successfully peeled in 86.6% tissues (n = 13/15). Complete success was obtained in 66.6% tissues while partial success was obtained in 20% tissues. The median age of donor tissue was 45 years. The donor age of tissues, from which DMEK roll could not be obtained (2/12) was 15 days and 18 years.
Conclusion: SHARP is a simple technique of DMEK that does not require any sophisticated instruments.

81: Makharia GK, Catassi C. Celiac Disease in Asia. Gastroenterol Clin North Am. 2019 Mar;48(1):101-113. doi: 10.1016/j.gtc.2018.09.007. Epub 2018 Dec 13. Review. PubMed PMID: 30711203.

Celiac disease, once thought to be very uncommon in Asia, is now emerging in many Asian countries. Although the absolute number of patients with celiac disease at present is not very high, this number is expected to increase markedly over the next few years/decades owing to increasing awareness. It is now that the medical community across the Asia should define the extent of the problem and prepare to handle the impending epidemic of celiac disease in Asia.

82: Malgulwar PB, Nambirajan A, Pathak P, Rajeshwari M, Suri V, Sarkar C, Singh M, Sharma MC. Epithelial-to-mesenchymal transition-related transcription factors are up-regulated in ependymomas and correlate with a poor prognosis. Hum Pathol. 2018 Dec;82:149-157. doi: 10.1016/j.humpath.2018.07.018. Epub 2018 Jul 29. PubMed PMID: 30067950.

Epithelial-to-mesenchymal transition (EMT) plays an important role in invasion and metastasis of various cancers including gliomas. EMT has also been linked to cancer stem cells and resistance to chemotherapy. An initial in-silico data mining in a published ependymoma (EPN) patient series (GSE21687) revealed up-regulation of EMT transcription factors in tumor samples. Furthermore, quantitative real-time polymerase chain reaction-based gene expression analysis of EMT transcription factors in 96 EPNs showed significant up-regulation of SNAI1, SNAI2, ZEB1, and TWIST1 as compared with normal brain, associated with up-regulation of CDH2/N-cadherin and down-regulation of CDH1/E-cadherin. Although this was observed in varying degrees in all clinicopathological-molecular subgroups of EPNs, it was most evident in supratentorial EPNs harboring fusions of RELA (v-rel avian reticuloendotheliosis viral oncogene homolog A) gene and in posterior fossa EPNs. Immunohistochemistry performed in 60 of the above cases corroborated with gene expression patterns, and immunopositivity for Snail, Slug, Zeb1, and Twist1 was observed in 80%, 80%, 81%, and 63% of all EPNs. Immunopositivity for N-cadherin and E-cadherin was observed in 76.6% and 2% of the cases, respectively. Univariate Cox regression analysis showed that low expression of CDH1/E-cadherin ($P = .002$) and high expression levels of CDH2/N-cadherin ($P < .001$), SNAI1/Snail ($P = .023$), SNAI2/Slug ($P < .001$), and ZEB1 ($P < .001$) were associated with shorter progression-free survival. Here, we report for the first time the existence of EMT-like phenotype in EPNs. These factors could represent new prognostic and therapeutic targets in EPN.

83: Mantoo MR, Tripathy SK, Phulware RH, Bagri NK, Hari P, Barwad A. Juvenile dermatomyositis with IgA nephropathy: case-based review. Rheumatol Int. 2019

Mar;39(3):577-581. doi: 10.1007/s00296-018-4229-4. Epub 2018 Dec 14. Review. PubMed PMID: 30552457.

Juvenile dermatomyositis (JDM) is the most common childhood idiopathic inflammatory myopathy (IIM). It is characterized by the classic skin rash in the form of Gottron papules and heliotrope rash, and symmetric proximal muscle weakness. Renal involvement in JDM is rare which includes acute kidney injury and glomerulonephritis. We report a 10-year-old boy with juvenile dermatomyositis and IgA nephropathy. Child responded dramatically to the conventional therapy with steroids and methotrexate for the primary disease, and did not require any additional treatment for his renal disease. Child's primary disease is in remission and has normal urinalysis with normal renal function at 6-month follow-up. We reviewed the literature and found 11 cases of IIMs with renal involvement. Four patients (one JDM, two polymyositis, and one dermatomyositis) had IgA nephropathy out of which three patients responded to the conventional therapy of primary disease and only one patient with polymyositis needed hiking immunosuppression targeted for renal condition. Therapy targeting the underlying disorder is usually sufficient in patients with JDM and secondary IgA nephropathy.

84: Meena RK, Doddamani RS, Sharma R. Contiguous Diastematomyelia with Lipomyelomeningocele in Each Hemicord-an Exceptional Case of Spinal Dysraphism. World Neurosurg. 2019 Mar;123:103-107. doi: 10.1016/j.wneu.2018.11.225. Epub 2018 Dec 6. PubMed PMID: 30529523.

BACKGROUND: Split cord malformation (SCM) is a rare congenital anomaly of the spinal cord. Rarely, SCM coexists with a variety of dysraphic pathologies that occur at the same or different spinal level in a patient. Exceptionally rare is the occurrence of SCM type 1 and lipomeningomyelocele of each hemicord.
CASE DESCRIPTION: A 15-month-old girl presented with gradually progressive, painless swelling in the lower back since birth. Spinal imaging showed the presence of type I SCM associated with lipomeningomyelocele of each hemicord. Surgical exploration and detethering was done.
CONCLUSIONS: Management of such complex cases of spinal dysraphism is challenging. Delineating their embryologic basis, detailed radiologic assessment, and meticulous microneurosurgical techniques are the cornerstone for successful management.

85: Misra A, Sattar N, Tandon N, Shrivastava U, Vikram NK, Khunti K, Hills AP. Clinical management of type 2 diabetes in south Asia. Lancet Diabetes Endocrinol. 2018 Dec;6(12):979-991. doi: 10.1016/S2213-8587(18)30199-2. Epub 2018 Oct 1. Review. PubMed PMID: 30287103.

Compared with other ethnic groups, south Asian people with type 2 diabetes tend to develop the disease at a younger age and manifest with higher glycaemia, dyslipidaemia, nephropathy, and cardiovascular diseases. Additionally, specific issues that can affect treatment of type 2 diabetes in south Asia include poor awareness of the disease, delay in diagnosis, inadequate treatment, the use of ineffective and often harmful alternative medicines, and frequent non-compliance with lifestyle recommendations and drug treatment. Disease development at younger ages, delayed diagnosis, and inadequate management result in early development of severe complications and premature mortality. In this Series paper, we describe the challenges associated with the increasing burden of type 2 diabetes in south Asia and discuss ways to improve clinical care of people with the disorder in the region (defined to include Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka). Treatment of diabetes in south Asia needs to be individualised on the basis of diverse and heterogeneous lifestyle, phenotype, environmental, social, cultural, and economic factors. Aggressive management of risk factors from diagnosis is necessary to reduce the risk of microvascular and macrovascular complications, focusing on provision of basic treatments (eg, metformin, low-cost statins, and blood pressure-lowering drugs) and other interventions such as smoking cessation. Strengthening of the primary care model of care, better referral linkages, and implementation of rehabilitation services to care for

patients with chronic complications will be important. Finally, improvement of physicians' skills, provision of relevant training to non-physician health-care workers, and the development and regular updating of national clinical management guidelines will also be crucial to improve diabetes care in the region.

86: Mukhija R, Gupta N, Ganger A, Kashyap S, Hussain N, Vanathi M, Tandon R. Isolated Primary Corneal Acremonium Eumycetoma: Case Report and Literature Review. Cornea. 2018 Dec;37(12):1590-1592. doi: 10.1097/ICO.0000000000001750. Review. PubMed PMID: 30234681.

PURPOSE: To report an unusual case of isolated Acremonium eumycetoma presenting as a protuberant mass over the cornea.
METHODS: Case report and literature review.
RESULTS: A 55-year-old male patient referred to our center with a case of perforated corneal ulcer with uveal tissue prolapse was examined in the casualty department and found to have central melt, approximately 8 mm, along with suspected uveal tissue prolapse. A provisional diagnosis of sloughed corneal ulcer with uveal prolapse was made along with differential diagnoses of fungal ball and infected foreign body granuloma. Tectonic penetrating keratoplasty under general anesthesia was planned. Intraoperatively, the suspected uveal (brown colored) tissue was found to be an epicorneal mass growing over an intact and infiltrated cornea. Histopathological and microbiological analysis of the epicorneal mass and host cornea revealed it to be a fungal ball (mass full of septate hyphae) with growth of Acremonium species on culture. The patient was administered topical and oral antifungal agents postoperatively, in addition to topical antibiotics and cycloplegics.
CONCLUSIONS: Isolated corneal Acremonium eumycetoma masquerading as a perforated corneal ulcer with prolapsed uveal tissue is a rare entity. Surgical intervention and appropriate antimicrobial therapy are key to successful outcome.

87: Muliyil DE, Singh P, Jois SK, Otiv S, Suri V, Varma V, Abraham AM, Raut C, Gupta M, Singh MP, Viswanathan R, Naik S, Nag V, Benakappa A, Bavdekar A, Sapkal G, Singh K, Gupta N, Verma S, Santhanam S, Mishra S, Bhatnagar A, Prasad GRV, Kolekar J, Raj N, Sabarinathan R, Sachdeva RK, George S, Chaudhary S, Verghese VP, Jagtap V, Bharadwaj M, Murhekar M. Sero-prevalence of rubella among pregnant women in India, 2017. Vaccine. 2018 Dec 18;36(52):7909-7912. doi: 10.1016/j.vaccine.2018.11.013. Epub 2018 Nov 15. PubMed PMID: 30448333.

BACKGROUND: We conducted a sero-survey among pregnant women attending antenatal clinics of six hospitals which also function as sentinel sites for CRS surveillance, to estimate the prevalence of IgG antibodies against rubella.
METHODS: We systematically sampled 1800 pregnant women attending antenatal clinics and tested their sera for IgG antibodies against rubella. We classified sera as seropositive (titre ≥10 IU/ml), sero-negative (titre <8 IU/ml) or indeterminate (titre 8-9.9 IU/ml) per manufacturer's instructions. In a sub-sample, we estimated the titers of IgG antibodies against rubella. IgG titer of ≥10 IU/mL was considered protective.
RESULTS: Of 1800 sera tested, 1502 (83.4%) were seropositive and 24 (1.3%) were indeterminate and 274 (15.2%) were sero-negative. Rubella sero-positivity did not differ by age group, educational status or place of residence. Three hundred and eighty three (87.8%) of the 436 sera had IgG concentrations ≥10 IU/mL.
CONCLUSION: The results of the serosurvey indicate high levels of rubella sero-positivity in pregnant women. High sero-prevalence in the absence of routine childhood immunization indicates continued transmission of rubella virus in cities where sentinel sites are located.

88: Naalla R, Chauhan S, Dave A, Singhal M. Reconstruction of post-traumatic upper extremity soft tissue defects with pedicled flaps: An algorithmic approach to clinical decision making. Chin J Traumatol. 2018 Dec;21(6):338-351. doi: 10.1016/j.cjtee.2018.04.005. Epub 2018 Nov 5. PubMed PMID: 30579714; PubMed Central PMCID: PMC6354178.

PURPOSE: Pedicled flaps are still the workhorse flaps for reconstruction of upper limb soft tissue defects in many centers across the world. They are lifeboat options for coverage in vessel deplete wounds. In spite of their popularity existing algorithms are limited to a particular region of upper limb; a general algorithm involving entire upper limb which helps in clinical decision making is lacking. We attempt to propose one for the day to day clinical practice.
METHODS: A retrospective analysis of patients who underwent pedicled flaps for coverage of post-traumatic upper extremity (arm, elbow, forearm, wrist & hand) soft tissue defects within the period of January 2016 to October 2017 was performed. Patients were divided into groups according to the anatomical location of the defects. The flaps performed for different anatomical regions were enlisted. Demographic data and complications were recorded. An algorithm was proposed based on our experience, with a particular emphasis made to approach to clinical decision making.
RESULTS: Two hundred and twelve patients were included in the study. Mean age was 27.3 years (range: 1-80 years), 180 were male, and 32 were female. Overall flap success rate was 98%, the following complications were noted marginal flap necrosis requiring no additional procedure other than local wound care in 32 patients (15%), partial flap necrosis requiring flap advancement or extra flap in 15 patients (7%), surgical site infection in 11 patients (5%), flap dehiscence requiring re-suturing in 5 patients (2.4%), total flap necrosis 4 patients (2%).
CONCLUSION: The proposed algorithm allows a reliable and consistent method for addressing diverse soft tissue defects in the upper limb with high success rate.

89: Nagori SA, Jose A, Roychoudhury A. Surgical Management of Migraine Headaches: A Systematic Review and Meta-analysis. Ann Plast Surg. 2018 Dec 13. doi: 10.1097/SAP.0000000000001743. [Epub ahead of print] PubMed PMID: 30557190.

BACKGROUND: The aim of the present study was to systematically review and analyze the available evidence on the role of surgery in improving outcomes in patients with migraine headaches.
METHODS: An electronic search of PubMed, Scopus, CENTRAL (Cochrane Central Register of Controlled Trials), and Google Scholar databases was performed for English-language articles reporting results of peripheral nerve surgery for migraine headaches.
RESULTS: The search strategy revealed a total of 1528 records, of which 23 studies were included in the review. A total of 1151 headache patients were treated in the included studies. The trigger site of migraine addressed varied across studies. Meta-analysis of data of 616 patients revealed that migraine surgery significantly reduces migraine headache frequency (random: mean, 9.52; 95% confidence interval, 7.14-11.9; $P < 0.00001$; $I = 94\%$). Similarly, when data of 797 patients were analyzed, there was statistically significant reduction in migraine headache intensity in patients undergoing migraine headache surgery (random: mean, 3.97; 95% confidence interval, 3.31-4.62; $P < 0.00001$; $I = 94\%$). On pooling of data of all 23 studies, 8.3% to 76.4% of patients reported complete elimination of headache after surgery, whereas 3.9% to 33.3% had no relief.
CONCLUSIONS: Peripheral nerve decompression surgery is highly effective in reducing migraine headache frequency and migraine headache intensity. However, not all patients benefit from the surgical procedure, with a small subset showing no improvement. Further clinical and anatomical studies are needed to define the exact mechanism of nerve compression in migraine patients and as to why a subset of patients does not respond to surgical treatment.

90: 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. 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.

91: 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.

92: Nambirajan A, Longchar M, Madan K, Mallick SR, Kakkar A, Mathur S, Jain D. Endobronchial ultrasound-guided transbronchial needle aspiration cytology in patients with known or suspected extra-pulmonary malignancies: A cytopathology-based study. Cytopathology. 2019 Jan;30(1):82-90. doi: 10.1111/cyt.12656. Epub 2018 Dec 21. PubMed PMID: 30444548.

BACKGROUND: Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is the primary modality for mediastinal lymph node staging in lung carcinoma. We aimed to evaluate its utility in extra-pulmonary malignancies (EPM).

METHODS: Database search of EBUS-TBNA aspirations (2013-2017) done in patients with known/suspected EPMs and mediastinal lymphadenopathy/masses was performed. All archived cytology/histology material was reviewed and categorised as positive, negative and unsatisfactory.
RESULTS: The selected 139 patients included 100 patients with known EPMs, 11 patients with known lymphoma, and 28 patients with suspected EPM of unknown primary. EBUS-TBNA was adequate in 110 patients (79%), including 21 patients who yielded only reactive lymphoid tissue. Satisfactory blood clot cores were obtained in 34 patients and contributed significantly to diagnosis and ancillary testing. Metastasis was detected in 45 patients with known EPM, predominantly originating from a known primary in the breast in females (56%) and squamous cell carcinomas of head and neck in males (60%). Granulomatous lymphadenopathy was identified in 16 patients with known EPM (16%). Lymphoma relapse and granulomatous lymphadenopathy were identified in three and four patients with known lymphoma, respectively. In patients with suspected EPM of unknown primary site, malignancy was confirmed in 21 patients, predominantly representing metastatic adenocarcinomas (n = 5) and neuroendocrine neoplasms (n = 5). Immunocytochemistry was performed in 16 of these cases and aided in characterisation of primary site/type of tumour in 12 cases.
CONCLUSION: EBUS-TBNA is efficient for screening mediastinal lymph nodes/masses for malignancy in EPMs. Procuring sufficient material for ancillary testing would improve diagnostic accuracy and reduce need for resampling.

93: Nambirajan A, Jain D. Cell blocks in cytopathology: An update. Cytopathology. 2018 Dec;29(6):505-524. doi: 10.1111/cyt.12627. Epub 2018 Sep 27. Review. PubMed PMID: 30153355.

The cell block (CB) offers many advantages over other cytological preparations, particularly for immunocytochemical and molecular testing. However, inconsistent cellularity remains the most common reason for dissatisfaction among cytopathologists. In recent years, there has been a surge in the demand for CBs imposed by the increasing number of minimally invasive procedures performed to obtain material for diagnostic, prognostic and predictive purposes from advanced stage cancer patients. However, routine preparation of CBs significantly increases laboratory work load, operating cost and sample turn-around time. The objectives of our review were to: (a) identify scenarios where a CB is likely to improve diagnostic yield; (b) optimise CB preparatory methods; and (c) understand the factors influencing the success and validity of ancillary testing on various types of CBs. We performed an extensive literature search on CBs in cytology on internet search engines using the following keywords: cell block, cytoblock, cytology, cytopathology, methods, preparation, fixatives, diagnostic yield, ancillary and molecular studies. New CB methods, improvisations of previous CB methods, their utility for diagnosis, immunocytochemistry and molecular testing, and role in predictive biomarker testing are discussed in this review. CBs of good quality and cellularity outperform other cytology preparations in their reliability and versatility for ancillary testing. With many CB methods described in the literature, each with specific advantages and limitations, laboratories may choose to use one or more of the methods depending upon their infrastructure, expertise and workload.

94: Natarajan CK, Jeeva Sankar M, Agarwal R, Deorari A, Paul V. Performance on Paladai Feeding of Preterm Infants with Bronchopulmonary Dysplasia. Indian J Pediatr. 2019 Apr;86(4):323-328. doi: 10.1007/s12098-018-2818-6. Epub 2018 Dec 13. PubMed PMID: 30547426.

OBJECTIVE: To evaluate the feeding performance of infants with bronchopulmonary dysplasia (BPD) on paladai.
METHODS: This cross-sectional study was performed in a level III neonatal unit in North India from March through August 2012. Nineteen infants (27-32 wk of gestation) were enrolled; 9 in BPD group (oxygen requirement for at least 28 d) and 10 in 'No BPD' group. Paladai feeding (PF) sessions were video recorded for 3 d serially, at first successful (FSF) at postnatal age of ≥28 d and follow up feeding (FUF) at 40±2 wk. Successful feeding was defined as ≥80% intake of

volume prescribed. One hundred and four videos were analysed (58 in BPD group and 46 in 'No BPD' group). The outcome variables were: (1) postmenstrual age (PMA) at FSF (2) feeding performance, as assessed by proficiency (mL/min, volume of feed intake during only active feeding), efficiency (mL/min, volume of feed intake during total duration of feeding) and overall feed transfer (OT, % of prescribed feed volume taken), and (3) change in heart rate (ΔHR) and oxygen saturation (ΔSpO2) on PF.
RESULTS: PMA (Weeks, 34.2±2.0 vs. 33.6±1.2, p=0.13), performance on FSF [Median (range), Proficiency: ml/min, 4.2 (1.1, 21.7) vs. 3.4 (1.1, 12.4), efficiency: ml/min, 2.7 (0.4, 6.2) vs. 2.5 (0.9, 10.9)] and OT (%, mean±SD: 84.9±22.5 vs. 89.1±9.6), and on FUF were comparable between the groups. Changes in SpO2 and HR were not significantly different.
CONCLUSIONS: Infants with BPD perform comparably well on PF. PF can safely be attempted in them to facilitate transition to oral feeding.

95: Niyas VKM, Balasubramanian P, Kesavan Thulaseedharan N. Trichuriasis. QJM. 2018 Dec 31. doi: 10.1093/qjmed/hcy303. [Epub ahead of print] PubMed PMID: 30597113.

96: Ojha A, Bhasym A, Mukherjee S, Annarapu GK, Bhakuni T, Akbar I, Seth T, Vikram NK, Vrati S, Basu A, Bhattacharyya S, Guchhait P. Platelet factor 4 promotes rapid replication and propagation of Dengue and Japanese encephalitis viruses. EBioMedicine. 2019 Jan;39:332-347. doi: 10.1016/j.ebiom.2018.11.049. Epub 2018 Dec 5. PubMed PMID: 30527622; PubMed Central PMCID: PMC6354622.

BACKGROUND: Activated platelets release cytokines/proteins including CXCL4 (PF4), CCL5 and fibrinopeptides, which regulate infection of several pathogenic viruses such as HIV, H1N1 and HCV in human. Since platelet activation is the hallmark of Dengue virus (DV) infection, we investigated the role of platelets in DV replication and also in a closely related Japanese Encephalitis virus (JEV).
METHODS AND FINDINGS: Microscopy and PCR analysis revealed a 4-fold increase in DV replication in primary monocytes or monocytic THP-1 cells in vitro upon incubation with either DV-activated platelets or supernatant from DV-activated platelets. The mass spectrometry based proteomic data from extra-nuclear fraction of above THP-1 lysate showed the crucial association of PF4 with enhanced DV replication. Our cytokine analysis and immunoblot assay showed significant inhibition of IFN-α production in monocytes via p38MAPK-STAT2-IRF9 axis. Blocking PF4 through antibodies or its receptor CXCR3 through inhibitor i.e. AMG487, significantly rescued production of IFN-α resulting in potent inhibition of DV replication in monocytes. Further, flow cytometry and ELISA data showed the direct correlation between elevated plasma PF4 with increased viral NS1 in circulating monocytes in febrile DV patients at day-3 of fever than day-9. Similarly, PF4 also showed direct effects in promoting the JEV replication in monocytes and microglia cells in vitro. The in vitro results were also validated in mice, where AMG487 treatment significantly improved the survival of JEV infected animals.
INTERPRETATION: Our study suggests that PF4-CXCR3-IFN axis is a potential target for developing treatment regimen against viral infections including JEV and DV.

97: Padhy SK, Kumar A, Dhiman R, Sharma K. Polypoidal choroidal vasculopathy-associated vitreous haemorrhage presenting as hyphema. BMJ Case Rep. 2018 Dec 13;11(1). pii: e227547. doi: 10.1136/bcr-2018-227547. PubMed PMID: 30567251.

98: 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.

99: Pandey NN, Raju SN, Rajagopal R, Kumar S. Iatrogenic profunda femoris artery pseudoaneurysm: late presentation with successful endovascular microcoil embolisation. BMJ Case Rep. 2018 Dec 9;11(1). pii: e228314. doi: 10.1136/bcr-2018-228314. PubMed PMID: 30567224.

100: Pandey NN, Sinha M, Sharma A, Kumar S. Empty left atrioventricular groove: congenital atresia of left circumflex artery. Acta Cardiol. 2018 Dec 4:1-2. doi: 10.1080/00015385.2018.1539374. [Epub ahead of print] PubMed PMID: 30513262.

101: Pandey NN, Sharma A, Kumar S. Bicarotid trunk in a double aortic arch: A previously undescribed variant. Ann Thorac Surg. 2018 Dec 17. pii: S0003-4975(18)31835-6. doi: 10.1016/j.athoracsur.2018.11.035. [Epub ahead of print] PubMed PMID: 30571953.

102: Pandey NN, Sharma A, Jagia P. Imaging of anomalous pulmonary venous connections by multidetector CT angiography using third-generation dual source CT scanner. Br J Radiol. 2018 Dec;91(1092):20180298. doi: 10.1259/bjr.20180298. Epub 2018 Jul 18. Review. PubMed PMID: 30004806; PubMed Central PMCID: PMC6319858.

Abnormal embryological development of the pulmonary veins can manifest as either partial or total anomalous drainage into the systemic venous circulation. Echocardiography does not provide adequate information in all cases as the optimal visualization of anomalous structures is limited by the availability of acoustic window; also it is highly operator dependent. However, multidetector CT angiography, with its multiplanar reformatting and volume rendering techniques, offers precise information about the three-dimensional anatomy and spatial relationships of the cardiovascular structures. With advent of dual source CT scanners and use of advanced dose reduction techniques, this information can be obtained in a short time with minimal radiation dose. In this pictorial essay, we present the multidetector CT imaging findings of the spectrum of total and partial anomalous pulmonary venous connections, using a third-generation dual source CT scanner.

103: Pannu CD, Kandhwal P, Raghavan V, Khan SA, Rastogi S, Jayaswal A. Role of Bisphosphonates as Adjuvants of Surgery in Giant Cell Tumor of Spine. Int J Spine Surg. 2018 Dec 21;12(6):695-702. doi: 10.14444/5087. eCollection 2018 Dec. PubMed PMID: 30619673; PubMed Central PMCID: PMC6314347.

Background: The role of bisphosphonates is well established in giant cell tumor of bone (GCTB) of extremities, but its role in spine GCTB is still not established. Our main purpose was to evaluate the role of bisphosphonates in spinal GCTB with the help of radiologic assessment.
Methods: A retrospective analysis of all spine GCTB patients who underwent an operation from July 2005 to January 2014 was done. Patients of spine GCTB in whom bisphosphonates were given constituted the study group. This group was compared to patients in whom bisphosphonates were not given. Preoperative and postoperative radiographs and CT scans were studied. A thorough evaluation of the presence of sclerosis was done on them. Bisphosphonates were considered to be effective if either sclerosis or new bone formation was present.

Results: A total of 13 cases of spine GCT underwent operation from July 2005 to January 2014. All patients of GCTB spine who underwent an operation after 2008 at our institute were given bisphosphonates postoperatively. Of 13 cases, bisphosphonates were given postoperatively in 6 patients: 5 patients were female and 1 patient was male. Of these 6 patients, 3 patients had sacrum GCTB and 1 patient each had T9, T11, and L5 vertebrae GCTB. Average follow-up period was 39.33 months (minimum follow-up was 18 months and maximum follow-up was 72 months). Postoperative sclerosis was present in all 6 patients. No recurrence of the tumor was present in the bisphosphonate group, but 2 patients had a recurrence in the group that did not receive bisphosphonates.
Conclusions: Bisphosphonates are effective and safe adjuvant therapy along with appropriate surgical intervention in spinal GCTBs and may have a role in decreasing the recurrence of this tumor.

104: Pant K, Mishra AK, Pradhan SM, Nayak B, Das P, Shalimar D, Saraya A, Venugopal SK. Butyrate inhibits HBV replication and HBV-induced hepatoma cell proliferation via modulating SIRT-1/Ac-p53 regulatory axis. Mol Carcinog. 2019 Apr;58(4):524-532. doi: 10.1002/mc.22946. Epub 2018 Dec 19. PubMed PMID: 30501014.

Butyrate, a histone deacetylase inhibitor, has several therapeutic applications, including cancer. However, the effect of butyrate in HBV replication is not known so far. It was hypothesized that butyrate might inhibit HBV replication and host cell proliferation via SIRT-1. It was found that the increased expression of SIRT-1 in Hep G2.2.15 cells (HBV expressing cells) than Hep G2 cells. Next the expression of SIRT-1 and Acetylated p53 (Ac-p53) were measured in the liver biopsy samples of chronic hepatitis B (CHB) patients with high viral load and compared to CHB patients with low viral load and found that there was a high SIRT-1 expression and a low Ac-p53 levels in CHB patients with high viral load compared to CHB patients with low viral load. Incubation of butyrate inhibited SIRT-1 expression and cell proliferation. Inhibition of SIRT-1 by butyrate or SIRT-1 siRNA increased the levels of Ac-p53. The elevated Ac-p53 decreased p-akt, cyclin D1, and thereby inhibited cell proliferation. Incubation of butyrate with Hep G2.2.15 cells also inhibited HBx protein expression, HBV-DNA and hepatitis B surface antigen (HBsAg). Taken together, the data showed that butyrate inhibited HBV replication and cell proliferation by inhibiting SIRT-1 expression in hepatoma cells.

105: 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.

106: Parambath N, Sharma VK, Parihar AS, Sahni K, Gupta S. Use of platelet-rich plasma to suspend noncultured epidermal cell suspension improves repigmentation after autologous transplantation in stable vitiligo: a double-blind randomized controlled trial. Int J Dermatol. 2019 Apr;58(4):472-476. doi: 10.1111/ijd.14286. Epub 2018 Dec 2. PubMed PMID: 30506679.

BACKGROUND: Noncultured epidermal cell suspension (NCES) is an effective surgical modality for stable vitiligo which involves transplantation of the basal layer of epidermal cells onto the dermabraded vitiliginous patch. Platelet-rich plasma (PRP) has growth factors which may stimulate melanocyte migration and proliferation of keratinocytes and fibroblasts. The objective of this study was to compare the extent of repigmentation achieved by transplantation of NCES suspended in PRP with that of NCES suspended in phosphate buffered saline (PBS).
METHODS: Twenty-one patients of stable vitiligo with at least two lesions of comparable size were included. The two vitiligo patches were randomized to receive NCES suspended in PRP or PBS. Postoperatively after 1 week, patients were given heliotherapy for 15 minutes daily.
RESULTS: At 6 months follow-up, mean repigmentation by area method in PRP arm was 75.6 ± 30% SD and in non-PRP arm was 65 ± 34% SD (P = 0.0036). Patient satisfaction by visual analogue scale at 6 months also showed better results in PRP arm (P = 0.001). Assessment by three independent observers showed better repigmentation in PRP side both at 3 and 6 months.
CONCLUSIONS: Suspending NCES in PRP can result in significantly greater mean repigmentation and patient satisfaction than suspending in PBS.

107: Parasuraman L, Singh CA, Sharma SC, Thakar A. Ultrasonography guided fine needle aspiration cytology in patients with laryngo-hypopharyngeal lesions. Braz J Otorhinolaryngol. 2018 Dec 28. pii: S1808-8694(18)30117-4. doi: 10.1016/j.bjorl.2018.11.005. [Epub ahead of print] PubMed PMID: 30686768.

INTRODUCTION: Laryngeal lesions are usually evaluated by microlaryngoscopy/direct laryngoscopy under anaesthesia for disease mapping and tissue diagnosis. However patients with anticipated airway compromise due to laryngeal mass may require either a protective tracheotomy or emergency tracheotomy to secure the airway. To minimise risk of unplanned tracheotomy and expedite the diagnosis we performed ultrasound-guided transcutaneous fine needle aspiration cytology.
OBJECTIVE: To evaluate the feasibility and performance of ultrasound-guided transcutaneous fine needle aspiration cytology of suspicious/recurrent laryngo-hypopharyngeal masses.
METHODS: Fine needle aspiration cytology was performed under ultrasound guidance. Twenty- four patients were recruited, of which 17 had a pure laryngeal lesion; 6 patients had laryngo-pharyngeal, and one patient had a base tongue lesion with supra-glottis extension.
RESULTS: Out of 24 patients, 21 had positive cytology for squamous cell carcinoma, 2 patients had non-diagnostic cytology (atypical cells) and the other had inadequate tissue for definitive diagnosis. Patients with negative and inconclusive cytology underwent direct laryngoscopy biopsy, which was positive for squamous malignancy. All patients tolerated the procedure well and no adverse events were noted.
CONCLUSION: Although direct laryngoscopy remains the standard of care in evaluation of laryngo-hypopharyngeal lesions, this pilot study has shown that ultrasound-guided transcutaneous fine needle aspiration cytology was feasible as an out-patient procedure, employing safe and sensitive technique enabling rapid diagnosis and avoiding the need for direct laryngoscopy under GA for tissue diagnosis.

108: Passah A, Kaushik P, Patel C, Parakh N. Gallium-68 DOTANOC scan in a patient with suspected cardiac sarcoidosis. J Nucl Cardiol. 2018 Dec;25(6):2177-2178. doi: 10.1007/s12350-017-1178-3. Epub 2018 Jan 11. PubMed PMID: 29327255.

109: Patil S, Singh N. Antibacterial silk fibroin scaffolds with green synthesized silver nanoparticles for osteoblast proliferation and human mesenchymal stem cell differentiation. Colloids Surf B Biointerfaces. 2019 Apr 1;176:150-155. doi: 10.1016/j.colsurfb.2018.12.067. Epub 2018 Dec 28. PubMed PMID: 30611938.

The advance of antibiotic-resistant bacteria has generated countless new challenges in modern healthcare, which in turn has incited an improved attention towards the discovery of the new engineered antimicrobial techniques. This antibiotic resistance is also a major challenge in bone tissue engineering and the ideal means to overcome it is to promote tissue integration prior to bacterial adhesion, thus preventing colonization of certain bacterial species on the implant. The silk fibroin is a favorable biomaterial for bone tissue engineering, and silver nanoparticles (AgNPs) show antimicrobial activity against a large number of bacteria, including antibiotic-resistant strains, thus combined, these materials are good candidates for development of antibacterial scaffolds. While, silver nanoparticles have been extensively used as an antibacterial, its effect on stem cell differentiation is still not clear. We report here, a silk fibroin based bone tissue engineered scaffold with AgNPs having advanced antimicrobial properties, without compromising its cytocompatibility and stem cell differentiation potential. For this purpose, AgNPs were in situ synthesized using silk fibroin as reducing as well as stabilizing agent. The antimicrobial activity of silk fibroin films with AgNPs was evaluated against gram negative bacteria as well as antibiotic resistant bacteria and it was found to be effective against both. The cytocompatibility of these scaffolds was examined with fibroblast and osteoblast cells. Also, the effect of AgNPs present in films, on osteogenic differentiation potential of human mesenchymal stem cells was studied and it was observed that the presence of AgNPs at lower concentrations did not have any detrimental effect.

110: Prabhu M, Kumari G, Damle NA, Arora G, Kumar P, Kumar R, Tripathi M, Bal C, Khadgawat R, Kumar C, Agarwal S. Assessment of the role of early dynamic PET/CT with 18F-fluorocholine in detection of parathyroid lesions in patients with primary hyperparathyroidism. Nucl Med Commun. 2018 Dec;39(12):1190-1196. doi: 10.1097/MNM.0000000000000924. PubMed PMID: 30379751.

OBJECTIVE: The aim of the present study was to assess the utility of early dynamic PET/computed tomography with fluorine-18-fluorocholine (F-FCH) in detecting parathyroid lesions and in differentiating parathyroid lesions from cervical lymph nodes (LNs).
PATIENTS AND METHODS: A prospective study was conducted on 14 patients with clinical and biochemical evidence of primary hyperparathyroidism by having a positive Tc-sestaMIBI scan. Patients underwent early dynamic F-FCH PET/computed tomography scan, after the administration of 5-8 mCi (185-296 MBq) at 1 min per frame for 15 min. Delayed static images of 2-3 min per bed position were taken between 45 and 60 min. 3D-VOI's were plotted on parathyroid adenoma, cervical LN and thyroid. Dynamic and static images were interpreted by two expert nuclear medicine physicians independently and the following parameters were calculated for parathyroid adenoma and cervical LN: maximum standardized uptake value (SUVmax), time activity curve for SUVmax, t-peak. Adenoma to thyroid ratio (A/T) and cervical LN to thyroid ratio were calculated for each dynamic and static image.
RESULTS: Fourteen (eight females and six males) patients were included in the study. All patients showed a higher SUVmax in the adenoma and the cervical LN in the early dynamic images as compared with delayed static images. A/T ratio obtained in the dynamic and static images were compared and found to have insignificant difference (P=0.2255). The difference between mean A/T and LN to thyroid ratio was found to be significant (P=0.0117) during the dynamic study.
CONCLUSION: A possible explanation of higher SUVmax in the dynamic images in adenomas may be due to the increased vascularity/early F-FCH uptake. Results

indicate early dynamic imaging could suffice, without the need for a delayed image after 45min, and this technique could adequately differentiate a parathyroid adenoma from a cervical LN.

111: Prajapati B, Fatma M, Maddhesiya P, Sodhi MK, Fatima M, Dargar T, Bhagat R, Seth P, Sinha S. Identification and epigenetic analysis of divergent long non-coding RNAs in multilineage differentiation of human Neural Progenitor Cells. RNA Biol. 2019 Jan;16(1):13-24. doi: 10.1080/15476286.2018.1553482. Epub 2018 Dec 27. PubMed PMID: 30574830; PubMed Central PMCID: PMC6380324.

Long non-coding RNAs have emerged as an important regulatory layer in biological systems. Of the various types of lncRNAs, one class (designated as divergent RNAs/XH), which is in head-to-head overlap with the coding genes, has emerged as a critical biotype that regulates development and cellular differentiation. This work aimed to analyze previously published data on differential expression, epigenetic and network analysis in order to demonstrate the association of divergent lncRNAs, a specific biotype with the differentiation of human neural progenitor cells (hNPCs). We have analyzed various available RNAseq databases that address the neuronal and astrocytic differentiation of hNPCs and identified differentially expressed lncRNAs (DELs) during cell-fate determination. Key DELs identified from the databases were experimentally verified by us in our in-vitro hNPC differentiation system. We also analyzed the change in promoter activity using ChIP-seq datasets of the histone markers H3K4me3 (activation) and H3K27me3 (inactivation) of these DELs. Additionally, we explored the change in the euchromatinization state of DELs (by analyzing DNase-seq data) during lineage-specific differentiation of hNPCs and performed their network analysis. We were able to identify differences between neuronal and astrocytic differentiation of hNPCs at the level of divergent DELs epigenetic markers, DNAase hypersensitive sites and gene expression network. Divergent lncRNAs are more involved in neuronal rather than astrocytic differentiation, while the sense downstream lncRNA biotype appears to be more involved in astrocytic differentiation. By studying the lncRNA involvement of distinct biotypes, we have been able to indicate the preferential role of a particular biotype during lineage-specific differentiation.

112: Prasad CP, Manchanda M, Mohapatra P, Andersson T. WNT5A as a therapeutic target in breast cancer. Cancer Metastasis Rev. 2018 Dec;37(4):767-778. doi: 10.1007/s10555-018-9760-y. Review. PubMed PMID: 30171384.

Despite the clinical development of novel adjuvant and neoadjuvant chemotherapeutic drugs, metastatic breast cancer is one of the leading causes of cancer-related death among women. The present review focuses on the relevance, mechanisms, and therapeutic potential of targeting WNT5A as a future anti-metastatic treatment strategy for breast cancer patients by restoring WNT5A signaling as an innovative therapeutic option. WNT5A is an auto- and paracrine β-catenin-independent ligand that has been shown to induce tumor suppression as well as oncogenic signaling, depending upon cancer type. In breast cancer patients, WNT5A protein expression has been observed to be significantly reduced in between 45 and 75% of the cases and associated with early relapse and reduced disease-free survival. WNT5A triggers various downstream signaling pathways in breast cancer that primarily affect tumor cell migration and invasion. The accumulated in vitro results reveal that treatment of WNT5A-negative breast cancer cells with recombinant WNT5A caused different tumor-suppressive responses and in particular it impaired migration and invasion. The anti-migratory/invasive and anti-metastatic effects of reconstituting WNT5A signaling by the small WNT5A mimicking peptide Foxy5 form the basis for two successful clinical phase 1-studies aiming at determining safety and pharmacokinetics as well as defining dose-level for a subsequent phase 2-study. We conclude that re-installation of WNT5A signaling is an attractive and promising anti-metastatic therapeutic approach for future treatment of WNT5A-negative breast cancer patients.

113: Prasad K, Siemieniuk R, Hao Q, Guyatt G, O'Donnell M, Lytvyn L, Heen AF, Agoritsas T, Vandvik PO, Gorthi SP, Fisch L, Jusufovic M, Muller J, Booth B,

Horton E, Fraiz A, Siemieniuk J, Fobuzi AC, Katragunta N, Rochwerg B. Dual antiplatelet therapy with aspirin and clopidogrel for acute high risk transient ischaemic attack and minor ischaemic stroke: a clinical practice guideline. BMJ. 2018 Dec 18;363:k5130. doi: 10.1136/bmj.k5130. Erratum in: BMJ. 2019 Jan 10;364:l103. PubMed PMID: 30563885.

WHAT IS THE ROLE OF DUAL ANTIPLATELET THERAPY AFTER HIGH RISK TRANSIENT ISCHAEMIC ATTACK OR MINOR STROKE? SPECIFICALLY, DOES DUAL ANTIPLATELET THERAPY WITH A COMBINATION OF ASPIRIN AND CLOPIDOGREL LEAD TO A GREATER REDUCTION IN RECURRENT STROKE AND DEATH OVER THE USE OF ASPIRIN ALONE WHEN GIVEN IN THE FIRST 24 HOURS AFTER A HIGH RISK TRANSIENT ISCHAEMIC ATTACK OR MINOR ISCHAEMIC STROKE? AN EXPERT PANEL PRODUCED A STRONG RECOMMENDATION FOR INITIATING DUAL ANTIPLATELET THERAPY WITHIN 24 HOURS OF THE ONSET OF SYMPTOMS, AND FOR CONTINUING IT FOR 10-21 DAYS CURRENT PRACTICE IS TYPICALLY TO USE A SINGLE DRUG.

114: Pujari A, Agarwal D, Chawla R, Todi V, Kumar A. Congenital simple hamartoma of the retinal pigment epithelium: What is the probable cause? Med Hypotheses. 2019 Feb;123:79-80. doi: 10.1016/j.mehy.2018.12.019. Epub 2018 Dec 27. PubMed PMID: 30696599.

Congenital simple hamartoma of the retinal pigment epithelium is localized to the retinal tissue only with variable amount of surface extension. With consistent morphological and OCT features of the lesion around fovea, it appears that some of the embryologically undifferentiated ectopic progenitor cells destined for RPE within the retinal tissue may not undergo any further differentiation due to lack of necessary homeostatic factors leading to only hyperplasia and accumulation of the cells within the retina leading to simple hamartoma.

115: Purkait S, Bansal S, Malgulwar PB. BRAF V600E-mutated central nervous system tumor with divergent morphological feature - Anaplastic pleomorphic xanthoastrocytoma-like and astroblastoma-like. Neuropathology. 2019 Feb;39(1):64-67. doi: 10.1111/neup.12527. Epub 2018 Dec 17. PubMed PMID: 30557911.

Mutational analysis of the BRAF gene (BRAF), especially BRAF V600E, is gaining much importance in neuro-oncology practice due to its diagnostic, prognostic and therapeutic implications. This genetic alteration has been described in a wide morphological spectrum of central nervous system tumors. In the present report we describe a BRAF V600E-mutated tumor with divergent morphological appearance comprising of anaplastic pleomorphic xanthoastrocytoma and astroblastoma. Both of these tumor entities are extremely rare and a combined morphology has not been described till now.

116: Raghav R, Jain R, Dhawan A, Roy TS, Kumar P. Chronic co-administration of nalbuphine attenuates the development of opioid dependence. Pharmacol Biochem Behav. 2018 Dec;175:130-138. doi: 10.1016/j.pbb.2018.10.001. Epub 2018 Oct 9. PubMed PMID: 30312633.

Nalbuphine is an agonist of κ-opioid receptors and a partial agonist of μ-opioid receptors, which can stimulate κ-receptors and antagonize the acute rewarding effects of morphine. It is widely used either as an analgesic or as an adjuvant with morphine. This present study aimed to compare the acute and chronic effects of nalbuphine on the naloxone-precipitated opiate-withdrawal in rats. Male adult Wistar albino rats (150-175 g, n = 160) were made physically dependent by administrating increasing dose of morphine (5-25 mg/kg; i.p.). Motor activity was measured for 25 min at five-minute intervals on days 0, 1, 3, 5, and 6 using Activity Monitor (Coulbourn Instruments, Inc. USA) and True-scan software. The withdrawal was precipitated with intraperitoneal injections of naloxone (1 mg/kg) 4 h after the last injection of morphine. Somatic signs of withdrawal were scored using the global Gellert-Holtzman rating scale. Nalbuphine was co-administered acutely and chronically at various doses (0.1, 0.3, 1.0, and 3.0 mg/kg; i.p.) with morphine. In general, the opiate-dependent rats showed a significant

increase in motor activity and Gellert-Holtzman score. Animals co-administered with chronic doses of nalbuphine showed a significant decrease in motor activity and naloxone-precipitated opiate withdrawal, but acute nalbuphine treatment did not attenuate the development of opioid dependence. These findings suggest that nalbuphine could be used as an effective pharmacological adjunct in the treatment of opioid addiction.

117: Rajan R, Pandey S, Anandapadmanabhan R, Srivastava AK. Interrater and intrarater agreement on the 2018 consensus statement on classification of tremors. Mov Disord. 2018 Dec;33(12):1966-1967. doi: 10.1002/mds.27513. Epub 2018 Oct 17. PubMed PMID: 30329183.

118: Rajbhandari H, Joshi S, Malakar S, Paudel P, Jain P, Uppadaya K, Singh M, Patterson V. Epilepsy field workers, a smartphone application and telephone telemedicine: Safe and effective epilepsy care in rural Nepal. Seizure. 2019 Jan;64:54-58. doi: 10.1016/j.seizure.2018.12.005. Epub 2018 Dec 10. PubMed PMID: 30562653.

PURPOSE: Most people with epilepsy live in low- or middle-income countries (LMICs) where there are relatively few doctors. Over 50% of people with epilepsy in these countries are untreated so other models of care are needed. In this report we evaluate a novel model of care.
METHODS: We trained four residents of Myagdi, a rural district in Nepal as epilepsy field workers (EFWs). They provided epilepsy awareness to their communities. When they identified someone with possible epilepsy they used a smartphone application (app) to determine the probability score for an episode being epileptic and contacted an epilepsy specialist by phone. If the specialist thought treatment was indicated this was arranged by the EFW. We recorded mortality, change of diagnosis at face-to-face consultation and drug-related events as measures of safety. Seizure frequency and general wellbeing were also recorded, and a questionnaire was devised to measure satisfaction.
RESULTS: 112 patients with app scores suggesting epileptic seizures were identified and managed in 18 months, of whom 15 had provoked seizures. Forty-three percent of epilepsy patients were untreated. At follow-up one had died of a cause other than epilepsy. Diagnostic agreement at face-to-face assessment was 93%. Overall 5% had side-effects of medication. Seizures were stopped in 33% and reduced in 57%. Ninety-six percent of patients preferred this service to travelling to other doctors.
CONCLUSION: This novel service met all criteria of safety and was effective in reducing frequency of seizures. Patients preferred it to conventional services. It should be transferable to other LMICs.

119: Ramaswamy G, Chinnakali P, Selvaraju S, Nair D, Thekkur P, Selvaraj K, Shivashankar R, Singh AR, Vrushabhendra HN. High prevalence of prediabetes among the family members of individuals with diabetes. Findings from targeted screening program from south India. Diabetes Metab Syndr. 2019 Jan - Feb;13(1):866-872. doi: 10.1016/j.dsx.2018.12.001. Epub 2018 Dec 11. PubMed PMID: 30641823.

AIM: We aimed to screen for prediabetes, diabetes and other cardiovascular risk factors among family members of people with diabetes registered for care in a primary health centre in South India.
METHODS: During 2017-2018, we screened eligible family members of individuals with diabetes at their homes. We measured fasting capillary blood glucose (FCBG); for those with FCBG≥126 mg/dl, we confirmed the diagnosis of diabetes with fasting plasma glucose (FPG). We defined prediabetes as FCBG between 100 and 125 mg/dl; diabetes as both FCBG and FPG ≥126 mg/dl. We assessed non-communicable disease risk factors using WHO STEPS questionnaire.
RESULTS: Of total 884 participants, 873 (99%) underwent screening; 280 (32%) had prediabetes, and 19 (2.2%) were confirmed with diabetes. Of newly diagnosed, 17 (90%) were initiated on treatment. Of 873 participants, 180 (20.6%) were newly diagnosed with hypertension. Of the total, 7.3%, 5.2% and 16% reported tobacco use, alcohol use and high salt intake respectively. Nearly half (48%) had overweight.

CONCLUSION: Though the yield for diabetes is modest (3%), the house to house approach was able to screen 99% of eligible population. High prevalence of prediabetes and undiagnosed hypertension emphasize the need for screening and life style modifications.

120: Ramos A, Planchat M, Vieira Melo AR, Raposo M, Shamim U, Suroliya V, Srivastava AK, Faruq M, Morino H, Ohsawa R, Kawakami H, Bannach Jardim L, Saraiva-Pereira ML, Vasconcelos J, Santos C, Lima M. Mitochondrial DNA haplogroups and age at onset of Machado-Joseph disease/spinocerebellar ataxia type 3: a study in patients from multiple populations. Eur J Neurol. 2019 Mar;26(3):506-512. doi: 10.1111/ene.13860. Epub 2018 Dec 7. PubMed PMID: 30414314.

BACKGROUND AND PURPOSE: Mitochondrial dysfunction has been implicated in the pathogenesis of several neurodegenerative disorders, including Machado-Joseph disease (MJD), an autosomal dominant late-onset polyglutamine ataxia that results from an unstable expansion of a CAG tract in the ATXN3 gene. The size of the CAG tract only partially explains age at onset (AO), highlighting the existence of disease modifiers. Mitochondrial DNA (mtDNA) haplogroups have been associated with clinical presentation in other polyglutamine disorders, constituting potential modifiers of MJD phenotype.
METHODS: A cross-sectional study, using 235 unrelated patients from Portugal, Brazil, India and Japan, was performed to investigate if mtDNA haplogroups contribute to AO of MJD. mtDNA haplogroups were obtained after sequencing the mtDNA hypervariable region I. Patients were classified in 15 phylogenetically related haplogroup clusters.
RESULTS: The AO was significantly different among populations, implying the existence of other non-CAG factors, which seem to be population specific. In the Portuguese population, patients classified as belonging to haplogroup JT presented the earliest onset (estimated onset 34.6 years of age). Haplogroups W and X seem to have a protective effect, causing a delay in onset (estimated onset 47 years of age). No significant association between haplogroup clusters and AO was detected in the other populations or when all patients were pooled. Although haplogroup JT has already been implicated in other neurodegenerative disorders, no previous reports of an association between haplogroups W and X and disease were found.
CONCLUSIONS: These findings suggest that haplogroups JT, W and X modify AO in MJD. Replication studies should be performed in European populations, where the frequency of the candidate modifiers is similar.

121: Ray A, Kanabar K, Upadhyay V, Sharma SK. A four year experience in narcolepsy from a sleep clinic at a tertiary care centre with a short review of contemporary Indian literature. Indian J Med Res. 2018 Dec;148(6):748-751. doi: 10.4103/ijmr.IJMR_888_16. PubMed PMID: 30778010; PubMed Central PMCID: PMC6396549.

Narcolepsy is a common sleep disorder in Western countries but rarely reported from India. Here, we report a small case series of four narcolepsy patients seen over a four year period in the sleep clinic of a tertiary care hospital in north India. The diagnosis was established by clinical history and two or more sleep-onset rapid eye movements (SOREMs) on multiple sleep latency tests (MSLTs) following overnight polysomnography (PSG). The mean age of patients was 26.2±6.4 yr; one patient had associated cataplexy and another one had all four cardinal symptoms of narcolepsy. All these patients had a history of excessive daytime sleepiness (EDS). The mean body mass index was 24.2±4.7 kg/m[2]. The mean sleep latency during MSLT was 2.7±1.3 min, and the mean REM latency was 5.7±2.9 min. Narcolepsy, although rarely reported from India, should be suspected in young non-obese patients complaining of EDS and confirmed by performing MSLT following overnight PSG.

122: Sagar P, Kumar R, Vaish R, Thakar A. Long Term Oncological Results of Transoral Laser Microsurgery for Early and Moderately Advanced Glottic Carcinoma in Primary and Salvage Settings. Indian J Otolaryngol Head Neck Surg. 2018

Dec;70(4):463-470. doi: 10.1007/s12070-018-1505-2. Epub 2018 Sep 29. PubMed PMID: 30464899; PubMed Central PMCID: PMC6224817.

The aim of the study is to document the long term oncological results of trans-oral laser microsurgery (TLM) for early and moderately advanced glottic cancer in primary and salvage settings. In this prospective cohort study 43 consecutive patients of glottic cancer (T1-30, T2-7, and selected T3 with mobile cords-6) were recruited. TLM was performed in these 35 primary and 8 previously treated cases. In our series, the local disease control rate with TLM was 90% (27/30) for T1 disease, 71.4% (5/7) for T2 cancer and 66.6% (4/6) for T3 lesions. The overall disease control rates after subsequent treatment for locoregional recurrences were 100% (30/30), 85.7% (6/7) and 83.3% (5/6) for T1, T2, and T3 glottic cancers respectively. The 5-years disease free survival rate for primary cases was 100% and 50% for salvage cases. The 5-years local disease control rate was 96.4% and 41.67% in primary and salvage TLM settings respectively. The 5-years laryngectomy free rates were 96.3% and 18.75% for primary and salvage cases respectively. TLM offers a minimally invasive and oncologically robust treatment option for early glottic cancer with an overall disease free survival of 100% at 5 years noted for primary untreated cases in this experience. TLM for post radiation salvage cases has however been disappointing and alternate larynx preserving option of open partial laryngectomy needs to be considered in this setting.

123: Sahay P, Singhal D, Maharana PK, Titiyal JS. Is Nanothin Descemet Stripping Automated Endothelial Keratoplasty Comparable to Descemet Membrane Endothelial Keratoplasty? Cornea. 2018 Dec;37(12):e56. doi: 10.1097/ICO.0000000000001768. PubMed PMID: 30272618.

124: Sahoo S, Padhy SK, Padhee B, Singla N, Sarkar S. Role of personality in cardiovascular diseases: An issue that needs to be focused too! Indian Heart J. 2018 Dec;70 Suppl 3:S471-S477. doi: 10.1016/j.ihj.2018.11.003. Epub 2018 Nov 8. Review. PubMed PMID: 30595309; PubMed Central PMCID: PMC6310178.

This review provides a broad overview of the relationship of personality with cardiovascular diseases (CVDs). There has been a sustained interest over the last half a century on the issue of relationship between personality traits and CVDs. Type A behavior was the initial focus of inquiry as it was observed that individuals who were competitive, hostile, and excessively driven were overrepresented among patients seeking treatment for CVDs and also were prone to develop coronary artery disease/syndrome. However, the research gradually expanded to assess the relationship of cardiac morbidity with various other personality facets. Furthermore, studies found out that negative effects (including anger and hostility) were also associated with adverse cardiovascular outcomes. Subsequently, a new personality entity named as the type D 'distressed' personality, which combined negative affectivity and social inhibition. type D personality then became the area of research and was demonstrated to be related with poorer cardiac outcomes. Interestingly, the results of various research studies are not equivocal, and hence, there are several critiques related to the current understanding of the link between personality construct and the risk of development as well as the outcome of CVDs. Furthermore, few personality traits such as optimism, conscientiousness, openness to experience, and curiosity have been found to be protective factors against development of CVDs and therefore are called 'cardioprotective' personality traits. A detailed discussion on the various aspects of personality in relation to CVDs along with a critical appraisal has been presented in this review.

125: Sahoo T, Mangla MK, Sethi A, Thukral A. Successful treatment of congenital chylothorax with skimmed milk and long course octreotide. BMJ Case Rep. 2018 Dec 3;11(1). pii: bcr-2018-226347. doi: 10.1136/bcr-2018-226347. PubMed PMID: 30567162.

Congenital chylothorax (CC) is a rare entity in neonatal period requiring

multimodal management strategies. Despite optimum treatment, some cases remain refractory posing significant challenge to the treating physician. We here describe a 33-week preterm neonate presenting with refractory congenital chylothorax who needed treatment with combination of skimmed milk, high dose and prolonged duration octreotide for resolution. This case highlighted that octreotide has a good safety profile in newborn infants with congenital chylothorax and locally available skimmed milk fortified with medium chain triglyceride (MCT) oil is a cheap and safe alternative.

126: Sahu H, Manjunath MB, Ray A, Vikram NK. Neuroleptic malignant-like syndrome causing thrombocytopaenia: a rare association. BMJ Case Rep. 2018 Dec 3;11(1). pii: bcr-2018-227089. doi: 10.1136/bcr-2018-227089. PubMed PMID: 30567175.

Neuroleptic malignant-like syndrome is a rare but potentially fatal complication of sudden withdrawal of dopaminergic drugs. Clinical features are similar to that of neuroleptic malignant syndrome (NMS) like hyperthermia, autonomic dysfunction, altered sensorium, muscle rigidity; but instead of history of neuroleptic use, there is history of withdrawal of dopaminergic drugs. Laboratory examination generally show elevated creatine phosphokinase levels and may show elevated total leucocyte count. Thrombocytopaenia has been very rarely reported with NMS but it has not been reported with NM-like syndrome. Here, we discuss a case of Parkinson's disease which presented with typical clinical features and risk factors of NM-like syndrome associated with thrombocytopaenia and type 1 respiratory failure. He was treated with bromocriptine and supportive care. Thrombocytopaenia and respiratory failure resolved with above treatment. The patient improved clinically and was successfully discharged on day 12 of admission.

127: Saini I, Mukherjee A, Gautam H, Singla M, Jat KR, Lodha R, Singh UB, Kabra SK. Diagnostic Yield of Xpert MTB/RIF in Bronchoalveolar Lavage in Children with Probable Pulmonary Tuberculosis. Indian Pediatr. 2018 Dec 15;55(12):1062-1065. PubMed PMID: 30745479.

OBJECTIVE: To evaluate utility of Xpert MTB/RIF in bronchoalveolar lavage fluid in children with probable pulmonary tuberculosis.
METHODS: Children with probable pulmonary tuberculosis with negative smear and Xpert on induced sputum/gastric aspirate were subjected to bronchoalveolar lavage (BAL) for Xpert assay and mycobacterial liquid culture. Data of children <14 y undergoing bronchoscopy for suspected MDR-TB (n=12) were also analyzed. The sensitivity of Xpert in BAL fluid for diagnosis of probable and confirmed pulmonary tuberculosis was calculated with clinico-radiological diagnosis and culture as gold standards, respectively.
RESULTS: Of 41 enrolled children, 24 (58.5%) had Xpert positive in BAL fluid and 11 (26.8%) had culture confirmed tuberculosis (BAL fluid;10; sputum,1). The sensitivity of Xpert in BAL fluid among probable and culture confirmed tuberculosis cases was 58.5% (24/41) and 81.8% (9/11), respectively.
CONCLUSION: Xpert in bronchoalveolar lavage fluid has good sensitivity in both probable and confirmed pulmonary tuberculosis in children.

128: Saluja A, Singh RK, Dash D, Bhatia R, Tripathi M. Jaw clonus and opercular syndrome in ALS: a rare and interesting finding. Acta Neurol Belg. 2018 Dec;118(4):547-548. doi: 10.1007/s13760-018-0980-2. Epub 2018 Jul 12. PubMed PMID: 30003505.

129: Salve HR, Parthasarathy R, Krishnan A, Pattanaik DR. Impact of ambient air temperature on human health in India. Rev Environ Health. 2018 Dec 19;33(4):433-439. doi: 10.1515/reveh-2018-0024. PubMed PMID: 30256763.

A systematic search was carried out in the databases of Pubmed, Indmed and Mausam for articles on the effect of ambient temperature on health. Relevant data were extracted using a standard data abstraction form by two authors independently. The overall effects of ambient air temperature are reported as odds ratio (OR)

and 95% confidence intervals (CIs) on mortality. Of 812 records identified, only seven were included in the final review as per pre-defined criteria. An increase in the all-cause mortality rate of 41% are reported during a heat wave in India. Risk ratios for all-cause mortality was in the range of 1.7-2.1. The dose-response relationship of ambient temperature and all-cause mortality and cardiovascular diseases are been reported. Current evidence on the effect of ambient temperature and health is sufficient to initiate an integrated response from policy makers, climate scientists and public health practitioners in India. Continued advocacy and generation of more robust evidence is needed.

130: Satpathy G, Ahmed NH, Nayak N, Tandon R, Sharma N, Agarwal T, Vanathi M, Titiyal JS. Spectrum of mycotic keratitis in north India: Sixteen years study from a tertiary care ophthalmic centre. J Infect Public Health. 2018 Dec 29. pii: S1876-0341(18)30322-8. doi: 10.1016/j.jiph.2018.12.005. [Epub ahead of print] PubMed PMID: 30600158.

INTRODUCTION: To analyse the fungal culture results of patients with fungal keratitis over sixteen years and look for variations in the trends over years and distribution across ages, gender and seasons.
MATERIALS AND METHODS: Clinical and demographic records and microbiology reports of 18,898 patients of fungal keratitis from 2001 to 2016 were analysed.
RESULTS: Overall fungal culture positivity was 21.5%. 67.3% were males and 32.7% were females. Maximum numbers of samples (17.9%) were received from age group 41-50 years, and maximum fungal culture positivity was seen in age group 31-40 years (30.8%). Most common fungus was Aspergillus species (31.1%), followed by Fusarium species (24.5%), Alternaria (10.5%), Curvularia (10.2%), Helminthosporium (5.7%), Bipolaris (5.4%), Penicillium (4.5%), Candida (4.4%), Acremonium (1.2%), Rhizopus (1.0%), Paecilomyces (0.8%), Rhodotorula (0.5%) and Mucor (0.2%). Fungal culture positivity and relative frequency of fungi remained almost stable over the study duration, except Rhodotorula spp, which showed a rise 2014 onwards. Highest numbers of culture proven fungal keratitis cases were seen in monsoon season.
CONCLUSIONS: To the best of our knowledge, our study is the largest compilation of epidemiological and microbiological features of fungal keratitis, throwing light on important attributes relevant to management of mycotic keratitis patients.

131: Saxena A, Sharma G, Tyagi S, Mourya M, Coshic P, Tiwari PK, Mehra NK, Kanga U. HLA-A*02 repertoires in three defined population groups from North and Central India: Punjabi Khatries, Kashmiri Brahmins and Sahariya Tribe. HLA. 2019 Jan;93(1):16-23. doi: 10.1111/tan.13447. Epub 2018 Dec 27. PubMed PMID: 30516033.

The allelic family of HLA-A*02 with a repertoire of approximately 1022 alleles represents the predominant and most heterogeneous group at the HLA-A locus. This remarkable diversity signifies its evolutionary relevance. Its population-specific diversity is attributed to environmental factors and pathogen pressure and can be harnessed in biology and medicine, particularly in disease association and for HLA-based vaccination approaches. We therefore investigated the HLA-A*02 repertoire in two North Indian caste populations, viz Punjabi Khatries (PK, N = 250), Kashmiri Brahmins (KB, N = 160) and a Central Indian tribe Sahariya (ST, N = 100) using Luminex-based high-resolution rSSO method. When required, results were confirmed with high-resolution PCR-SSP and/or next-generation sequencing (NGS). In the three populations evaluated, HLA-A*02 was observed with an overall high phenotypic/allelic frequency, however, A*02 repertoire differed among them. A total of six alleles were observed (A*02:01, *02:03, *02:05, *02:06, *02:07 and *02:11) in the caste groups, compared with four (except *02:05 and *02:07) in the tribals. Our striking observation was the high occurrence of A*02:11 at the repertoire level (80.6% in ST, 39% in PK, 31.8% in KB). Globally, this allele is rare, observed with low frequencies in limited ethnic groups. The primordial A*02:01 allele, representative A*02 allele in most ethnicities was observed as the second predominant allele (PK = 27.3%, KB = 31.8% and ST = 11.9%). Extremely high occurrence of A*02:11 in ST may be representation of ancient Austro-Asiatic genetic pool. In caste populations, the observed A*02

repertoire may be a consequence of natural selection and/or admixture from different populations.

132: Saxena A. Congenital Heart Disease in India: A Status Report. Indian Pediatr. 2018 Dec 15;55(12):1075-1082. PubMed PMID: 30745481.

Considering a birth prevalence of congenital heart disease as 9/1000, the estimated number of children born with congenital heart disease in India is more than 200,000 per year. Of these, about one-fifth are likely to have serious defect, requiring an intervention in the first year of life. Currently advanced cardiac care is available to only a minority of such children. A number of cardiac centers have been developed over the last 10 years. However, most are in the private sector, and are not geographically well-distributed. Challenges to pediatric cardiac care include financial constraints, health-seeking behavior of community, and lack of awareness. Government of India is taking a number of steps for improving health of children through its various program and schemes that are likely to benefit children with congenital heart disease, especially those who are vulnerable and marginalized.

133: Selvan H, Patil M, Yadav S, Tandon R. Triple chamber: a clinical rarity after deep anterior lamellar keratoplasty and role of optical coherence tomography in management. Int Ophthalmol. 2018 Dec;38(6):2683-2687. doi: 10.1007/s10792-017-0755-4. Epub 2017 Oct 30. PubMed PMID: 29086324.

PURPOSE: To report a case demonstrating triple chamber following deep anterior lamellar keratoplasty (DALK) and its successful intra-operative optical coherence tomography-guided management.
METHOD: Case report of a young male with macular corneal dystrophy, who underwent DALK in his left eye by Big-Bubble technique. The surgery was uneventful. On the first post-operative day, triple chamber was observed and followed-up with serial clinical photography and anterior segment optical coherence tomography. Due to decrease in graft clarity and increase in volume of the two extra chambers, interface drainage along with descemetopexy was undertaken 4 days later.
RESULT: The compartments constituting the triple chamber were those in-between the donor tissue and host pre-Descemet layer (Dua's layer), the latter and host Descemet membrane and the true anterior chamber. Presence of viscoelastic in the interface was identified as the cause. Microscope integrated optical coherence tomography (MiOCT) guided drainage followed by intracameral air tamponade ensured near total disappearance of the two extra chambers at the end of surgery. Examination on the next day confirmed complete apposition of the graft and host.
CONCLUSION: To the best of our knowledge, this is a unique demonstration of Dua's layer in vivo by slit lamp biomicroscopy and description of MiOCT guided management of triple chamber.

134: Sen S, Ravani RD, Kakkar P, Kumar A. Pars plana vitrectomy in management of giant retinal tear and retinal detachment following iris-fixated anterior chamber phakic intraocular lens implantation. BMJ Case Rep. 2018 Dec 22;11(1). pii: e228052. doi: 10.1136/bcr-2018-228052. PubMed PMID: 30580313.

This case report describes a 26-year-old man presenting with a giant retinal tear (GRT) with retinal detachment (RD) following implantation of iris-fixated anterior chamber phakic intraocular lens (AC-PIOL) for high myopia and occurrence of intraoperative aberrations during vitrectomy due to the presence of AC-PIOL in situ. Posterior chamber PIOL have been well reported to be associated with GRT with RD. Very few reports exist of GRT with RD following AC-PIOL. Moreover, the presence of iris-fixated AC-PIOL, in this case, led to the formation of ghost images intraoperatively especially during crucial steps like induction of posterior vitreous detachment which has never been reported.

135: Sharma A, Kaushik P, Singh TP, Patel C. Focal pulmonary uptake on myocardial perfusion scintigraphy due to iatrogenic microembolism. J Nucl Cardiol. 2018 Dec 4. doi: 10.1007/s12350-018-01553-3. [Epub ahead of print] PubMed PMID: 30515746.

136: Sharma A, Pandey NN, Kumar S. Pacemaker site pseudoaneurysm from superior thoracic artery: an uncommon offender. Acta Cardiol. 2018 Dec 4:1-2. doi: 10.1080/00015385.2018.1530403. [Epub ahead of print] PubMed PMID: 30513255.

137: Sharma A, Pandey AK, Mohan A, Bhalla AS, Vishnubhatla S, Sharma MC, Jain D, Thulkar S, Gupta P, Bal CS, Kumar R. Standardization of image reconstruction parameters for dynamic fluorine-18-fluorodeoxyglucose positron emission tomography/computed tomography. Nucl Med Commun. 2018 Dec;39(12):1207-1217. doi: 10.1097/MNM.0000000000000923. PubMed PMID: 30371603.

AIM: The present study aimed to standardize the ordered subset expectation maximization (OSEM) reconstruction parameters for a dynamic PET/CT study.
PARTICIPANTS AND METHODS: A locally fabricated phantom was filled with fluorine-18-fluorodeoxyglucose (F-FDG) for four different sphere to background ratios (SBRs), that is, 10 : 1, 8 : 1, 6 : 1, and 4 : 1, and dynamic PET/CT was acquired for 5 min. Transaxial slices were reconstructed using OSEM [full-width at half-maximum (FWHM): 1-7 mm and iterations: 1-8]. Two nuclear medicine physicians visually rated image quality on the basis of the following criteria: score 1: poor quality, score 2: average quality, and score 3: good quality. The quantitative assessment of image quality was performed on the basis of the calculation of noise, horizontal, and vertical line profiles. The standardized parameters were applied to the PET/CT study of seven non-small-cell lung cancer patients, and their image quality was compared with the vendor-provided default parameters.
RESULTS: In the phantom study, for SBR 10 : 1, the images reconstructed with FWHM 4 mm and four iterations, for SBR 8 : 1 and 6 : 1, the image with FWHM 3 mm and five iterations, and for SBR 4 : 1, the image with FWHM 2 mm and five iterations were found to have the best quality. In the patient study, FWHM 4 mm and four iterations were found to be suitable for the reconstruction of dynamic F-FDG PET/CT studies with a tumor to background ratio of 10 : 1. With an increase in iterations, noise and sharpness in the image increased, whereas with an increase in FWHM, the image became smoother.
CONCLUSION: The standardized reconstruction parameters of OSEM for the dynamic PET/CT study were found to be 4-mm filter FWHM and four iterations in SBR 10 : 1.

138: Sharma A, Singh K, Biswas A, Ranjan R, Kishor K, Pandey H, Kumar R, Mahapatra M, Oldenburg J, Saxena R. Impact of interleukin 6 promoter polymorphisms (-174 G>C, -572 G>C and -597 G>A) on plasma IL-6 levels and their influence on the development of DVT: a study from India. Hematology. 2018 Dec;23(10):833-838. doi: 10.1080/10245332.2018.1483546. Epub 2018 Jun 11. PubMed PMID: 29890913.

OBJECTIVES: To evaluate the association of interleukin 6 (IL-6) levels with deep vein thrombosis (DVT) and to assess the impact of IL-6 promoter polymorphisms (-174G>C, -572G>C and -597G>A) on its plasma levels and their influence in the development of DVT in India.
METHODS: One hundred DVT patients and 100 age and sex-matched healthy controls were study subjects. IL-6 polymorphisms were identified by polymerase chain reaction-restriction fragment length polymorphism. IL-6 levels were detected by enzyme-linked immunosorbent assay.
RESULTS: Significantly raised IL-6 levels were observed in patients as compared to controls. (Patients: 13.73 ± 6.30 pg/ml, Controls: 11.83 ± 4.47 pg/ml, $p = 0.014$). The prevalence of C allele of -572G>C polymorphism was significantly higher in patients than controls (Patients: 39.5%, Controls: 27.5%, $p = 0.011$, $\chi2 = 6.463$). Subjects with GC and CC genotype had significantly higher IL-6 levels than GG genotype ($p = <0.001$). Patients with GC and CC genotype increased the DVT risk by 1.39 fold (ORa: 1.39, CI: 0.74-2.62) and 2.69 fold (ORa: 2.42, CI: 1.08-6.70), respectively. IL-6 -174G>C and -597G>A polymorphisms were not associated with raised IL-6 levels and nor with thrombotic risk (-174G>C: $p = 0.823$ $\chi2 = 0.369$; -597G>A: $p = 0.678$ $\chi2 = 1.08$).

CONCLUSION: Our study emphasizes the importance of -572G>C polymorphism in increasing IL-6 levels, thereby showing its significant role in DVT in India. IL-6 -174G>C and -597G>A were neither associated with raised plasma IL-6 levels nor with thrombotic risk. Thus -572G>C polymorphism detection may be one of the connecting links between IL-6 and thrombotic risk in Indian DVT patients.

139: 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 0.1ml 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 (3mg/kg, p.o.) and three groups, treated with 50, 100 and 200mg/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.

140: Sharma JB, Sharma E, Sharma S, Dharmendra S. Female genital tuberculosis: Revisited. Indian J Med Res. 2018 Dec;148(Supplement):S71-S83. doi: 10.4103/ijmr.IJMR_648_18. Review. PubMed PMID: 30964083.

Female genital tuberculosis (FGTB) is caused by Mycobacterium tuberculosis (rarely Mycobacterium bovis and/or atypical mycobacteria) being usually secondary to TB of the lungs or other organs with infection reaching through haematogenous, lymphatic route or direct spread from abdominal TB. In FGTB, fallopian tubes are affected in 90 per cent women, whereas uterine endometrium is affected in 70 per cent and ovaries in about 25 per cent women. It causes menstrual dysfunction and infertility through the damage of genital organs. Some cases may be asymptomatic. Diagnosis is often made from proper history taking, meticulous clinical examination and judicious use of investigations, especially endometrial aspirate (or biopsy) and endoscopy. Treatment is through multi-drug antitubercular treatment for adequate time period (rifampicin, isoniazid, pyrazinamide, ethambutol daily for 60 days followed by rifampicin, isoniazid, ethambutol daily for 120 days). Treatment is given for 18-24 months using the second-line drugs for drug-resistant (DR) cases. With the advent of increased access to rapid diagnostics and newer drugs, the management protocol is moving towards achieving universal drug sensitivity testing and treatment with injection-free regimens containing newer drugs, especially for new and previously treated DR cases.

141: Sharma M, Gogia A, Deo SSV, Mathur S. Role of rebiopsy in metastatic breast cancer at progression. Curr Probl Cancer. 2018 Dec 10. pii: S0147-0272(18)30326-X. doi: 10.1016/j.currproblcancer.2018.12.001. [Epub ahead of print] PubMed PMID: 30559028.

Alteration of biomarkers is well-documented in breast cancer at locoregional recurrence or metastasis attributed to tumor heterogeneity and change in biology. There is a lack of literature on alteration of biomarkers in metastatic breast cancer (MBC) at progression. We included 32 patients of upfront MBC. Estrogen receptor, progesterone receptor, and human epidermal growth factor receptor 2/neu documented at baseline and at progression. Median age was 46 (range 26-72) years. Estrogen receptor altered in 6 (18.75%) patients [4 (12.5%) positive to negative and 2 (6.25%) from negative to positive], progesterone receptor altered in 8 (25.3%) patients (6 [18.75%] positive to negative and 2 [6.25%] negative to positive) and human epidermal growth factor receptor 2/neu altered in 5 (15.6%) patients (all were positive to negative). Therapy was changed as per new receptor status. Documentation of change in receptor status may be justified to determine further therapy and prognosis in MBC at progression.

142: Sharma S, Kumari P, Vashist A, Kumar C, Nandi M, Tyagi JS. Cognate sensor kinase-independent activation of Mycobacterium tuberculosis response regulator DevR (DosR) by acetyl phosphate: implications in anti-mycobacterial drug design. Mol Microbiol. 2018 Dec 27. doi: 10.1111/mmi.14196. [Epub ahead of print] PubMed PMID: 30589958.

The DevRS/DosT two-component system is essential for mycobacterial survival under hypoxia, a prevailing stress within granulomas. DevR (also known as DosR) is activated by an inducing stimulus, such as hypoxia, through conventional phosphorylation by its cognate sensor kinases, DevS (also known as DosS) and DosT. Here, we show that the DevR regulon is activated by acetyl phosphate under 'non-inducing' aerobic conditions when Mycobacterium tuberculosis devS and dosT double deletion strain is cultured on acetate. Overexpression of phosphotransacetylase caused a perturbation of the acetate kinase-phosphotransacetylase pathway, a decrease in the concentration of acetyl phosphate and dampened the aerobic induction response in acetate-grown bacteria. The operation of two pathways of DevR activation, one through sensor kinases and the other by acetyl phosphate, was established by an analysis of wild-type DevS and phosphorylation-defective DevSH395Q mutant strains under conditions partially mimicking a granulomatous-like environment of acetate and hypoxia. Our findings reveal that DevR can be phosphorylated in vivo by acetyl phosphate. Importantly, we demonstrate that acetyl phosphate-dependent phosphorylation can occur in the absence of DevR's cognate kinases. Based on our findings, we conclude that anti-mycobacterial therapy should be targeted to DevR itself and not to DevS/DosT kinases.

143: Shergill S, Galway U. Atypical prolonged spinal anaesthesia. Indian J Anaesth. 2018 Dec;62(12):1004-1005. doi: 10.4103/ija.IJA_527_18. PubMed PMID: 30636809; PubMed Central PMCID: PMC6299762.

144: Sheth J, Mistri M, Bhavsar R, Pancholi D, Kamate M, Gupta N, Kabra M, Mehta S, Nampoothiri S, Thakker A, Jain V, Shah R, Sheth F. Batten disease: biochemical and molecular characterization revealing novel PPT1 and TPP1 gene mutations in Indian patients. BMC Neurol. 2018 Dec 12;18(1):203. doi: 10.1186/s12883-018-1206-1. PubMed PMID: 30541466; PubMed Central PMCID: PMC6292089.

BACKGROUND: Neuronal ceroid lipofuscinoses type I and type II (NCL1 and NCL2) also known as Batten disease are the commonly observed neurodegenerative lysosomal storage disorder caused by mutations in the PPT1 and TPP1 genes respectively. Till date, nearly 76 mutations in PPT1 and approximately 140 mutations, including large deletion/duplications, in TPP1 genes have been reported in the literature. The present study includes 34 unrelated Indian patients (12 females and 22 males) having epilepsy, visual impairment, cerebral atrophy, and cerebellar atrophy.
METHODS: The biochemical investigation involved measuring the palmitoyl protein thioesterase 1 and tripeptidy peptidase 1 enzyme activity from the leukocytes. Based on the biochemical analysis all patients were screened for variations in either PPT1 gene or TPP1 gene using bidirectional Sanger sequencing. In cases

where Sanger sequencing results was uninformative Multiplex Ligation-dependent Probe Amplification technique was employed. The online tools performed the protein homology modeling and orthologous conservation of the novel variants. RESULTS: Out of 34 patients analyzed, the biochemical assay confirmed 12 patients with NCL1 and 22 patients with NCL2. Molecular analysis of PPT1 gene in NCL1 patients revealed three known mutations (p.Val181Met, p.Asn110Ser, and p.Trp186Ter) and four novel variants (p.Glu178Asnfs*13, p.Pro238Leu, p.Cys45Arg, and p.Val236Gly). In the case of NCL2 patients, the TPP1 gene analysis identified seven known mutations and eight novel variants. Overall these 15 variants comprised seven missense variants (p.Met345Leu, p.Arg339Trp, p.Arg339Gln, p.Arg206Cys, p.Asn286Ser, p.Arg152Ser, p.Tyr459Ser), four frameshift variants (p.Ser62Argfs*19, p.Ser153Profs*19, p.Phe230Serfs*28, p.Ile484Aspfs*7), three nonsense variants (p.Phe516*, p.Arg208*, p.Tyr157*) and one intronic variant (g.2023_2024insT). No large deletion/duplication was identified in three NCL1 patients where Sanger sequencing study was normal.
CONCLUSION: The given study reports 34 patients with Batten disease. In addition, the study contributes four novel variants to the spectrum of PPT1 gene mutations and eight novel variants to the TPP1 gene mutation data. The novel pathogenic variant p.Pro238Leu occurred most commonly in the NCL1 cohort while the occurrence of a known pathogenic mutation p.Arg206Cys dominated in the NCL2 cohort. This study provides an insight into the molecular pathology of NCL1 and NCL2 disease for Indian origin patients.

145: Shin SS, Carpenter CL, Ekstrand ML, Yadav K, Shah SV, Ramakrishnan P, Pamujula S, Sinha S, Nyamathi AM. Household Food Insecurity as Mediator of the Association Between Internalized Stigma and Opportunistic Infections. AIDS Behav. 2018 Dec;22(12):3897-3904. doi: 10.1007/s10461-018-2193-3. PubMed PMID: 29934793; PubMed Central PMCID: PMC6309600.

Internalized HIV stigma can affect health outcomes, but the mechanism underlying this relationship is poorly understood. We investigated the potential pathways for the association between internalized stigma and opportunistic infections (OIs) among women living with HIV in rural India. We conducted a cross-sectional study involving in-person interviews with 600 participants. We modeled two outcome variables, total number of OIs and fungal dermatoses, which was the most frequently reported OI. Causal mediation analysis was performed to estimate the total effect, direct effect, and indirect effect through mediators while controlling for confounders. Food insecurity was a strong mediator of the association between internalized stigma and the number of OIs (70% of the total effect) and fungal dermatoses (83% of the total effect), while the indirect effect of stigma through adherence was minimal for both outcomes. Household food insecurity may be an important mediator of the impact of HIV-related stigma on opportunistic infections.

146: Singh A, Gupta N, Kumar V, Tandon R. Toxic anterior segment syndrome following phakic posterior chamber IOL: a rarity. BMJ Case Rep. 2018 Dec 3;11(1). pii: bcr-2018-225806. doi: 10.1136/bcr-2018-225806. PubMed PMID: 30567159.

Implantable collamer lenses (ICL) have gained popularity for correction of myopia where kerato-refractive procedures are not indicated as in cases of high myopic refractive errors. Toxic anterior segment syndrome (TASS) is a very uncommonly reported postoperative complication following ICL implantation. A young patient developed severe corneal oedema and anterior segment inflammation on the first day after ICL implantation. Analysing retrospectively, possible idiosyncratic response to intracameral pilocarpine was considered as a cause for TASS. Prompt and intensive therapy with oral and topical potent steroids was visually rewarding. TASS, though a sterile inflammation can have catastrophic sequelae such as corneal decompensation and secondary glaucoma. Hence, timely identification and management is important.

147: Singh A, Gupta N, Ganger A, Vashist P, Tandon R. Awareness Regarding Eye Donation in an Urban Slum Population: A Community-Based Survey. Exp Clin Transplant. 2018 Dec;16(6):730-735. doi: 10.6002/ect.2017.0077. Epub 2017 Dec 18.

PubMed PMID: 29251584.

OBJECTIVES: Our objective was to assess the awareness of eye donation in an urban slum population and willingness to donate eyes after death.
MATERIALS AND METHODS: A cross-sectional, population-based study was undertaken in 20 urban slum clusters of the Indian capital, New Delhi. A total of 2004 individuals aged 18 years and older were recruited. After written, informed consent was obtained, knowledge regarding eye donation was assessed through a predesigned close-ended questionnaire. The questionnaire was framed so as to understand the sociodemographic factors influencing the willingness to donate and the awareness of eye donation in this distinct population.
RESULTS: The mean age of the recruited individuals was 36.53 ± 13.68 years. Age did not have any significant effect on awareness regarding eye donation. We observed that 34.3% of the study population had no knowledge of eye donation and that 7.78% of the study population had excellent knowledge. Education seemed to be an important determining factor regarding knowledge of eye donation. Multivariable logistic regression demonstrated better awareness among the Hindu population (81.1%) and those belonging to a higher caste ($P < .05$). The younger age group (those 18-30 years old) showed significant willingness to donate their eyes versus older age groups ($P < .001$). In our study population, male participants ($P = .006$), those classified as literate ($P < .001$), and those classified as Hindu ($P < .001$) were more willing to pledge their eyes for donation.
CONCLUSIONS: Although there is substantial awareness about eye donation, willingness to pledge eyes was very low in the urban slum population. Additional efforts are needed to translate this awareness into actual eye donation in the urban poor population.

148: Singh K, Johnson L, Devarajan R, Shivashankar R, Sharma P, Kondal D, Ajay VS, Narayan KMV, Prabhakaran D, Ali MK, Tandon N. Acceptability of a decision-support electronic health record system and its impact on diabetes care goals in South Asia: a mixed-methods evaluation of the CARRS trial. Diabet Med. 2018 Dec;35(12):1644-1654. doi: 10.1111/dme.13804. Epub 2018 Sep 19. PubMed PMID: 30142228.

AIMS: To describe physicians' acceptance of decision-support electronic health record system and its impact on diabetes care goals among people with Type 2 diabetes.
METHODS: We analysed data from participants in the Centre for Cardiometabolic Risk Reduction in South Asia (CARRS) trial, who received the study intervention (care coordinators and use of a decision-support electronic health record system; n=575) using generalized estimating equations to estimate the association between acceptance/rejection of decision-support system prompts and outcomes (mean changes in HbA1c , blood pressure and LDL cholesterol) considering repeated measures across all time points available. We conducted in-depth interviews with physicians to understand the benefits, challenges and value of the decision-support electronic health record system and analysed physicians' interviews using Rogers' diffusion of innovation theory.
RESULTS: At end-of-trial, participants with diabetes for whom glycaemic, systolic blood pressure, diastolic blood pressure and LDL cholesterol decision-support electronic health record prompts were accepted vs rejected, experienced no reduction in HbA1c [mean difference: -0.05 mmol/mol (95% CI -0.22, 0.13); P=0.599], but statistically significant improvements were observed for systolic blood pressure [mean difference: -11.6 mmHg (95% CI -13.9, -9.3); $P \leq 0.001$], diastolic blood pressure [mean difference: -5.2 mmHg (95% CI -6.5, -3.8); $P \leq 0.001$] and LDL cholesterol [mean difference: -0.7 mmol/l (95% CI -0.6, -0.8); $P \leq 0.001$], respectively. The relative advantages and compatibility of the decision-support electronic health record system with existing clinic set-ups influenced physicians' acceptance of it. Software complexities and data entry challenges could be overcome by task-sharing.
CONCLUSION: Wider adherence to decision-support electronic health record prompts could potentially improve diabetes goal achievement, particularly when accompanied by assistance from a non-physician health worker.

149: Singh L, Kashyap S. Update on pathology of retinoblastoma. Int J Ophthalmol. 2018 Dec 18;11(12):2011-2016. doi: 10.18240/ijo.2018.12.22. eCollection 2018. Review. PubMed PMID: 30588438; PubMed Central PMCID: PMC6288520.

Retinoblastoma is caused by mutational inactivation of both alleles of the RB1 gene, which maps to chromosome 13q14 and encodes retinoblastoma protein that acts as a tumor suppressor. Histopathological high-risk features of retinoblastoma are predictive of metastasis or local recurrence. The focus of this update is to emphasize the recent advances in pathology, various molecular key pathways and genome wide approaches for newer potential therapeutic future targets associated with retinoblastoma tumor biology. This review article highlights the new biomarkers expressed by the retinoblastoma tumor for the better survival of patients.

150: Singh MK, Pushker N, Meel R, Chodsol K, Sen S, Bakhshi S, Singh L, Kashyap S. Does NEMO/IKKγ protein have a role in determining prognostic significance in uveal melanoma? Clin Transl Oncol. 2018 Dec;20(12):1592-1603. doi: 10.1007/s12094-018-1895-3. Epub 2018 May 23. PubMed PMID: 29796997.

PURPOSE: Uveal melanoma, although a rare form of cancer, is the most common primary malignancy of the eye in adults. Nuclear factor-κB (NF-κB) is a transcription factor that transactivates genes involved in the regulation of cell growth, apoptosis, angiogenesis, and metastasis, but the molecular mechanisms that negatively regulate NF-κB activation are not fully understood. NF-κB can also be activated by DNA damage pathway through NEMO protein. Therefore, the objective of this study is to elucidate the role of NEMO/IKKγ protein in uveal melanoma patients.
METHODS: Seventy-five formalin-fixed paraffin-embedded prospective tissues of uveal melanoma were included in the present study. These cases were reviewed and investigated for the expression of NEMO/IKKγ protein by immunohistochemistry and validated by western blotting along with the qRT-PCR for mRNA expression. Expression levels were correlated with the clinicopathological parameters and patients' outcome.
RESULTS: Immunohistochemistry showed cytoplasmic expression of NEMO/IKKγ expression in only 22 out of 75 (29.33%) cases. This result was confirmed by western blotting, and correlated well with the immunohistochemical expression of NEMO/IKKγ protein (48 kDa). In addition, downregulation of this gene was found in 87.93% of the cases when compared with the normal tissues. On statistical analysis, loss of NEMO/IKKγ protein was correlated with neovascularization, high mitotic count, and presence of vascular loop ($p < 0.05$). There was less overall survival rate with low expression of NEMO/IKKγ protein in patients with uveal melanoma.
CONCLUSION: This was the first study suggesting the relevant role of NEMO/IKKγ protein, and highlights the prognostic significance with outcome in uveal melanoma patients. This protein might be used as a screening biomarker in these patients after large-scale validation and translational studies.

151: Singh NP, Makkar JK, Singh PM. Reporting of time to rescue analgesia: Would it have made a difference in results? Eur J Anaesthesiol. 2018 Dec;35(12):986-987. doi: 10.1097/EJA.0000000000000847. PubMed PMID: 30376492.

152: Singh P, Sen S, Banerjee M, Meel R. Choroidal melanoma masquerading as orbital cellulitis. BMJ Case Rep. 2018 Dec 9;11(1). pii: e227486. doi: 10.1136/bcr-2018-227486. PubMed PMID: 30567222.

Orbital cellulitis is the most common subset of orbital inflammatory disease. We describe a patient with necrotic choroidal melanoma who presented with orbital cellulitis. MRI revealed a mass lesion suggesting intraocular melanoma with no extrascleral extension. There was no metastasis on positron emission tomography-CT scan. Enucleation with orbital implant was performed. Histopathological analysis of the specimen revealed intraocular necrotic melanoma with very few recognisable melanoma cells. The necrotic subtype is more commonly

associated with extrascleral extension, distant metastasis and poorer prognosis than other melanoma types. Sterile orbital cellulitis may rarely be a manifestation of ocular tumours in adults, and a high index of suspicion should be maintained to rule out the same.

153: Singh P, Makharia GK. Reply. Clin Gastroenterol Hepatol. 2018 Dec;16(12):2003. doi: 10.1016/j.cgh.2018.08.030. PubMed PMID: 30454937.

154: Singh RD, Shandilya R, Bhargava A, Kumar R, Tiwari R, Chaudhury K, Srivastava RK, Goryacheva IY, Mishra PK. Quantum Dot Based Nano-Biosensors for Detection of Circulating Cell Free miRNAs in Lung Carcinogenesis: From Biology to Clinical Translation. Front Genet. 2018 Dec 6;9:616. doi: 10.3389/fgene.2018.00616. eCollection 2018. Review. PubMed PMID: 30574163; PubMed Central PMCID: PMC6291444.

Lung cancer is the most frequently occurring malignancy and the leading cause of cancer-related death for men in our country. The only recommended screening method is clinic based low-dose computed tomography (also called a low-dose CT scan, or LDCT). However, the effect of LDCT on overall mortality observed in lung cancer patients is not statistically significant. Over-diagnosis, excessive cost, risks associated with radiation exposure, false positive results and delay in the commencement of the treatment procedure questions the use of LDCT as a reliable technique for population-based screening. Therefore, identification of minimal-invasive biomarkers able to detect malignancies at an early stage might be useful to reduce the disease burden. Circulating nucleic acids are emerging as important source of information for several chronic pathologies including lung cancer. Of these, circulating cell free miRNAs are reported to be closely associated with the clinical outcome of lung cancer patients. Smaller size, sequence homology between species, low concentration and stability are some of the major challenges involved in characterization and specific detection of miRNAs. To circumvent these problems, synthesis of a quantum dot based nano-biosensor might assist in sensitive, specific and cost-effective detection of differentially regulated miRNAs. The wide excitation and narrow emission spectra of these nanoparticles result in excellent fluorescent quantum yields with a broader color spectrum which make them ideal bio-entities for fluorescence resonance energy transfer (FRET) based detection for sequential or simultaneous study of multiple targets. In addition, photo-resistance and higher stability of these nanoparticles allows extensive exposure and offer state-of-the art sensitivity for miRNA targeting. A major obstacle for integrating QDs into clinical application is the QD-associated toxicity. However, the use of non-toxic shells along with surface modification not only overcomes the toxicity issues, but also increases the ability of QDs to quickly detect circulating cell free miRNAs in a non-invasive mode. The present review illustrates the importance of circulating miRNAs in lung cancer diagnosis and highlights the translational prospects of developing QD-based nano-biosensor for rapid early disease detection.

155: Singh S, Sahoo AK, Ramam M, Bhari N. Mucocutaneous spider angiomas in an adolescent with chronic liver disease. Arch Dis Child. 2018 Dec;103(12):1145. doi: 10.1136/archdischild-2017-314406. Epub 2018 Jan 3. PubMed PMID: 29298760.

156: Singh V, Guleria P, Malik PS, Mohan A, Thulkar S, Pandey RM, Luthra K, Arava S, Ray R, Jain D. Epidermal growth factor receptor (EGFR), KRAS, and BRAF mutations in lung adenocarcinomas: A study from India. Curr Probl Cancer. 2018 Dec 17. pii: S0147-0272(18)30266-6. doi: 10.1016/j.currproblcancer.2018.12.003. [Epub ahead of print] PubMed PMID: 30591192.

Mitogen-Activated Protein (MAP) Kinase pathway involves several oncogenic genes which can serve as potential targets for therapy. Therefore, aim of the present

study is to analyze mutations in the MAP Kinase pathway in pulmonary adenocarcinoma (ADCA) of Indian patients along with clinico-pathologic correlation and determination of the survival status in patients receiving therapy. Blocks and slides of 125 pulmonary ADCA of last 5 years were retrieved. Histo-morphology and tumor content were determined. EGFR, KRAS, BRAF and MEK1 genes were analyzed using Sanger sequencing and Real-time polymerase chain reaction (PCR). Clinico-pathologic correlation and survival analysis were performed. Fifty-eight (46.4%) patients harbored genetic mutations of which 49 had single somatic mutations, 5 had multiple exonic and 4 showed coexisting EGFR and KRAS mutations. EGFR mutations were seen in 24.8%, KRAS in 19.2% and BRAF (non-V600E) in 2.4% cases. There was no difference in progression-free survival of wild- type/single mutations when compared with multiple/ coexisting mutations (P = 0.09). However, the P value may indicate borderline correlation. To conclude, EGFR and KRAS mutations may coexist in the same patient in lung ADCA. Multiple exonic mutations of KRAS gene formed substantial percentage of our cohort, requiring further exploration. Lung ADCA harbouring BRAF mutations are commonly non-V600E. Testing of all major genetic driver mutations of lung ADCA irrespective of histology and other demographic characteristics is necessary.

157: Singhal D, Sahay P, Maharana PK, Raj N, Sharma N, Titiyal JS. Vernal Keratoconjunctivitis. Surv Ophthalmol. 2018 Dec 12. pii: S0039-6257(18)30152-8. doi: 10.1016/j.survophthal.2018.12.001. [Epub ahead of print] Review. PubMed PMID: 30550738.

Vernal keratoconjunctivitis, a chronic bilateral seasonal allergic inflammatory disease of the eye, is an important cause of visual debilitation and impairment of quality of life in children and young adults in certain parts of the world such as the Mediterranean areas, Central and West Africa, the Middle East, Japan, the Indian subcontinent, and South America. It usually has a self-limiting course; however, in a few cases, the disease is recurrent and leads to long-term visual disabling complications such as keratoconus and limbal stem cell deficiency. The main pathogenic mechanism is immunoglobulin E mediated; however, there may be non-immunoglobulin E and certain nonspecific hypersensitivity mechanisms. The predominant cell types involved are CD4 T cells and eosinophils. The management of vernal keratoconjunctivitis is challenging. Although an acute episode can be well managed with the help of currently available topical agents, the major challenge lies in preventing recurrences and their consequences. Steroids are highly effective in controlling both an acute episode and chronic disease; however, the long-term complications of steroid use often prevent their continued use. Immunomodulators such as tacrolimus and cyclosporine may be used as steroid-sparing agents; however, the dosing and duration of use still need to be clearly defined. Surgery is required for the management of complications such as shield ulcer and corneal ectasia or opacity; however, the disease process and management are largely well defined, and genetic predisposition factors responsible for chronicity and an effective albeit safe treatment modality for the chronic form of the disease need further research.

158: Sinha A, Singh V, Singh S, Yadav S. Proteomic analyses reveal lower expression of TEX40 and ATP6V0A2 proteins related to calcium ion entry and acrosomal acidification in asthenozoospermic males. Life Sci. 2019 Feb 1;218:81-88. doi: 10.1016/j.lfs.2018.12.016. Epub 2018 Dec 11. PubMed PMID: 30550884.

AIMS: Idiopathic nature of male infertility disorder needs to be investigated by different horizons of molecular biology for its treatment and to device male contraceptive. Further, it can also aid in advancement of assisted reproductive technology (ART), as nowadays the failure and disquiets of ART are consistent. Herein, we have attempted to find out proteins responsible for male infertility by comparing proteome profile of sperms collected from normal control and asthenozoospermic (AS) males.
MAIN METHODS: Differential proteome profiles were studied by 2-dimensional differential gel electrophoresis (2D-DIGE) and mass spectrometry. The

confirmation of proteome profiling results was done by western blotting and ELISA. Quantitative reverse-transcription-PCR was also performed in an independent cohort of AS and normal individuals to investigate the transcriptional regulation of proteins.
KEY FINDINGS: Although seven differentially regulated proteins were identified, highpoints of the study were two proteins, TEX40 and ATP6V0A2. Lower expression of a crucial sperm motility related protein, TEX40 is reported for the first time in clinically diagnosed AS males in the present investigation. Most likely with reference to previous findings the down regulation of TEX40 leads to fewer entries of calcium ions in the sperm and lower expression of ATP6V0A2 is responsible for acrosomal de-acidification.
SIGNIFICANCE: Conclusively, the down regulation of these two proteins in AS males might result in diminished sperm motility. The findings can be worthwhile for male contraception and ART management besides their use for male infertility therapy.

159: Soni S, Muthukrishnan SP, Sood M, Kaur S, Mehta N, Sharma R. A novel method for assessing patients with schizophrenia and their first-degree relatives by increasing cognitive load of visuo-spatial working memory. Asia Pac Psychiatry. 2018 Dec;10(4):e12333. doi: 10.1111/appy.12333. Epub 2018 Sep 7. PubMed PMID: 30191660.

INTRODUCTION: In patients with schizophrenia, social and functional outcome is determined by the cognitive impairment. Assessment of visuo-spatial working memory (VSWM) which can simulate the day-to-day activities by simultaneous involvement of various elements of working memory may reflect disorganized thinking and fragmentation of thoughts in schizophrenia.
METHODS: Thirty-six patients with schizophrenia, 29 first-degree relatives of patients, and 25 healthy controls performed a VSWM task with three memory loads (comprising three pairs, six pairs, and eight pairs of abstract pictures). They were administered Hindi version of the Mini Mental State Examination, Scale for the Assessment of Negative Symptoms and Scale for the Assessment of Positive Symptoms, and Edinburgh handedness inventory.
RESULTS: Patients (mean age 27.29(5.98) years) committed significantly higher number of errors than healthy controls (mean age 26.76(6.08) years) in load 3 ($P = 0.012$) and total errors ($P = 0.018$). Within all the groups, errors in load 3 were significantly higher than in load 2. Significant correlation was observed between years of education ($r = -0.388$, $P = 0.021$), treatment duration ($r = -0.880$, $P < 0.001$), negative symptoms scores ($r = 0.345$, $P = 0.039$), and the total errors committed by patients.
DISCUSSION: Visuo-spatial working memory was impaired in schizophrenia with increasing cognitive load with no difference in search time between the groups.

160: Sood M. Psychopathology of Schizophrenia in South Asia: Has there been a change over the last few decades? Asian J Psychiatr. 2019 Jan;39:80-83. doi: 10.1016/j.ajp.2018.12.007. Epub 2018 Dec 22. PubMed PMID: 30593988.

INTRODUCTION: There have been a number of studies reporting on psychopathology of schizophrenia from South Asia, with the last study being reported about twenty five years back. The present study reports the clinical profile and frequency of symptoms in patients with schizophrenia and discusses the changing trends in psychopathology.
MATERIAL AND METHOD: Three hundred and thirty two patients with schizophrenia, aged 16-55, diagnosed as per DSM-IV-TR, were assessed for psychopathology on operational criteria OPCRIT checklist. The findings were compared with the previous studies on psychopathology of schizophrenia reported from South Asia.
RESULTS: Delusions (82.8%) followed by hallucinations (69.9%) were the most frequent psychopathology. First rank symptoms (FRS) were present in about three fourth of the subjects. Third person auditory hallucinations (68.6%) were the most common and thought echo (2.9%) was the least common FRS. One FRS was present in 31.7%, two in 24.7%, three in 17.7% and four in 6.8% of the subjects having FRS. A comparison with studies A comparison revealed that the prevalence of FRS were inbetween those reported in studies from Pakistan and India but higher than

in the samples evaluated in Sri Lanka.
CONCLUSION: Delusions and hallucinations with persecutory themes and FRS continue to be a common symptom in patients with schizophrenia.

161: Takkar B, Rathi A, Gaur N, Kumar A. Perivascular tumour balls in primary vitreoretinal lymphoma. BMJ Case Rep. 2018 Dec 14;11(1). pii: e228006. doi: 10.1136/bcr-2018-228006. PubMed PMID: 30567275.

162: Takkar B, Temkar S, Gaur N, Venkatesh P. Central serous retinopathy as presentation of an adrenal adenoma. BMJ Case Rep. 2018 Dec 14;11(1). pii: e227315. doi: 10.1136/bcr-2018-227315. PubMed PMID: 30567268.

163: Takkar B, Saxena H, Rathi A, Singh R. Autoimmune thyroiditis and central serous chorioretinopathy may have a relation. Med Hypotheses. 2018 Dec;121:180-182. doi: 10.1016/j.mehy.2018.10.003. Epub 2018 Oct 6. PubMed PMID: 30396476.

Autoimmune thyroiditis (AT) is an important cause of hypothyroidism, and central serous chorioretinopathy (CSCR) is an independent disease of the choroid and retina that leads to accumulation of fluid beneath the retina. While AT has been associated with multiple antibodies, CSCR is still regarded as idiopathic despite extensive research. We hypothesize a causative association between these 2 conditions on the basis of our experience of a case where both CSCR and AT presented simultaneously and depicted a parallel course. CSCR was documented with retinal imaging while AT was documented with serum antibody titers. Further, we discuss the possible mechanisms that may be involved in this intriguing association.

164: Tiwari V, Rajeswari MR, Tiwari M. Proteomic analysis of iron-regulated membrane proteins identify FhuE receptor as a target to inhibit siderophore-mediated iron acquisition in Acinetobacter baumannii. Int J Biol Macromol. 2019 Mar 15;125:1156-1167. doi: 10.1016/j.ijbiomac.2018.12.173. Epub 2018 Dec 20. PubMed PMID: 30579900.

Survival of the Acinetobacter baumannii inside host requires different micronutrients such as iron, but their bioavailability is limited because of nutritional immunity created by host. A. baumannii has to develop mechanisms to acquire nutrient iron during infection. The present study is an attempt to identify membrane proteins involved in iron sequestration mechanism of A. baumannii using two-dimensional electrophoresis and LC-MS/MS analysis. The identified iron-regulated membrane protein (IRMP) of A. baumannii was used for its interaction studies with different siderophores, and designing of the inhibitor against A. baumannii targeting this IRMP. Membrane proteomic results identified over-expression of four membrane proteins (Fhu-E receptor, ferric-acinetobactin receptor, ferrienterochelin receptor, and ferric siderophore receptor) under iron-limited condition. A. baumannii produces siderophores that have good interaction with the FhuE receptor. Result also showed that FhuE receptor has interaction with siderophores produced by other bacteria. Interaction of FhuE receptor and siderophores helps in iron sequestration and survival of Acinetobacter under nutritional immunity imposed by the host. Hence it becomes essential to find a potential inhibitor for the FhuE receptor that can inhibit the survival of A. baumannii in the host. In-silico screening, and molecular mechanics studies identified ZINC03794794 and ZINC01530652 as a likely lead to design inhibitor against the FhuE receptor of A. baumannii. The designed inhibitor is experimentally validated for its antibacterial activity on the A. baumannii. Therefore, designed inhibitor interferes with the iron acquisition mechanism of Acinetobacter hence may prove useful for preventing infection caused by A. baumannii by limiting nutrient availability.

165: Tomar GS, Singh GP, Lahkar D, Sengar K, Nigam R, Mohan M, Anindya R. New biomarkers in brain trauma. Clin Chim Acta. 2018 Dec;487:325-329. doi: 10.1016/j.cca.2018.10.025. Epub 2018 Oct 19. Review. PubMed PMID: 30342876.

Brain-specific biomolecules are being increasingly investigated as a viable alternative to the clinical scores and radiological features, on which we still rely upon for stratification, therapy and predicting outcome in traumatic brain injury (TBI). TBI generally leads to release of various chemical compound within the cerebrospinal fluid (CSF) or blood depending on the severity of injury, which were studied variedly in last decades. However, most of these compounds being non-specific to brain, their applicability was challenged further. This review encompasses the novel and promising biomarkers being studied in the present decade, with encouraging results in laboratory and animal or human models.

166: Tullus K, Webb H, Bagga A. Management of steroid-resistant nephrotic syndrome in children and adolescents. Lancet Child Adolesc Health. 2018 Dec;2(12):880-890. doi: 10.1016/S2352-4642(18)30283-9. Epub 2018 Oct 18. Review. PubMed PMID: 30342869.

More than 85% of children and adolescents (majority between 1-12 years old) with idiopathic nephrotic syndrome show complete remission of proteinuria following daily treatment with corticosteroids. Patients who do not show remission after 4 weeks' treatment with daily prednisolone are considered to have steroid-resistant nephrotic syndrome (SRNS). Renal histology in most patients shows presence of focal segmental glomerulosclerosis, minimal change disease, and (rarely) mesangioproliferative glomerulonephritis. A third of patients with SRNS show mutations in one of the key podocyte genes. The remaining cases of SRNS are probably caused by an undefined circulating factor. Treatment with calcineurin inhibitors (ciclosporin and tacrolimus) is the standard of care for patients with non-genetic SRNS, and approximately 70% of patients achieve a complete or partial remission and show satisfactory long-term outcome. Additional treatment with drugs that inhibit the renin-angiotensin axis is recommended for hypertension and for reducing remaining proteinuria. Patients with SRNS who do not respond to treatment with calcineurin inhibitors or other immunosuppressive drugs can show declining kidney function and are at risk for end-stage renal failure. Approximately a third of those who undergo renal transplantation show recurrent focal segmental glomerulosclerosis in the allograft and often respond to combined treatment with plasma exchange, rituximab, and intensified immunosuppression.

167: Verma R, Kumar N, Mahapatra A, Shah B. Effectiveness of tDCS augmentation for co-morbid obsessive compulsive disorder in chronic schizophrenia: A case report. Asian J Psychiatr. 2018 Dec;38:9-11. doi: 10.1016/j.ajp.2018.10.013. Epub 2018 Oct 11. PubMed PMID: 30359846.

Management of obsessive compulsive disorder (OCD) remains a challenge, particularly in individuals having co-existing psychotic symptoms. Even in patients with schizophrenia having a fair to good response in psychotic symptoms, these obsessive-compulsive symptoms defy response to antipsychotic and anti-obsessive pharmaco-therapeutic approach to a great extent. Recently developed neuromodulation techniques such as transcranial direct current stimulation (tDCS) can serve a viable and effective approach to manage such cases. The present paper documents the first utilization of tDCS (cathode: supplementary motor area; anode: right occipital cortex) as an add-on approach to pharmacotherapy to manage co-morbid OCD in a case of chronic schizophrenia.

168: Yadav DK, Saloni, Sharma P, Misra S, Singh H, Mancera RL, Kim K, Jang C, Kim MH, Pérez-Sánchez H, Choi EH, Kumar S. Studies of the benzopyran class of selective COX-2 inhibitors using 3D-QSAR and molecular docking. Arch Pharm Res. 2018 Dec;41(12):1178-1189. doi: 10.1007/s12272-017-0945-7. Epub 2017 Aug 18. PubMed PMID: 28822076.

The Gaussian-based 3D-QSAR studies for 58 selective COX-2 (cyclooxygenase-2) inhibitors belonging to benzopyran chemical class were performed. Partial least squares analysis produced statistically significant model with (R training 2 = 0.866) and predictability (Q training 2 = 0.66, Q test 2 = 0.846). The 3D-QSAR model includes steric, electrostatic, hydrophobic, and hydrogen bond acceptor field indicators, whereas the potential field contributions indicate

that the steric and hydrophobic features of the molecules play an important role in governing their biological activity. A molecular docking simulation and protein-ligand interaction pattern analysis reveal the importance of Tyr-361 and Ser-516 of the COX-2 active site for X-ray crystal structures and this class of molecules. Thus the combined approach of ligand-based and structure-based models provided an improved understanding in the interaction between benzopyran chemical class and COX-2 inhibition, which will guide the future identification of more potent anti-inflammatory drugs.