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List of publications of AIIMS, New Delhi for the month of MAY, 2015 [Source: www.pubmed.com].

1: Aftab S, Baidya DK, Maitra S. New onset frequent ventricular ectopic in a human immunodeficiency virus-infected woman after uneventful cesarean section under spinal anesthesia. J Clin Anesth. 2015 May;27(3):274-5. doi: 10.1016/j.jclinane.2015.01.005. Epub 2015 Feb 18. PubMed PMID: 25701114.

2: Agarwal SK, Gupta SD. Liver biopsy in patients on hemodialysis with hepatitis C virus infection: An important tool. Indian J Nephrol. 2015 May-Jun;25(3):152-7. doi: 10.4103/0971-4065.139097. PubMed PMID: 26060364; PubMed Central PMCID: PMC4446919.

Hepatitis C virus (HCV) infection is commonest blood borne infection amongst hemodialysis patients. Still, there is paucity of data on liver biopsy in these patients. Our center is doing regular liver biopsy in these patients and thus thought of sharing our experience. In this retrospective study, all patients with HCV infection on hemodialysis were subjected to liver biopsy. Serum bilirubin, liver enzyme, HCV-PCR, genotype and viral load measurement were done in all. Biopsy specimen was stained with H and E, Periodic Acid Schiff, Gomori Stain, Masson Trichrome and Perls Stain. International Working Group scoring system of Ishak et al. was used for Grading and Staging. Of the 270 liver biopsies, mean age of patients was 34.05 ± 10.28 years and 233 (85.3%) were males. Mean duration of hemodialysis was 10.9 ± 7.4 months while of known HCV infection was 5.2 ± 4.0 months. Genotype 3 was commonest followed by 1. All had normal bilirubin and 64 (23.1%) had normal ALT. In 37 (13.3%) patients anti-HCV was not detectable. Mean histology grade was 4.03 ± 1.65 (1-10) and stage was 0.75 ± 0.98 (0-3). Only one patient had cirrhosis on histology. Associated hemosiderosis was seen 10 patients. Only minor complications were observed with no mortality. In conclusion, our study shows that in one-fourth patients with active liver disease, liver enzymes are persistently normal in patients on hemodialysis. Further, carefully performed liver biopsy is reasonably safe procedure though some patients do have non-fatal complications. Liver biopsy helps in assessing disease activity, which otherwise cannot be assessed. Histological grade and stage in these patients is usually mild and cirrhosis is rare. Till such time other non-invasive test is validated, liver biopsy will remain an important test in these patients.

3: Agarwal T, Gupta S, Sharma N, Khokhar S, Jhanji V. Air-assisted implantation of anterior chamber intraocular lens. Eye Contact Lens. 2015 May;41(3):164-6. doi: 10.1097/ICL.0000000000000096. PubMed PMID: 25919901.

PURPOSE: We describe a technique of air-assisted anterior chamber intraocular lens (ACIOL) implantation.

METHODS: Lens aspiration and ACIOL implantation was performed in patients with progressive subluxation of lenses associated with systemic disorders.
RESULTS: Surgery was performed in nine eyes of six patients. No intraoperative adverse events were noted. There was air leak from the main port in three patients while inserting the intraocular lens; however the ACIOL was successfully implanted after re-injecting air from the side port. The mean best-corrected visual acuity improved from 0.67 to 0.25 log of minimal angle of resolution at 6-month follow-up. Mean intraocular pressure preoperatively was 14.54+1.38 mm Hg and 15.16+1.15 mm Hg at 6-month follow-up. Mean corneal endothelial count was 3,151+240.49 cells per square millimeter in the preoperative period and 2,947+194.9 cells per square millimeter at 6-month follow-up.

CONCLUSIONS: Air-assisted ACIOL implantation seems to be a safe and effective technique for implantation of ACIOL in cases with progressive lens subluxation.

4: Ahuja V, Subodh S, Tuteja A, Mishra V, Garg SK, Gupta N, Makharia G, Acharya SK. Genome-wide gene expression analysis for target genes to differentiate patients with intestinal tuberculosis and Crohn's disease and discriminative value of FOXP3 mRNA expression. Gastroenterol Rep (Oxf). 2015 May 11. pii: gov015. [Epub ahead of print] PubMed PMID: 25969456.

BACKGROUND AND AIMS: Crohn's disease (CD) and intestinal tuberculosis (ITB) are both chronic granulomatous conditions with similar phenotypic presentations. Hence, there is need for a biomarker to differentiate between both these two diseases. This study aimed at genome-wide gene expression analysis of colonic biopsies from confirmed cases of ITB and CD in comparison with controls. To evaluate the role of T regulatory cells, forkhead box P3 (FOXP3) mRNA expression was quantified in serum as well as in colonic biopsies from patients with ITB and with the controls.

METHODS: Paired samples, including serum and colonic biopsies, were taken from 33 study subjects (CD, ITB and controls), and total RNA was extracted. Human whole genome gene expression microarray analysis was performed using the Illumina HumanWG-6 BeadChip Kit with six total RNA samples of the three groups in duplicates. Real-time PCR for FOXP3 mRNA expression was analyzed in serum samples and colonic biopsy samples (4-CD, 5-ITB, 4-controls).

RESULTS: In CD and ITB there was 1.5-fold upregulation of 92 and 382 genes and 1.5-fold downregulation of 91 and 256 genes, respectively. Peroxisome proliferators via the PPARγ pathway were most significantly downregulated ($P<0.005$) in CD. Additionally, the IL4/5/6 signaling pathways and Toll-like receptor signaling pathway were identified as significantly differentially regulated ($P<0.005$) at >2-fold change. In ITB, the complement activation pathway, specifically the classical pathway, was the most significantly upregulated. FOXP3 mRNA expression was significantly elevated in colonic biopsies obtained from ITB patients as compared with CD cases (4.70 ± 2.21 vs 1.48 ± 0.31, $P=0.016$).

CONCLUSIONS: FOXP3 mRNA expression in colonic mucosa could be a discriminatory marker between ITB and CD. Upregulation of the complement activation pathway in ITB suggests that pathogenetic mechanisms for ITB are similar to those of pulmonary tuberculosis. In CD, downregulation of PPARγ was seen in colonic tissue, suggesting that restoration of PPARγ-dependent anti-microbial barrier function may be a therapeutic target.

5: Angmo D, Sharma R, Temkar S, Dada T. Evaluation of ExPress glaucoma filtration device in Indian patients with advanced glaucoma. Indian J Ophthalmol. 2015 May;63(5):459-62. doi: 10.4103/0301-4738.159894. PubMed PMID: 26139813; PubMed Central PMCID: PMC4501148.

ExPress glaucoma filtration device (GFD) has recently become available in India as a surgical option for glaucoma patients. We retrospectively evaluated the outcome of ExPress GFD in 12 eyes with advanced glaucoma with intraocular pressures (IOPs) not controlled on maximal tolerable medical therapy. The mean preoperative IOP of 29.58 ± 7.13 mmHg decreased to 17.0 ± 2.67 and 17.40 ± 0.89 mmHg at 6 and 12 months after surgery. Absolute success (IOP ≤ 18 mmHg, with no additional glaucoma medications) was achieved in eight cases (66.7%) and qualified success (IOP ≤ 18 mmHg, with additional glaucoma medications) in two cases (16.7%) at 1-year after surgery. Early intervention was needed in 4 patients; two underwent anterior chamber reformation while the other two required needling. Two patients required resurgery. There was no significant change in the best corrected visual acuity postoperatively (P = 0.37). ExPress GFD does not seem to offer a benefit over standard trabeculectomy in patients with advanced glaucomatous disease in terms of IOP control or complication rate. However, due

to the small sample size with a heterogeneous mixture of primary and secondary glaucoma's, we await further studies with a larger sample size and long-term follow-up, to see how the device performs.

6: Arora S, Singh Dhull V, Karunanithi S, Kumar Parida G, Sharma A, Shamim SA. (99m)Tc-MDP SPECT/CT as the one-stop imaging modality for the diagnosis of early setting of Kienbock's disease. Rev Esp Med Nucl Imagen Mol. 2015 May-Jun;34(3):185-7. doi: 10.1016/j.remn.2014.10.005. Epub 2015 Mar 29. PubMed PMID: 25824583.

(99m)Tc-Methylene diphosphonate (MDP) triple phase bone scintigraphy (BS) has a role in early diagnosis of Kienbock's disease, especially when the X-ray is negative. Early diagnosis can result in prompt management of the patient since wrist pain in older individuals due to aging may go unnoticed or be due to other diagnoses with the production of greater damage and eventually a worse prognosis. Herein, we present a case report of a 29-year-old female with Kienbock's disease in whom the X-ray was negative and MRI incorrect. The (99m)Tc-MDP SPECT/CT BS helped the diagnosis of the disease in an early stage (stage 1) and had a clinical impact on the patient's management.

7: Bagga A, Sinha A. The authors reply. Kidney Int. 2015 May;87(5):1074. doi: 10.1038/ki.2014.416. PubMed PMID: 25951071.

8: Baidya DK, Chandralekha, Darlong V, Pandey R, Goswami D, Maitra S. Comparative Sonoanatomy of Classic "Short Axis" Probe Position with a Novel "Medial-oblique" Probe Position for Ultrasound-guided Internal Jugular Vein Cannulation: A Crossover Study. J Emerg Med. 2015 May;48(5):590-6. doi: 10.1016/j.jemermed.2014.07.062. Epub 2015 Jan 24. PubMed PMID: 25630474.

BACKGROUND: Ultrasound (US)-guided short-axis approach for internal jugular vein (IJV) cannulation does not fully protect patients from inadvertent carotid artery (CA) puncture. Carotid puncture is not rare (occurring in up to 4% of all IJV cannulations) despite the use of US.

OBJECTIVES: Compare the sonoanatomy of the "medial-oblique approach" probe position with the classic US-guided "short-axis" probe position, specifically: relation of internal CA and IJV; vertical and horizontal diameter of IJV; and degree of overlapping of IJV with CA.

METHODS: One hundred consecutive patients between the ages of 18 and 50 years, both male and female, and American Society of Anesthesiologists Physical Status classification system (ASA PS) I-II undergoing elective surgery under general anesthesia were recruited in this prospective, randomized, crossover, parallel-group study.

RESULTS: The transverse diameter of the IJV was found to be significantly higher in the medial-oblique probe position ($p = 0.000$, mean difference 0.43 cm; 95% confidence interval [CI] 0.34-0.52). The percentage of overlap was also significantly lower in the medial-oblique probe position (48.7 ± 10.7% in short-axis vs. 36.3 ± 13.2% in medial-oblique probe position; $p = 0.000$; mean difference 12.4%, 95% CI 9.1-15.8). However, there was no statistically significant difference in the anteroposterior diameter of the IJV between the two probe positions (1.11 ± 0.26 cm in short axis vs 1.07 ± 0.25 cm in medial oblique; $p = 0.631$).

CONCLUSION: The medial-oblique probe position for IJV cannulation provides sonoanatomic superiority over the classic short-axis probe position. Further randomized, controlled trials may confirm the medial-oblique view's clinical benefit in the future.

9: Bandivadekar P, Gupta S, Sharma N. Intraoperative Suprachoroidal Hemorrhage After Penetrating Keratoplasty: Case Series and Review of Literature. Eye Contact Lens. 2015 May 19. [Epub ahead of print] PubMed PMID: 25996421.

OBJECTIVE: To describe four cases of intraoperative suprachoroidal hemorrhage (SCH) during penetrating keratoplasty and to review the literature.
METHODS: Cases with intraoperative SCH during penetrating keratoplasty over 3-year period were reviewed. The parameters evaluated were ocular and systemic risk factors, intraoperative details, and postoperative outcomes. A review of literature of intraoperative SCH during penetrating keratoplasty was also conducted.

RESULTS: Of the 543 cases that underwent penetrating keratoplasty for optical indications during the study period, four cases developed intraoperative SCH, which is an incidence of 0.73%. Suprachoroidal hemorrhage occurred in the following cases: failed pediatric graft, donor eye in a case of contralateral autokeratoplasty, Marfan syndrome with aphakic bullous keratopathy who had undergone multiple ocular surgeries, and a case of healed keratitis with corneoiridic scar. The mean age, axial length, and intraocular pressure were 32.75±22.17 years (range, 4-57 years), 23.29±2.12 mm (range, 20.38-25.2 mm), and 16.25±3.86 mm Hg (range, 16-20 mm Hg), respectively. Postoperatively, two eyes had a best-corrected visual acuity (BCVA) of counting fingers. The third case had BCVA of light perception (LP), and fourth eye had no LP.

CONCLUSION: The visual outcomes in cases of open-sky penetrating keratoplasty with SCH continue to be abysmally poor. The importance of thoroughly informing the patient about this complication cannot be underrated.

10: Batra A, Bakhshi S. Aprepitant for paediatric chemotherapy-induced nausea and vomiting. Lancet Oncol. 2015 Jun;16(6):e259-60. doi: 10.1016/S1470-2045(15)70244-5. Epub 2015 May 27. PubMed PMID: 26065606.

11: Behera C, Krishna K, Bhardwaj DN, Rautji R, Kumar A. A case of accidental fatal aluminum phosphide poisoning involving humans and dogs. J Forensic Sci. 2015 May;60(3):818-21. doi: 10.1111/1556-4029.12709. Epub 2015 Feb 24. PubMed PMID: 25707792.

Aluminum phosphide is one of the commonest poisons encountered in agricultural areas, and manner of death in the victims is often suicidal and rarely homicidal or accidental. This paper presents an unusual case, where two humans (owner and housemaid) and eight dogs were found dead in the morning hours inside a room of a house, used as shelter for stray dogs. There was allegation by the son of the owner that his father had been killed. Crime scene visit by forensic pathologists helped to collect vital evidence. Autopsies of both the human victims and the dogs were conducted. Toxicological analysis of viscera, vomitus, leftover food, and chemical container at the crime scene tested positive for aluminum phosphide. The cause of death in both humans and dogs was aluminum phosphide poisoning. Investigation by police and the forensic approach to the case helped in ascertaining the manner of death, which was accidental.

12: Bergin PS, Beghi E, Tripathi M, Smith P, D'Souza WJ. Invitation to participate in the EpiNet-First trials. Epilepsia. 2015 May;56(5):807. doi: 10.1111/epi.12964. PubMed PMID: 25982457.

13: Bhad R, Hazari N. Nicotine replacement therapy for the palliation of nicotine abstinence syndrome: boon more than bane. Indian J Palliat Care. 2015

May-Aug;21(2):254-5. doi: 10.4103/0973-1075.156514. PubMed PMID: 26009685; PubMed Central PMCID: PMC4441193.

14: Bhan MK, Paul VK. Outpatient treatment for neonates and young infants with clinically suspected severe infection. Lancet Glob Health. 2015 May;3(5):e245-6. doi: 10.1016/S2214-109X(15)70109-9. Epub 2015 Apr 1. PubMed PMID: 25841892.

15: Bhanuprasad V, Mallick S, Bhasker S, Mohanti BK. Pediatric head and neck squamous cell carcinoma: Report of 12 cases and illustrated review of literature. Int J Pediatr Otorhinolaryngol. 2015 Aug;79(8):1279-82. doi: 10.1016/j.ijporl.2015.05.031. Epub 2015 May 30. PubMed PMID: 26072014.

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

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

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

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

16: Bhatia R, Sharma VK, Ramam M, Sethuraman G, Yadav CP. Clinical profile and quality of life of patients with occupational contact dermatitis from New Delhi, India. Contact Dermatitis. 2015 Sep;73(3):172-81. doi: 10.1111/cod.12411. Epub 2015 May 20. PubMed PMID: 25990826.

BACKGROUND: Data regarding occupational contact dermatitis (OCD) and its effect on quality of life (QOL) in India are limited.
OBJECTIVES/AIMS: To evaluate patients with OCD and record the outcome of treatment.
PATIENTS/MATERIALS/METHODS: All patients with OCD were evaluated for severity of disease (by the use of physician global assessment) and its effect on QOL (by use of the Dermatology Life Quality Index) questionnaire) at the first visit and after 3 months of treatment.

RESULTS: Among 117 patients with OCD, hand eczema was present in 81.2%. Positive patch test reactions were found in 76%. The most common allergens were Parthenium hysterophorus and potassium dichromate. The most frequent diagnosis was

occupational allergic contact dermatitis (OACD) (57%), caused by farming and construction work, followed by occupational irritant contact dermatitis (OICD) (24%), caused by wet work. Severe psychosocial distress was recorded in 62.5% of patients. After 3 months of treatment, 83% improved significantly, and 54% had improvement in QOL.

CONCLUSIONS: Farmers were most frequently affected, followed by construction workers and housewives. OACD was found at a higher frequency than OICD. The most frequent allergens were Parthenium hysterophorus in farmers, potassium dichromate in construction workers, and vegetables in housewives. OCD has a significant impact on QOL. Patch testing, in addition to standard treatment, improves the outcome considerably.

17: Bhatnagar S, Gupta M. Evidence-based Clinical Practice Guidelines for Interventional Pain Management in Cancer Pain. Indian J Palliat Care. 2015 May-Aug;21(2):137-47. doi: 10.4103/0973-1075.156466. Review. PubMed PMID: 26009665; PubMed Central PMCID: PMC4441173.

Intractable cancer pain not amenable to standard oral or parenteral analgesics is a horrifying truth in 10-15% of patients. Interventional pain management techniques are an indispensable arsenal in pain physician's armamentarium for severe, intractable pain and can be broadly classified into neuroablative and neuromodulation techniques. An array of neurolytic techniques (chemical, thermal, or surgical) can be employed for ablation of individual nerve fibers, plexuses, or intrathecalneurolysis in patients with resistant pain and short life-expectancy. Neuraxial administration of drugs and spinal cord stimulation to modulate or alter the pain perception constitutes the most frequently employed neuromodulation techniques. Lately, there is a rising call for early introduction of interventional techniques in carefully selected patients simultaneously or even before starting strong opioids. After decades of empirical use, it is the need of the hour to head towards professionalism and standardization in order to secure credibility of specialization and those practicing it. Even though the interventional management has found a definite place in cancer pain, there is a dearth of evidence-based practice guidelines for interventional therapies in cancer pain. This may be because of paucity of good quality randomized controlled trials (RCTs) evaluating their safety and efficacy in cancer pain. Laying standardized guidelines based on existing and emerging evidence will act as a foundation step towards strengthening, credentialing, and dissemination of the specialty of interventional cancer pain management. This will also ensure an improved decision-making and quality of life (QoL) of the suffering patients.

18: Biswas A, Mallick S, Purkait S, Roy S, Sarkar C, Bakhshi S, Singh M, Julka PK, Rath GK. Treatment outcome and patterns of failure in patients of non-pineal supratentorial primitive neuroectodermal tumor: review of literature and clinical experience form a regional cancer center in north India. Acta Neurochir (Wien). 2015 Jul;157(7):1251-66. doi: 10.1007/s00701-015-2444-2. Epub 2015 May 20. PubMed PMID: 25990846.

BACKGROUND: Supra-tentorial primitive neuroectodermal tumors (SPNET) are high-grade, hemispheric tumors, which account for around 2-3 % of pediatric brain tumors. We herein intend to report the clinical features and treatment outcome of patients with nonpineal SPNET treated at our institute.
METHODS: Clinical data were collected by retrospective chart review from 2006 to 2012. Histopathology slides were reviewed, and relevant immunohistochemistry stains were done. Overall survival (OS), recurrence-free survival (RFS) and event-free survival (EFS) were analyzed by the Kaplan-Meier product-limit method.

RESULTS: Fifteen patients met the study criterion (male: female = 2:1). Median age at presentation was 11 years (range 3-49 years). Surgical resection was gross

total in 6 (40%) and subtotal in 8 (53.33%) patients. At presentation, two patients had leptomeningeal dissemination. Radiation therapy was delivered in 11 (73.33%) patients: craniospinal irradiation in 8 (36 Gy/20 fractions/4 weeks to the craniospinal axis followed by a local boost of 20 Gy/10 fractions/2 weeks) and focal RT in 3 patients. Systemic chemotherapy (median 6 cycles; range 1-16 cycles), given in 13 (86.67%) patients, included the VAC regimen (vincristine, adriamycin, cyclophosphamide) alternating with IE (ifosfamide,etoposide). After a median follow-up of 22.6 months (mean, 24.47 months), complete response and progressive disease were noted in 8 (53.33%) and 7 (46.67%) patients, respectively. Median OS was not reached, and estimated median EFS was noted to be 4.12 years (actuarial rate of EFS at 2 years, 55.2%).

CONCLUSION: Maximal safe resection followed by craniospinal irradiation and systemic chemotherapy with 6-12 cycles of an alternating regimen of VAC and IE is a reasonable treatment strategy in patients with nonpineal SPNET.

19: Biswas B, Rastogi S, Khan SA, Shukla NK, Deo SV, Agarwala S, Mohanti BK, Sharma MC, Vishnubhatla S, Bakhshi S. Developing a prognostic model for localized Ewing sarcoma family of tumors: A single institutional experience of 224 cases treated with uniform chemotherapy protocol. J Surg Oncol. 2015 May;111(6):683-9. doi: 10.1002/jso.23861. Epub 2014 Dec 29. PubMed PMID: 25557999.

BACKGROUND: Data on patients with localized Ewing sarcoma family of tumors (ESFT) who have received a uniform chemotherapy protocol are minimal.
METHODS: This is a single institutional review of patients with ESFT treated between June 2003 and November 2011.

RESULTS: 224/374 (60%) patients with ESFT presented with localized disease; median age was 15 years (range: 0.1-55). Ninety-nine patients underwent surgery of which 50 received adjuvant radiotherapy; 80 patients received radical radiotherapy following neoadjuvant chemotherapy. At median follow-up of 40.2 months (range: 1.3-129), 5-year EFS, OS, and local-control-rate, were 36.8 ± 3.6%, 52.4 ± 4.3%, and 63 ± 4.3%, respectively. In multivariate analysis, tumor diameter > 8 cm (P = 0.03), symptom duration > 4 months (P = 0.04), and WBC > 11 × 10(9) /L (P = 0.003) predicted inferior EFS; spine/abdomino-pelvic primary (P = 0.009) and WBC > 11 × 10(9) /L (P = 0.003) predicted inferior OS. Tumor size > 8 cm (P = 0.03) and radical radiotherapy as local treatment (P = 0.01) predicted inferior local-control-rate.

CONCLUSION: Prognostic hazard models for EFS and OS based on significant prognostic factors suggested that patients with combination of ESFT of spine/abdomino-pelvic region and baseline WBC > 11 × 10(9) /L had inferior OS (hazard ratio 4.44, P < 0.001) while patients with combination of ESFT with symptom duration > 4 months, tumor diameter > 8 m and baseline WBC > 11 × 10(9) /L had inferior EFS (hazard ratio 3.89, P = 0.002).

20: Bose R, Agrawal D, Singh M, Kale SS, Gopishankar N, Bisht RK, Sharma BS. Draining vein shielding in intracranial arteriovenous malformations during gamma-knife: a new way of preventing post gamma-knife edema and hemorrhage. Neurosurgery. 2015 May;76(5):623-31; discussion 631-2. doi: 10.1227/NEU.0000000000000660. PubMed PMID: 25635888.

BACKGROUND: Following gamma knife (GK) therapy for intracranial arteriovenous malformations (AVMs), obliteration of the nidus occurs over several years. During this period, complications like rebleeding have been attributed to early draining vein occlusion.

OBJECTIVE: To evaluate if shielding the draining vein(s) during GK therapy prevents early draining vein obliteration and complications following GK therapy.
METHODS: This was a nonrandomized case-control study over 5 years (January

2009-February 2014) and included patients with intracranial AVM who underwent GK therapy at our center. All patients who underwent draining vein shielding by the senior author (D.A.) were included in the test group, and patients who did not undergo draining vein shielding were put in the control group. Patients were followed up for at least 6 months (and every 6 months thereafter) clinically as well as radiologically with computed tomography head scans/magnetic resonance imaging brain scans to check for postradiosurgery imaging (PRI) changes.

RESULTS: One hundred eighty-five patients were included in this study, of which 96 were in the control group and 89 were in the test group. Both groups were well matched in demographics, comorbidities, adjuvant treatment, angioarchitecture, and radiation dosing. Because of shielding, the test group patients received significantly less radiation to the draining vein than the control group (P = .001). On follow-up, a significantly lower number of patients in the test group had new neurological deficits (P = .001), intracranial hemorrhage (P = .03), and PRI changes (P = .002).

CONCLUSION: Shielding of the draining vein is a potent new strategy in minimizing PRI and hemorrhage as well as clinical deterioration following GK therapy for intracranial AVMs.

21: Bothra M, Bhatnagar S. Probiotics in pediatrics. Indian J Pediatr. 2015 May;82(5):399-400. doi: 10.1007/s12098-015-1719-1. Epub 2015 Feb 19. PubMed PMID: 25689962.

22: Chadha MS, Potdar VA, Saha S, Koul PA, Broor S, Dar L, Chawla-Sarkar M, Biswas D, Gunasekaran P, Abraham AM, Shrikhande S, Jain A, Anukumar B, Lal RB, Mishra AC. Dynamics of influenza seasonality at sub-regional levels in India and implications for vaccination timing. PLoS One. 2015 May 4;10(5):e0124122. doi: 10.1371/journal.pone.0124122. eCollection 2015. PubMed PMID: 25938466; PubMed Central PMCID: PMC4418715.

BACKGROUND: Influenza surveillance is an important tool to identify emerging/reemerging strains, and defining seasonality. We describe the distinct patterns of circulating strains of the virus in different areas in India from 2009 to 2013.

METHODS: Patients in ten cities presenting with influenza like illness in out-patient departments of dispensaries/hospitals and hospitalized patients with severe acute respiratory infections were enrolled. Nasopharangeal swabs were tested for influenza viruses by real-time RT-PCR, and subtyping; antigenic and genetic analysis were carried out using standard assays.

RESULTS: Of the 44,127 ILI/SARI cases, 6,193 (14.0%) were positive for influenza virus. Peaks of influenza were observed during July-September coinciding with monsoon in cities Delhi and Lucknow (north), Pune (west), Allaphuza (southwest), Nagpur (central), Kolkata (east) and Dibrugarh (northeast), whereas Chennai and Vellore (southeast) revealed peaks in October-November, coinciding with the monsoon months in these cities. In Srinagar (Northern most city at 34°N latitude) influenza circulation peaked in January-March in winter months. The patterns of circulating strains varied over the years: whereas A/H1N1pdm09 and type B co-circulated in 2009 and 2010, H3N2 was the predominant circulating strain in 2011, followed by circulation of A/H1N1pdm09 and influenza B in 2012 and return of A/H3N2 in 2013. Antigenic analysis revealed that most circulating viruses were close to vaccine selected viral strains.

CONCLUSIONS: Our data shows that India, though physically located in northern hemisphere, has distinct seasonality that might be related to latitude and environmental factors. While cities with temperate seasonality will benefit from vaccination in September-October, cities with peaks in the monsoon season in July-September will benefit from vaccination in April-May. Continued surveillance is critical to understand regional differences in influenza seasonality at

regional and sub-regional level, especially in countries with large latitude span.

23: Dada T, Sharma R, Sinha G, Angmo D, Temkar S. Cyclodialysis-enhanced trabeculectomy with triple Ologen implantation. Eur J Ophthalmol. 2015 May 27:0. doi: 10.5301/ejo.5000633. [Epub ahead of print] PubMed PMID: 26044372.

PURPOSE: To describe a novel technique of trabeculectomy combined with cyclodialysis and Ologen implantation at 3 sites in cases with high risk for failure of trabeculectomy.

METHODS: Six eyes of 6 patients who had high risk for failure of trabeculectomy underwent cyclodialysis-augmented trabeculectomy with Ologen implantation at 3 sites using the described technique.
RESULTS: All the eyes achieved target intraocular pressure, which was maintained until 1 year of follow-up. One eye required bleb needling at 6 weeks postoperative follow-up. None of the eyes had any other intraoperative or postoperative complications.

CONCLUSIONS: This novel technique of combining trabeculectomy with cyclodialysis augmented by Ologen placement at 3 locations appears to have encouraging short-term intraocular pressure control and may be adopted in eyes with risk factors for failure of conventional trabeculectomy.

24: Das A, Singh PK, Suri V, Sable MN, Sharma BS. Spinal hemangiopericytoma: an institutional experience and review of literature. Eur Spine J. 2015 May;24 Suppl 4:S606-13. doi: 10.1007/s00586-015-3789-1. Epub 2015 Feb 8. PubMed PMID: 25662907.

PURPOSE: Hemangiopericytoma is a rare tumor of CNS with potential for recurrence and widespread metastasis, even outside CNS with even rare involvement of spinal cord. This case series presents five patients to evaluate the clinical presentation, radiological features, management, pathology and outcome of spinal hemangiopericytomas.

METHODS: Between 2004 and 2013, five patients underwent surgery for spinal hemangiopericytoma. Histopathological data were reviewed in all cases and clinical and follow-up details were collected from the data available in our department.

RESULTS: There were three males and two females, including one pediatric patient. Three patients had dorsal spine involvement and two patients had involvement of cervical spine. There were two patients with intradural extramedullary tumors, one patient each with pure intramedullary tumor, pure extradural tumor and both intra and extradural tumor. All of them presented with motor weakness. Gross total resection of the tumor was done in three patients. Four patients received post-operative radiotherapy. Histopathology showed anaplastic tumor in four cases with high MIB-1 LI. Most of them were positive for CD34, mic-2 and bcl-2. Three patients who underwent gross total resection improved significantly in the follow-up period. Two patients who underwent subtotal resection expired due to spread of their disease.

CONCLUSION: Spinal hemangiopericytoma is a rare tumor. Strong clinical suspicion is required to diagnose it pre-operatively. Gross total resection is the goal and radiotherapy should be given in case of residual tumor or high-grade tumors.

25: Dash D, Prasad K, Joseph L. Cerebral venous thrombosis: An Indian perspective. Neurol India. 2015 May-Jun;63(3):318-28. doi: 10.4103/0028-3886.158191. PubMed PMID: 26053803.

Cerebral venous thrombosis (CVT) is an uncommon cause of stroke with extremely varied clinical presentations, predisposing factors, imaging findings, and outcomes, and thus can be extremely challenging to diagnose. Accurate and prompt diagnosis of CVT is crucial because timely and appropriate therapy can reverse the disease process and significantly reduce the risk of acute complications and long-term squel. In this article, we have reviewed the epidemiology, causative factors, clinical features, diagnosis and treatment of CVT from an Indian perspective. Over the last decade, a change in trends in the causative factors has been noted from India.

26: Dhamija E, Madhusudhan KS, Shalimar, Das P, Srivastava DN, Gupta AK. Primary hepatic diffuse large B-cell lymphoma: unusual presentation and imaging features. Curr Probl Diagn Radiol. 2015 May-Jun;44(3):290-3. doi: 10.1067/j.cpradiol.2014.12.002. Epub 2015 Jan 2. PubMed PMID: 25765233.

Primary hepatic lymphoma is an uncommon malignancy affecting the liver, with limited reports and series in the literature. Imaging appearance is not well described, with no definite features suggesting a diagnosis, and it may mimic other focal hepatic lesions. However, biopsy is needed in most of the cases for confirmation. We report a case of 22-year-old pregnant woman who on ultrasonography showed a large heteroechoic solitary liver mass mimicking focal nodular hyperplasia. Further evaluation after parturition with contrast-enhanced magnetic resonance imaging showed a large mass with central scar and peripheral diffusion restriction and contrast enhancement, which was atypical. Biopsy confirmed it as lymphoma. The case illustrates unusual presentation and magnetic resonance imaging features, including diffusion-weighted imaging, of primary hepatic lymphoma in a young female.

27: Dhamija E, Thulkar S, Bhatnagar S. Utility and potential of bedside ultrasound in palliative care. Indian J Palliat Care. 2015 May-Aug;21(2):132-6. doi: 10.4103/0973-1075.156465. Review. PubMed PMID: 26009664; PubMed Central PMCID: PMC4441172.

Bedside ultrasound is an important tool in modern palliative care practice. It can be utilized for rapid diagnostic evaluation or as an image guidance to perform invasive therapeutic procedures. With advent of portable ultrasound machines, it can also be used in community or home care settings, apart from palliative care wards. Major applications of bedside ultrasound include drainage of malignant pleural effusions and ascites, nerve blocks, venous access, evaluation of urinary obstruction, deep vein thrombosis and abscesses. Bedside ultrasound leads to better clinical decision-making as well as more accurate and faster invasive therapeutic procedures. It also enhances patient comfort and reduces cost burden. However, use of bedside ultrasound is still not widespread among palliative care givers, owing to initial cost, lack of basic training in ultrasound and apprehensions about its use. A team approach involving radiologists is important to develop integration of bedside ultrasound in palliative care.

28: Doshi S, Ramakrishnan S, Gupta SK. Invasive hemodynamics of constrictive pericarditis. Indian Heart J. 2015 Mar-Apr;67(2):175-82. doi: 10.1016/j.ihj.2015.04.011. Epub 2015 May 13. Review. PubMed PMID: 26071303; PubMed Central PMCID: PMC4475854.

Cardiac catheterization and hemodynamic study is the gold standard for the diagnosis of pericardial constriction. Careful interpretation of the hemodynamic data is essential to differentiate it from other diseases with restrictive physiology. In this hemodynamic review we shall briefly discuss the physiologic basis of various hemodynamic changes seen in a patient with constrictive pericarditis.

29: Dubey R, Saini L, Manokaran RK, Chakrabarty B, Agrawal D, Kumar A, Gulati S. A Trembling Child at Rest, Action, and Intention: A Unique Treatable Entity. Pediatr Neurol. 2015 May 22. pii: S0887-8994(15)00261-1. doi: 10.1016/j.pediatrneurol.2015.05.007. [Epub ahead of print] PubMed PMID: 26164825.

30: Ekka M, Sinha S. Retropharyngeal abscess as a rare presentation of pulmonary tuberculosis. Lung India. 2015 May-Jun;32(3):262-4. doi: 10.4103/0970-2113.156247. PubMed PMID: 25983413; PubMed Central PMCID: PMC4429389.

A tubercular retropharyngeal abscess is rare in immunocompetent adults. In the case of a tubercular retropharyngeal abscess, it is usually due to cervical spine tuberculosis and is seen mostly in children. A 19-year-old female patient presented to our Medicine Outpatient Department (OPD) at All India Institute of Medical Sciences (AIIMS) with odynophagia and neck pain for two months, without any other constitutional symptoms. On evaluation, she was diagnosed with tubercular retropharyngeal abscess along with pulmonary tuberculosis, without involvement of the cervical spine. This patient was successfully treated by antituberculosis drug therapy alone, without any need for surgical drainage.

31: Fall CH, Sachdev HS, Osmond C, Restrepo-Mendez MC, Victora C, Martorell R, Stein AD, Sinha S, Tandon N, Adair L, Bas I, Norris S, Richter LM; COHORTS investigators. Association between maternal age at childbirth and child and adult outcomes in the offspring: a prospective study in five low-income and middle-income countries (COHORTS collaboration). Lancet Glob Health. 2015 Jul;3(7):e366-77. doi: 10.1016/S2214-109X(15)00038-8. Epub 2015 May 18. PubMed PMID: 25999096.

BACKGROUND: Both young and advanced maternal age is associated with adverse birth and child outcomes. Few studies have examined these associations in low-income and middle-income countries (LMICs) and none have studied adult outcomes in the offspring. We aimed to examine both child and adult outcomes in five LMICs.

METHODS: In this prospective study, we pooled data from COHORTS (Consortium for Health Orientated Research in Transitioning Societies)-a collaboration of five birth cohorts from LMICs (Brazil, Guatemala, India, the Philippines, and South Africa), in which mothers were recruited before or during pregnancy, and the children followed up to adulthood. We examined associations between maternal age and offspring birthweight, gestational age at birth, height-for-age and weight-for-height Z scores in childhood, attained schooling, and adult height, body composition (body-mass index, waist circumference, fat, and lean mass), and cardiometabolic risk factors (blood pressure and fasting plasma glucose concentration), along with binary variables derived from these. Analyses were unadjusted and adjusted for maternal socioeconomic status, height and parity, and

breastfeeding duration.
FINDINGS: We obtained data for 22 188 mothers from the five cohorts, enrolment into which took place at various times between 1969 and 1989. Data for maternal age and at least one outcome were available for 19 403 offspring (87%). In unadjusted analyses, younger (≤19 years) and older (≥35 years) maternal age were associated with lower birthweight, gestational age, child nutritional status, and schooling. After adjustment, associations with younger maternal age remained for low birthweight (odds ratio [OR] 1·18 (95% CI 1·02–1·36)], preterm birth (1·26 [1·03–1·53]), 2-year stunting (1·46 [1·25–1·70]), and failure to complete secondary schooling (1·38 [1·18–1·62]) compared with mothers aged 20–24 years. After adjustment, older maternal age remained associated with increased risk of preterm birth (OR 1·33 [95% CI 1·05–1·67]), but children of older mothers had less 2-year stunting (0·64 [0·54–0·77]) and failure to complete secondary schooling (0·59 [0·48–0·71]) than did those with mothers aged 20–24 years. Offspring of both younger and older mothers had higher adult fasting glucose concentrations (roughly 0·05 mmol/L).

INTERPRETATION: Children of young mothers in LMICs are disadvantaged at birth and in childhood nutrition and schooling. Efforts to prevent early childbearing should be strengthened. After adjustment for confounders, children of older mothers have advantages in nutritional status and schooling. Extremes of maternal age could be associated with disturbed offspring glucose metabolism.
FUNDING: Wellcome Trust and the Bill & Melinda Gates Foundation.

32: Garg B, Machhindra MV, Tiwari V, Shankar V, Kotwal P. Nail-preserving modified lateral subperiosteal approach for subungual glomus tumour: a novel surgical approach. Musculoskelet Surg. 2015 May 10. [Epub ahead of print] PubMed PMID: 25957553.

PURPOSE: Glomus tumours are benign, vascular neoplasms arising from glomus body and are often found near the fingertips. Complete surgical excision of the tumour must be ensured to avoid its recurrence. Several surgical approaches for its excision have been described in the literature; however, most of the approaches are associated with nail deformity in the post-operative period or fail to offer a complete exposure of the tumour. We wish to share our experience with our described nail-preserving modified lateral subperiosteal approach, where on account of the distal curve over the pulp tip, we achieve a large flap yielding an excellent exposure of the tumour mass.

METHODS: We retrospectively evaluated 30 patients with subungual glomus tumour who were operated using this approach at a mean follow-up of 35.33 months. All patients were assessed for relief in the pre-operative symptoms, nail deformity, recurrence or any other complications.

RESULTS: All wounds healed well without any possible wound complications such as wound dehiscence, suture margin necrosis or infection. At the end of the follow-up, all patients were relieved of the pre-operative symptoms. There was no evidence of deformity of nail or fingertip. No patient had recurrence. All the operated fingers were functionally normal.

CONCLUSIONS: Nail-preserving modified lateral subperiosteal approach does not damage the nail bed or interosseous supports to the distal phalanx. It is a very simple, less time-consuming approach for the resection of subungual tumours, and we would like to recommend it to our fellow orthopaedic surgeons.

33: Greenland K, Dixon R, Khan SA, Gunawardena K, Kihara JH, Smith JL, Drake L, Makkar P, Raman S, Singh S, Kumar S. The epidemiology of soil-transmitted helminths in Bihar State, India. PLoS Negl Trop Dis. 2015 May 20;9(5):e0003790. doi: 10.1371/journal.pntd.0003790. eCollection 2015 May. PubMed PMID: 25993697; PubMed Central PMCID: PMC4439147.

BACKGROUND: Soil-transmitted helminths (STHs) infect over a billion individuals worldwide. In India, 241 million children are estimated to need deworming to avert the negative consequences STH infections can have on child health and development. In February-April 2011, 17 million children in Bihar State were dewormed during a government-led school-based deworming campaign. Prior to programme implementation, a study was conducted to assess STH prevalence in the school-age population to direct the programme. The study also investigated risk factors for STH infections, including caste, literacy, and defecation and hygiene practices, in order to inform the development of complementary interventions.

METHODS: A cross-sectional survey was conducted among children in 20 schools in Bihar. In addition to providing stool samples for identification of STH infections, children completed a short questionnaire detailing their usual defecation and hand-hygiene practices. Risk factors for STH infections were explored.

RESULTS: In January-February 2011, 1279 school children aged four to seventeen provided stool samples and 1157 children also completed the questionnaire. Overall, 68% of children (10-86% across schools) were infected with one or more soil-transmitted helminth species. The prevalence of ascariasis, hookworm and trichuriasis was 52%, 42% and 5% respectively. The majority of children (95%) practiced open defecation and reported most frequently cleansing hands with soil (61%). Increasing age, lack of maternal literacy and certain castes were independently associated with hookworm infection. Absence of a hand-washing station at the schools was also independently associated with A. lumbricoides infection.

CONCLUSIONS: STH prevalence in Bihar is high, and justifies mass deworming in school-aged children. Open defecation is common-place and hands are often cleansed using soil. The findings reported here can be used to help direct messaging appropriate to mothers with low levels of literacy and emphasise the importance of water and sanitation in the control of helminths and other diseases.

34: Gupta N, Singh PK, Kumar M, Shastri S, Gulati S, Kumar A, Agarwala A, Kapoor S, Nair M, Sapra S, Dubey S, Singh A, Kaur P, Kabra M. Erratum to: Glutaric Acidemia Type 1-Clinico-Molecular Profile and Novel Mutations in GCDH Gene in Indian Patients. JIMD Rep. 2015;21:129. doi: 10.1007/8904_2015_448. Epub 2015 May 27. PubMed PMID: 26013749; PubMed Central PMCID: PMC4470945.

35: Gupta S, Shah P, Grewal S, Chaurasia AK, Gupta V. Steroid-induced glaucoma and childhood blindness. Br J Ophthalmol. 2015 May 22. pii: bjophthalmol-2014-306557. doi: 10.1136/bjophthalmol-2014-306557. [Epub ahead of print] PubMed PMID: 26002945.

AIM: To determine the prevalence, risk factors and the severity of visual loss caused by steroid-induced glaucoma (SIG) among children.
METHODS: Five-year records of all paediatric glaucoma cases presenting to the glaucoma services of our tertiary care centre were evaluated. Data of children presenting with SIG were recorded with respect to their visual acuity, highest baseline intraocular pressure, cup:disc ratio, perimetry and need of glaucoma filtering surgery. Parents were interviewed to assess the indication of steroid use, type of steroid used, person prescribing it and the duration of use. The prevalence of visual impairment was calculated based on WHO criteria.

RESULTS: Of 1259 cases of paediatric glaucoma presenting at our centre over 5 years, 59 children (4.7%) were diagnosed with SIG. Of these, 51 (87%) had been prescribed topical steroids for vernal keratoconjunctivitis (VKC). The median duration of steroid use was 18 months (range 1 month to 8 years). Also, 82% of children with VKC had been prescribed steroids by the treating ophthalmologist and 52% had been on topical steroids for >1 year. Glaucomatous optic neuropathy was the cause of blindness in 37.3% (22/59) and low vision in 23.7% (14/59) children. And 27% (16/59) were unilaterally blind at presentation.

CONCLUSIONS: A third of the children presenting with SIG to our tertiary care centre were bilaterally blind at presentation. Ophthalmologists need to consider steroid-sparing agents to treat VKC and monitor these children closely for glaucoma if they prescribe topical steroids in order to prevent unnecessary childhood blindness.

36: Gupta S, Gupta S. A simple, novel method for nail photography. J Am Acad Dermatol. 2015 May;72(5):e131. doi: 10.1016/j.jaad.2015.01.049. PubMed PMID: 25890478.

37: Gupta SK, Chandramohan J, Kumar L. AML transformation after autologous stem cell transplant for multiple myeloma. BMJ Case Rep. 2015 May 29;2015. pii: bcr2015210024. doi: 10.1136/bcr-2015-210024. PubMed PMID: 26025976.

A 59-year-old male patient was diagnosed as multiple myeloma in 2005 and received chemotherapy consisting of thalidomide, cyclophosphamide, and dexamethasone. The patient subsequently received high-dose melphalan followed by autologous stem cell transplantation and maintenance therapy with thalidomide. During the follow-up, the patient developed fever and cytopenias in 2012. The work up revealed 55% blasts in the marrow with myeloid phenotype leading to a diagnosis of acute myeloma leukaemia (AML). The karyotype was normal (46,XY) on conventional cytogenetics. The therapy was initiated, however, the patient expired within 1 month of diagnosis. The treatment related factors like alkylating agents are usually taken as the responsible agents for therapy-related AML, however, recent studies have proposed a multifactorial pathogenesis of leukaemic transformation in multiple myeloma.

38: Gupta V, Seshadri D, Khaitan BK, Nath D, Mridha AR. Peripheral T-cell lymphoma, not otherwise specified presenting with multiple tender cutaneous nodules and plaques. Indian J Dermatol Venereol Leprol. 2015 May-Jun;81(3):313-5. doi: 10.4103/0378-6323.152742. PubMed PMID: 25784225.

39: Gupta V, Rai A, Mutha S, Firdaus Ali M, Sharma VK. Penile carcinoma presenting as inguinal bubo, masquerading as a venereal disease. Int J STD AIDS. 2015 May 20. pii: 0956462415584484. [Epub ahead of print] PubMed PMID: 25999165.

We report a case of penile carcinoma presenting as inguinal bubo in a young man. The associated painful genital ulcer and history of high-risk sexual behaviour raised a strong suspicion of a sexually transmitted disease. We review the literature for similar cases, highlight the similarities with venereal disease and discuss the differential diagnosis of inguinal bubo.

40: Jain P, Gulati S, Toteja GS, Bakhshi S, Seth R, Pandey RM. Serum alpha tocopherol, vitamin B12, and folate levels in childhood acute lymphoblastic leukemia survivors with and without neuropathy. J Child Neurol. 2015 May;30(6):786-8. doi: 10.1177/0883073814535495. Epub 2014 May 22. PubMed PMID: 24859786.

Various micronutrients are essential for optimal functioning of the peripheral nervous system. Serum vitamin E, vitamin B12, and folic acid were estimated in childhood acute lymphoblastic leukemia survivors aged between 5 and 18 years in first continuous remission within 3 years of completion of vincristine-based chemotherapy with and without electrophysiologically defined neuropathy. A total of 80 children were studied. Neuropathy was seen in 27 (33.75%) children electrophysiologically. None of the children had vitamin E deficiency. However, the alpha tocopherol/(cholesterol + triglyceride) ratio was significantly lower in children with neuropathy (P = .05). The prevalence of folate (P = .48) and vitamin B12 (P = .21) deficiency in children with and without neuropathy was not significantly different. Thus, the prevalence of deficiencies of these micronutrients was not significantly different in childhood acute lymphoblastic leukemia survivors with or without electrophysiologically defined neuropathy.

41: Jha P, Agrawal R, Pathak P, Kumar A, Purkait S, Mallik S, Suri V, Chand Sharma M, Gupta D, Suri A, Sharma BS, Julka PK, Kulshreshtha R, Sarkar C. Genome-wide small noncoding RNA profiling of pediatric high-grade gliomas reveals deregulation of several miRNAs, identifies downregulation of snoRNA cluster HBII-52 and delineates H3F3A and TP53 mutant-specific miRNAs and snoRNAs. Int J Cancer. 2015 May 20. doi: 10.1002/ijc.29610. [Epub ahead of print] PubMed PMID: 25994230.

Pediatric high-grade gliomas (HGGs) are highly malignant tumors that remain incurable and relatively understudied. The crucial role of noncoding RNAs (ncRNAs) has been reported in various cancers. However, the study on miRNAs in pediatric HGGs is scant and there is no report till date on the status of other small ncRNAs. Genome-wide microarray analysis was performed to investigate small ncRNA expression in pediatric HGG (n = 14) and compared to adult glioblastoma (GBM) signature. The validation of miRNAs and small nucleolar RNAs (snoRNAs) was done by real-time polymerase chain reaction. TP53 and H3F3A mutation-specific miRNA and snoRNA profiles were generated and analyzed. Pediatric HGGs showed upregulation of miR-17/92 and its paralog clusters (miR106b/25 and miR-106a/363), whereas majority of downregulated miRNAs belonged to miR379/656 cluster (14q32). Unsupervised hierarchical clustering identified two distinct groups. Interestingly, Group 2 with downregulated 14q32 cluster showed better overall survival. The miRNAs unique to pediatric HGG as compared to adult GBM were predicted to affect PDGFR and SMAD2/3 pathways. Similarities were seen between pediatric HGG and TP53 mutant miRNA profiles as compared to wild types. Several of H3F3A mutation-regulated genes were found to be the targets of H3F3A mutant-specific miRNAs. Remarkably, a significant downregulation of HBII-52 snoRNA cluster was found in pediatric HGGs, and was specific to H3F3A nonmutants. This is the first genome-wide profiling study on miRNAs and snoRNAs in pediatric HGGs with respect to H3F3A and TP53 mutations. The comparison of miRNA profiles of pediatric HGGs and adult GBM reiterates the overlaps and differences as also seen with their gene expression and methylation signatures.

42: Jhanjee S, Lal R, Mishra A, Yadav D. Tobacco use and dental myths In India: need for specific intervention. Gerodontology. 2015 May 18. doi: 10.1111/ger.12200. [Epub ahead of print] PubMed PMID: 25988587.

43: Jose B, Lodha R, Kabra SK. Comparison of Two New Generation Pulse Oximeters with Arterial Oxygen Saturation in Critically Ill Children: Authors' Reply. Indian J Pediatr. 2015 Jul;82(7):667. doi: 10.1007/s12098-015-1780-9. Epub 2015 May 14. PubMed PMID: 25967260.

44: Kabra SK, Lodha R. Ventilator-Associated Pneumonia in Pediatric Intensive Care Unit: Authors' Reply. Indian J Pediatr. 2015 Jul;82(7):664. doi: 10.1007/s12098-015-1774-7. Epub 2015 May 8. PubMed PMID: 25947269.

45: Kalai U, Madan K, Jain D, Mohan A, Guleria R. Laryngeal metastasis from lung cancer. Lung India. 2015 May-Jun;32(3):268-70. doi: 10.4103/0970-2113.156249. PubMed PMID: 25983415; PubMed Central PMCID: PMC4429391.

Metastatic tumors of the larynx are rare. The most common tumors metastasizing to the larynx are melanoma and renal cell carcinoma. Bronchogenic carcinoma metastasizing to the larynx has been rarely described. Herein, we report the case of a 49-year-old, chronic smoker, who incidentally had a laryngeal growth detected during flexible bronchoscopy examination for evaluation of suspected lung cancer. Histopathological examination of the laryngeal nodule and the biopsy obtained from the main bronchus growth confirmed the diagnosis of metastatic squamous cell carcinoma to the larynx from primary lung cancer.

46: Kant S, Srivastava R, Rai SK, Misra P, Charlette L, Pandav CS. Induced abortion in villages of Ballabgarh HDSS: rates, trends, causes and determinants. Reprod Health. 2015 May 29;12:51. doi: 10.1186/s12978-015-0040-9. PubMed PMID: 26021473; PubMed Central PMCID: PMC4460773.

BACKGROUND: Induced abortion has been legal in India on a broad range of medical and social grounds since 1980s. Often, induced abortion is resorted to as a means for contraception, and has a potential to be misused for sex selective feticide. We assessed the rates, trends, causes and determinants of induced abortions from 2008-12 in a rural community of northern India.

METHODS: Present study is a secondary data analysis of pregnancy outcomes at Ballabgarh Health and Demographic Surveillance System from 2008-12. The data was retrieved from the Health and Management Information System maintained at Ballabgarh. Cause of abortion was self-reported by the women who underwent abortion.

RESULTS: Of the 11,102 pregnancies, 1,226 (11%) culminated as abortions of which 425 (3.8%) were induced abortions. Spontaneous abortion rate (7.2%) was twice that of induced abortion rate (3.8%). Both abortion rates had an increasing trend during the course of the study period. Self-reported reasons for opting for induced abortions were bleeding per vaginum (23%), unwanted pregnancy (16%), and unviable fetus diagnosed by ultrasonography (11%). Eight percent of the induced abortions were due to the female sex of the fetus. About 11% of the abortions were performed beyond 20 weeks of gestation which was the upper legal permissible gestational age for performing induced abortions in India. About 10% of the abortions were performed by unqualified practitioners. Caste, wealth index, birth order and size of the village population were the factors that were significantly associated with induced abortion.

CONCLUSIONS: Though the abortion rate was low, the proportionate contribution of induced abortion was more than what could be expected. Unsafe and sex selective abortion, though illegal, was prevalent. Upper caste and higher socio-economic status families were more likely to opt for induced abortion.

47: Karthikeyan G. Routine genotyping of patients on clopidogrel: Why the resistance? Indian Heart J. 2015 Mar-Apr;67(2):93-4. doi: 10.1016/j.ihj.2015.04.008. Epub 2015 May 13. PubMed PMID: 26071284; PubMed Central PMCID: PMC4475837.

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

OBJECTIVE: Skeletal muscle (18)F-FDG uptake on PET/CT can be either physiologic or related to a variety of different pathologic conditions. FDG PET/CT can be used for assessment of primary and metastatic tumors and infective or inflammatory conditions affecting the musculature.
CONCLUSION: In this article, we describe the various causes and patterns of skeletal muscle FDG uptake. Familiarity with these patterns is essential for proper interpretation of clinical FDG PET/CT images.

49: Kaur S, Ghuman MS. Butterfly in the brain!! QJM. 2015 May;108(5):427. doi: 10.1093/qjmed/hcu219. Epub 2014 Oct 31. PubMed PMID: 25362098.

50: Kedia S, Sharma R, Nagi B, Mouli VP, Aananthakrishnan A, Dhingra R, Srivastava S, Kurrey L, Ahuja V. Computerized tomography-based predictive model for differentiation of Crohn's disease from intestinal tuberculosis. Indian J Gastroenterol. 2015 Mar;34(2):135-43. doi: 10.1007/s12664-015-0550-y. Epub 2015 May 14. PubMed PMID: 25966870.

BACKGROUND: Intestinal tuberculosis (ITB) and Crohn's disease (CD) have clinical, radiological, endoscopic, and histological resemblance. There is paucity of literature regarding differentiation of CD and ITB based on radiology using computed tomography (CT).
AIMS: The present study was designed to compare CT features of ITB and CD and develop a predictive model to differentiate ITB and CD.

METHODS: Patients with ITB and CD, who underwent CT enteroclysis/CT enterography/CT abdomen before starting treatment, were recruited. Specific findings were noted by a radiologist who was blinded to the diagnosis. A predictive model was developed based on the features which were significantly different in these diseases.

RESULTS: Fifty-four patients with CD and 50 patients with ITB were compared. On univariate analysis, left colonic involvement, ileocecal involvement, long-segment involvement, comb sign, presence of skip lesions, involvement of ≥3 segments and ≥1-cm sized lymph nodes were significantly different between CD and ITB. On multivariate analysis, ileocecal involvement, long-segment involvement and the presence of lymph node ≥1 cm were statistically significant. Based upon the latter three variables, a risk score (with values ranging from 0 to 3) was generated, with scores 0 and 1 having specificity of 100 % and 87 %, respectively, and positive predictive values (PPV) of 100 % and 76 %, respectively, for ITB and scores 2 and 3 having specificity of 68 % and 90 %, respectively, and PPV of 63 % and 80 %, respectively, for CD.

CONCLUSIONS: A predictive model based on the presence of long-segment involvement, ileocecal involvement and lymph nodes sized ≥1 cm on CT could differentiate ITB and CD with good specificity and PPV.

51: Khan L, Makhdoomi MA, Kumar S, Nair A, Andrabi R, Clark BE, Auyeung K, Bhattacharya J, Vajpayee M, Wig N, Pantophlet R, Luthra K. Identification of CD4-Binding Site Dependent Plasma Neutralizing Antibodies in an HIV-1 Infected Indian Individual. PLoS One. 2015 May 11;10(5):e0125575. doi: 10.1371/journal.pone.0125575. eCollection 2015. PubMed PMID: 25962059; PubMed Central PMCID: PMC4427266.

Dissecting antibody specificities in the plasma of HIV-1 infected individuals that develop broadly neutralizing antibodies (bNAbs) is likely to provide useful information for refining target epitopes for vaccine design. Several studies have reported CD4-binding site (CD4bs) antibodies as neutralization determinants in the plasma of subtype B-infected individuals; however there is little information on the prevalence of CD4bs specificities in HIV-infected individuals in India. Here, we report on the presence of CD4bs antibodies and their contribution to virus neutralization in the plasma from a cohort of HIV-1 infected Indian individuals. Plasma from 11 of the 140 HIV-1 infected individuals (7.9%) studied here exhibited cross-neutralization activity against a panel of subtype B and C viruses. Analyses of these 11 plasma samples for the presence of CD4bs antibodies using two CD4bs-selective probes (antigenically resurfaced HXB2gp120 core protein RSC3 and hyperglycosylated JRFLgp120 mutant ΔN2mCHO) revealed that five (AIIMS 617, 619, 627, 642, 660) contained RSC3-reactive plasma antibodies and only one (AIIMS 660) contained ΔN2mCHO-reactive antibodies. Plasma antibody depletion and competition experiments confirmed that the neutralizing activity in the AIIMS 660 plasma was dependent on CD4bs antibodies. To the best of our knowledge, this is the first study to report specifically on the presence of CD4bs antibodies in the plasma of a cohort of HIV-1 infected Indian donors. The identification of CD4bs dependent neutralizing antibodies in an HIV-1 infected Indian donor is a salient finding of this study and is supportive of ongoing efforts to induce similar antibodies by immunization.

52: Kir D, Gupta S, Jolly G, Kalaivani M, Lodha R, Kabra SK. Health Related Quality of Life in Indian Children with Cystic Fibrosis. Indian Pediatr. 2015 May;52(5):403-8. PubMed PMID: 26061926.

OBJECTIVE: This study was devised to translate Cystic Fibrosis Questionnaire-Revised to Hindi and administer it to Indian children and adolescents diagnosed with cystic fibrosis.
DESIGN: Cross-sectional study.
SETTING: This study was carried out in cystic fibrosis patients attending Pediatric Chest Clinic of a tertiary-care hospital in Northern India from July 2012 to December 2012.
PARTICIPANTS: 45 children (6-13 years) and their parents, and 14 adolescents. Patients with unstable health in the past two weeks were excluded.

INTERVENTION: Cystic Fibrosis Questionnaire- Revised translated in Hindi was administered. Clinical evaluation and scoring, throat swab cultures and spirometry were also done during the same visit.
MAIN OUTCOME MEASURES: Health Related Quality of Life scores were the primary measures, and clinical scores, swab cultures and spirometry were secondary measures.

RESULTS: Cronbachs alpha ranged from 0.020-0.863.The Factor analysis indicated that most test-items correlated more with competing scales than the intended scales. Convergence between self and proxy-rating was found to be dependent on the domain. The Cystic Fibrosis Questionnaire- Revised scores correlated well with clinical scores (r=0.65,P=0.011), Pseudomonas spp culture data and pulmonary function tests. There was an inverse relation between Health Related Quality of Life scores and age at diagnosis (r=-0.339, P=0.02).
CONCLUSIONS: Hindi versions of Cystic Fibrosis Questionnaire- Revised: Child, Adolescent and Parents instruments will act as an important step towards data on Health Related Quality of Life of Indian patients with cystic fibrosis.

53: Kishore S, Upadhyay AD, Jyotsna VP. Categories of foot at risk in patients of diabetes at a tertiary care center: Insights into need for foot care. Indian J Endocrinol Metab. 2015 May-Jun;19(3):405-10. doi: 10.4103/2230-8210.152789. PubMed PMID: 25932399; PubMed Central PMCID: PMC4366782.

OBJECTIVE: Diabetic foot ulcers and amputations are preventable. Aim of this study was to determine the distribution of categories of foot at risk in patients with diabetes, attending a tertiary care hospital and factors that affect it. MATERIALS AND METHODS: Detail history and examination including neurological and vascular assessment were performed in 100 patients with diabetes attending a Tertiary Care Hospital. Foot at risk was classified according to the task force of foot care interest Group of American Diabetes Association. Category of foot at risk was correlated with demographic and clinical features.

RESULTS: Fifty-two percent patients had foot at risk-category 1 and 2. Loss of protective sensation (LOPS) was present in 33% (category 1). Peripheral arterial disease (PAD) was present in 19% (category 2). Both LOPS and PAD were present in 10% patients. 95% had never received foot care advice by health professionals, let alone prescriptive footwear or vascular consultation.

CONCLUSIONS: This study brings forth that foot at risk of ulcer is rampant in patients with diabetes. There are lacunae in diabetic foot care at all levels of care. With the increase in diabetes, cost effective steps are required to improve foot care among diabetes in India. Considering the demographic profile of patients in our study, growing number of patients with diabetes, lack of time and staff allocated for foot care in our setup, audiovisual aids seems a good option to spread foot care awareness among diabetes.

54: Krishnamurthy B, Rani N, Bharti S, Golechha M, Bhatia J, Nag TC, Ray R, Arava S, Arya DS. Febuxostat ameliorates doxorubicin-induced cardiotoxicity in rats. Chem Biol Interact. 2015 Jul 25;237:96-103. doi: 10.1016/j.cbi.2015.05.013. Epub 2015 May 30. PubMed PMID: 26036690.

The clinical use of doxorubicin is associated with dose limiting cardiotoxicity. This is a manifestation of free radical production triggered by doxorubicin. Therefore, we evaluated the efficacy of febuxostat, a xanthine oxidase inhibitor and antioxidant, in blocking cardiotoxicity associated with doxorubicin in rats. Male albino Wistar rats were divided into four groups: control (normal saline 2.5mL/kg/dayi.p. on alternate days, a total of 6 doses); Doxorubicin (2.5mg/kg/dayi.p. on alternate days, a total of 6 doses), Doxorubicin+Febuxostat (10mg/kg/day oral) and Doxorubicin+Carvedilol (30mg/kg/day oral) for 14days. Febuxostat significantly ameliorated the doxorubicin-induced deranged cardiac functions as there was significant improvement in arterial pressures, left ventricular end diastolic pressure and inotropic and lusitropic states of the myocardium. These changes were well substantiated with biochemical findings, wherein febuxostat prevented the depletion of non-protein sulfhydryls level, with increased manganese superoxide dismutase level and reduced cardiac injury markers (creatine kinase-MB and B-type natriuretic peptide levels) and thiobarbituric acid reactive substances level. Febuxostat also exhibited significant anti-inflammatory (decreased expression of NF-κBp65, IKK-β and TNF-α) and anti-apoptotic effect (increased Bcl-2 expression and decreased Bax and caspase-3 expression and TUNEL positivity). Hematoxylin and Eosin, Masson Trichome, Picro Sirius Red and ultrastructural studies further corroborated with hemodynamic and biochemical findings showing that febuxostat mitigated doxorubicin-induced increases in inflammatory cells, edema, collagen deposition, interstitial fibrosis, perivascular fibrosis and mitochondrial damage and better preservation of myocardial architecture. In addition, all these changes were comparable to those produced by carvedilol. Thus, our results suggest that the antioxidant and anti-apoptotic effect of febuxostat contributes to its protective effects against doxorubicin-induced cardiotoxicity.

55: Kumar A, Lale SV, Mahajan S, Choudhary V, Koul V. ROP and ATRP Fabricated Dual Targeted Redox Sensitive Polymersomes Based on pPEGMA-PCL-ss-PCL-pPEGMA Triblock Copolymers for Breast Cancer Therapeutics. ACS Appl Mater Interfaces. 2015 May 6;7(17):9211-27. doi: 10.1021/acsami.5b01731. Epub 2015 Apr 27. PubMed PMID: 25838044.

To minimize cardiotoxicity and to increase the bioavailability of doxorubicin, polymersomes based on redox sensitive amphiphilic triblock copolymer poly(polyethylene glycol methacrylate)-poly(caprolactone)-s-s-poly(caprolactone)-poly(polyethylene glycol methacrylate) (pPEGMA-PCL-ss-PCL-pPEGMA) with disulfide linkage were designed and developed. The polymers were synthesized by ring opening polymerization (ROP) of ε-caprolactone followed by atom transfer radical polymerization (ATRP) of PEGMA. The triblock copolymers demonstrated various types of nanoparticle morphologies by varying hydrophobic/hydrophilic content of polymer blocks, with PEGMA content of ~18% in the triblock copolymer leading to the formation of polymersomes in the size range ~150 nm. High doxorubicin loading content of ~21% was achieved in the polymersomes. Disulfide linkages were incorporated in the polymeric backbone to facilitate degradation of the nanoparticles by the intracellular tripeptide glutathione (GSH), leading to intracellular drug release. Release studies showed ~59% drug release in pH 5.5 in the presence of 10 mM GSH, whereas only ~19% was released in pH 7.4. In cellular uptake studies, dual targeted polymersomes showed ~22-fold increase in cellular uptake efficiency in breast cancer cell lines (BT474 and MCF-7) as compared to nontargeted polymersomes with higher apoptosis rates. In vivo studies on Ehrlich's ascites tumor (EAT) bearing Swiss albino mouse model showed ~85% tumor regression as compared to free doxorubicin (~42%) without any significant cardiotoxicity associated with doxorubicin. The results indicate enhanced antitumor efficacy of the redox sensitive biocompatible nanosystem and shows promise as a potential drug nanocarrier in cancer therapeutics.

56: Kumar A, Prasad M, Kumar P, Yadav AK, Pandit AK, Kathuria P. Association between Beta Adrenergic Receptor Polymorphism and Ischemic Stroke: A Meta-Analysis. J Stroke. 2015 May;17(2):138-43. doi: 10.5853/jos.2015.17.2.138. Epub 2015 May 29. Review. PubMed PMID: 26060801; PubMed Central PMCID: PMC4460333.

BACKGROUND AND PURPOSE: The purpose of this meta-analysis was to determine the precise association between beta-2 adrenergic receptor (β2AR) polymorphism and Ischemic stroke.
METHODS: Published case control studies on association between β2AR and ischemic stroke were searched from electronic databases. Pooled Odds ratio and 95% Confidence interval were calculated by using software RevMan version 5.2.

RESULTS: A total of three studies involving 1,642 cases and 1,673 controls, which were published from 2007 to 2014, were subjected to meta-analysis for allelic association and 518 cases and 510 controls for genotypic association. Pooled analysis of two studies for genotypic association suggested that subjects carrying Gln27Glu polymorphism of β2AR had an increased risk for Ischemic stroke under recessive model (OR 2.09; 95% CI; 1.20 to 3.64) and under dominant model (OR 1.47; 95% CI 1.14 to 1.90). Pooled analysis of three studies for allelic association showed a significantly higher Glu27 allele of β2AR in the patients with ischemic stroke (OR 1.58; 95% CI; 1.38 to 1.81).

CONCLUSIONS: The present meta-analysis suggests that Gln27Glu polymorphism of β2AR gene is associated with increased risk for ischemic stroke.

57: Kumar A, Verma N, Agrawal D, Sharma BS. Endoscopic lavage for antibiotic unresponsive severe Acinetobacter baumanii ventriculitis: an unexplored treatment option. Acta Neurochir (Wien). 2015 Jul;157(7):1225-7. doi: 10.1007/s00701-015-2443-3. Epub 2015 May 9. PubMed PMID: 25956397.

58: Kumar M, Dahiya S, Sharma P, Sharma S, Singh TP, Kapil A, Kaur P. Structure based in silico analysis of quinolone resistance in clinical isolates of Salmonella Typhi from India. PLoS One. 2015 May 11;10(5):e0126560. doi: 10.1371/journal.pone.0126560. eCollection 2015. PubMed PMID: 25962113; PubMed Central PMCID: PMC4427296.

Enteric fever is a major cause of morbidity in several parts of the Indian subcontinent. The treatment for typhoid fever majorly includes the fluoroquinolone group of antibiotics. Excessive and indiscriminate use of these antibiotics has led to development of acquired resistance in the causative organism Salmonella Typhi. The resistance towards fluoroquinolones is associated with mutations in the target gene of DNA Gyrase. We have estimated the Minimum Inhibitory Concentration (MIC) of commonly used fluoroquinolone representatives from three generations, ciprofloxacin, ofloxacin, levofloxacin and moxifloxacin, for 100 clinical isolates of Salmonella Typhi from patients in the Indian subcontinent. The MICs have been found to be in the range of 0.032 to 8 µg/ml. The gene encoding DNA Gyrase was subsequently sequenced and point mutations were observed in DNA Gyrase in the quinolone resistance determining region comprising Ser83Phe/Tyr and Asp87Tyr/Gly. The binding ability of these four fluoroquinolones in the quinolone binding pocket of wild type as well as mutant DNA Gyrase was computationally analyzed by molecular docking to assess their differential binding behaviour. This study has revealed that mutations in DNA Gyrase alter the characteristics of the binding pocket resulting in the loss of crucial molecular interactions and consequently decrease the binding affinity of fluoroquinolones with the target protein. The present study assists in understanding the underlying molecular and structural mechanism for decreased fluoroquinolone susceptibility in clinical isolates as a consequence of mutations in DNA Gyrase.

59: Kumar P, Kumar A, Pandit AK, Pathak A, Prasad K. Seasonal Variations in Stroke: A Study in a Hospital in North India. J Stroke. 2015 May;17(2):219-20. doi: 10.5853/jos.2015.17.2.219. Epub 2015 May 29. PubMed PMID: 26060810; PubMed Central PMCID: PMC4460342.

60: Kumar SB, Yadav R, Yadav RK, Tolahunase M, Dada R. Telomerase activity and cellular aging might be positively modified by a yoga-based lifestyle intervention. J Altern Complement Med. 2015 Jun;21(6):370-2. doi: 10.1089/acm.2014.0298. Epub 2015 May 12. PubMed PMID: 25964984.

OBJECTIVES: Recent studies showed that a brief yoga-based lifestyle intervention was efficacious in reducing levels of oxidative stress and cellular aging in obese men. The objective of this case report was to assess the efficacy of this intervention in reducing the levels of biochemical markers of cellular ageing, oxidative stress, and inflammation at baseline (day 0), at the end of active intervention (day 10), and follow-up at day 90.
DESIGN: Single case report from a prospective ongoing study with pre-post design assessing the level of various markers of cellular aging.
SETTING: Integral Health Clinic, an outpatient facility conducting meditation and yoga-based lifestyle intervention programs for management of chronic diseases.
PATIENT: A 31-year-old man with class I obesity (body-mass index, 29.5 kg/m(2)) who presented to the medicine outpatient department at All India Institute of Medical Sciences, New Delhi, India, with a history of fatigue, difficulty losing weight, and lack of motivation. He noted a marked decrease in his energy level, particularly in the afternoon.
INTERVENTION: A pretested intervention program included asanas (postures), pranayama (breathing exercises), stress management, group discussions, lectures, and individualized advice.

RESULTS: From baseline (day 0) to day 90, the activity of telomerase and levels of β-endorphins, plasma cortisol, and interleukin-6 increased, and a sustained reduction in oxidative stress markers, such as reactive oxygen species and 8-hydroxy-2-deoxy-guanosine levels.
CONCLUSIONS: Adopting yoga/meditation-based lifestyle modification causes reversal of markers of aging, mainly oxidative stress, telomerase activity, and oxidative DNA damage. This may not only delay aging and prolong a youthful healthy life but also delay or prevent onset of several lifestyle-related diseases, of which oxidative stress and inflammation are the chief cause. This report suggests this simple lifestyle intervention may be therapeutic for oxidative DNA damage and oxidative stress.

61: Lale SV, Kumar A, Prasad S, Bharti AC, Koul V. Folic Acid and Trastuzumab Functionalized Redox Responsive Polymersomes for Intracellular Doxorubicin Delivery in Breast Cancer. Biomacromolecules. 2015 Jun 8;16(6):1736-52. doi: 10.1021/acs.biomac.5b00244. Epub 2015 May 15. PubMed PMID: 25918899.

Redox responsive biodegradable polymersomes comprising of poly(ethylene glycol)-polylactic acid-poly(ethylene glycol) [PEG-s-s-PLA-s-s-PLA-s-s-PEG] triblock copolymer with multiple disulfide linkages were developed to improve intracellular delivery and to enhance chemotherapeutic efficacy of doxorubicin in breast cancer with minimal cardiotoxicity. Folic acid and trastuzumab functionalized monodispersed polymersomes of size ~150 nm were prepared by nanoprecipitation method while achieving enhanced doxorubicin loading of ~32% in the polymersomes. Multiple redox responsive disulfide linkages were incorporated in the polymer in order to achieve complete disintegration of polymersomes in redox rich environment of cancer cells resulting in enhanced doxorubicin release as observed in in vitro release studies, where ~90% doxorubicin release was achieved in pH 5.0 in the presence of 10 mM glutathione (GSH) as compared to ~20% drug release in pH 7.4. Folic acid and trastuzumab mediated active targeting resulted in improved cellular uptake and enhanced apoptosis in in vitro studies in breast cancer cell lines. In vivo studies in Ehrlich ascites tumor bearing Swiss albino mice showed enhanced antitumor efficacy and minimal cardiotoxicity of polymersomes with ~90% tumor regression as compared to ~38% tumor regression observed with free doxorubicin. The results highlight therapeutic potential of the polymersomes as doxorubicin delivery nanocarrier in breast cancer therapy with its superior antitumor efficacy and minimal cardiotoxicity.

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

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

the VH CDR3 of 48 anti-V3 mAbs were inversely correlated with the neutralization breadth of tier 2, 3 viruses. The results demonstrate that infection-induced antibodies to CD4bs, V3 and V2 regions can mediate cross-clade neutralization despite low levels of mutations which can be achieved by HIV-1 vaccine-induced antibodies.

63: Madan K, Ayub II, Jain D, Mohan A, Guleria R. Necrotic mediastinal lymph node enlargement in a middle-aged female. Lung India. 2015 May-Jun;32(3):293-5. doi: 10.4103/0970-2113.156260. PubMed PMID: 25983424; PubMed Central PMCID: PMC4429400.

64: Makharia GK, Ghoshal UC, Ramakrishna BS, Agnihotri A, Ahuja V, Chowdhury SD, Gupta SD, Mechenro J, Mishra A, Mishra A, Pathak MK, Pandey RM, Sharma R, Sharma SK. Intermittent Directly Observed Therapy for Abdominal Tuberculosis: A Multicenter Randomized Controlled Trial Comparing 6 Months Versus 9 Months of Therapy. Clin Infect Dis. 2015 Sep 1;61(5):750-7. doi: 10.1093/cid/civ376. Epub 2015 May 12. PubMed PMID: 25969531.

BACKGROUND: The duration of treatment of gastrointestinal tuberculosis continues to be a matter of debate. The World Health Organization advocates intermittent directly observed short-course therapy (DOTs), but there is a lack of data of its efficacy in abdominal tuberculosis. We therefore conducted a multicenter randomized controlled trial to compare 6 months and 9 months of antituberculosis therapy using DOTs.

METHODS: One hundred ninety-seven patients with abdominal tuberculosis (gastrointestinal, 154; peritoneal, 40; mixed, 3) were randomized to receive 6 months (n = 104) or 9 months (n = 93) of antituberculosis therapy using intermittent directly observed therapy. Patients were followed up 1 year after completion of treatment to assess recurrence. Patients were evaluated for primary endpoint (complete clinical response, partial response, and no response) and secondary endpoint (recurrence of the disease at the end of 1 year of follow-up).

RESULTS: Baseline characteristics were similar between the 2 randomized groups. There was no difference between the 6-month group and 9-month group in the complete clinical response rate on per-protocol analysis (91.5% vs 90.8%; P = .88) or intent-to-treat analysis (75% vs 75.8%; P = .89). Only 1 patient in the 9-month group and no patients in the 6-month group had recurrence of disease. Side effects occurred in 21 (21.3%) and 16 (18.2%) patients in the 6-month and 9-month groups, respectively.

CONCLUSIONS: There was no difference in efficacy of antituberculosis therapy delivered for either 6 months or 9 months in either gastrointestinal or peritoneal tuberculosis, confirming the efficacy of intermittent directly observed therapy.
CLINICAL TRIALS REGISTRATION: NCT01124929.

65: Malik A, Bhilwar M, Rustagi N, Taneja DK. An assessment of facilities and services at Anganwadi centers under the Integrated Child Development Service scheme in Northeast District of Delhi, India. Int J Qual Health Care. 2015 Jun;27(3):201-6. doi: 10.1093/intqhc/mzv028. Epub 2015 May 9. PubMed PMID: 25958416.

OBJECTIVE: The current study was aimed to assess the facilities and services being provided at the Anganwadi Centres (AWCs) by the Anganwadi workers with regards to the norms laid down by Integrated Child development Service (ICDS) scheme, with special emphasis on the children of 0-6 years of age.
DESIGN: Cross-sectional study.
SETTING: A resettlement colony of North-West District of Delhi, having a population of hundred thousand.

PARTICIPANTS: A total of 41 AWCs were present in the study area and were included in our study. The Anganwadi workers at these AWCs were interviewed.
MAIN OUTCOME MEASURES: The outcome measures were the facilities present at the AWCs and knowledge of Anganwadi workers regarding the services to be provided and revised supplementary nutrition norms laid down by ICDS.

RESULTS: The AWCs in the area were covered under three projects namely Project A, B and C consisting of 18, 9 and 14 AWCs, respectively. The mean room size for all the AWCs was 108.97 ± 62.18 square feet. A weighing machine was present in 29 (70.7%) of the AWCs. Growth charts for growth monitoring of children were present in 28 (68.3%) of AWCs. A drug kit was not present in 14 (34.1%) of the 41 AWCs. The mean number of children of 0-3 years enrolled per AWC was 45.78 ± 14.07. However, the mean number of children present at the time of the visit at the AWCs was 6.24 ± 5.39. Knowledge of Anganwadi workers regarding revised norms for calorie and protein for beneficiaries was found to be poor.

CONCLUSION: This study showed a lack of facilities at the AWCs and poor knowledge of Anganwadi workers. Thus a regular training and supportive supervision of the Anganwadi workers is recommended along with the availability of adequate facilities and infrastructures.

66: Malik S, Bhatia J, Suchal K, Gamad N, Dinda AK, Gupta YK, Arya DS. Nobiletin ameliorates cisplatin-induced acute kidney injury due to its anti-oxidant, anti-inflammatory and anti-apoptotic effects. Exp Toxicol Pathol. 2015 Jul-Aug;67(7-8):427-33. doi: 10.1016/j.etp.2015.04.008. Epub 2015 May 19. PubMed PMID: 26002685.

Cisplatin is an effective anti-cancer drug which causes remarkable toxicity to kidney by generating reactive oxygen species and by stimulating inflammatory and apoptotic pathway. Citrus flavonoid, like nobiletin has been reported to possess anti-oxidant, anti-inflammatory and anti-apoptotic properties. Hence, the present study was aimed to evaluate these properties of nobiletin, a polymethoxy flavone in cisplatin-induced acute renal injury. Adult male albino Wistar rats were divided into 6 groups. Nobiletin was administered at the dose of 1.25, 2.5 and 5mg/kg for a period of 10 days. On 7th day, a single injection of cisplatin (8mg/kg) was injected to rats. Cisplatin administration resulted in renal dysfunction as evident by increase in serum creatinine and BUN levels. Oxidative stress in cisplatin group was reflected by increase in MDA level, and depletion of anti-oxidants such as glutathione, superoxide dismutase and catalase in renal tissue. Furthermore, cisplatin increased the expressions of Bax, caspase-3 and DNA damage along with decreased expression of Bcl-2 in the renal tissue. Histological analysis also revealed acute tubular necrosis. However, pretreatment with nobiletin preserved renal function and restored anti-oxidant status. Nobiletin supplementation inhibited activation of apoptotic pathways and DNA damage. It also attenuated tubular injury histologically. Collectively, the result of this study suggests the nephroprotective potential of nobiletin which may be related to its anti-oxidant, anti-apoptotic and anti-inflammatory effects.

67: Marathe SP, Talwar S. Surgery for transposition of great arteries: A historical perspective. Ann Pediatr Cardiol. 2015 May-Aug;8(2):122-8. doi: 10.4103/0974-2069.157025. Review. PubMed PMID: 26085763; PubMed Central PMCID: PMC4453180.

The history of surgery for transposition of great arteries (TGA) has paralleled the history of cardiac surgery. In fact, it began before the birth of open heart surgery when the palliative Blalock-Hanlon septectomy was first performed in 1948. The atrial switch, which was an attempt to correct the physiology of transposition, had significant shortcomings. The arterial switch sought to address them. This has emerged as an anatomically as well as physiologically appropriate solution. Today we continue to pursue technical refinements as well as try to expand the indications of the arterial switch. This review traces the various milestones in this perpetual journey.

68: Marwaha RK, Sreenivas V, Talwar D, Yenamandra VK, Challa A, Lakshmy R, Sharma VK, Sethuraman G. Impact of solar ultraviolet B radiation (290-320 nm) on vitamin D synthesis in children with type IV and V skin. Br J Dermatol. 2015 May 4. doi: 10.1111/bjd.13887. [Epub ahead of print] PubMed PMID: 25939893.

69: Meena S, Sharma P, Gangary SK, Chowdhury B. Role of vitamin C in prevention of complex regional pain syndrome after distal radius fractures: a meta-analysis. Eur J Orthop Surg Traumatol. 2015 May;25(4):637-41. doi: 10.1007/s00590-014-1573-2. Epub 2014 Dec 9. PubMed PMID: 25488053.

BACKGROUND: Complex regional pain syndrome is a well-known complication after distal radius fracture with incidence ranging from 10.5 to 37 %. Some studies recommend the use of vitamin C to prevent complex regional pain syndrome. The objective of this meta-analysis was to evaluate the efficacy of vitamin C in prevention of CRPS.

METHODS: We searched the PubMed, EMBASE and Cochrane library databases for randomized controlled trial (RCT) and comparative studies reporting use of vitamin C to prevent distal radius fracture. Dichotomous variable was presented as risk ratio with 95 % confidence intervals.

RESULTS: We obtained 220 articles from the database search. After the exclusion of duplicates, unrelated articles, letter to editor and editorials, we found four articles relevant to our topic. Meta-analysis of the CRPS incidence revealed that the incidence of CRPS was significantly lower in the vitamin C group [RD 0.41 (0.19-0.92), P = 0.03]. There was moderate to high heterogeneity in the studies included I (2) = 63 %).

CONCLUSIONS: Our analysis showed a significant reduction in prevalence of CRPS with the use of vitamin C. Further high-quality RCTs with standard dosages and common diagnostic criteria are needed to be able to deliver solid conclusions.

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

INTRODUCTION: The use of barbed sutures in various surgical specialities has shown lower operative time and equivalent wound complications. Use of barbed suture in total knee arthroplasty is still at nascent stage with only few studies comparing it with the standard closure techniques. The purpose of this review was to appraise the clinical outcomes of barbed suture use in closure of total knee arthroplasty.

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

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

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

71: Mittal R, Chopra A, Soni S, Bakhshi S, Kumar R. "Tear drops" in the cerebrospinal fluid: Correct by scatter, but pathognomonic by site. Cytometry B Clin Cytom. 2015 May-Jun;88(3):204-6. doi: 10.1002/cyto.b.21191. Epub 2014 Sep 26. PubMed PMID: 25257969.

Extramedullary relapse in acute promyelocytic leukemia (APL) is rare, but occurs most commonly in central nervous system (CNS), generally in high-risk cases (total leucocyte count≥10,000/μL, atypical morphology or disseminated intravascular coagulation at presentation), and concomitant with bone marrow (BM) relapse. Here, we describe a case of APL who except for CD56 positivity was low risk but had a CNS relapse without concomitant BM involvement. Diagnosis of isolated CNS relapse was based on characteristic tear-drop pattern for CD45/side scatter plot on flow cytometry, a full compatible immunophenotype and cytomorphology in the cerebrospinal fluid. The case illustrates the value of the latter and the importance of including CD56 in risk assessment of APL.

72: Muhammad Aslam MK, Kumaresan A, Rajak SK, Tajmul M, Datta TK, Mohanty TK, Srinivasan A, Yadav S. Comparative proteomic analysis of Taurine, Indicine, and crossbred (Bos taurus × Bos indicus) bull spermatozoa for identification of proteins related to sperm malfunctions and subfertility in crossbred bulls. Theriogenology. 2015 Sep 1;84(4):624-33. doi: 10.1016/j.theriogenology.2015.04.020. Epub 2015 May 1. PubMed PMID: 26033646.

Subfertility is one of the most common problems observed among Taurine × Indicine crossbred bulls in tropical countries; however, the etiology remain unknown in most of the cases. In present study, we compared the proteomic profile of spermatozoa from crossbred bulls (Bos taurus × Bos indicus) against their purebred parent lines (Holstein Friesian [Taurine] and Tharparkar [Indicine]) to find out alteration in expressions of proteins, if any. The proteomic profiles of freshly ejaculated spermatozoa from these breeds were compared by two-dimensional difference gel electrophoresis, and differentially expressed proteins were identified through mass spectrometry. It was observed that compared to Holstein Friesian, nine proteins were underexpressed and eight proteins were overexpressed (P < 0.05) in the spermatozoa of crossbred bulls. Similarly, four proteins were overexpressed and four proteins were underexpressed (P < 0.05) in the spermatozoa of crossbred bulls compared to Tharparkar bulls. In concurrent three breed comparison, 14 proteins were found to be differentially expressed (P < 0.05) between these breeds. From the findings of the study, it is apparent that the expression levels of several functionally significant proteins are either upregulated or downregulated in spermatozoa of crossbred bulls, which might be related to high incidence of subfertility in these bulls.

73: Mukherjee A, Patel CD, Naik N, Sharma G, Roy A. Quantitative assessment of cardiac mechanical dyssynchrony and prediction of response to cardiac resynchronization therapy in patients with nonischaemic dilated cardiomyopathy using gated myocardial perfusion SPECT. Nucl Med Commun. 2015 May;36(5):494-501. doi: 10.1097/MNM.0000000000000282. PubMed PMID: 25695610.

OBJECTIVE: The aim of the study was to evaluate gated myocardial perfusion SPECT (GMPS) in the prediction of response to cardiac resynchronization therapy (CRT) in nonischaemic dilated cardiomyopathy patients.
PATIENTS AND METHODS: Thirty-two patients (23 men, mean age 57.5±12.1 years) with severe heart failure, who were selected for CRT implantation, were prospectively included in this study. Patients with coronary heart disease and structural heart diseases were excluded. ^{99}mTc-MIBI GMPS and clinical evaluation were performed at baseline and 3 months after CRT implantation. In GMPS, first-harmonic fast Fourier transform was used to extract a phase array using commercially available software. Phase standard deviation (PSD) and phase histogram bandwidth (PHB) were used to quantify cardiac mechanical dyssynchrony (CMD). Left ventricular ejection fraction was evaluated.

RESULTS: At baseline evaluation the mean NYHA class was 3.3±0.5, left ventricular ejection fraction was 23.2±5.3% and mean QRS duration was 150.3±18.2ms. PSD was 55.8±19.2° and PHB was 182.1±75.8°. At 3-month follow-up, 22 patients responded to CRT with improvement in NYHA class by more than 1 grade and in ejection fraction by more than 5%. Responders had significantly larger PSD (63.6±16.6 vs. 38.7±12.7°) and PHB (214.8±63.9 vs. 110.2±43.5°) compared with nonresponders. Receiver-operating characteristic curve analysis demonstrated 86% sensitivity and 80% specificity at a cutoff value of 43° for PSD and 86% sensitivity and 80% specificity at a cutoff value of 128° for PHB in the prediction of response to CRT.

CONCLUSION: Baseline PSD and PHB derived from GMPS are useful for prediction of response to CRT in nonischaemic dilated cardiomyopathy patients.

74: Mundhe K, Jain V, Pruthi G, Shah N. Clinical study to evaluate the wear of natural enamel antagonist to zirconia and metal ceramic crowns. J Prosthet Dent. 2015 May 16. pii: S0022-3913(15)00127-4. doi: 10.1016/j.prosdent.2015.03.001. [Epub ahead of print] PubMed PMID: 25985742.

STATEMENT OF PROBLEM: Tooth wear is a complex process, which, if not prevented, may adversely affect the integrity of the stomatognathic system. Different restorative dental materials may affect the amount of wear on natural enamel antagonists.
PURPOSE: The purpose of this in vivo study was to evaluate and compare the wear of enamel opposing natural enamel, zirconia, and metal ceramic crowns after 1 year.

MATERIAL AND METHODS: Ten participants between 18 and 35 years of age requiring 2 complete crowns, 1 on either side of maxillary or mandibular molar region, and having healthy natural teeth in the opposing arch were selected. For each participant, 1 monolithic polished zirconia crown and 1 glazed metal ceramic crown were fabricated and cemented. To evaluate the wear of the antagonistic natural enamel (premolar and molar), polyvinyl siloxane impressions were made immediately (baseline) and at 1 year after cementation. The wear of natural enamel against natural enamel was evaluated as the control. The resulting casts were scanned (using a 3D white light scanner), and 3D software was used to calculate the maximum amount of linear wear.

RESULTS: One-way repeated measures ANOVA was conducted to analyze data. Mean ±SD occlusal wear of the antagonistic enamel 1 year after the cementation of metal ceramic crowns was 69.20 ±4.10 µm for premolar teeth and 179.70 ±8.09 µm for molar teeth, whereas for zirconia crowns, it was 42.10 ±4.30 µm for premolar

teeth and 127.00 ±5.03 µm for molar teeth. Occlusal wear of natural enamel opposing natural enamel was 17.30 ±1.88 µm in the premolar region and 35.10 ±2.60 µm in the molar region. The Bonferroni post hoc test revealed that the occlusal wear of antagonistic enamel 1 year after the cementation of a metal ceramic crown was significantly higher (P<.001) than that of an opposing zirconia crown or natural enamel.

CONCLUSIONS: Zirconia crowns led to less wear of antagonist enamel than metal ceramic crowns, but more than natural enamel.

75: Ojha S, Azimullah S, Mohanraj R, Sharma C, Yasin J, Arya DS, Adem A. Thymoquinone Protects against Myocardial Ischemic Injury by Mitigating Oxidative Stress and Inflammation. Evid Based Complement Alternat Med. 2015;2015:143629. doi: 10.1155/2015/143629. Epub 2015 May 25. PubMed PMID: 26101531; PubMed Central PMCID: PMC4458551.

The present study was aimed at investigating the cardioprotective activity of thymoquinone (TMQ), an active principle of the herb, Nigella sativa, which is used for the management of various diseases. The present study examined the cardioprotective effect of TMQ in isoproterenol- (ISP-) induced myocardial infarction in rats. Myocardial infarction was induced by two subcutaneous injections of ISP (85 mg/kg) at an interval of 24 hr. TMQ (20 mg/kg) was administered orally for 21 days. ISP-treated rats showed depletion of antioxidants and marker enzymes from myocardium along with lipid peroxidation and enhanced levels of proinflammatory cytokines. ISP also induced histopathological alterations in myocardium. Treatment with TMQ prevented the depletion of endogenous antioxidants and myocyte injury marker enzymes and inhibited lipid peroxidation as well as reducing the levels of proinflammatory cytokines. TMQ pretreatment also reduced myonecrosis, edema, and infiltration of inflammatory cells and showed preservation of cardiomyocytes histoarchitecture. The present study results demonstrate that TMQ exerts cardioprotective effect by mitigating oxidative stress, augmenting endogenous antioxidants, and maintaining structural integrity. The results of the present study indicate that TMQ may serve as an excellent agent alone or as adjuvant to prevent the onset and progression of myocardial injury.

76: Pahwa S, Bhalla AS, Roychaudhary A, Bhutia O. Multidetector computed tomography of temporomandibular joint: A road less travelled. World J Clin Cases. 2015 May 16;3(5):442-9. doi: 10.12998/wjcc.v3.i5.442. Review. PubMed PMID: 25984518; PubMed Central PMCID: PMC4419107.

This article reviews the imaging anatomy of temporomandibular joint (TMJ), describes the technique of multi-detector computed tomography (MDCT) of the TMJ, and describes in detail various osseous pathologic afflictions affecting the joint. Traumatic injuries affecting the mandibular condyle are most common, followed by joint ankylosis as a sequel to arthritis. The congenital anomalies are less frequent, hemifacial microsomia being the most commonly encountered anomaly involving the TMJ. Neoplastic afflictions of TMJ are distinctly uncommon, osteochondroma being one of the most common lesions. MDCT enables comprehensive evaluation of osseous afflictions of TMJ, and is a valuable tool for surgical planning. Sagittal, coronal and 3D reformatted images well depict osseous TMJ lesions, and their relationship to adjacent structures.

77: Patil B, Sinha G, Nayak B, Sharma R, Kumari S, Dada T. Bilateral Sturge-Weber and Phakomatosis Pigmentovascularis with Glaucoma, an Overlap Syndrome. Case Rep Ophthalmol Med. 2015;2015:106932. doi: 10.1155/2015/106932. Epub 2015 May 6. PubMed PMID: 26064732; PubMed Central PMCID: PMC4438166.

Aim. To report a case of bilateral Sturge-Weber and Phakomatosis pigmentovascularis with secondary glaucoma in a child. Method.CASE REPORT: Results. A 4-year-old male child was referred to us for control of intraocular pressure (IOP). Sleeping IOP was 36 mm Hg in right eye and 28 mm Hg in the left eye. The sclera of both the eyes showed bluish black pigmentation-melanosis bulbi. Fundus examination of both eyes showed diffuse choroidal hemangiomas with glaucomatous cupping. Nevus flammeus was present on both sides of face along all the 3 divisions of trigeminal nerve with overlying hypertrophy of skin and on left forearm. Nevus fuscocaeruleus was present on upper trunk. All skin lesions were present since birth and were stationary in nature. CT scan of head revealed left-sided cerebral atrophy. Intraocular pressure was controlled after treatment with topical antiglaucoma medications. Pulsed Dye Laser has been advised by dermatologist for skin lesions. Patient has been advised for regular follow-up. Conclusion. The two overlapping dermatological disorders and their association with glaucoma are a rare entity. Management should be targeted both for dermatological and eye conditions.

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

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

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

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

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

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

80: Paul SB, Shalimar, Sreenivas V, Gamanagatti SR, Sharma H, Dhamija E, Acharya SK. Incidence and risk factors of hepatocellular carcinoma in patients with hepatic venous outflow tract obstruction. Aliment Pharmacol Ther. 2015 May;41(10):961-71. doi: 10.1111/apt.13173. Epub 2015 Mar 23. PubMed PMID: 25809735.

BACKGROUND: Frequency of hepatocellular carcinoma (HCC) in hepatic venous outflow tract obstruction (HVOTO) is unclear and risk factors in HVOTO associated with HCC are unknown.
AIM: To assess the incidence of HCC and to identify risk factors for HCC in primary HVOTO.

METHODS: In the consecutive primary HVOTO patients evaluated between 1989 to 2013, the incidence of HCC among HVOTO was assessed in a retrospective cohort study and identification of the risk factors for HCC in HVOTO patients done by a case-control study.

RESULTS: Of the 421 HVOTO patients, 8 had HCC at presentation (prevalence 1.9%). Another 8 of the remaining 413 developed HCC during 2076.2 person-years follow-up (mean 5.03 + 4.65 years, range 0.08-20 years). The cumulative incidence of HCC was 3.5% (95% CI 1.28-9.2%) at 10 years. The case-control study included 16 HCC as cases and remaining 405 as controls. Controls were predominantly males (M:F - 230:175), mean age 29 ± 10.3 years. Cases were predominantly females with an older age of 36.2 ± 11.4 years ($P < 0.01$, OR = 1.06, CI 1.0-1.10%). Presence of cirrhosis ($P < 0.001$), combined inferior vena cava (IVC) and hepatic vein (HV) block ($P < 0.03$, OR = 5.58, CI 1.43-25.30%) and long-segment IVC block ($P < 0.02$, OR = 6.50, CI 1.32-32.0%) were significantly higher among cases than controls.

CONCLUSIONS: Hepatic venous outflow tract obstruction is a risk factor for HCC. The cumulative incidence of HCC in HVOTO is low and progressively increases over time. Those with liver cirrhosis, combined IVC and HV block and long-segment IVC block are at risk to develop HCC and need active surveillance.

81: Priyadarshini P, Aggarwal S, Guleria S, Sharma S, Gulati GS. Short-term effects of renal transplantation on coronary artery calcification: A prospective study. Saudi J Kidney Dis Transpl. 2015 May-Jun;26(3):536-43. doi: 10.4103/1319-2442.157359. PubMed PMID: 26022024.

Cardiovascular disease is a leading cause of mortality in renal transplant recipients. Coronary artery calcification (CAC) has been found to have good correlation with atherosclerosis and cardiovascular morbidity. The objective of our study was to assess the prevalence of CAC and the long-term effects of renal transplantation on CAC and carotid intima-medial thickness (CIMT) in Indian renal transplant recipients. Twenty-eight renal transplant recipients were included in this prospective study. Dual-source computed tomography and calcium scoring using Agatston's method and CIMT measurement were performed at the time of transplant and then repeated at six and 12 months after transplantation. The prevalence of CAC in our study patients was low (32%), probably because they were young, had been on dialysis for a short duration and had undergone live-related renal transplant. An overall improvement in biochemical parameters was observed after transplantation. Patients with zero baseline calcium score did not show progression. Patients with baseline calcium score more than zero showed initial progression at 6 months and no further progression afterwards. There was good correlation between CIMT and CAC score. Our study suggests that renal transplantation does not reverse the calcification but appears to decrease the rate of progression in the long term.

82: Raheja A, Suri A, Singh S, Kumar R, Kumar R, Nambirajan A, Sharma MC. Multimodality management of a giant skull base hemangioendothelioma of the sphenopetroclival region. J Clin Neurosci. 2015 Sep;22(9):1495-8. doi: 10.1016/j.jocn.2015.03.014. Epub 2015 May 16. PubMed PMID: 25986183.

A 20-year-old man presented with proptosis, nasal obstruction, vision loss and cavernous sinus syndrome, ongoing for 6years. Imaging and biopsy confirmed a middle skull base epithelioid hemangioendothelioma arising from the left sphenopetroclival region with infratemporal fossa and intracranial-intradural extension into the left temporal lobe. Preoperative embolization of the left internal maxillary artery followed by a combined neurosurgical (front-temporal orbito-zygomatic craniotomy) and otorhinolaryngology (maxillary swing) approach was performed for tumor debulking. Postoperative radiotherapy and maintenance interferon chemotherapy was given to achieve a favorable outcome at 6months follow-up. We describe the pertinent clinical, genetic, radiological and histopathological features, along with the available therapeutic modalities for a primary giant skull base hemangioendothelioma.

83: Ranjan P, Chakrawarty A, Kumari A, Kumar J. Immunization in Patients with Rheumatic Diseases: A Practical Guide for General Practitioners. J Clin Diagn Res. 2015 May;9(5):OE01-4. doi: 10.7860/JCDR/2015/14147.5972. Epub 2015 May 1. Review. PubMed PMID: 26155514; PubMed Central PMCID: PMC4484106.

Patients with rheumatic diseases are susceptible to various infections throughout the course of the disease. The increased risk of infections can be attributed partly to the aberrant immune system and partly to the effect of immunosuppressive drugs used in the treatment of the disease. Immunization appears to be an excellent strategy to prevent infections in such patients. However, the effect of vaccines in these patients is modified due to disease per se and/or immunosuppressive drugs. Biological agents, that frequently increase the susceptibility to infections, are now being initiated earlier in the course of the disease and also for new indications. Thus, concerns regarding safety, efficacy and potential adverse effects of vaccines in these patients are more complex than in any other immunosuppressive conditions. Different patients show different amount of immunosuppression in response to disease modifying drugs. Besides, there is lack of adequately powered randomised controlled trials investigating the efficacy of a vaccine in terms of actual prevention of the disease. Pneumococcal and influenza vaccines are the most studied vaccines and they are strongly recommended in rheumatic patients. In general, live vaccines should be avoided among patients receiving high doses of immunosuppressive drugs. However, they may be given to patients receiving low dose steroids and methotrexate. Non-live vaccines may be administered as per the recommendations of national guidelines. There is necessity to increase awareness among patients and doctors towards promoting the appropriate and judicious use of vaccines in the patients with rheumatic diseases.

84: Roychoudhury S, Nagori SA, Roychoudhury A. Neurosensory disturbance after bilateral sagittal split osteotomy: A retrospective study. J Oral Biol Craniofac Res. 2015 May-Aug;5(2):65-8. doi: 10.1016/j.jobcr.2015.04.006. Epub 2015 Jun 30. PubMed PMID: 26258016; PubMed Central PMCID: PMC4523587.

AIM: To retrospectively evaluate neurosensory disturbance (NSD) after bilateral sagittal split osteotomy (BSSO).
MATERIAL AND METHODS: A retrospective review was carried out to assess inferior alveolar nerve function in patients treated by BSSO from 2010 to 2013. All patients included in the study were assessed using objective (cotton swabs and pin prick testing) and subjective testing (questionnaire) for inferior alveolar nerve function after a minimum of 1 year of follow-up. Medical records of the patients were used to assess the incidence of NSD in the immediate post-operative period.

RESULTS: 15 patients (30 sides) had undergone BSSO during the specified time period. On subjective testing, NSD was reported in 22 operated sides (73.3%) in the immediate post-operative period, while 4 operated sides (13.3%) reported persistent NSD. On objective testing, immediate post-operative NSD was seen in 20 operated sides (66.7%). After a minimum of 1 year follow-up, recovery was seen in 18 operated sides while persistent NSD was seen in 2 operated sides (6.7%).

CONCLUSION: NSD of the inferior alveolar nerve is a common complication after BSSO in the immediate post-operative period. However in a long term, nerve function usually recovers.

85: Sankar J, Sankar MJ. The authors reply. Pediatr Crit Care Med. 2015 May;16(4):390. doi: 10.1097/PCC.0000000000000392. PubMed PMID: 25946270.

86: Sarkar S, Bera S. Adaptation difficulties among immigrants. Int J Soc Psychiatry. 2015 May;61(3):304. doi: 10.1177/0020764014565676. PubMed PMID: 25907545.

87: Sharma A, Bhakuni T, Ranjan R, Kumar R, Kishor K, Kamal VK, Mahapatra M, Jairajpuri MA, Saxena R. Polymorphisms in factor V and antithrombin III gene in recurrent pregnancy loss: a case-control study in Indian population. J Thromb Thrombolysis. 2015 May;39(4):481-8. doi: 10.1007/s11239-015-1186-6. PubMed PMID: 25771983.

Recurrent pregnancy loss (RPL) can be caused due to diverse factors with thrombophilia being one of them. The association of various thrombophilic risk factors with RPL is inconsistent in different studies and the frequency of these risk factors in Indian population is obscure. Five hundred and eighty patients with either recurrent early miscarriage or a history of at least one late miscarriage were screened for deficiency of protein C (PC), protein S (PS), antithrombin III (AT), APC resistance and prothrombin 20210G > A mutation. APC resistance positive patients were typed for the factor V Leiden, factor V Hong Kong/Cambridge mutations, and HR2 haplotype. PstI and rs2227589 AT mutations were detected by direct sequencing. APC resistance (13.4 %) was detected to be most common in Indian RPL patients followed by PS (10.6 %), PC (9.8 %) and AT deficiency (4.31 %.). FV Leiden was shown to be associated with APC resistance while HR2 haplotype was not associated with APC resistance (p values: 0.0001 and 0.327 respectively) and the increased risk of RPL. PstI and rs2227589 polymorphisms were similar in patients and controls and not associated with AT deficiency in RPL. Our study emphasizes the presence of other contributory factors towards APC resistance rather than FV Leiden alone. This is the first Indian study where HR2 haplotype and rs2227589 are observed to be present in RPL population. Although not significant, occurrence of rs2227589 and FV HR2 in homozygous condition necessitates the study of these polymorphisms in a larger sample size.

88: Sharma H, Verma AK, Das P, Gupta SD, Ahuja V, Makharia GK. Prevalence of celiac disease in Indian patients with irritable bowel syndrome and uninvestigated dyspepsia. J Dig Dis. 2015 May 8. doi: 10.1111/1751-2980.12260. [Epub ahead of print] PubMed PMID: 25959064.

AIM: The clinical spectrum of celiac disease (CeD) is wide and its symptoms overlap with that of functional bowel diseases. There is a lack of data from Asia on the relationship among gluten related disorders, irritable bowel syndrome (IBS) and dyspepsia.

PATIENTS AND METHODS: Patients with IBS and uninvestigated dyspepsia (using Rome III criteria) were screened for CeD using antibodies to IgA anti-tissue transglutaminase [anti-tTG ab] and IgA anti-gliadin [IgA AGA], both in duplicates. Those having a positive anti-tTG ab were evaluated for presence of

villous abnormalities. Patients having only IgA AGA positive were considered to have "gluten sensitivity" and those having a positive anti-tTG ab and villous atrophy were considered to have CeD. The estimated sample size was 362 patients with IBS and 358 with dyspepsia.

RESULT: Of 362 patients with IBS, 22 (6.1%) had positive anti-tTG Ab, of them 3 (0.8%) had CeD and 19 had potential CeD. Of 358 patients with uninvestigated dyspepsia , 18 (5%) were anti-tTG Ab positive and of that 4 (1.1%) had CeD and 14 had potential CeD. AGA was positive in 104 (28.7%) and 68 (19%) patients with IBS and uninvestigated dyspepsia, suggesting presence of gluten sensitivity in them.

CONCLUSION: While 6.1% and 5% of patients with IBS and uninvestigated dyspepsia were anti-tTG Ab positive, only 0.8% and 1.1% of of them, respectively had CeD. A much higher proportion of both IBS and uninvestigated dyspepsia had gluten sensitivity. This study highlights relationship between IBS and dyspepsia and CeD and gluten sensitivity.

89: Sharma N, Sinha G, Shekhar H, Titiyal JS, Agarwal T, Chawla B, Tandon R, Vajpayee RB. Demographic profile, clinical features and outcome of peripheral ulcerative keratitis: a prospective study. Br J Ophthalmol. 2015 May 2. pii: bjophthalmol-2014-306008. doi: 10.1136/bjophthalmol-2014-306008. [Epub ahead of print] PubMed PMID: 25935428.

PURPOSE: To evaluate aetiology, demographic profile, clinical features and outcomes in cases of peripheral ulcerative keratitis (PUK).
METHODS: Seventy-six eyes of 65 consecutive patients with PUK were evaluated in this prospective interventional study over an 18 month period, which were followed for 3 years. The main outcome measures were sociodemographic profile, aetiology, clinical features, management strategies and outcome.

RESULTS: Sixty per cent (39/65) of cases were men and mean age was 45.5±17.9 years. Two-thirds (43/65) of the patients were from rural areas with majority (48/65) belonging to low socioeconomic status. Unilateral disease was present in 83% of patients (54/65) with nasal involvement in 60.5% (46/76) cases. The most common aetiology was Mooren's ulcer (31.5% cases (24/76 eyes)) followed by infection and systemic collagen vascular disease. Meibomian gland dysfunction (17/76: 22.3%) was the most common extraocular association and complicated cataract (12/76:15.7%) was the most common intraocular abnormality. In mild and moderate cases, no significant visual improvement was observed (p=0.085 and p=0.156) as compared with the pretreatment status. Surgical treatment was successful in maintaining anatomical integrity in 83.3% (30/36) eyes. Recurrence of the disease was seen in one eye in moderate disease and three eyes in severe disease.

CONCLUSIONS: Mooren's ulcer followed by collagen vascular diseases and infection are important causes of PUK in developing countries. Surgical intervention in perforated cases had good anatomical success and visual prognosis.

90: Sharma N, Lathi SS, Sehra SV, Agarwal T, Sinha R, Titiyal JS, Velpandian T, Tandon R, Vajpayee RB. Comparison of umbilical cord serum and amniotic membrane transplantation in acute ocular chemical burns. Br J Ophthalmol. 2015 May;99(5):669-73. doi: 10.1136/bjophthalmol-2014-305760. Epub 2014 Nov 4. PubMed PMID: 25370084.

PURPOSE: To compare the efficacy of umbilical cord serum (UCS) with amniotic membrane transplantation (AMT) in cases of acute ocular chemical burns.
METHODS: In a retrospective, interventional, comparative case series, 55 eyes with grades III, IV and V chemical burns (Dua's classification) who presented within 3 weeks of injury were evaluated. Patients were treated with conventional medical (CM group, 20 eyes) management alone or combined with either UCS (UCS group, 17 eyes) or AMT (AMT group, 18 eyes). The parameters evaluated were time to epithelialisation, epithelial defect diameter, epithelial defect area, corneal clarity, tear break-up time (TBUT), Schirmer test and best-corrected vision.

RESULTS: UCS and AMT groups showed early epithelialisation as compared with the CM group (Kaplan-Meier analysis=0.01). Mean time for healing of epithelial defect was 57.7±29.3, 27.4±19.0, 41.1±28.9 days in the CM, UCS and AMT groups, respectively (p=0.02). Mean TBUT at the last follow-up was 8.6±0.7, 10.3±1.1, 9.4±1.2 s in the CM, UCS and AMT groups, respectively (p=0.02). The mean Schirmer value at the last follow-up was 13.7±1.0, 16.9±3.0 and 13.2±1.5 mm in the CM, UCS and AMT groups, respectively (p=0.01). The visual outcomes and the occurrence of corneal vascularisation, symblepheron, ectropion and entropion were comparable in between the groups.

CONCLUSIONS: Our study suggests that the UCS therapy may be a better alternative to AMT in acute moderate to severe (grades III, IV and V) ocular chemical burns, as it avoids surgical manoeuvre in already inflamed eyes.

91: Sharma S, Arif M, Nirala RK, Gupta R, Thakur SC. Cumulative therapeutic effects of phytochemicals in Arnica montana flower extract alleviated collagen-induced arthritis: inhibition of both pro-inflammatory mediators and oxidative stress. J Sci Food Agric. 2015 May 12. doi: 10.1002/jsfa.7252. [Epub ahead of print] PubMed PMID: 25966322.

BACKGROUND: The plant Arnica montana is used in folk medicine to alleviate pain, inflammation and swelling of muscles and joints associated with rheumatoid arthritis and other inflammatory conditions. The present study aimed to investigate the therapeutic effects and mechanism of action of A. montana flower methanol extract (AMME) against both inflammation and oxidative stress in a collagen-induced arthritis (CIA) rat model.

RESULTS: Oral administration of AMME was found to reduce clinical signs and improve the histological and radiological status of the hind limb joints. AMME-treated rats had lower expression levels of nitric oxide, tumor necrosis factor-α, interleukins (IL-1β, IL-6 and IL-12) and titer of anti-type II collagen antibody compared with untreated CIA rats. Furthermore, by inhibiting these mediators, AMME also contributed towards the reversal of disturbed antioxidant levels and peroxidative damage.

CONCLUSION: The alleviation of arthritis in rats was very likely due to the combined action of phenolic and flavonoid compounds, the major constituents identified by gas chromatography/mass spectrometry (GC/MS) analysis. The study also shed some light on mechanisms involved in diminution of inflammatory mediators and free radical-generating toxicants and enhancement of the antioxidant armory, thereby preventing further tissue damage, injury and synovial hyperproliferation in arthritis. © 2015 Society of Chemical Industry.

92: Sharma SK, Nehra A, Sinha S, Soneja M, Sunesh K, Sreenivas V, Vedita D. Sleep disorders in pregnancy and their association with pregnancy outcomes: a prospective observational study. Sleep Breath. 2015 May 10. [Epub ahead of print] PubMed PMID: 25957617.

PURPOSE: Sleep disturbances such as insomnia, nocturnal awakenings, restless legs syndrome, habitual snoring, and excessive daytime sleepiness are frequent during pregnancy, and these have been linked to adverse maternal and fetal outcomes.

METHODS: A prospective observational study was performed in high-risk Indian pregnant women. We used modified Berlin questionnaire (MBQ), Pittsburgh sleep quality index (PSQI), International Restless Legs Syndrome Study Group 2011 criteria, and Epworth sleepiness scale to diagnose various sleep disorders, such as symptomatic OSA, poor sleep quality and insomnia, RLS, and excessive daytime sleepiness, respectively, in successive trimesters of pregnancy. Outcome variables of interest were development of gestational hypertension (GH), gestational diabetes mellitus (GDM), and cesarean delivery (CS); the Apgar scores; and low birth weight (LBW). The relationship between sleep disorders and outcomes was explored using logistic regression analysis.

RESULTS: Outcome data were obtained in 209 deliveries. As compared to nonsnorers, women who reported snoring once, twice, and thrice or more had odds ratios for developing GH-4.0 (95 % CI 1.3-11.9), 1.5 (95 % CI 0.5-4.5), and 2.9 (95 % CI 1.0-8.2) and for undergoing CS-5.3 (95 % CI 1.7-16.3), 4.9 (95 % CI 1.8-13.1), and 5.1 (95 % CI 1.9-14.9), respectively. Pregnant women who were persistently positive on MBQ had increased odds for GH and CS.

CONCLUSIONS: Snoring and high-risk MBQ in pregnant women are strong risk factors for GH and CS. In view of the significant morbidity and health care costs, simple screening of pregnant women with questionnaires such as MBQ may have clinical utility.

93: Sihota R, Angmo D, Chandra A, Gupta V, Sharma A, Pandey RM. Evaluating the long-term efficacy of short-duration 0.1 mg/ml and 0.2 mg/ml MMC in primary trabeculectomy for primary adult glaucoma. Graefes Arch Clin Exp Ophthalmol. 2015 Jul;253(7):1153-9. doi: 10.1007/s00417-015-3028-9. Epub 2015 May 5. PubMed PMID: 25940554.

OBJECTIVE: To evaluate safety and efficacy of 0.1 mg/ml versus 0.2 mg/ml mitomycin-C (MMC), applied for 1 min subconjunctivally, during trabeculectomy for primary adult glaucoma in previously un-operated eyes.

MATERIALS AND METHODS: This is a randomised controlled, non-inferior, clinical trial consisting of 50 consecutive POAG or CPACG patients uncontrolled on maximal hypotensive therapy, meeting all inclusion criteria. Patients were randomized into two groups and underwent a standard limbus-based trabeculectomy with MMC: Group I, 0.1 mg/ml and Group II, 0.2 mg/ml. The pre-operative and post-operative intraocular pressure (IOP), bleb morphology, and visual acuity were recorded every 6 months for 2 years. Complete success (primary outcome) was defined as IOP$\leq$15 mmHg without any additional medications at the end of 2 years.

RESULTS: The average age of patients was 62.6$\pm$9.8 years and 61.2$\pm$8.1 years in Group 1 and 2, respectively; $p=0.57$. The mean preoperative IOP was 22.5$\pm$1.4 mmHg and 23.3$\pm$1.8 mmHg; $p=0.10$. The mean IOP at 2 years was 11.1$\pm$1.6 mmHg and 10.8$\pm$2.8 mmHg, a mean reduction in IOP of 50.6$\pm$1.23 %, and 53.7$\pm$2.25 % in Group I and II, respectively. The complete success was 92.0 % and 91.7 % in the two groups, respectively ($p=0.99$), and there was one failure (Group II, post trauma). A wider bleb extent and larger areas of thin, transparent conjunctiva over the bleb were seen with the 0.2 mg/ml MMC group ($p<0.001$) and in PACG eyes; $p<0.04$.

CONCLUSION: A 1-min subconjunctival application of low dose 0.1 mg/ml MMC is non-inferior to 0.2 mg/ml and is probably a safer alternative, as thinning of the bleb is significantly less frequent in the long term.

94: Singh HN, Rajeswari MR. 21 Do large purine repeat sequences play a role in transcriptional regulation of genes associated with neurological disorders? J Biomol Struct Dyn. 2015 May;33 Suppl 1:12. doi: 10.1080/07391102.2015.1032561. PubMed PMID: 26103233.

95: Singh L, Pushker N, Sen S, Singh MK, Chauhan FA, Kashyap S. Prognostic significance of polo-like kinases in retinoblastoma: correlation with patient outcome, clinical and histopathological parameters. Clin Experiment Ophthalmol. 2015 Aug;43(6):550-7. doi: 10.1111/ceo.12517. Epub 2015 May 13. PubMed PMID: 25754767.

BACKGROUND: Retinoblastoma is evolving, but it is still a therapeutic challenge for pediatric oncologists. Polo-like kinases (PLKs) plays an important role in cell cycle events. They play a crucial role in cell proliferation which may lead to tumour formation. The objective of this study is to investigate the role of PLK1 and PLK3 proteins in human retinoblastoma tissues.
DESIGN: Non-randomized, prospective study was performed in the Dr R. P. Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India.

PARTICIPANTS: This study included 74 primary enucleated retinoblastoma tissues.
METHODS: Expression of PLK1 and PLK3 protein were assessed in primary enucleated retinoblastoma tissues by immunohistochemistry and western blotting.
MAIN OUTCOME MEASURES: Expression of PLK1 and PLK3 protein were correlated with clinical and histopathological parameters, tumour staging and overall survival of patients.

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

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

96: Singh N, Kriplani A, Mahey R, Kachhawa G. Management of narrow introitus with Fenton's operation followed by successful pregnancy in a woman with repaired bladder exstrophy. J Obstet Gynaecol. 2015 May;35(4):426. doi: 10.3109/01443615.2014.954531. Epub 2014 Sep 4. PubMed PMID: 25188695.

97: Singhal A, Bhatia R, Srivastava MV, Prasad K, Singh MB. Multiple sclerosis in India: An institutional study. Mult Scler Relat Disord. 2015 May;4(3):250-7. doi: 10.1016/j.msard.2015.03.002. Epub 2015 Mar 17. PubMed PMID: 26008942.

BACKGROUND: Few population based studies on multiple sclerosis have been published from India. There is an increasing demand to establish a nationwide MS registry in India especially in view of the percieved increased incidence and

prevalence.

OBJECTIVES: To create a registry data base for all MS patients presenting at our institute and understand the disease characteristics in our population and compare them with the published reports from the west.
METHODS: MS was diagnosed on the basis of clinical and imaging features (Revised McDonald's criteria 2010). Demographics, clinical data, treatment details and disease behavior were recorded over a follow up of one year. Descriptive analyses was performed.

RESULTS: 101 patients (61 females) were recruited in the study period from June 2011 to December 2012. Mean age of the patients at the time of presentation was 33.3±9.2 years and mean duration of illness was 5.98±4.95. 68.4% patients had RRMS, 16.8% had SPMS whereas 14.8% patients had PPMS. Site(s) involved in first relapse was spinal cord in 43.7% patients followed by brainstem 25.3% and optic nerve in 24.1% patients. Mean number of relapses were 3.26±2.026. Mean EDSS at the time of presentation was 3.20±2.11. Overall, 55.44% patients took DMT at some point during their course of disease. No significant differences were observed between our patient characteristics when compared to publications from west.

CONCLUSION: Demographic data in the present study are comparable to those reported in population-based epidemiological studies from west. A nationwide registry network will help establish stronger data on incidence, prevalence and disease profile of MS in India.

98: Singla A, Malhotra R, Kumar V, Lekha C, Karthikeyan G, Malik V. A Randomized Controlled Study to Compare the Total and Hidden Blood Loss in Computer-Assisted Surgery and Conventional Surgical Technique of Total Knee Replacement. Clin Orthop Surg. 2015 Jun;7(2):211-6. doi: 10.4055/cios.2015.7.2.211. Epub 2015 May 18. PubMed PMID: 26217468; PubMed Central PMCID: PMC4515462.

BACKGROUND: Total knee arthroplasty (TKA) is associated with considerable blood loss. Computer-assisted surgery (CAS) is different from conventional TKA as it avoids opening the intramedullary canal. Hence, CAS should be associated with less blood loss.

METHODS: Fifty-seven patients were randomized into two groups of CAS and conventional TKA. In conventional group intramedullary femoral and extramedullary tibial jigs were used whereas in CAS group imageless navigation system was used. All surgeries were done under tourniquet. Total and hidden blood loss was calculated in both groups and compared.

RESULTS: The mean total blood loss was 980 mL in conventional group and 970 mL in CAS group with median of 1,067 mL (range, 59 to 1,791 mL) in conventional group and 863 mL (range, 111 to 2,032 mL) in CAS group. There was no significant difference in total blood loss between the two groups ($p = 0.811$). We have found significant hidden blood loss in both techniques, which is 54.8% of the total loss in the conventional technique and 59.5% in the computer-assisted navigation technique.

CONCLUSIONS: There is no significant difference in total and hidden blood loss in the TKA in CAS and conventional TKA. However, there is significant hidden blood loss in both techniques. There was no relation of tourniquet time with blood loss.

99: Singla M, Goel P, Ansari MS, Ravi KS, Khare S. Morphometric Analysis of Axis and Its Clinical Significance -An Anatomical Study of Indian Human Axis Vertebrae. J Clin Diagn Res. 2015 May;9(5):AC04-9. doi: 10.7860/JCDR/2015/13118.5931. Epub 2015 May 1. PubMed PMID: 26155467; PubMed Central PMCID: PMC4484059.

BACKGROUND: The atlas and axis vertebra have unique shape and complex relationship with vertebral artery. Fracture of dens of axis accounts for 7-27% of all cervical spine fractures, but surgeries in these regions are highly risky because of the reported incidences of vertebral artery injury.
AIM AND OBJECTIVES: The study was designed to measure morphometric data of human axis vertebra, of Indian origin. The different anatomical parameters on dry specimen of human axis vertebrae were established and the results were compared with other studies.

MATERIALS AND METHODS: Thirty intact human axis vertebrae were measured with digital vernier caliper and mini-inclinometer. Various linear and angular parameters of axis were observed.

RESULTS: The mean distance from the midline of body to the tip of transverse process of axis was 29.32 mm on right side and 29.06mm on left side. The mean distance from the midline of body to the lateral most edge of superior articulating facet was 22.8 mm on right side and 22.6 mm on left side. The mean value of anterior and posterior height of axis was 34.33±2.69mm and 30.56±2.78mm respectively. The anterior and posterior height of body of axis was 19.67 mm and 16.67mm respectively. Mean A-P and transverse diameter of inferior surface of axis was 15.42mm and 17.7mm respectively. Mean transverse diameter and mean A-P diameter of odontoid process was 9.32 mm and 10.1 mm respectively. Mean anterior and posterior height of the odontoid process was 14.66 mm and 13.89mm respectively. Mean of dens axis sagittal angle (angle between an axis that was imagined to pass longitudinally through the dens axis and the vertical line on a sagittal plane) was 13.23 degree. The shape of superior articulating facets of C2 varies from oval to circular. In the present study, 84% of SAF were oval and 16% were circular. Inferior articulating facets were circular in shape in 90% cases, and oval in 10% vertebra. Mean pedicle width was 10.07mm on right side and 10.52mm on left side. Mean transverse diameter of vertebral canal was 22.37±1.73mm. Mean of A-P diameter of vertebral canal at inlet was 18.31±2.05mm and mean of A-P diameter of vertebral canal at outlet was 14.84±1.63mm.

CONCLUSION: These results obtained from this study may be helpful for the surgeons in avoiding and minimizing complications such as vertebral artery injury, cranial nerve damage and injury to other vital structures while doing surgery around cranio-vertebral region.

100: Sokhal N, Rath GP, Chaturvedi A, Dash HH, Bithal PK, Chandra PS. Anaesthesia for awake craniotomy: A retrospective study of 54 cases. Indian J Anaesth. 2015 May;59(5):300-5. doi: 10.4103/0019-5049.156878. PubMed PMID: 26019355; PubMed Central PMCID: PMC4445152.

BACKGROUND AND AIMS: The anaesthetic challenge of awake craniotomy is to maintain adequate sedation, analgesia, respiratory and haemodynamic stability in an awake patient who should be able to co-operate during intraoperative neurological assessment. The current literature, sharing the experience on awake craniotomy, in Indian context, is minimal. Hence, we carried out a retrospective study with the aim to review and analyse the anaesthetic management and perioperative complications in patients undergoing awake craniotomy, at our centre.

METHODS: Medical records of 54 patients who underwent awake craniotomy for intracranial lesions over a period of 10 years were reviewed, retrospectively. Data regarding anaesthetic management, intraoperative complications and post-operative course were recorded.

RESULTS: Propofol (81.5%) and dexmedetomidine (18.5%) were the main agents used for providing conscious sedation to facilitate awake craniotomy. Hypertension (16.7%) was the most commonly encountered complication during intraoperative period, followed by seizures (9.3%), desaturation (7.4%), tight brain (7.4%), and shivering (5.6%). The procedure had to be converted to general anaesthesia in one of patients owing to refractory brain bulge. The incidence of respiratory and

haemodynamic complications were comparable in the both groups (P > 0.05). There was less incidence of intraoperative seizures in patients who received propofol (P = 0.03). In post-operative period, 20% of patients developed new motor deficit. Mean intensive care unit stay was 2.8 ± 1.9 day (1-14 days) and mean hospital stay was 7.0 ± 5.0 day (3-30 days).

CONCLUSIONS: 'Conscious sedation' was the technique of choice for awake craniotomy, at our institute. Fentanyl, propofol, and dexmedetomidine were the main agents used for this purpose. Patients receiving propofol had less incidence of intraoperative seizure. Appropriate selection of patients, understanding the procedure of surgery, and judicious use of sedatives or anaesthetic agents are key to the success for awake craniotomy as a procedure.

101: Srivastava S, Kedia S, Kumar S, Pratap Mouli V, Dhingra R, Sachdev V, Tiwari V, Kurrey L, Pradhan R, Ahuja V. Serum Human Trefoil Factor 3 is a Biomarker for Mucosal Healing in Ulcerative Colitis Patients with Minimal Disease Activity. J Crohns Colitis. 2015 Jul;9(7):575-9. doi: 10.1093/ecco-jcc/jjv075. Epub 2015 May 10. PubMed PMID: 25964429.

BACKGROUND: The goals of treating ulcerative colitis (UC) have shifted from clinical remission to mucosal healing. Non-invasive biomarkers are required to assess mucosal healing as endoscopic assessment is inconvenient for patients. Enhanced expression of trefoil factor 3 (TFF3, a mucin-associated peptide) is observed after injury of the gastrointestinal tract. The present study was designed to evaluate TFF3 as a biomarker of mucosal healing in patients with UC.

METHODS: This cross-sectional study included consecutive patients with UC (18-65 years old, disease duration >3 months, either left-sided colitis or pancolitis) who had a Simple Clinical Colitis Activity Index (SCCAI) <6. Colonoscopy was done to assess the presence or absence of mucosal healing (defined using the Baron score) in all patients. Serum level of TFF3 was assessed in all patients and 20 healthy controls.

RESULTS: Seventy-four patients were included [mean age 37.2±10.9 years, 47 males, median disease duration 4.8 years (IQR 3-8.3), median SCCAI = 0] in the study. Forty-three patients had mucosal healing (Baron score 0 or 1) and 31 did not (Baron score 2 or 3). Median TFF3 level in patients without mucosal healing was significantly higher than that in patients with mucosal healing [1.5 (IQR 1.2-1.9) vs 1.1 (IQR 0.8-1.3) ng/ml, p = 0.01] and healthy controls [0.85 (IQR 0.7-1.2) ng/ml, p < 0.001]. A serum TFF3 level of <1.27 ng/ml (as determined by the receiver operating characteristic curve; area under the curve 0.73) had sensitivity, specificity, positive predictive value and negative predictive value of 70, 68, 75 and 62%, respectively, for identifying patients with mucosal healing.

CONCLUSION: Serum TFF3 can potentially be used as a biomarker to assess mucosal healing in UC patients.

102: Talwar S, Patel K, Juneja R, Choudhary SK, Airan B. Early postoperative arrhythmias after pediatric cardiac surgery. Asian Cardiovasc Thorac Ann. 2015 Sep;23(7):795-801. doi: 10.1177/0218492315585457. Epub 2015 May 12. PubMed PMID: 25972292.

BACKGROUND: This prospective study proposed to determine the incidence, risk factors, and management protocols for early postoperative arrhythmias after pediatric cardiac surgery, with focus on outcomes, using a uniform protocol, and also to see if children operated on at a later age have different issues from those operated on earlier.

METHODS: Of 224 consecutive pediatric patients undergoing cardiac surgery from September 2013 to July 2014, 24 were excluded because their procedures were performed without cardiopulmonary bypass.

RESULTS: The median age was 24 months (mean 50.1±62.4 months, range 0.5-216 months). Fifteen (7.5%) patients developed arrhythmia, the most common was junctional ectopic tachycardia (n=7, 46.6%) followed by supraventricular tachycardia (n=5, 33.3%). All junctional ectopic tachycardias occurred within 24h of intensive care unit admission. Of the 7 patients with junctional ectopic tachycardia, 5 responded to conventional measures and 2 required amiodarone infusion. There was a significant longer cardiopulmonary bypass time in patients with arrhythmias compared to those without arrhythmias.

CONCLUSION: We observed a very low incidence of arrhythmias, particularly junctional ectopic tachycardia, after open heart surgery in children. Other than a longer cardiopulmonary bypass time, no specific predictors were identified. It appears that the cause of arrhythmias following pediatric cardiac surgery is multifactorial and needs further study with a greater number of patients.

103: Tandon N, Kalra S, Balhara YP, Baruah MP, Chadha M, Chandalia HB, Chowdhury S, Jothydev K, Kumar PK, V MS, Mithal A, Modi S, Pitale S, Sahay R, Shukla R, Sundaram A, Unnikrishnan AG, Wangnoo SK. Forum for Injection Technique (FIT), India: The Indian recommendations 2.0, for best practice in Insulin Injection Technique, 2015. Indian J Endocrinol Metab. 2015 May-Jun;19(3):317-31. doi: 10.4103/2230-8210.152762. Review. PubMed PMID: 25932385; PubMed Central PMCID: PMC4366768.

As injectable therapies such as human insulin, insulin analogs, and glucagon-like peptide-1 receptor agonists are used to manage diabetes, correct injection technique is vital for the achievement of glycemic control. The forum for injection technique India acknowledged this need for the first time in India and worked to develop evidence-based recommendations on insulin injection technique, to assist healthcare practitioners in their clinical practice.

104: Tarique M, Naqvi RA, Santosh KV, Kamal VK, Khanna N, Rao DN. Association of TNF-α-(308(GG)), IL-10(-819(TT)), IL-10(-1082(GG)) and IL-1R1(+1970(CC)) genotypes with the susceptibility and progression of leprosy in North Indian population. Cytokine. 2015 May;73(1):61-5. doi: 10.1016/j.cyto.2015.01.014. Epub 2015 Feb 16. PubMed PMID: 25697140.

Leprosy is an infectious disease caused by M. leprae. We analyzed 48 cytokine polymorphisms in 13 (pro as well as anti-inflammatory) cytokine genes using PCR-SSP assay in 102 leprosy patients and 120 healthy controls with intent to find out a link between cytokine polymorphisms and disease susceptibility. TNF-α (-308) GG, IL-10 (-819) TT, IL-10 (-1082) GG and IL1R (+1970) CC genotypes are found to be predominant (p=0.01, p=0.02, p=0.0001 and p=0.001, respectively) in both tuberculoid as well as lepromatous leprosy patients. This observation suggests these genotypes as play the central role(s) in the progression of disease. CBA assay demonstrates the varied serum concentration of these cytokines with respect to their genotypes. The above genotypes appeared as high producer genotypes in our study. Even in presence of high produce genotypes, TNF-α level are found to be affected/masked by the presence of IL-10 in leprosy patients. Expressional masking of TNF-α is associated with the expression of IL-10 in these patients. This is one the negative impact of SNP-SNP interaction in leprosy patients. Therefore, we can conclude that cytokine gene polymorphisms determine the predisposition to the leprosy progression.

105: Tembhre MK, Parihar AS, Sharma A, Gupta S, Chattopadhyay P, Sharma VK. Participation of T cell immunoglobulin and mucin domain-3 (TIM-3) and its ligand (galectin-9) in the pathogenesis of active generalized vitiligo. Immunol Res. 2015 May;62(1):23-34. doi: 10.1007/s12026-015-8632-6. PubMed PMID: 25784621.

Vitiligo is a depigmentary disease where melanocytes of the basal layer of epidermis are selectively destroyed by immune-cell-mediated cytotoxicity. The T cell immunoglobulin- and mucin-domain-containing molecules (TIMs) are involved in immune regulation, and their participation is not known in vitiligo. The present study revealed significant increase in the percentage of CD3+CD4+TIM3+ T cells ($P < 0.05$) in peripheral blood and was positively correlated with percentage body surface area involvement in aGV group. Further, increased expression of TIM-3 and its ligand galectin-9 (Gal-9) mRNA was found in peripheral blood and lesional/perilesional skin of active generalized vitiligo (aGV) compared with controls. Characteristic migration pattern of TIM-3-positive immune cells in lesional (near/in the epidermis) and perilesional (towards epidermis) skin section suggested that TIM-3+ immune cells may be involved in melanocyte destruction. Further, investigation is required to understand the role of TIM-3/Gal-9 signalling pathways in aGV and it can be targeted in the management of vitiligo.

106: Varshney A, Sharma S, Dey S, Gupta DK. Malignant systemic hypertension, encephalopathy and bradycardia following splenectomy for hereditary spherocytosis. BMJ Case Rep. 2015 May 24;2015. pii: bcr2014209029. doi: 10.1136/bcr-2014-209029. PubMed PMID: 26009599.

An 8-year-old girl suffering from hereditary spherocytosis underwent splenectomy for chronic severe anaemia. Surgery was uneventful and the patient had a good early postoperative recovery. On the third postoperative day, however, she developed severe headache with associated abnormal movements of upper limbs and nystagmus. She had a heart rate of 50 bpm and a blood pressure of 180/110 mm Hg. She was managed with triple antihypertensives, antiepileptics and sedatives. She recovered slowly over 2 weeks and is fine at 5 months follow-up.

107: Velpandian T, Kotnala A, Halder N, Ravi AK, Archunan V, Sihota R. Stability of latanoprost in generic formulations using controlled degradation and patient usage simulation studies. Curr Eye Res. 2015 May;40(6):561-71. doi: 10.3109/02713683.2014.939763. Epub 2014 Dec 11. PubMed PMID: 25494824.

PURPOSE: To evaluate the stability of latanoprost in generic formulations by using controlled degradation and patient usage simulation studies
METHODS: Standard latanoprost was subjected to controlled degradation studies. Latanoprost content was assessed by using MRM, and generated Degradation Products (DP) were analysed by using the Information Dependent Acquisition (IDA) protocol of positive ESI-LC-MS/MS. Latanoprost content and formation of DP were assessed in generic formulations and were compared with Xalatan(®) in a controlled patient usage simulation studies. The last few drops of latanoprost, present in containers used by patients were also evaluated.

RESULTS: Extreme pH conditions, oxidation, light and heat were found to be the significant factors for high degree of latanoprost degradation. Systematic analysis of 7 selected generics revealed that the latanoprost content varied from 90-330%. Concentration of the latanoprost in Xalatan was found to be 97% of the label claim. Degradation studies showed the formation of 3 novel and 3 already known impurities. Upon simulated patient usage, 2 of the generic formulations showed significant degradation of latanoprost. Generic formulations having thermally sealed gas tight packing showed good stability during patient usage. Overage of latanoprost was observed in generics with other than thermal sealing. Latanoprost bottles used by patients showed concentrations ranging from 20 to 250% of label claim (144% median).

CONCLUSION: This study revealed the presence of overage of latanoprost in some generic formulations and formation of degradation products. Packaging with gas tight containers may be one of the important factors for latanoprost stability, along with its storage at low temperature during patient usage.

108: Verma KK, Sethuraman G, Kalavani M. Weekly azathioprine pulse versus daily azathioprine in the treatment of Parthenium dermatitis: A non-inferiority randomized controlled study. Indian J Dermatol Venereol Leprol. 2015 May-Jun;81(3):251-6. doi: 10.4103/0378-6323.154788. PubMed PMID: 25851756.

BACKGROUND: Azathioprine in daily doses has been shown to be effective and safe in the treatment of Parthenium dermatitis. Weekly pulses of azathioprine (WAP) are also effective, but there are no reports comparing the effectiveness and safety of these two regimens in this condition.
AIMS: To study the efficacy and safety of WAP and daily azathioprine in Parthenium dermatitis.
METHODS: Sixty patients with Parthenium dermatitis were randomly assigned to treatment with azathioprine 300 mg weekly pulse or azathioprine 100 mg daily for 6 months. Patients were evaluated every month to assess the response to treatment and side effects.

RESULTS: The study included 32 patients in the weekly azathioprine group and 28 in the daily azathioprine group, of whom 25 and 22 patients respectively completed the study. Twenty-three (92%) patients on WAP and 21 (96%) on daily azathioprine had a good or excellent response. The mean pretreatment clinical severity score decreased from 26.4±14.5 to 4.7±5.1 in the WAP group, and from 36.1±18.1 to 5.7±6.0 in the daily azathioprine group, which was statistically significant and comparable (P=0.366). Patients on WAP had a higher incidence of adverse effects (P=0.02).
LIMITATIONS: The study had a small sample size and the amount of clobetasol propionate used in each patient was not determined, though it may not have affected the study outcome due to its comparable use in both groups.

CONCLUSIONS: Azathioprine 300 mg weekly pulse and 100 mg daily dose are equally effective and safe in the treatment of Parthenium dermatitis.

109: Webb G, Mulder BJ, Aboulhosn J, Daniels CJ, Elizari MA, Hong G, Horlick E, Landzberg MJ, Marelli AJ, O'Donnell CP, Oechslin EN, Pearson DD, Pieper EP, Saxena A, Schwerzmann M, Stout KK, Warnes CA, Khairy P. The care of adults with congenital heart disease across the globe: Current assessment and future perspective: A position statement from the International Society for Adult Congenital Heart Disease (ISACHD). Int J Cardiol. 2015 Sep 15;195:326-33. doi: 10.1016/j.ijcard.2015.04.230. Epub 2015 May 1. Review. PubMed PMID: 26056966.

The number of adults with congenital heart disease (CHD) has increased markedly over the past few decades as a result of astounding successes in pediatric cardiac care. Nevertheless, it is now well understood that CHD is not cured but palliated, such that life-long expert care is required to optimize outcomes. All countries in the world that experience improved survival in CHD must face new challenges inherent to the emergence of a growing and aging CHD population with changing needs and medical and psychosocial issues. Founded in 1992, the International Society for Adult Congenital Heart Disease (ISACHD) is the leading global organization of professionals dedicated to pursuing excellence in the care of adults with CHD worldwide. Recognizing the unique and varied issues involved in caring for adults with CHD, ISACHD established a task force to assess the current status of care for adults with CHD across the globe, highlight major challenges and priorities, and provide future direction. The writing committee consisted of experts from North America, South America, Europe, South Asia, East Asia, and Oceania. The committee was divided into subgroups to review key aspects of adult CHD (ACHD) care. Regional representatives were tasked with investigating and reporting on relevant local issues as accurately as possible, within the

constraints of available data. The resulting ISACHD position statement addresses changing patterns of worldwide epidemiology, models of care and organization of care, education and training, and the global research landscape in ACHD.

110: Zeeshan M, Tyagi K, Sharma YD. CD4+ T cell response correlates with naturally acquired antibodies against Plasmodium vivax tryptophan-rich antigens. Infect Immun. 2015 May;83(5):2018-29. doi: 10.1128/IAI.03095-14. Epub 2015 Mar 2. PubMed PMID: 25733522; PubMed Central PMCID: PMC4399064.

Tryptophan-rich proteins play important biological functions for the Plasmodium parasite. Plasmodium vivax contains remarkably large numbers of such proteins belonging to the "Pv-fam-a" family that need to be characterized. Earlier, we reported the presence of memory T cells and naturally acquired antibodies against 15 of these proteins in P. vivax malaria-exposed individuals (M. Zeeshan, H. Bora, and Y. D. Sharma, J Infect Dis 207:175-185, 2013, http://dx.doi.org/10.1093/infdis/jis650). Here, we sought to characterize and ascertain the cross talk between effector responses of T and B cells in malarial patients against all Pv-fam-a family proteins. Therefore, we expressed the remaining 21 of these proteins in Escherichia coli and studied the humoral and cellular immune responses based on the same parameters used in our previous study. Naturally acquired IgG antibodies were detected against all 21 antigens in P. vivax patient sera (37.7 to 94.4% seropositivity). These antigens were able to activate the lymphocytes of P. vivax-exposed individuals, and the activated CD4(+) T lymphocytes produced higher levels of Th1 (interleukin-2 [IL-2] and gamma interferon [IFN-γ]) and Th2 (IL-4 and IL-10) cytokines than the healthy controls, but the response was Th2 biased. The combined results of present and previous studies seem to suggest a striking link between induction of the CD4(+) T cell response and naturally acquired antibodies against all 36 proteins of the Pv-fam-a family, the majority of them having conserved sequences in the parasite population. Further work is required to utilize this information to develop immunotherapeutic treatments for this disease.

111: Zühlke L, Engel ME, Karthikeyan G, Rangarajan S, Mackie P, Cupido B, Mauff K, Islam S, Joachim A, Daniels R, Francis V, Ogendo S, Gitura B, Mondo C, Okello E, Lwabi P, Al-Kebsi MM, Hugo-Hamman C, Sheta SS, Haileamlak A, Daniel W, Goshu DY, Abdissa SG, Desta AG, Shasho BA, Begna DM, ElSayed A, Ibrahim AS, Musuku J, Bode-Thomas F, Okeahialam BN, Ige O, Sutton C, Misra R, Abul Fadl A, Kennedy N, Damasceno A, Sani M, Ogah OS, Olunuga T, Elhassan HH, Mocumbi AO, Adeoye AM, Mntla P, Ojji D, Mucumbitsi J, Teo K, Yusuf S, Mayosi BM. Characteristics, complications, and gaps in evidence-based interventions in rheumatic heart disease: the Global Rheumatic Heart Disease Registry (the REMEDY study). Eur Heart J. 2015 May 7;36(18):1115-22a. doi: 10.1093/eurheartj/ehu449. Epub 2014 Nov 25. PubMed PMID: 25425448; PubMed Central PMCID: PMC4422972.

AIMS: Rheumatic heart disease (RHD) accounts for over a million premature deaths annually; however, there is little contemporary information on presentation, complications, and treatment.

METHODS AND RESULTS: This prospective registry enrolled 3343 patients (median age 28 years, 66.2% female) presenting with RHD at 25 hospitals in 12 African countries, India, and Yemen between January 2010 and November 2012. The majority (63.9%) had moderate-to-severe multivalvular disease complicated by congestive heart failure (33.4%), pulmonary hypertension (28.8%), atrial fibrillation (AF) (21.8%), stroke (7.1%), infective endocarditis (4%), and major bleeding (2.7%). One-quarter of adults and 5.3% of children had decreased left ventricular (LV) systolic function; 23% of adults and 14.1% of children had dilated LVs. Fifty-five percent (n = 1761) of patients were on secondary antibiotic prophylaxis. Oral anti-coagulants were prescribed in 69.5% (n = 946) of patients

with mechanical valves (n = 501), AF (n = 397), and high-risk mitral stenosis in sinus rhythm (n = 48). However, only 28.3% (n = 269) had a therapeutic international normalized ratio. Among 1825 women of childbearing age (12-51 years), only 3.6% (n = 65) were on contraception. The utilization of valvuloplasty and valve surgery was higher in upper-middle compared with lower-income countries.

CONCLUSION: Rheumatic heart disease patients were young, predominantly female, and had high prevalence of major cardiovascular complications. There is suboptimal utilization of secondary antibiotic prophylaxis, oral anti-coagulation, and contraception, and variations in the use of percutaneous and surgical interventions by country income level.