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List of publications of AIIMS, New Delhi
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1: Abdulkader RS, Goswami K, Rai SK, Misra P, Kant S. HIV-Risk Behavior Among the Male Migrant Factory Workers in a North Indian City. *Indian J Community Med.* 2015 Apr-Jun;40(2):108-15. doi: 10.4103/0970-0218.153874. PubMed PMID: 25861172; PubMed Central PMCID: PMC4389497.

BACKGROUND: Male migrants act as a bridge for transmitting infection from core risk groups to general population and hence this group becomes essential for the HIV control program. Migrant workers constitute a large proportion of workforce in India and HIV/AIDS epidemic in them would cause huge economic losses.

OBJECTIVES: The aim of this study was to ascertain the HIV-risk behavior among male migrant factory workers.

MATERIALS AND METHODS: This was a cross-sectional facility based survey conducted in 2011. Male migrant workers aged ≥ 18 years, who were born outside Haryana, who had moved to current location after 15 years of age, who had worked in the current factory for at least one year, who were willing to participate and able to give valid consent were eligible. A consecutive sampling was done.

Descriptive, bivariate and multiple logistic regression analyses were done.

RESULTS: A total of 755 male subjects completed the interview. About 21.5% had experienced non-spousal sexual intercourse in last one year. Nearly 60% did not use a condom at the last non-spousal sex. Factors associated with recent non-spousal sex were being unmarried, younger age at migration, recent migration to Haryana, greater number of places migrated and lesser total duration of migration and those associated with non-use of condom at the last non-spousal sex were older age, lower education, lesser number of places migrated and lower level of HIV/AIDS knowledge.

CONCLUSION: Unprotected, recent non-spousal sex was common among male migrants, which could increase their HIV/AIDS vulnerability.

2: Acharya AS, Kaur R, Prasuna JG, Rasheed N. Making pregnancy safer-birth preparedness and complication readiness study among antenatal women attendees of a primary health center, delhi. *Indian J Community Med.* 2015 Apr-Jun;40(2):127-34. doi: 10.4103/0970-0218.153881. PubMed PMID: 25861175; PubMed Central PMCID: PMC4389500.

BACKGROUND: Every pregnancy is a joyful moment for all mothers who dream of a safe pregnancy and a healthy baby. However, every pregnant woman faces the risk of sudden, unpredictable complications that could end in death or injury to herself or to her infant. Birth preparedness and complication readiness (BPACR) is a strategy that encourages pregnant women, their families, and communities to effectively plan for births and deal with emergencies, if they occur. It is a key component of globally accepted safe motherhood programs.

OBJECTIVES: The objective of our study was to assess the status of BPACR among pregnant women and to study the socio-demographic factors affecting BPACR.

MATERIALS AND METHODS: We conducted a facility-based cross-sectional study among 417 antenatal attendees at a primary health center, Palam, New Delhi from January to April 2012. Knowledge about danger signs, planning for transport, place, and delivery by skilled birth attendant, financial management, and outcome were assessed. BPACR index was calculated.

RESULTS: Our study revealed that the BPACR index was very low (41%) although the preparedness level was high. Majority (81.1%) had identified a skilled attendant at birth for delivery. Nearly half of the women (48.9%) had saved money for delivery and 44.1% women had also identified a mode of transportation for the

delivery. However, only 179 (42.9%) women were aware about early registration of pregnancy. Only one-third (33.1%) of women knew about four or more antenatal visits during pregnancy. Overall, only 27.8% women knew about any one danger sign of pregnancy.

CONCLUSION: The level of awareness regarding BPACR was very low (41%). Efforts should be targeted to increase the awareness regarding components of BPACR among pregnant women and their families at the Primary Health Center (PHC) as well as at the community level. This will indeed go a long way in reducing morbidity as well as mortality in pregnant women, thus enabling us to reach the millennium development goal.

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

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

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

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

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

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

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

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4: Agarwal SK, Singh UB, Zaidi SH, Gupta S, Pandey RM. Comparison of interferon gamma release assay & tuberculin skin tests for diagnosis of latent tuberculosis in patients on maintenance haemodialysis. *Indian J Med Res.* 2015 Apr;141(4):463-8. doi: 10.4103/0971-5916.159297. PubMed PMID: 26112848; PubMed Central PMCID: PMC4510727.

BACKGROUND & OBJECTIVES: Tuberculosis (TB) is a common infection in patients on haemodialysis. There is a definite role of treatment of latent TB (LTB) in these patients. However, diagnosis of LTB in these patients by tuberculin skin test (TST) is unreliable. There is suggestion that interferon gamma release assay (IGRA) will be more reliable test for diagnosis of LTB in this setting. Thus, we evaluated value of IGRA and TST for the diagnosis of LTB in patients on dialysis in an Indian setting.

METHODS: Patients with end stage kidney disease on dialysis were included. Patients with active TB were excluded. Each patient was subjected to TST (induration of ≥ 10 mm was taken as positive) and QuantiFERON TB Gold In-Tube test (QFT-GIT) for diagnosis of LTB.

RESULTS: A total of 185 patients were included; 129 (69.7%) were males and mean age was 36.7 ± 12.3 yr. Past history of TB was present in 18 (9.7%) patients. One hundred and thirty four (72.4%) patients had scar of BCG vaccination. QFT-GIT test was positive in 66 (36%), TST in 32 (17%) and both in 13 (7%) patients. Of the 66 patients positive with QFT-GIT, only 13 (19.6%) were positive for TST. Of the 32 patients positive with TST, only 13 (40.6%) were positive with QFT-GIT; 100 (54%) patients were negative for both the tests. Overall, 85 (45.9%) patients were positive for either of the two tests. Poor agreement was shown between the two methods. On logistic regression analysis, odds of QFT-GIT to be positive in patients with BCG vaccination was 1.23 and with history of TB 0.99, both being insignificant. odds of tuberculin skin test to be positive in patients with BCG vaccination was 1.04 and with history of TB 0.99, both again being insignificant.

INTERPRETATION & CONCLUSIONS: Our findings showed that more number of patients (36%) on haemodialysis were positive for QuantiFERON Gold In-Tube test as compared to TST (17%). There was poor agreement between the two tests. No significant effect of BCG vaccination and history of TB in past was observed on both tests.

5: Aggarwal P, Jamshed N, Ekka M, Imran A. Suicidal poisoning with cypermethrin: A clinical dilemma in the emergency department. *J Emerg Trauma Shock*. 2015 Apr-Jun;8(2):123-5. doi: 10.4103/0974-2700.145424. PubMed PMID: 25949048; PubMed Central PMCID: PMC4411577.

6: Aggarwal S, Sharma AP, Kumar R, Anand S. Totally Robotic Roux-en-Y Gastric Bypass: Technique. *Indian J Surg*. 2015 Apr;77(2):164-6. doi: 10.1007/s12262-013-0948-7. Epub 2013 Jul 20. PubMed PMID: 26139977; PubMed Central PMCID: PMC4484530.

The da Vinci(TM) robotic system (Intuitive Surgical, Inc, Sunnyvale, CA) has been used frequently for urological procedures including radical prostatectomy and pyeloplasty. Its use in bariatric surgery is limited to few high volume centres in the western world. The advantages of robotic assistance are three-dimensional vision, ergonomic advantage and improved precision. We report our experience of using this advanced technology to perform a robotic Roux-en-Y gastric bypass in a 55-year-old obese diabetic patient. We were able to reproduce our standard laparoscopic technique and all the steps of the surgical procedure were done using robotic assistance.

7: Agrawal D, Sinha TP, Bhoi S. Assessment of ultrasound as a diagnostic modality for detecting potentially unstable cervical spine fractures in pediatric severe traumatic brain injury: A feasibility study. *J Pediatr Neurosci*. 2015 Apr-Jun;10(2):119-22. doi: 10.4103/1817-1745.159196. PubMed PMID: 26167212; PubMed Central PMCID: PMC4489052.

BACKGROUND: Early cervical spine clearance is extremely important in unconscious trauma patients and may be difficult to achieve in emergency setting.

OBJECTIVES: The aim of this study was to assess the feasibility of standard portable ultrasound in detecting potentially unstable cervical spine injuries in severe traumatic brain injured (TBI) patients during initial resuscitation.

MATERIALS AND METHODS: This retro-prospective pilot study carried out over 1-month period (June-July 2013) after approval from the institutional ethics committee. Initially, the technique of cervical ultrasound was standardized by the authors and tested on ten admitted patients of cervical spine injury. To assess feasibility in the emergency setting, three hemodynamically stable pediatric patients (≤ 18 years) with isolated severe head injury (Glasgow coma scale ≤ 8) coming to emergency department underwent an ultrasound examination.

RESULTS: The best window for the cervical spine was through the anterior triangle using the linear array probe (6-13 MHz). In the ten patients with documented cervical spine injury, bilateral facet dislocation at C5-C6 was seen in 4 patients and at C6-C7 was seen in 3 patients. C5 burst fracture was present in one and cervical vertebra (C2) anterolisthesis was seen in one patient. Cervical ultrasound could easily detect fracture lines, canal compromise and ligamentous injury in all cases. Ultrasound examination of the cervical spine was possible in the emergency setting, even in unstable patients and could be done without moving the neck.

CONCLUSIONS: Cervical ultrasound may be a useful tool for detecting potentially unstable cervical spine injury in TBI patients, especially those who are hemodynamically unstable.

8: Agrawal SP, Goel AD. Prone position ventilation in Acute Respiratory Distress Syndrome: An overview of the evidences. *Indian J Anaesth.* 2015 Apr;59(4):246-8. doi: 10.4103/0019-5049.155004. PubMed PMID: 25937653; PubMed Central PMCID: PMC4408655.

9: Akoury E, Gupta N, Bagga R, Brown S, Déry C, Kabra M, Srinivasan R, Slim R. Live births in women with recurrent hydatidiform mole and two NLRP7 mutations. *Reprod Biomed Online.* 2015 Jul;31(1):120-4. doi: 10.1016/j.rbmo.2015.03.011. Epub 2015 Apr 16. PubMed PMID: 25982095.

Hydatidiform mole (HM) is an aberrant human pregnancy with abnormal embryonic development and excessive proliferation of the trophoblast. Recessive mutations in NLRP7 are responsible for recurrent HM (RHM). Women with recessive NLRP7 mutations fail to have normal pregnancies from spontaneous conceptions with the exception of three out of 131 reported patients. Because there is no treatment for RHM and maternal-effect genes are needed in the oocytes to sustain normal embryonic development until the activation of the embryonic genome, one patient with recessive NLRP7 mutations tried ovum donation and achieved a successful pregnancy. This study reports three additional live births from donated ova to two patients with recessive NLRP7 mutations. The occurrence of two live births from spontaneous conceptions to two other patients is also reported. The reproductive outcomes and mutations of all reported patients were reviewed and it was found that live births are associated with some missense mutations expected to have mild functional consequences on the protein. The data support a previous observation that ovum donation appears the best management option for these patients to achieve normal pregnancies and provide an explanation for the rare occurrence of live births from natural spontaneous conceptions in patients with

two NLRP7 mutations.

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10: Alper BS, Malone-Moses M, McLellan JS, Prasad K, Manheimer E. Authors' reply to Wardlaw and Berge. *BMJ*. 2015 Apr 7;350:h1795. doi: 10.1136/bmj.h1795. PubMed PMID: 25851154.

11: Arora B, Velpandian T, Saxena R, Lalwani S, Dogra TD, Ghose S. Development and validation of an ESI-LC-MS/MS method for simultaneous identification and quantification of 24 analytes of forensic relevance in vitreous humour, whole blood and plasma. *Drug Test Anal*. 2015 Apr 27. doi: 10.1002/dta.1797. [Epub ahead of print] PubMed PMID: 25914398.

Detection and quantification of drugs from various biological matrices are of immense importance in forensic toxicological analysis. Despite the various reported methods, development of a new method for the detection and quantification of drugs is still an active area of research. However, every method and biological matrix has its own limitation, which further encourage forensic toxicologists to develop new methods and to explore new matrices for the analysis of drugs. In this study, an electrospray ionization-liquid chromatograph-tandem mass spectrometry (ESI-LC-MS/MS) method is developed and validated for simultaneous identification and quantification of 24 drugs of forensic relevance in various body fluids, namely, whole blood, plasma and vitreous humour. The newly developed method has been validated for intra-day and inter-day accuracy, precision, selectivity and sensitivity. Absolute recovery shows a mean of 84.5, 86.2, and 103% in the vitreous humour, whole blood and plasma respectively, which is suitable for the screening procedure. Further, the absolute matrix effect (AME) shows a mean of 105, 96.5, and 109% in the vitreous humour, whole blood and plasma, respectively. In addition, to examine the practical utility of this method, it has been applied for screening of drugs in post-mortem samples of the vitreous humour, whole blood and plasma collected at autopsy from ten cadavers. Experimental results show that the newly developed method is well applicable for screening of analytes in all the three matrices. Copyright © 2015 John Wiley & Sons, Ltd.

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12: Badwe RA, Kataria K, Srivastava A. Surgical Resection of Phyllodes Tumour: a Radical Approach as a Safeguard Against Local Recurrence. *Indian J Surg*. 2015 Apr;77(2):161-3. doi: 10.1007/s12262-013-0935-z. Epub 2013 Jun 26. PubMed PMID: 26139976; PubMed Central PMCID: PMC4484526.

Phyllodes tumour is a rare benign neoplasm of the breast. It is a mixed tumour of epithelial and mesenchymal origin. The epithelial element is characterized by proliferation of ductolobular units. The fibrous tissue and collagen bundles represent the mesenchymal element. It is also known as "cystosarcoma" phyllodes to characterize some important features, viz. cyst-like or cleft-like spaces within the mass along with a leaf- or frond-like pattern of the stromal element. The tumour is well known for its high potential for local recurrence. Most patients in developing countries present with very large breast tumours with close proximity to the skin and pectoralis major. In these cases, there is a need to perform a three-dimensional en bloc removal of the mass with overlying skin and underlying muscle(s). If a skin flap is raised in the vicinity of the tumour, there is a risk of cutting close to the tumour, increasing risk of local recurrence. Here, we describe a surgical technique that permits a three-dimensional en bloc removal of phyllodes tumour.

13: Bajpai M. Disorders of sex development: The quintessence of perennial controversies-III - DSD, transgenders and the judgment by the Hon'ble Supreme Court of India. *J Indian Assoc Pediatr Surg.* 2015 Apr-Jun;20(2):60-2. doi: 10.4103/0971-9261.151544. PubMed PMID: 25829667; PubMed Central PMCID: PMC4360455.

14: Bakhshi S, Batra A, Biswas B, Dhawan D, Paul R, Sreenivas V. Aprepitant as an add-on therapy in children receiving highly emetogenic chemotherapy: a randomized, double-blind, placebo-controlled trial. *Support Care Cancer.* 2015 Apr 8. [Epub ahead of print] PubMed PMID: 25851802.

BACKGROUND: Aprepitant, a neurokinin-1 receptor antagonist, in combination with 5 HT-3 antagonist and dexamethasone is recommended in adults receiving moderately and highly emetogenic chemotherapy to reduce chemotherapy-induced vomiting (CIV). Data for use of aprepitant in children is limited and hence aprepitant is not recommended by Pediatric Oncology Group of Ontario guidelines for prevention of CIV in children <12 years.

METHODS: A randomized, double-blind, placebo-controlled trial was conducted at a single center in chemotherapy naïve children (5-18 years) receiving highly emetogenic chemotherapy. All patients received intravenous ondansetron (0.15 mg/kg) and dexamethasone (0.15 mg/kg) prior to chemotherapy followed by oral ondansetron and dexamethasone. Patients randomly assigned to aprepitant arm received oral aprepitant (15-40 kg=days 1-3, 80 mg; 41-65 kg=day 1, 125 mg and days 2-3, 80 mg) 1 h before chemotherapy. Control group received placebo as add-on therapy. Primary outcome measure was the incidence of acute moderate to severe vomiting, which was defined as more than two vomiting episodes within 24 h after the administration of the first chemotherapy dose until 24 h after the last chemotherapy dose in the block. Complete response (CR) was defined as absence of vomiting and retching during the specified phase.

RESULTS: Of the 96 randomized patients, three were excluded from analysis; 93 patients were analyzed (50 in aprepitant arm and 43 in placebo arm). Acute moderate and severe vomiting was reported in 72 % patients receiving placebo and 38 % patients receiving aprepitant ($p=0.001$). Complete response rates during acute phase were significantly higher in aprepitant arm (48 vs. 12 %, $p<0.001$). No major adverse effects were reported by patients/guardians.

CONCLUSIONS: This double-blind, randomized, placebo-controlled trial shows that aprepitant significantly decreases the incidence of CIV during acute phase when used as an add-on drug with ondansetron and dexamethasone in children receiving highly emetogenic chemotherapy.

15: Bakhshi S, Biswas B. Advances in pediatric cancer therapy: potential applicability in Indian scenario. *Indian J Pediatr.* 2015 Apr;82(4):301-2. doi: 10.1007/s12098-014-1653-7. Epub 2014 Dec 18. PubMed PMID: 25514889.

16: Benson R, Mallick S, Bhanu Prasad V, Haresh KP, Gupta S, Julka PK, Rath GK. Medullomyoblastoma treated with craniospinal radiation and adjuvant chemotherapy: Report of 4 cases and review of the literature. *J Egypt Natl Canc Inst.* 2015 Jun;27(2):109-11. doi: 10.1016/j.jnci.2015.03.001. Epub 2015 Apr 27. PubMed PMID: 25936510.

Medullomyoblastoma (MMB) is a rare primitive neuro-epithelial tumor and seen in mainly pediatric age group¹. There have been about 50 cases reported so far in

the literature. In this report, we describe the clinical features and treatment of 4 cases of MMB.

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17: Bera SC, Sarkar S. Delusion of pregnancy: a systematic review of 84 cases in the literature. *Indian J Psychol Med.* 2015 Apr-Jun;37(2):131-7. doi: 10.4103/0253-7176.155609. Review. PubMed PMID: 25969595; PubMed Central PMCID: PMC4418242.

Case reports of delusion of pregnancy have emanated from all over the world, yet the rarity of this phenomenology has precluded systematic large scale descriptive or cohort studies. This systematic review was conducted to assess the demographic characteristics, clinical profile, treatment outcome and aetiological factors from the published case reports of delusion of pregnancy. Electronic databases including PubMed, PsychInfo and Google Scholar were used to identify case reports relating to delusion of pregnancy published in peer-reviewed English language journals. All such cases were systematically evaluated by investigators, and information was extracted using a structured proforma. A total 40 articles were reviewed which included 84 cases. Demographic characteristics revealed that about half of the patients were aged 20-40 years. The most common diagnoses were schizophrenia (35.7%), bipolar disorders (16.7%) and depression (9.5%). Single foetus was reported by 79.8% of the patients, and 45.2% perceived foetal movements. Good treatment response was noted in 64.3 % of the cases. The prominent aetiological factors that were implicated included psychosocial factors, coenaesthopathological processes, socio-cultural factors and hyperprolactinaemia. Delusion of pregnancy is a heterogeneous symptom which emerges during the course of various neuropsychiatric disorders. A range of aetiopathological mechanisms have been implicated in the causation of this disorder.

18: Bhadoo D, Bajpai M, Abid A, Sukanya G, Agarwala S, Srinivas M, Deka D, Agarwal N, Agarwal R, Kumar R. Study of prognostic significance of antenatal ultrasonography and renin angiotensin system activation in predicting disease severity in posterior urethral valves. *J Indian Assoc Pediatr Surg.* 2015 Apr-Jun;20(2):63-7. doi: 10.4103/0971-9261.151546. PubMed PMID: 25829668; PubMed Central PMCID: PMC4360456.

AIMS: Study on prognostic significance of antenatal ultrasonography and renin angiotensin system activation in predicting disease severity in posterior urethral valves.

MATERIALS AND METHODS: Antenatally diagnosed hydronephrosis patients were included. Postnatally, they were divided into two groups, posterior urethral valve (PUV) and non-PUV. The studied parameters were: Gestational age at detection, surgical intervention, ultrasound findings, cord blood and follow up plasma renin activity (PRA) values, vesico-ureteric reflux (VUR), renal scars, and glomerular filtration rate (GFR).

RESULTS: A total of 25 patients were included, 10 PUV and 15 non-PUV. All infants with PUV underwent primary valve incision. GFR was less than 60 ml/min/1.73 m(2) body surface area in 4 patients at last follow-up. Keyhole sign, oligoamnios, absent bladder cycling, and cortical cysts were not consistent findings on antenatal ultrasound in PUV. Cord blood PRA was significantly higher ($P < 0.0001$) in PUV compared to non-PUV patients. Gestational age at detection of hydronephrosis, cortical cysts, bladder wall thickness, and amniotic fluid index were not significantly correlated with GFR while PRA could differentiate between

poor and better prognosis cases with PUV.

CONCLUSIONS: Ultrasound was neither uniformly useful in diagnosing PUV antenatally, nor differentiating it from cases with non-PUV hydronephrosis. In congenital hydronephrosis, cord blood PRA was significantly higher in cases with PUV compared to non-PUV cases and fell significantly after valve ablation. Cord blood PRA could distinguish between poor and better prognosis cases with PUV.

19: 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.

20: Bharti S, Rani N, Bhatia J, Arya DS. 5-HT2B receptor blockade attenuates β -adrenergic receptor-stimulated myocardial remodeling in rats via inhibiting apoptosis: role of MAPKs and HSPs. *Apoptosis*. 2015 Apr;20(4):455-65. doi: 10.1007/s10495-014-1083-z. PubMed PMID: 25544272.

Recent studies have proposed the potential role of 5-HT2B receptor (5-HT2BR) blockade in alleviating myocardial dysfunction; hitherto, the regulatory pathway for its protective effect has remained enigmatic. In the present study, we sought to investigate the role of SB-204741, a 5-HT2BR blocker in isoproterenol-induced myocardial remodeling in rats and its cross-talk with apoptosis and mitogen activated protein kinase (MAPKs)/heat shock proteins (HSPs) pathway. To assess this hypothesis, we measured the effect of SB-204741 (0.25-1.0 mg/kg/day, i.p.) in isoproterenol (85 mg/kg/day, s.c.)-induced myocardial remodeling in rats. SB-204741 dose dependently improved hemodynamic and ventricular functions following isoproterenol-induced myocardial injury. This amelioration was well substantiated with reduced expression of 5-HT2B, inflammatory proteins (NF- κ Bp65, IKK- β , TNF- α , IL-6, and Cox-2), MAPKs (p-p38/p38 and p-JNK/JNK ratio) accompanied with increased protein expression of HSPs (α B-crystallin, Hsp27 and Hsp70), autophagy (LC3 and Beclin-1) and p-ERK/ERK ratio. Additionally, SB-204741 inhibited apoptotic signaling pathway as there was decreased DAPI/TUNEL positivity and protein expression of cytochrome c, Bax, and caspase-3 along with increased Bcl-2 expression. Preservation of histopathological and ultrastructural components, normalization of nitric oxide level, endogenous antioxidants and myocyte injury marker enzymes were also observed. In conclusion, inhibition of apoptosis via modulation of MAPKs/HSPs is essential for 5-HT2BR blockade mediated cardioprotective effect.

21: Bidchol AM, Dalal A, Trivedi R, Shukla A, Nampoothiri S, Sankar VH, Danda S, Gupta N, Kabra M, Hebbar SA, Bhat RY, Matta D, Ekbote AV, Puri RD, Phadke SR, Gowrishankar K, Aggarwal S, Ranganath P, Sharda S, Kamate M, Datar CA, Bhat K, Kamath N, Shah H, Krishna S, Gopinath PM, Verma IC, Nagarajaram HA, Satyamoorthy K, Girisha KM. Recurrent and novel GLB1 mutations in India. *Gene*. 2015 Aug 10;567(2):173-81. doi: 10.1016/j.gene.2015.04.078. Epub 2015 Apr 30. PubMed PMID: 25936995.

GM1 gangliosidosis is a lysosomal storage disorder caused by mutations in the GLB1 gene, leading to the deficiency of the enzyme β -d-galactosidase. In this study, we report molecular findings in 50 Asian Indian families with GM1 gangliosidosis. We sequenced all the exons and flanking intronic sequences of GLB1 gene. We identified 33 different mutations (20 novel and 13 previously reported). The novel mutations include 12 missense (p.M1?, p.E129Q, p.G134R, p.L236P, p.G262E, p.L297F, p.Y331C, p.G414V, p.K493N, p.L514P, p.P597L, p.T600I), four splicing (c.246-2A>G, c.397-2A>G, c.552+1G>T, c.956-2A>G), three indels (p.R22Qfs*8, p.L24Cfs*47, p.I489Qfs*4) and one nonsense mutation (p.Q452*). Most common mutations identified in this study were c.75+2InsT (14%) and p.L337P

(10%). Known mutations accounted for 67% of allele frequency in our cohort of patients, suggesting that these mutations in GLB1 are recurrent across different populations. Twenty three mutations were localized in the TIM barrel domain, β -domain 1 and β -domain 2. In silico sequence and structure analysis of GLB1 reveal that all the novel mutations affect the function and structure of the protein. We hereby report on the largest series of patients with GM1 gangliosidosis and the first from India.

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22: Bindra A, Chouhan RS, Prabhakar H, Chandra PS, Tripathi M. Perioperative anesthetic implications of epilepsy surgery: a retrospective analysis. *J Anesth.* 2015 Apr;29(2):229-34. doi: 10.1007/s00540-014-1919-2. Epub 2014 Oct 7. PubMed PMID: 25288505.

PURPOSE: Drug-resistant epilepsy (DRE) occurs in about 30 % of individuals with epilepsy. For seizure control, a wide range of surgical procedures are performed, depending on the underlying pathology. To address the anesthetic and perioperative concerns in these patients, we analyzed the data of persons with DRE who underwent epilepsy surgery at our institute.

METHODS: A retrospective analysis of patients who underwent epilepsy surgery from 2005-2010 was performed. For data collection and analysis, patients were divided into three groups: Group I (temporal lobe epilepsy), Group II (extratemporal lobe epilepsy), and Group III (multilobar epilepsy and others).

RESULTS: A total of 241 surgical procedures were performed on 235 persons with DRE. The procedures included temporal (149) and extratemporal (47) lobe resection, hemispherotomy (31), corpus callosotomy (5), vagus nerve stimulation (3), and implantation of invasive cerebral electrodes (6). General anesthesia was the more common anesthetic technique; awake craniotomy was performed in only five cases. Intraoperative neuromonitoring was used most frequently in Group II. Patients in Group III had the longest intraoperative course and the greatest blood loss. The overall incidence of postoperative mechanical ventilation was 17.84 %, with 53.84 % of patients in Group III alone. At one-year follow-up, a good outcome was seen in 78 % of temporal lobe resection, 55 % of extratemporal cortical resection, 82 % of hemispherotomy, and 80 % of corpus callosotomy procedures.

CONCLUSIONS: Careful preoperative selection and meticulous perioperative management are the most significant factors for success of epilepsy surgery. Although temporal and extratemporal lobe surgeries have a fairly stable perioperative course, multilobar epilepsy requiring disconnective surgery poses a greater challenge.

23: Birla S, P Jyotsna V, Singla R, Tripathi M, Sharma A. Impact of a novel 14bp MEN1 deletion in a patient with hyperparathyroidism and gastrinoma. *Endocrinol Diabetes Metab Case Rep.* 2015;2015:150011. doi: 10.1530/EDM-15-0011. Epub 2015 Apr 29. PubMed PMID: 26191410; PubMed Central PMCID: PMC4482156.

Multiple endocrine neoplasia type 1 (MEN-1) is a rare autosomal-dominant disease characterized by tumors in endocrine and/or non endocrine organs due to mutations in MEN1 encoding a nuclear scaffold protein 'menin' involved in regulation of different cellular activities. We report a novel 14bp MEN1 deletion mutation in a 35-year-old female with history of recurrent epigastric pain, vomiting, loose stools and weight loss. On evaluation she was diagnosed to have multifocal gastro-duodenal gastrinoma with paraduodenal lymph nodes and solitary liver

metastasis. She was also found to have primary hyperparathyroidism with bilateral inferior parathyroid adenoma. Pancreatico-duodenectomy with truncalvagotomy was performed. Four months later, radiofrequency ablation (RFA) of segment 4 of the liver was done followed by three and a half parathyroidectomy. MEN1 screening was carried out for the patient and her family members. MEN-1 sequencing in the patient revealed a heterozygous 14bp exon 8 deletion. Evaluation for pathogenicity and protein structure prediction showed that the mutation led to a frameshift thereby causing premature termination resulting in a truncated protein. To conclude, a novel pathogenic MEN1 deletion mutation affecting its function was identified in a patient with hyperparathyroidism and gastrinoma. The report highlights the clinical consequences of the novel mutation and its impact on the structure and function of the protein. It also provides evidence for co-existence of pancreatic and duodenal gastrinomas in MEN1 syndrome. MEN1 testing provides important clues regarding etiology and therefore should be essentially undertaken in asymptomatic first degree relatives who could be potential carriers of the disease. LEARNING POINTS: Identification of a novel pathogenic MEN1 deletion mutation. MEN1 mutation screening in patients with pituitary, parathyroid and pancreatic tumors, and their first degree relatives gives important clues about the etiology. Pancreatic and duodenal gastrinomas may co-exist simultaneously in MEN1 syndrome.

24: Biswas A, Julka PK, Bakhshi S, Suri A, Rath GK. Intracranial atypical teratoid rhabdoid tumor: current management and a single institute experience of 15 patients from north India. *Acta Neurochir (Wien)*. 2015 Apr;157(4):589-96. doi: 10.1007/s00701-015-2355-2. Epub 2015 Feb 3. PubMed PMID: 25646852.

OBJECTIVE: We intended to assess the clinicopathological features and treatment outcome in patients of intracranial atypical teratoid rhabdoid tumor (AT/RT), a rare malignant tumor of the brain.

METHODS: Medical records were reviewed and clinical data collected on AT/RT in a 6-year period (2006-2012). Overall survival was analyzed by Kaplan-Meier method. Univariate analysis of factors predictive of overall survival was done by log-rank test.

RESULTS: Fifteen patients met the study criterion (male:female=4:1). Median age at presentation was 5 years (range, 0.8-8 years). Presenting complaints included vomiting (73.33 %), headache (46.67 %), orbital symptoms (33.33 %), motor impairment (26.67 %), gait abnormality (20 %), and seizure (20 %). Median duration of symptoms was noted to be 2 months (range, 0.5-6 months). On contrast-enhanced MRI of brain, tumor location was supratentorial in 60 % patients and infratentorial in 40 % of patients. Cystic component and hydrocephalus were noted in 73.33 % patients each, whereas contrast enhancement and calcification were discerned in 53.33 and 40 % of the patients, respectively. All patients underwent tumor resection-gross total (26.67 %), near-total (13.33 %) and subtotal (60 %). Histopathology was confirmative of AT/RT with MIB-1 labeling index varying from 11 to 85 % (median 45 %). There was a lack of immunostaining for INI-1 protein, suggesting INI-1 gene mutation or deletion. Adjuvant radiation (36 Gray/20 fractions/4 weeks to entire neuraxis followed by local boost 20 Gray/10 fractions/2 weeks) was started in six patients (40 %) and completed in five patients. Young age at presentation and poor performance status precluded the use of radiation in the remainder. Systemic chemotherapy was administered in ten (66.67 %) patients. Median number of cycles given was three (range, 1-12) with ICE (ifosfamide, carboplatin, etoposide) and VAC (vincristine, dactinomycin, cyclophosphamide) being the common regimens (26.67 and 20 %, respectively). After a median follow-up of 8.33 months (mean, 12.27 months), median overall survival was noted to be 10 months. At last follow-up, two patients are in complete response, one patient is on treatment, three patients

are alive with evidence of disease, and nine patients expired due to disease progression. The 1- and 2-year actuarial rate of overall survival was noted to be 48.1 and 24.1 %, respectively. On univariate analysis, extent of surgery ($p=0.0149$), use of craniospinal radiation ($p=0.0087$), and MIB1 labeling index ($p=0.0034$) were significant predictors of overall survival while age (≥ 5 years versus < 5 years) was of borderline significance ($p=0.08$).

CONCLUSIONS: Median survival of 10 months reflects the aggressive biology of this rare neoplasm. Maximal safe resection followed by craniospinal irradiation and systemic chemotherapy with ICE or VAC regimen is a reasonable treatment strategy in this uncommon malignancy.

25: Biswas B, Sharma MC, Mridha AR, Bakhshi S. Expression of Cathepsin L in tumor cells and tumor-associated macrophages in patients with Ewing sarcoma family of tumors: a pilot study. *Indian J Pathol Microbiol.* 2015 Apr-Jun;58(2):170-4. doi: 10.4103/0377-4929.155307. PubMed PMID: 25885128.

BACKGROUND: Cysteine protease Cathepsin L is involved in bone remodeling and expressed in activated macrophages. It is highly expressed in metastatic tumor tissue, especially with bone metastases.

AIMS: We evaluated immunohistochemical expression of Cathepsin L in tumor cells and tumor-associated macrophages (TAMs) in chemo-naive Ewing sarcoma.

SETTINGS AND DESIGN: Retrospective evaluation of archived specimens of Ewing sarcoma.

MATERIALS AND METHODS: Immunohistochemical staining was performed on archived blocks of chemo-naive patients with Ewing sarcoma treated with uniform chemotherapy at our institute between January 2009 and November 2011.

STATISTICAL ANALYSIS: Immunohistochemical expression was co-related with baseline demographics and survival.

RESULTS: During the study period, we had evaluable baseline samples from 62 patients with median age 15 years (range: 2-40); 26 (42%) had metastases. Cathepsin L expression in tumor cells was observed in 8/62 (13%) specimens. None of the baseline clinical characteristics correlated with Cathepsin L expression. Cathepsin L positivity was associated with poor response to neoadjuvant chemotherapy (NACT) ($P = 0.05$), but did not influence either event-free-survival (EFS) or overall survival. Cathepsin L was expressed in TAMs in all specimens. Grade 3 TAMs (>10 TAMs/high power field) was associated with better response to NACT ($P = 0.05$). On univariate analysis Grade 3 TAMs predicted superior EFS (median EFS 28.5 months in those with Grade 3 TAMs versus 14.8 months in those with grade ≤ 2 TAMs [$P = 0.04$]).

CONCLUSIONS: Cathepsin L expression by immunohistochemistry was low in our patient cohort, and it did not affect the outcome. In addition, Grade 3 TAMs with Cathepsin L expression was associated with improved EFS.

26: Borle A, Singh PM. Finding the way into the burnt airway! *J Anaesthesiol Clin Pharmacol.* 2015 Apr-Jun;31(2):242-3. doi: 10.4103/0970-9185.155157. PubMed PMID: 25948910; PubMed Central PMCID: PMC4411843.

27: Chakraborty PS, Kumar R, Tripathi M, Das CJ, Bal C. Detection of brain metastasis with ^{68}Ga -labeled PSMA ligand PET/CT: a novel radiotracer for imaging of prostate carcinoma. *Clin Nucl Med.* 2015 Apr;40(4):328-9. doi: 10.1097/RLU.0000000000000709. PubMed PMID: 25674861.

Brain metastasis in prostate cancer is rare and not expected at initial presentation especially when the patient is asymptomatic for the same. A 45-year-old male patient undergoing initial evaluation for newly diagnosed prostatic adenocarcinoma was referred to our department for ^{99m}Tc-MDP bone scintigraphy. As part of the study protocol, he also underwent Glu-NH-CO-NH-Lys-(Ahx)-[Ga-68 (HBED-CC)] (68Ga-PSMA) PET/CT, which revealed tracer accumulation in brain lesions, apart from localization in the primary, lymph node, and bone metastases. A subsequent MR evaluation confirmed brain metastases.

28: Chandra PS, Kurwale N, Garg A, Dwivedi R, Malviya SV, Tripathi M. Endoscopy-assisted interhemispheric transcallosal hemispherotomy: preliminary description of a novel technique. *Neurosurgery*. 2015 Apr;76(4):485-94; discussion 494-5. doi: 10.1227/NEU.0000000000000675. PubMed PMID: 25710106.

BACKGROUND: Various hemispherotomy techniques have been developed to reduce complication rates and achieve the best possible seizure control.
OBJECTIVE: To present a novel and minimally invasive endoscopy-assisted approach to perform this procedure.

METHODS: Endoscopy-assisted interhemispheric transcallosal hemispherotomy was performed in 5 children (April 2013-June 2014). The procedure consisted of performing a small craniotomy (4 × 3 cm) just lateral to midline using a transverse skin incision. After dural opening, the surgery was performed with the assistance of a rigid high-definition endoscope, and bayoneted self-irrigating bipolar forceps and other standard endoscopic instruments. Steps included a complete corpus callosotomy followed by the disconnection of the hemisphere at the level of the basal nuclei and thalamus. The surgeries were performed in a dedicated operating room with intraoperative magnetic resonance imaging and neuronavigation. Intraoperative magnetic resonance imaging confirmed a total disconnection.

RESULTS: The pathologies for which surgeries were performed included sequelae of middle cerebral artery infarct (n = 2), Rasmussen syndrome (n = 1), and hemimegalencephaly (2). Four patients had an Engel class I and 1 patient had a class II outcome at a mean follow-up of 10.2 months (range, 3-14 months). The mean blood loss was 80 mL, and mean operating time was 220 minutes. There were no complications in this study.

CONCLUSION: This study describes a pilot novel technique and the feasibility of performing a minimally invasive, endoscopy-assisted hemispherotomy.

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

The renin-angiotensin-aldosterone system (RAAS) and their candidate genes are principally involved in regulation of blood pressure through salt-water homeostasis. Atrial natriuretic peptide (ANP) and Aldosterone synthase (CYP11B2) are the important RAAS mediators, play a major role in hypertension through regulation of cardiorenal homeostasis and water-electrolytes balance, respectively. Present study reports the expression of ANP and CYP11B2 gene at mRNA and proteins levels in patients with essential hypertension in North Indian subjects. Gene expression at mRNA and protein levels was carried out by Real time PCR and Western blot, respectively. We found a significant down regulation in the ANP gene expression at mRNA (85%) and protein (72.6%) levels and significant increase in the CYP11B2 protein expression in patients as compared to controls. A significant increase in Serum creatinine (14.6%), Sodium (1.15%) and decrease in

the Blood urea (8.18%) and Potassium (2.32%) levels were also observed among the patients group having higher expression (based on median delta-CT value) in comparison to the lower expression of CYP11B2 gene. Our results suggest that the down-regulation of ANP gene expression at mRNA and protein levels and up-regulated CYP11B2 protein expression levels may be correlated with the essential hypertension and could serve as circulating prognostic biomarkers for essential hypertension.

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30: Chaubey R, Sazawal S, Mahapatra M, Chhikara S, Saxena R. Prognostic relevance of aberrant SOCS-1 gene promoter methylation in myelodysplastic syndromes patients. *Int J Lab Hematol*. 2015 Apr;37(2):265-71. doi: 10.1111/ijlh.12283. Epub 2014 Aug 13. PubMed PMID: 25123164.

INTRODUCTION: The inactivation of suppressor of cytokine signaling SOCS-1, a negative regulator of cytokine pathways, by hypermethylation was shown in hematological malignancies including Myelodysplastic Syndromes. So far, its prognostic relevance in myelodysplastic syndromes (MDS) patients has not been understood.

METHODS: Methylation status of SOCS-1 gene was analyzed in series of 100 patients using methylation-specific PCR (MS-PCR) and correlated with disease severity, progression, and survival by comparing prognostic factors such as hematological, clinical, and cytogenetics.

RESULTS: Of the total of 100 MDS patients analyzed, methylation of SOCS1 gene was found in 53% patients. Also, the frequency of patients with poor and intermediate cytogenetics was observed significantly high in methylated group ($P < 0.001$). Moreover, the patients with methylated SOCS-1 gene had significantly more frequent disease progression as compared to the patients with unmethylated SOCS-1 gene ($P < 0.006$). Both progression-free survival and median overall survival were significantly shorter in patients with methylated SOCS-1 gene when compared to the patients with unmethylated SOCS-1 gene ($P = 0.006$ & $P = 0.001$, respectively).

CONCLUSION: This study for the first time showed that the methylation of SOCS-1 gene plays an important role in the disease progression and is associated with poor survival especially among the high-risk patients. This may be due to high association between SOCS1 methylation and higher risk subtypes of MDS (such as RAEB) in this study.

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31: Chauhan SS, Kaur J, Kumar M, Matta A, Srivastava G, Alyass A, Assi J, Leong I, MacMillan C, Witterick I, Colgan TJ, Shukla NK, Thakar A, Sharma MC, Siu KW, Walfish PG, Ralhan R. Prediction of recurrence-free survival using a protein expression-based risk classifier for head and neck cancer. *Oncogenesis*. 2015 Apr 20;4:e147. doi: 10.1038/oncsis.2015.7. PubMed PMID: 25893634; PubMed Central PMCID: PMC4491610.

Loco-regional recurrence in 50% of oral squamous cell carcinoma (OSCC) patients poses major challenge for oncologists. Lack of biomarkers that can predict disease aggressiveness and recurrence risk makes the scenario more dismal. On the basis of our earlier global proteomic analyses we identified five differentially expressed proteins in OSCC. This study aimed to develop protein biomarkers-based prognostic risk prediction model for OSCC. Sub-cellular expression of five proteins, S100A7, heterogeneous nuclear ribonucleoproteinK (hnRNPk), prothymosin α (PTMA), 14-3-3 ζ and 14-3-3 σ was analyzed by immunohistochemistry in test set (282 Indian OSCCs and 209 normal tissues), correlated with clinic-pathological

parameters and clinical outcome over 12 years to develop a risk model for prediction of recurrence-free survival. This risk classifier was externally validated in 135 Canadian OSCC and 96 normal tissues. Biomarker signature score based on PTMA, S100A7 and hnRNPK was associated with recurrence free survival of OSCC patients (hazard ratio=1.11; 95% confidence interval 1.08, 1.13, $P < 0.001$, optimism-corrected c-statistic=0.69) independent of clinical parameters. Biomarker signature score stratified OSCC patients into high- and low-risk groups with significant difference for disease recurrence. The high-risk group had median survival 14 months, and 3-year survival rate of 30%, whereas low-risk group survival probability did not reach 50%, and had 3-year survival rate of 71%. As a powerful predictor of 3-year recurrence-free survival in OSCC patients, the newly developed biomarkers panel risk classifier will facilitate patient counseling for personalized treatment.

32: Dabas AG, Khadgawat R. Developing Indigenous Therapeutic Calcium Supplementation for Treating Nutritional Rickets. *J Pediatr*. 2015 Jul;167(1):12-4. doi: 10.1016/j.jpeds.2015.04.012. Epub 2015 Apr 29. PubMed PMID: 25934070.

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

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

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

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

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

34: Das BK. The narrow road to the indigenous rotavirus vaccine. *Indian J Med Microbiol.* 2015 Apr-Jun;33(2):203-4. doi: 10.4103/0255-0857.154847. PubMed PMID: 25865968.

35: Das P, Gahlot GP, Mehta R, Gupta SD. Interpretation of ileal biopsies. *Indian J Pathol Microbiol.* 2015 Apr-Jun;58(2):146-53. doi: 10.4103/0377-4929.155302. PubMed PMID: 25885124.

The ileum is one of the most common sites of intestine to undergo endoscopic biopsy. However, even with the experienced histopathologists, a definite diagnosis can be achieved only in 18% cases. Lack of knowledge about proper tissue handling, tissue orientation, overlapping histological findings, and lack of a standard algorithm based approach results in this low diagnostic yield. In this review article, we have tried to discuss these aspects and give a clear picture how to approach the ileal lesions. It would help the surgical pathologists in effectively interpreting the lesions and to identify the common pitfalls.

36: Dash D, Aggarwal V, Joshi R, Padma MV, Tripathi M. Effect of reduction of antiepileptic drugs in patients with drug-refractory epilepsy. *Seizure.* 2015 Apr;27:25-9. doi: 10.1016/j.seizure.2015.02.025. Epub 2015 Feb 26. PubMed PMID: 25891923.

PURPOSE: The present study was conducted with the aim of evaluating the effects of reducing the number of antiepileptic drugs (AEDs) administered to patients with drug-refractory epilepsy (DRE) during their admission and document any change in seizure frequency in subsequent follow up.

METHODS: A total of 962 patients with DRE who were admitted to the neurology wards waiting for connection to video EEG were recruited for this prospective study. After their admission to the neurology ward, modifications in the number and dosage of AEDs were done with a target of a maximum of three AEDs in every patient. Drug tapering was done using a standardized protocol. The primary outcome was the change in seizure frequency in the follow-up period of 6 months. Secondary outcome measures were the adverse event profile (AEP) and the quality of life (QOL).

RESULTS: Of the 1134 patients screened, 962 patients gave consent to participate in the study. The mean number of AEDs received by each patient was 4.24. After the tapering following a standardized protocol each patient received a mean of 2.65 AEDs per patient. In 82.70% patients with DRE, there was either a reduction or no change in seizure frequency in the subsequent 6 months follow up. There was a significant reduction in the AEP score after the reduction in the number of AEDs ($P = 0.001$).

CONCLUSION: Our study proves that optimization of reduction of the number of AED's in patients with DRE leads to reduction or no change in seizure frequency with a significant decrease in adverse effects.

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37: Devidutta S, Narang R, Saxena A, Karthikeyan G. Percutaneous mitral commissurotomy in rheumatic mitral stenosis associated with cor triatriatum. *Cardiovasc Interv Ther.* 2015 Apr;30(2):185-7. doi: 10.1007/s12928-014-0272-6. Epub 2014 May 25. PubMed PMID: 24859652.

Cor triatriatum is an uncommon congenital anomaly and its coexistence with rheumatic mitral stenosis is rare. We report two patients with rheumatic mitral stenosis with associated cor triatriatum. Percutaneous mitral valvuloplasty was successfully performed in both cases. We describe the clinical presentation and discuss the technical issues related to balloon mitral valvotomy in these cases.

38: Dhull AK, Gogia P, Atri R, Dhankhar R, Kaushal V, Singh S, Sen R, Pal M, Lathwal A. Exploring signet-ring cells in pregnant female. *J Gastrointest Oncol*. 2015 Apr;6(2):E10-5. doi: 10.3978/j.issn.2078-6891.2014.083. PubMed PMID: 25830043; PubMed Central PMCID: PMC4311090.

INTRODUCTION: Primary signet-ring cell carcinoma (SRCC) of the colon and rectum are rare form, which present at an advanced stage and have poor prognosis. Different treatment policies of SRCC during different gestational age of pregnancy are explored from the literature.

CASE STUDY: A 26-year-old young pregnant female with 10-week gestation presented with constipation and blood in stools and on per rectal examination a tender circumferential stricture was present 2 cm above the anal verge. Magnetic resonant imaging (MRI) pelvis of the patient revealed rectal thickening, the biopsy of which revealed characteristic appearance of "linitis plastica" and diagnosed as poorly differentiated adenocarcinoma with signet ring morphology with wide spread positivity for cytokeratin & p53. With this diagnosis, patient underwent medical termination of pregnancy (MTP).

DISCUSSION: SRCC of the colon comprises about only 1% of all cases of colon cancer. When compared with other types of adenocarcinoma, patients with SRCC in the colon are younger and more likely to experience lymph node metastasis. Its incidence in pregnancy is estimated to be less than 0.1%. Certainly, any pregnant patient who reports rectal bleeding or has hemoccult positive stool on examination deserves careful evaluation to rule out cancer. The complex treatment of colorectal cancer in pregnancy is based on the gestational age of the fetus, tumor stage and need for emergent vs. elective management.

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40: Doshi SR, Naik N. Vegetation plop. *Int J Cardiovasc Imaging*. 2015 Apr;31(4):733-4. doi: 10.1007/s10554-015-0609-y. Epub 2015 Feb 25. PubMed PMID: 25712167.

41: Dube SK, Pandia MP, Chaturvedi A, Bithal P, Dash HH. Comparison of intraoperative brain condition, hemodynamics and postoperative recovery between desflurane and sevoflurane in patients undergoing supratentorial craniotomy. *Saudi J Anaesth*. 2015 Apr-Jun;9(2):167-73. doi: 10.4103/1658-354X.152866. PubMed PMID: 25829905; PubMed Central PMCID: PMC4374222.

BACKGROUND: Post operative recovery has been reported to be faster with desflurane than sevoflurane anesthesia in previous studies. The use of desflurane is often criticized in neurosurgery due to the concerns of cerebral vasodilation and increase in ICP and studies comparing desflurane and sevoflurane in neurosurgery are scarce. So we compared the intraoperative brain condition, hemodynamics and postoperative recovery in patients undergoing elective supratentorial craniotomy receiving either desflurane or sevoflurane.

MATERIALS AND METHODS: Fifty three patients between 18-60yr undergoing elective

supratentorial craniotomy receiving N2O and oxygen (60%:40%) and 0.8-1.2 MAC of either desflurane or sevoflurane were randomized to group S (Sevoflurane) or group D (Desflurane). Subdural intra cranial pressure (ICP) was measured and brain condition was assessed. Emergence time, tracheal extubation time and recovery time were recorded. Cognitive behavior was evaluated with Short Orientation Memory Concentration Test (SOMCT) and neurological outcome (at the time of discharge) was assessed using Glasgow Outcome Score (GOS) between the two groups.

RESULTS: The emergence time [Group D 7.4 ± 2.7 minutes vs. Group S 7.8 ± 3.7 minutes; $P = 0.65$], extubation time [Group D 11.8 ± 2.8 minutes vs. Group S 12.9 ± 4.9 minutes; $P = 0.28$] and recovery time [Group D 16.4 ± 2.6 minutes vs. Group S 17.1 ± 4.8 minutes; $P = 0.50$] were comparable between the two groups. There was no difference in ICP [Group D; 9.1 ± 4.3 mmHg vs. Group S; 10.9 ± 4.2 mmHg; $P = 0.14$] and brain condition between the two groups. Both groups had similar post-operative complications, hospital and ICU stay and GOS.

CONCLUSION: In patients undergoing elective supratentorial craniotomy both sevoflurane and desflurane had similar intra-operative brain condition, hemodynamics and post operative recovery profile.

42: Einstein AJ, Pascual TN, Mercuri M, Karthikeyan G, Vitola JV, Mahmarian JJ, Better N, Bouyoucef SE, Hee-Seung Bom H, Lele V, Magboo VP, Alexánder E, Allam AH, Al-Mallah MH, Flotats A, Jerome S, Kaufmann PA, Luxenburg O, Shaw LJ, Underwood SR, Rehani MM, Kashyap R, Paez D, Dondi M; INCAPS Investigators Group. Current worldwide nuclear cardiology practices and radiation exposure: results from the 65 country IAEA Nuclear Cardiology Protocols Cross-Sectional Study (INCAPS). *Eur Heart J*. 2015 Jul 7;36(26):1689-96. doi: 10.1093/eurheartj/ehv117. Epub 2015 Apr 21. PubMed PMID: 25898845; PubMed Central PMCID: PMC4493324.

AIMS: To characterize patient radiation doses from nuclear myocardial perfusion imaging (MPI) and the use of radiation-optimizing 'best practices' worldwide, and to evaluate the relationship between laboratory use of best practices and patient radiation dose.

METHODS AND RESULTS: We conducted an observational cross-sectional study of protocols used for all 7911 MPI studies performed in 308 nuclear cardiology laboratories in 65 countries for a single week in March-April 2013. Eight 'best practices' relating to radiation exposure were identified a priori by an expert committee, and a radiation-related quality index (QI) devised indicating the number of best practices used by a laboratory. Patient radiation effective dose (ED) ranged between 0.8 and 35.6 mSv (median 10.0 mSv). Average laboratory ED ranged from 2.2 to 24.4 mSv (median 10.4 mSv); only 91 (30%) laboratories achieved the median ED ≤ 9 mSv recommended by guidelines. Laboratory QIs ranged from 2 to 8 (median 5). Both ED and QI differed significantly between laboratories, countries, and world regions. The lowest median ED (8.0 mSv), in Europe, coincided with high best-practice adherence (mean laboratory QI 6.2). The highest doses (median 12.1 mSv) and low QI (4.9) occurred in Latin America. In hierarchical regression modelling, patients undergoing MPI at laboratories following more 'best practices' had lower EDs.

CONCLUSION: Marked worldwide variation exists in radiation safety practices pertaining to MPI, with targeted EDs currently achieved in a minority of laboratories. The significant relationship between best-practice implementation and lower doses indicates numerous opportunities to reduce radiation exposure from MPI globally.

43: Gahlot GP, Mridha AR, Nath D, Khan SA, Gamanagatti S. Intraosseous primary malignant peripheral nerve sheath tumor of the calcaneus: an unusual case and review of literature. *Indian J Pathol Microbiol.* 2015 Apr-Jun;58(2):220-2. doi: 10.4103/0377-4929.155321. PubMed PMID: 25885139.

Malignant peripheral nerve sheath tumors (MPNSTs) are uncommon sarcomas that originate from a peripheral nerve or neurofibroma either spontaneously or in association with neurofibromatosis type 1. MPNSTs account for approximately 5% of all soft tissue malignancies. The tumor is commonly seen in the extremities and trunk. Most of these tumors are high-grade with the potential to recur and metastasize. Common metastatic sites include the lungs, bone, and pleura. Primary intraosseous MPNST is rare, and the diagnosis of intraosseous MPNST, especially in an unusual location is difficult because of its cellular origin, histomorphological similarities with other sarcomas, and bone is the most common site for metastasis. We report an unusual case of MPNST of the calcaneus in a young male.

44: Gandhi AK, Sharma DN, Rath GK. Prophylactic cranial irradiation in breast cancer: A new way forward. *Indian J Med Paediatr Oncol.* 2015 Apr-Jun;36(2):77-8. doi: 10.4103/0971-5851.158822. PubMed PMID: 26157281; PubMed Central PMCID: PMC4477380.

45: Garg B, Pannu CD, Poudel RR, Morey V. Isolated spontaneous primary tubercular erector spinae abscess: a case report and review of literature. *Asian Spine J.* 2015 Apr;9(2):276-80. doi: 10.4184/asj.2015.9.2.276. Epub 2015 Apr 15. PubMed PMID: 25901241; PubMed Central PMCID: PMC4404544.

Isolated spontaneous primary tubercular erector spinae abscess in an immunocompetent patient is very rare. Here, we report such a case of 21-year-old female, which was successfully managed with timely diagnosis and intervention. Isolated primary tubercular abscess of erector spinae is a rare differential diagnosis of low back pain; however, it must be suspected in an endemic region for tuberculosis, especially when raised erythrocytic sedimentation rate and C-reactive protein are present. Excision along with anti tubercular therapy proved to be a successful strategy in our patient.

46: Giridhar P, Mallick S, Laviraj MA, Bhasker S. Adenoid cystic carcinoma sphenoid sinus with intracranial extension treated by radical radiotherapy: a rare case. *Eur Arch Otorhinolaryngol.* 2015 Apr;272(4):1037-40. doi: 10.1007/s00405-014-3441-4. Epub 2014 Dec 13. PubMed PMID: 25503101.

47: Goel S, Ganger A, Gupta V. Bilateral juvenile onset primary open-angle glaucoma among keratoconus patients. *J Glaucoma.* 2015 Apr-May;24(4):e25-7. doi: 10.1097/IJG.000000000000024. PubMed PMID: 24240878.

PURPOSE: To report the occurrence of juvenile open-angle glaucoma (JOAG) in patients with keratoconus.

PATIENTS AND METHODS: In this observational case series we report 6 eyes of 3 patients with keratoconus who had concomitant JOAG. Corneal topography, intraocular pressure, gonioscopic, and fundus findings were recorded for all the eyes.

RESULTS: All 3 patients presented with corneal ectasia, high intraocular pressure, and advanced glaucomatous damage and had no family history of glaucoma or keratoconus. Two of the 3 patients needed collagen cross-linking with

riboflavin for progression of keratoconus and trabeculectomy for control of intraocular pressure. One of the patients also underwent a lamellar keratoplasty for keratoconus.

CONCLUSIONS: This is the first case series pointing toward a possible association of JOAG with keratoconus and highlights the importance of a thorough workup of glaucoma in patients with keratoconus.

48: Goyal S, Mohanti BK. Bilateral mandibular fracture related to osteoradionecrosis. *Indian J Dent.* 2015 Apr-Jun;6(2):107-9. doi: 10.4103/0975-962X.154378. PubMed PMID: 26097342; PubMed Central PMCID: PMC4455152.

Mandible is the most frequently affected bone during head and neck irradiation. Late changes in the mandible may manifest in the form of reduced bone density, dental caries, loss of spongiosa trabeculations, delayed healing following dental extraction, pathologic fractures, osteoradionecrosis, trismus, growth defects in children or second malignancies. Pathologic fractures of mandibular bone are rare and may be spontaneous or traumatic (following dental extraction). We report the case of a 55-year lady, who had undergone surgery and adjuvant radiotherapy for carcinoma oral tongue T2N0M0 on a cobalt-60 unit and was disease-free. After a follow-up of 8 years post-irradiation, she presented with sudden onset oral pain and inability to open mouth. Pantomogram showed fracture at the junction of body and ramus of the mandible bilaterally.

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Cysticercosis is a systemic parasitic disease caused by the larval form of cestode *Taenia solium*. It has a worldwide distribution and is potentially harmful with variable clinical manifestations. The most commonly involved sites include eye, brain, bladder wall, and heart. Ocular cysticercosis can be extraocular or intraocular and may present with varied clinical symptoms. We report the condition in a thirteen year old female child who presented with mild lower lid swelling and diplopia in upgaze, wherein cysticercus cellulosae cyst was found within the mass of the right inferior rectus muscle. It becomes important to report this case because of the relative rarity of the condition these days, unusual site of the cyst and the young age of the patient.

50: Gupta B, Gupta SK, Suri S, Farooque K, Yadav N, Misra M. Efficacy of contrasting background on a drug label: A prospective, randomized study. *J Anaesthesiol Clin Pharmacol.* 2015 Apr-Jun;31(2):230-3. doi: 10.4103/0970-9185.155154. PubMed PMID: 25948907; PubMed Central PMCID: PMC4411840.

BACKGROUND AND AIMS: Medication error can occur due to fault at any level starting from manufacturing until the administration to the patient. It can be difficult to read the drug name and other information from an ampoule, if there is poor contrast between the font color and background of the ampoule. Primary aim of this study was to evaluate the efficacy of the contrast color on the ampoule's label.

MATERIAL AND METHODS: The study was conducted in a randomized blinded manner at a tertiary level trauma center. One hundred and eight resident doctors participated in the study. All the participants were divided into two groups after randomization. Group A was given the original drug ampoule while the modified ampoule with contrast was given to Group B. Total time in reading the ampoule and

difficulty in reading (DR) scoring were noted for each participant. Another scoring regarding correct reading of ampoule was also noted and compared.

STATISTICAL ANALYSIS: Student's t-test and Mann-Whitney test were used accordingly and $P < 0.05$ was considered as significant.

RESULTS: It was found that mean time taken in reading the original ampoule was more compared to modified ampoule (11.64 ± 1.48 vs. 9.48 ± 1.62 seconds $P < 0.05$). DR score was also higher in Group A ($P < 0.05$) and correct reading score was more in Group B ($P < 0.05$).

CONCLUSION: The labels on drug ampoules or vials should always have a contrasting background. This may reduce medication error and improve patient safety.

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52: Gupta N, Vashist P, Malhotra S, Senjam SS, Misra V, Bhardwaj A. Rapid assessment of visual impairment in urban population of Delhi, India. *PLoS One.* 2015 Apr 27;10(4):e0124206. doi: 10.1371/journal.pone.0124206. eCollection 2015. PubMed PMID: 25915659; PubMed Central PMCID: PMC4411096.

PURPOSE: To determine the prevalence, causes and associated demographic factors related to visual impairment amongst the urban population of New Delhi, India. METHODS: A population-based, cross-sectional study was conducted in East Delhi district using cluster random sampling methodology. This Rapid Assessment of Visual Impairment (RAVI) survey involved examination of all individuals aged 40 years and above in 24 randomly selected clusters of the district. Visual acuity (VA) assessment and comprehensive ocular examination were done during the door-to-door survey. A questionnaire was used to collect personal and demographic information of the study population. Blindness and Visual Impairment was defined as presenting VA $< 3/60$ and $< 6/18$ in the better eye, respectively. Descriptive statistics were computed along with multivariable logistic regression analysis to determine associated factors for visual impairment.

RESULTS: Of 2421 subjects enumerated, 2331 (96.3%) were available for ophthalmic examination. Among those examined, 49.3% were males. The prevalence of visual impairment (VI) in the study population, was 11.4% (95% C.I. 10.1, 12.7) and that of blindness was 1.2% (95% C.I. 0.8, 1.6). Uncorrected refractive error was the leading cause of VI accounting for 53.4% of all VI followed by cataract (33.8%). With multivariable logistic regression, the odds of having VI increased with age (OR = 24.6 [95% C.I.: 14.9, 40.7]; $p < 0.001$). Illiterate participants were more likely to have VI [OR = 1.5 (95% C.I.: 1.1, 2.1)] when compared to educated participants.

CONCLUSIONS: The first implementation of the RAVI methodology in a North Indian population revealed that the burden of visual impairment is considerable in this region despite availability of adequate eye care facilities. Awareness generation and simple interventions like cataract surgery and provision of spectacles will help to eliminate the major causes of blindness and visual impairment in this region.

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54: Gupta S, Gupta S, Kumar A. The hypodermic needle as a dermabrading device for recipient area preparation for skin grafting in vitiligo. *J Am Acad Dermatol*. 2015 Apr;72(4):e105-6. doi: 10.1016/j.jaad.2015.01.017. PubMed PMID: 25773428.

55: Ha IS, Yap HK, Munarriz RL, Zambrano PH, Flynn JT, Bilge I, Szczepanska M, Lai WM, Antonio ZL, Gulati A, Hooman N, van Hoeck K, Higueta LM, Verrina E, Klaus G, Fischbach M, Riyami MA, Sahpazova E, Sander A, Warady BA, Schaefer F. Risk factors for loss of residual renal function in children treated with chronic peritoneal dialysis. *Kidney Int*. 2015 Apr 15. doi: 10.1038/ki.2015.108. [Epub ahead of print] PubMed PMID: 25874598.

In dialyzed patients, preservation of residual renal function is associated with better survival, lower morbidity, and greater quality of life. To analyze the evolution of residual diuresis over time, we prospectively monitored urine output in 401 pediatric patients in the global IPPN registry who commenced peritoneal dialysis (PD) with significant residual renal function. Associations of patient characteristics and time-variant covariates with daily urine output and the risk of developing oligoanuria (under 100ml/m²/day) were analyzed by mixed linear modeling and Cox regression analysis including time-varying covariates. With an average loss of daily urine volume of 130ml/m² per year, median time to oligoanuria was 48 months. Residual diuresis significantly subsided more rapidly in children with glomerulopathies, lower diuresis at start of PD, high ultrafiltration volume, and icodextrin use. Administration of diuretics significantly reduced oligoanuria risk, whereas the prescription of renin-angiotensin system antagonists significantly increased the risk oligoanuria. Urine output on PD was significantly associated in a negative manner with glomerulopathies (-584ml/m²) and marginally with the use of icodextrin (-179ml/m²) but positively associated with the use of biocompatible PD fluid (+111ml/m²). Children in both Asia and North America had consistently lower urine output compared with those in Europe perhaps due to regional variances in therapy. Thus, in children undergoing PD, residual renal function depends strongly on the cause of underlying kidney disease and may be modifiable by diuretic therapy, peritoneal ultrafiltration, and choice of PD fluid. *Kidney International* advance online publication, 15 April 2015; doi:10.1038/ki.2015.108.

56: Hasija S, Kumar P, Uma B, Kiran U. Flambeau in the left atrium. *Ann Card Anaesth*. 2015 Apr-Jun;18(2):274-5. doi: 10.4103/0971-9784.154503. PubMed PMID: 25849710.

57: Hota A, Sarkar C, Gupta SD, Kumar R, Bhalla AS, Thakar A. Expression of vascular endothelial growth factor in Juvenile Angiofibroma. *Int J Pediatr Otorhinolaryngol*. 2015 Jun;79(6):900-2. doi: 10.1016/j.ijporl.2015.03.033. Epub 2015 Apr 11. PubMed PMID: 25890396.

OBJECTIVE: To examine Juvenile Angiofibroma (JA) tissue for expression of vascular endothelial growth factor (VEGF), and to explore its relationship with puberty status, stage, recurrence and the intraoperative blood loss.

METHODS: Retrospective cohort study of 36 histologically proven cases of JA. Minimum follow up period was 3 years. VEGF expression on tumor cells assessed by immunohistochemistry and graded on two criteria--percentage of cells expressing positivity and the intensity of positivity. These two parameters assessed for impact on puberty status, stage, recurrence, and blood loss.

RESULTS: VEGF expression noted on the tumor endothelial cells in 36/36, and on the tumor stromal cells in 34/36. The percentage of cells expressing VEGF and the intensity of expression were not significantly related to puberty status, tumor

stage, recurrence, or intra-operative blood loss (p values 0.3-1.0).
CONCLUSION: VEGF expression is near universal in JA. Such expression is independent of puberty status and stage, and does not impact on intra operative blood loss and recurrence.

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58: Ingwersen SH, Petri KC, Tandon N, Yoon KH, Chen L, Vora J, Yang W. Liraglutide pharmacokinetics and dose-exposure response in Asian subjects with Type 2 diabetes from China, India and South Korea. *Diabetes Res Clin Pract*. 2015 Apr;108(1):113-9. doi: 10.1016/j.diabres.2015.01.001. Epub 2015 Jan 19. PubMed PMID: 25684604.

AIMS: To investigate the population pharmacokinetics and exposure-response relationship of liraglutide, a human glucagon-like peptide-1 (GLP-1) analogue, in Asian subjects with Type 2 diabetes mellitus.

METHODS: Data were derived from a published 16-week, randomized, double-blind, double-dummy, active-controlled, parallel-group trial of liraglutide in China, India and South Korea. The analysis utilized 2061 pharmacokinetic (PK) samples from 605 subjects exposed to liraglutide 0.6, 1.2 or 1.8 mg once daily. Demographic factors (body weight, age, gender, country) of importance for liraglutide clearance were evaluated. An exploratory exposure-response analysis was conducted to investigate effects on glycated haemoglobin (HbA1c) and body weight.

RESULTS: Estimated liraglutide exposure (area under the curve; AUC) appeared to increase proportionally with increasing liraglutide dose (0.6-1.8 mg). The covariate analysis confirmed previous findings in a global clinical trial. Body weight was a predictor of liraglutide exposure; compared to a reference subject of 67 kg, exposure was 32% lower for maximum (115 kg) and 54% higher for minimum (37 kg) observed body weights. Gender, age and country had no relevant effect on exposure. Exposure-response analysis supported the use of 1.2mg as maintenance dose with the option of individual dose escalation to 1.8 mg to optimize treatment outcomes.

CONCLUSIONS: Exposure appeared to increase proportionally with increasing liraglutide dose in Asian subjects with Type 2 diabetes mellitus. The only PK relevant predictor of exposure was body weight. The exposure-response relationships for HbA1c and body weight in Asian subjects were similar to observations in global populations.

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59: Jena MK, Janjanam J, Naru J, Kumar S, Kumar S, Singh S, Mohapatra SK, Kola S, Anand V, Jaswal S, Verma AK, Malakar D, Dang AK, Kaushik JK, Reddy VS, Mohanty AK. DIGE based proteome analysis of mammary gland tissue in water buffalo (*Bubalus bubalis*): lactating vis-a-vis heifer. *J Proteomics*. 2015 Apr 24;119:100-11. doi: 10.1016/j.jprot.2015.01.018. Epub 2015 Feb 7. PubMed PMID: 25661041.

Mammary gland is an exocrine and sebaceous gland made up of branching network of ducts that end in alveoli. Milk is synthesized in the alveoli and secreted into alveolar lumen. Mammary gland represents an ideal system for the study of organogenesis that undergoes successive cycles of pregnancy, lactation and involution. To gain insights on the molecular events that take place in pubertal and lactating mammary gland, we have identified 43 differentially expressed proteins in mammary tissue of heifer (non-lactating representing a virgin mammary gland), and lactating buffaloes (*Bubalus bubalis*) by 2D-difference gel

electrophoresis (2D-DIGE) and mass spectrometry. Twenty one proteins were upregulated during lactation whereas 8 proteins were upregulated in heifer mammary gland significantly ($p < 0.05$). Bioinformatics analyses of the identified proteins showed that a majority of the proteins are involved in metabolic processes. The differentially expressed proteins were validated by real-time PCR and Western blotting. We observed differential expressions of certain new proteins including EEF1D, HSPA5, HSPD1 and PRDX6 during lactation which have not been reported before. The differentially expressed proteins were mapped to available biological pathways and networks involved in lactation. This study signifies the importance of some proteins which are preferentially expressed during lactation and in heifer mammary gland. **BIOLOGICAL SIGNIFICANCE:** This work is important because we have generated information in water buffalo (*B. bubalis*) for the first time which is the major milk producing animal in Indian Subcontinent. Out of a present production of 133 million tons of milk produced in India, contribution of buffalo milk is around 54%. Its physiology is somewhat different from the lactating cows. Buffalo milk composition varies from cow milk in terms of higher fat and total solid content, which confers an advantage in preparation of specialized cheese, curd and other dairy products. Being a major milk producing animal in India it is highly essential to understand the lactation associated proteins in the mammary gland of buffalo. In the present investigation our attempt has been to identify new protein evidences which are expressed in lactating buffalo mammary gland and have not been reported before. The findings reported in the present study will help in understanding the lactation biology of buffalo mammary gland in particular and the mammary gland biology in general.

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60: Kapil U, Bhadoria AS, Sareen N. Reappearance of Bitot's spots after complete resolution in children between 1 and 5 years of age. *J Trop Pediatr*. 2015 Apr;61(2):131-4. doi: 10.1093/tropej/fmu074. Epub 2014 Dec 24. PubMed PMID: 25539777.

There is limited data on proportion of Bitot's spots (BS), which could reappear after receiving mega dose of Vitamin A (MDVA), and their complete resolution. A prospective, community-based, cohort study with 12 months follow-up was conducted among children (1-5 years) with BS at a district from North India. On diagnosis, 200,000 IU of vitamin A was administered on the same day, then after 4 weeks and subsequently after 6 months. Out of 262 children with BS, 157 (59.9%, 95% CI: 54.1-65.9) children had shown resolution of BS after the MDVA supplementation. Out of 157 children, 97 (61.8%, 95% CI: 54.2-69.4) had reappearance of BS after complete resolution. Kaplan-Meier analysis found that median duration of reappearance of BS was 5 months (95% CI: 3.8-6.2) after their complete resolution. The reappearance of BS after administration of two MDVA within 12 months suggests that children with possibly adequate serum retinol level status may have reappearance of BS.

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61: Kapoor PM. From cardio pulmonary bypass to ECMO, mechanical assist devices, quality control and decrease in 30 day mortality in cardiac anaesthesia - are we nearer our goal? *Ann Card Anaesth*. 2015 Apr-Jun;18(2):129. doi: 10.4103/0971-9784.154458. PubMed PMID: 25849676.

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10.1111/and.12267. Epub 2014 Mar 18. PubMed PMID: 24635732.

Malignant peripheral nerve sheath tumour (MPNST) is a rare variety of soft tissue sarcoma that originates from Schwann cells or pluripotent cells of neural crest origin. They have historically been difficult tumours to diagnose and treat. Surgery is the mainstay of treatment with a goal to achieve negative margins. Despite aggressive surgery and adjuvant therapy, the prognosis of patients with MPNST remains poor. MPNST arising from penis is a very rare entity; thus, it presents a diagnostic and therapeutic challenge. We present a case of penile MPNST in a 38-year-old man in the absence of neurofibromatosis treated with surgery followed by post-operative radiotherapy to a dose of 60 Gray in 30 fractions and adjuvant chemotherapy with ifosfamide and adriamycin.

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63: Kaur S, Ghuman MS, Devarajan LJ. A pediatric epilepsy classic: "Double cortex" syndrome. *J Pediatr Neurosci*. 2015 Apr-Jun;10(2):125-6. doi: 10.4103/1817-1745.159201. PubMed PMID: 26167214; PubMed Central PMCID: PMC4489054.

64: Khanduja S, Bansal N, Arora V, Sobti A, Garg S, Dada T. Evaluation of the effect of scleral buckling on the anterior chamber angle using ASOCT. *J Glaucoma*. 2015 Apr-May;24(4):267-71. doi: 10.1097/IJG.0b013e318239c374. PubMed PMID: 23337432.

PURPOSE: To evaluate the change in anterior chamber angle parameters after scleral buckling surgery using anterior segment optical coherence tomography (ASOCT).

METHODS: Fifty-five phakic eyes of 55 subjects undergoing scleral buckling with the placement of an encircling band for primary rhegmatogenous retinal detachment were included in this study. Anterior chamber angle assessment was performed using ASOCT. The trabecular iris angle (TIA), the angle-opening distance, and the trabecular iris space area were the parameters obtained preoperatively and 48 hours, 1 week, and 1 month after the surgery using ASOCT. The intraocular pressure (IOP) was measured using Goldmann applanation tonometry.

RESULTS: The mean age of the patients was 43.2±11.3 years; there were 38 male and 17 female patients. There was a significant decrease in all the angle parameters (TIA, angle opening distance, and trabecular iris space area) at 48 hours, 1 week, and 1 month after surgery (P<0.0001). TIA 180 degree decreased from 41.93±14.27 degrees preoperatively to 31.09±10.52 degrees (P<0.0001) and TIA 0 degree from 42.7±14.04 degrees to 32.92±12.17 degrees (P<0.0001) at 48 hours postoperatively. The mean IOP at 48 hours (17.04±3.26 mm Hg) was significantly higher than the preoperative level (12.68±1.96 mm Hg; P<0.001). No significant difference was noted between the mean preoperative IOP and the IOP readings at 1 week (P=0.402) and 1 month (P=0.23) postoperatively.

CONCLUSIONS: ASOCT imaging reveals that scleral buckling surgery for retinal detachment induces significant narrowing of the anterior chamber angle.

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Ureaplasma species are the most prevalent genital Mycoplasma isolated from the urogenital tract of both men and women. Ureaplasma has 14 known serotypes and is divided into two biovars- Ureaplasma parvum and Ureaplasma urealyticum. The organism has several genes coding for surface proteins, the most important being

the gene encoding the Multiple Banded Antigen (MBA). The C-terminal domain of MBA is antigenic and elicits a host antibody response. Other virulence factors include phospholipases A and C, IgA protease and urease. Besides genital tract infections and infertility, *Ureaplasma* is also associated with adverse pregnancy outcomes and diseases in the newborn (chronic lung disease and retinopathy of prematurity). Infection produces cytokines in the amniotic fluid which initiates preterm labour. They have also been reported from renal stone and suppurative arthritis. Genital infections have also been reported with an increasing frequency in HIV-infected patients. *Ureaplasma* may be a candidate 'co factor' in the pathogenesis of AIDS. Culture and polymerase chain reaction (PCR) are the mainstay of diagnosis. Commercial assays are available with improved turnaround time. Micro broth dilution is routinely used to test antimicrobial susceptibility of isolates. The organisms are tested against azithromycin, josamycin, ofloxacin and doxycycline. Resistance to macrolides, tetracyclines and fluoroquinolones have been reported. The susceptibility pattern also varies among the biovars with biovar 2 maintaining higher sensitivity rates. Prompt diagnosis and initiation of appropriate antibiotic therapy is essential to prevent long term complications of *Ureaplasma* infections. After surveying PubMed literature using the terms 'Ureaplasma', 'Ureaplasma urealyticum' and 'Ureaplasma parvum', relevant literature were selected to provide a concise review on the recent developments.

66: 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.

67: Kumar A, Prasad M, Kathuria P, Nair P, Pandit AK, Sahu JK, Prasad K. Low socioeconomic status is an independent risk factor for ischemic stroke: a case-control study in North Indian population. *Neuroepidemiology*. 2015;44(3):138-43. doi: 10.1159/000374118. Epub 2015 Apr 21. PubMed PMID:25896852.

BACKGROUND: Stroke is a multifactorial disease and is influenced by complex environmental interactions. The contribution of various risk factors to the burden of stroke worldwide is not well known, particularly in developing countries. The present case-control study is aimed at exploring the association between a low socioeconomic status and the risk of ischemic stroke among the North Indian population.

METHODS: The study design was a hospital-based, case-control study. Age- and sex-matched controls were included. The demographic characteristics and risk factor variables were documented by means of a personal interview through a standardized case record form. The household asset index for determining the socioeconomic status (HAISS) was used for the assessment of the socioeconomic status of the population. HAISS was validated with the widely used Kuppuswamy scale for measurement of socioeconomic status. The multivariable logistic regression model was used to estimate the odds ratio associated with stroke.

RESULTS: In all, 224 ischemic stroke patients and 224 controls were recruited between February 2009 and February 2012. The mean age of cases and controls was 53.47 ± 14 and 52.92 ± 13.4 , respectively. The low economic status was independently associated with the risk of ischemic stroke after adjustment for demographic and risk factor variables (OR 2.8; 95% CI 1.2-6.3).

CONCLUSION: Our findings suggest that there is a significant association between a low socioeconomic status and the risk of ischemic stroke risk in North Indian population. Well-designed studies embedded with long-term prospective cohorts are required for confirming the results.

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68: Kumar K, Singh H, Gupta RK, Bal C, Kumar R. Erlotinib-induced cutaneous toxicity: findings on ^{18}F -FDG PET/CT imaging. *Clin Nucl Med*. 2015 Apr;40(4):e251-2. doi: 10.1097/RLU.0000000000000586. PubMed PMID: 25275420.

Erlotinib is a reversible epidermal growth factor receptor tyrosine kinase inhibitor used to treat advanced non-small cell lung carcinoma patients who have shown progression on at least 1 prior chemotherapy regimen. Most of the patients on erlotinib show cutaneous adverse effects. We report the ^{18}F -FDG PET/CT findings in a case of metastatic non-small cell lung carcinoma on erlotinib chemotherapy with developed skin toxicity.

69: Kumar KR, Batra RK, Dhir R, Sharma SC. Inadvertent pneumothorax caused by intubating bougie. *J Anaesthesiol Clin Pharmacol*. 2015 Apr-Jun;31(2):271-2. doi: 10.4103/0970-9185.155209. PubMed PMID: 25948923; PubMed Central PMCID: PMC4411856.

70: Kumar N, Bindra A, Kumar N, Yadav N, Sharma S. Anesthetic concerns in a huge congenital sublingual swelling obscuring airway access. *Saudi J Anaesth*. 2015 Apr-Jun;9(2):202-3. doi: 10.4103/1658-354X.152888. PubMed PMID: 25829912; PubMed Central PMCID: PMC4374229.

Presence of intraoral pathology poses a great challenge during management of pediatric airway. We report management of big intraoral cystic swelling physically occupying the entire oral cavity restricting access to airway. Preintubation aspiration of swelling was done to decrease its size and make room for airway manipulation, followed by laryngoscopy and intubation in lateral

position. Airway patency is at risk in postoperative period also, in this case, though the swelling decreased in size postoperatively but presence of significant edema required placement of tongue stitch and modified nasopharyngeal airway. Case report highlights simple maneuvers to manage a difficult case.

71: Kumar P, Jithesh V, Gupta SK. Does a single specialty intensive care unit make better business sense than a multi-specialty intensive care unit? A costing study in a trauma center in India. *Saudi J Anaesth.* 2015 Apr-Jun;9(2):189-94. doi: 10.4103/1658-354X.152883. PubMed PMID: 25829909; PubMed Central PMCID: PMC4374226.

CONTEXT: Though intensive care units (ICUs) only account for 10% of hospital beds, they consume nearly 22% of hospital resources. Few definitive costing studies have been conducted in Indian settings that would help determine appropriate resource allocation.

AIM: To evaluate and compare the cost of intensive care delivery between multi-specialty and neurosurgery ICU in an apex trauma care facility in India.

MATERIALS AND METHODS: The study was conducted in a polytrauma and neurosurgery ICU at a 203 bedded level IV trauma care facility in New Delhi, India from May, 2012 to June 2012. The study was cross-sectional, retrospective, and record-based. Traditional costing was used to arrive at the cost for both direct and indirect cost estimates. The cost centers included in study were building cost, equipment cost, human resources, materials and supplies, clinical and nonclinical support services, engineering maintenance cost, and biomedical waste management.

STATISTICAL ANALYSIS: Fisher's two-tailed t-test.

RESULTS: Total cost/bed/day for the multi-specialty ICU was Rs. 14,976.9/- and for the neurosurgery ICU was Rs. 14,306.7/-, manpower constituting nearly half of the expenditure in both ICUs. The cost center wise and overall difference in the cost among the ICUs were statistically significant.

CONCLUSIONS: Quantification of expenditure in running an ICU in a trauma center would assist healthcare decision makers in better allocation of resources. Although multi-specialty ICUs are more expensive, other factors will also play a role in defining the kind of ICU that need to be designed.

72: Kumar P, Yadav AK, Kumar A, Sagar R, Pandit AK, Prasad K. Association between Interleukin-6 (G174C and G572C) promoter gene polymorphisms and risk of ischaemic stroke: A meta-analysis. *Ann Neurosci.* 2015 Apr;22(2):61-9. doi: 10.5214/ans.0972.7531.220203. PubMed PMID: 26130909; PubMed Central PMCID: PMC4480254.

BACKGROUND: Interleukin-6 (IL-6), as one of the most typical pro-inflammatory and immunoregulatory cytokines, is believed to be associated with the genesis and maintenance of inflammatory response. Genetic association studies (GAS) that have investigated the association between Interleukin 6 (G174C and G572C) promoter gene polymorphisms and susceptibility to ischemic stroke (IS) which have produced contradictory and unconvincing results.

PURPOSE: The aim of this meta-analysis is to provide a relatively comprehensive account of the association of IL-6 (G174C and G572C) polymorphisms with susceptibility to IS.

METHODS: A literature search was conducted using electronic database PubMed, Medline, and Trip database for all case-control studies investigating for association of IL-6 genetic polymorphisms with ischemic stroke published till August 30, 2014. The following combinations of main keywords were used:

('Interleukin-6' or 'IL-6') and ('ischaemic stroke or 'cerebral infarction' or 'IS') and ('genetic polymorphism' or 'single nucleotide polymorphisms' or 'SNP'). Pooled Odds ratios (ORs) and 95% confidence intervals (CIs) were determined for IL-6 gene-disease association. Meta-analysis was carried out using Revman 5.3 software.

RESULTS: 16 case-control studies involving a total of 3,317 IS patients and 3,432 healthy controls for G174C polymorphism and 3 case-control studies with a total of 2,001 IS patients and 2,027 healthy controls for G572C IL-6 gene polymorphisms were included in a meta-analysis. For IL-6 G174C gene polymorphisms, no significant association was observed under dominant [GC + CC vs. GG: OR = 1.01, 95% CI: 0.77-1.34, P = 0. 92], recessive [CC vs. GG + GC: OR = 0.82, 95% CI: 0.40-1.70, P = 0. 59] and allelic model [C vs. G Allele: OR = 0.99, 95% CI: 0.74-1.31, P = 0. 93]. For IL-6 G572C, no significant association was observed under dominant [CC vs. GG + GC: OR = 0.99, 95% CI: 0.57-1.71, P = 0. 97], recessive [CC vs. GG + GC: OR = 0.93, 95% CI: 0.60-1.45, P = 0. 75] and allelic model [C vs. G Allele: OR = 0.95, 95% CI: 0.66-1.36, P = 0. 76].

CONCLUSION: This meta-analysis shows that IL-6 (G174C) and IL-6 (G572C) gene polymorphisms may not be associated with an increased susceptibility to IS. Further studies are required for confirmatory results.

73: Kumar P, Kumar P, Balooni V, Singh S. Genetic mutations associated with rifampicin and isoniazid resistance in MDR-TB patients in North-West India. *Int J Tuberc Lung Dis.* 2015 Apr;19(4):434-9. doi: 10.5588/ijtld.14.0596. PubMed PMID: 25859999.

BACKGROUND: Effective tuberculosis (TB) control has been hindered by the emergence of multidrug-resistant TB (MDR-TB).

OBJECTIVE: To analyse the frequency of drug resistance among presumed cases of drug-resistant TB in the state of Punjab, India, and to determine the frequency of various genetic mutations detected using the line-probe assay (LPA).

METHODS: Eight hundred patients with presumptive drug-resistant TB were enrolled under the programmatic management of drug-resistant TB under India's Revised National Tuberculosis Control Programme. Sputum samples from these patients were subjected to smear microscopy and LPA. Clinicodemographic details along with drug resistance patterns and genetic mutations were studied.

RESULTS: After excluding non-eligible samples, 545 samples were analysed, of which 290 (53.2%) showed resistance. Isoniazid and rifampicin (RMP) monoresistance were detected in respectively 9.3% (51/545) and 18% (98/545) of samples, while MDR was present in 25.8% (141/545) of samples. Of the MDR-TB cases, 2.1% (3/141) were treatment-naïve, while 90.8% (128/141) were on retreatment. The most common mutation conferring RMP resistance was S531L.

CONCLUSION: All patients undergoing retreatment for TB should be tested for drug susceptibility at the initial evaluation. Factors responsible for high MDR-TB and heteroresistance in Punjab need further studies.

74: Kumar P, Kumar A, Lodha R, Kabra SK. Childhood tuberculosis in general practice. *Indian J Pediatr.* 2015 Apr;82(4):368-74. doi: 10.1007/s12098-014-1577-2. Epub 2014 Oct 5. PubMed PMID: 25280927.

Tuberculosis (TB) in children is a common cause of morbidity. Diagnosis is difficult because of paucibacillary nature of illness and difficulty in obtaining appropriate samples. Children presenting with poor weight gain, fever with or without cough for more than two weeks or contact with an adult in family with pulmonary tuberculosis should be investigated for TB. In all suspected cases of tuberculosis initial investigations include radiograph of chest (CXR) and Mantoux

test. If CXR is suggestive of TB, an ambulatory gastric aspirate and induced sputum for acid fast bacilli (AFB) smear may be carried out in two days. Children with AFB positive or abnormal CXR with positive Mantoux test should be started on Antitubercular therapy (ATT). Rest of the patients require more investigations and should be referred to a specialist. All children with newly diagnosed tuberculosis should be treated with 6 mo of ATT (two months with 4 drugs, followed by four months with 2 drugs). Children on ATT should be monitored for improvement in symptoms and weight gain along with side effects of medications. CXR should be done after completion of treatment.

75: Kumar S, Goyal K, Dubey S, Bindra A, Kedia S. Anaphylactic reaction after autologous blood transfusion: A case report and review of the literature. *Asian J Neurosurg.* 2015 Apr-Jun;10(2):145-7. doi: 10.4103/1793-5482.154983. PubMed PMID: 25972952; PubMed Central PMCID: PMC4421958.

Autologous blood transfusion as a cause of intraoperative anaphylaxis is very rare. We encountered one such life-threatening event in a 72-year-old patient undergoing laminectomy and pedicle screw fixation. The probable cause identified was the floseal mixed autologous blood transfusion. Review of literature has been done, and measures to avoid such an event in the future are discussed.

76: Kumar VL, Guruprasad B, Chaudhary P, Fatmi SM, Oliveira RS, Ramos MV. Protective effect of proteins derived from *Calotropis procera* latex against acute inflammation in rat. *Auton Autacoid Pharmacol.* 2015 Jul;35(1-2):1-8. doi: 10.1111/aap.12022. Epub 2015 Apr 17. PubMed PMID: 25882716.

The non-dialysable proteins present in the latex of plant *Calotropis procera* possess anti-inflammatory and analgesic properties. The aim of this study was to evaluate the effect of latex proteins (LP) on the level of inflammatory mediators, oxidative stress markers and tissue histology in the rat model of carrageenan-induced acute inflammation. This study also aimed at evaluating the anti-inflammatory efficacy of LP against different mediators and comparing it with their respective antagonists. Paw inflammation was induced by subplantar injection of carrageenan, and the effect of LP was evaluated on oedema volume, level of TNF- α , PGE2, myeloperoxidase, nitric oxide, reduced glutathione, thiobarbituric acid-reactive substances and tissue histology at the time of peak inflammation. Paw inflammation was also induced by histamine, serotonin, bradykinin and PGE2, and the inhibitory effect of LP against these mediators was compared with their respective antagonists at the time of peak effect. Treatment with LP produced a dose-dependent inhibition of oedema formation, and its anti-inflammatory effect against carrageenan-induced paw inflammation was accompanied by reduction in the levels of inflammatory mediators, oxidative stress markers and normalization of tissue architecture. LP also produced a dose-dependent inhibition of oedema formation induced by different inflammatory mediators, and its efficacy was comparable to their respective antagonists and more pronounced than that of diclofenac. Thus, our study shows that LP has a potential to be used for the treatment of various inflammatory conditions where the role of these mediators is well established.

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77: Kumari N, Tajmul M, Yadav S. Proteomic analysis of mature *Lagenaria siceraria* seed. *Appl Biochem Biotechnol.* 2015 Apr;175(8):3643-56. doi: 10.1007/s12010-015-1532-3. Epub 2015 Feb 12. PubMed PMID: 25672325.

Lagenaria siceraria (bottle gourd) class belongs to Magnoliopsida family

curcubitaceae that is a traditionally used medicinal plant. Fruit of this plant are widely used as a therapeutic vegetable in various diseases, all over the Asia and Africa. Various parts of this plant like fruit, seed, leaf and root are used as alternative medicine. In the present study, primarily, we have focused on proteomic analysis of *L. siceraria* seed using phenol extraction method for protein isolation. Twenty-four colloidal coomassie blue stained protein spots were identified by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF/MS) after resolving on two-dimensional gel electrophoresis. Out of 24 identified protein spots, four were grouped as unidentified proteins which clearly suggest that less work has been done in the direction of plant seed proteomics. These proteins have been found to implicate in various functions such as biosynthesis of plant cell wall polysaccharides and glycoproteins, serine/threonine kinase activity, plant disease resistance and transferase activity against insects by means of insecticidal and larval growth inhibitory, anti-HIV, antihelmintic and antimicrobial properties. By Blast2GO annotation analysis, amongst the identified proteins of *L. siceraria*, molecular function for majority of proteins has indispensable role in catalytic activity, few in binding activity and antioxidant activity; it is mostly distributed in cell, organelle, membrane and macromolecular complex. Most of them involved in biological process such as metabolic process, cellular process, response to stimulus, single organism process, signalling, biological recognition, cellular component organization or biogenesis and localization.

78: Kurwale NS, Suri V, Srivastava A, Suri A, Mohanti S, Yadav P, Sharma MC, Sarkar C. Role of bone marrow derived pluripotent stem cells in peripheral nerve repair in adult rats: A morphometric evaluation. *J Neurosci Rural Pract.* 2015 Apr-Jun;6(2):152-9. doi: 10.4103/0976-3147.153218. PubMed PMID: 25883471; PubMed Central PMCID: PMC4387802.

OBJECTIVES: Semi-quantitative and quantitative assessment of the effect of bone marrow-derived mononuclear cells (BM-MNC) on early and late phase of nerve regeneration in rat sciatic nerve model.

MATERIALS AND METHODS: Sciatic nerve transection and repair was performed in 50 inbred female Wistar albino rats divided equally in two groups. In the test group the gap was filled with BM-MNCs obtained from the two male rats and fibrin sealant, while in the control group only fibrin sealant was used. Sciatic nerve was harvested at 15 days and at 60 days interval. Parameters of regeneration were assessed at anastomosis (G), intermediate distal (C), and distal site (A). Semi-quantitative (histopathological) and quantitative (morphometric) parameters were analyzed.

RESULTS: At 15 days there was a statistically significant difference found in mean axon diameter, mean nerve thickness and myelin thickness at the repair site ($P < 0.05$). However, in the distal areas, the axons were sparse and myelin rings were very thin in both the groups. At 60 days, the difference in above-mentioned parameters was statistically significant at the distal most sites. FISH assay confirmed the presence of Y chromosome, confirming the presence of BM-MNCs from the male rats.

CONCLUSIONS: Transplanting BM-MNCs at the site of peripheral nerve injury leads to significantly better recovery. These differences were evident at the repair site and at the intermediate distal site at 15 days and at the distal most sites at 60 days. With practically no ethical issue regarding their isolation and application, they can be easily used for clinical trials.

79: Luthra K. Antiviral activity of cystatin C against HIV. *Indian J Med Res.* 2015 Apr;141(4):383-4. doi: 10.4103/0971-5916.159242. PubMed PMID: 26112837; PubMed Central PMCID: PMC4510716.

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

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

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

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

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

81: Madan K, Ayub II, Mohan A, Jain D, Guleria R, Kabra SK. Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) in mediastinal lymphadenopathy. *Indian J Pediatr.* 2015 Apr;82(4):378-80. doi: 10.1007/s12098-014-1665-3. Epub 2015 Jan 8. PubMed PMID: 25567076.

Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration (EBUS-TBNA) is accepted as a safe and minimally invasive modality for evaluation of mediastinal pathologies in adults. There is scanty literature on the utilization and performance characteristics of Convex probe EBUS-TBNA in children. The authors herein describe two pediatric patients with mediastinal lymphadenopathy wherein the underlying diagnosis was unclear based on the clinico-radiological profile. A possibility of lymphoma was considered in one of the patients. EBUS-TBNA was performed for obtaining tissue samples from the enlarged mediastinal lymph nodes and diagnosis of tuberculosis was established in both the patients. The authors review the available literature on Pediatric EBUS TBNA. EBUS-TBNA is an exciting and promising approach towards safe and accurate evaluation of mediastinal pathologies in children. Pediatric EBUS-TBNA needs further evaluation in prospective studies.

82: Maitra S, Bhattacharjee S, Khanna P, Baidya DK. High-frequency ventilation does not provide mortality benefit in comparison with conventional lung-protective ventilation in acute respiratory distress syndrome: a meta-analysis of the randomized controlled trials. *Anesthesiology.* 2015 Apr;122(4):841-51. doi: 10.1097/ALN.0000000000000306. PubMed PMID: 24830508.

BACKGROUND: Despite implementation of lung-protective ventilation strategy, acute respiratory distress syndrome is associated with significant mortality, which necessitates the evaluation of ventilatory modes other than conventional lung-protective strategy. This meta-analysis of the randomized controlled trials has been undertaken to know whether high-frequency oscillatory ventilation (HFOV) provides any mortality benefit over conventional ventilation in adult patients with acute respiratory distress syndrome.

METHODS: Published randomized controlled trials comparing HFOV with conventional lung-protective ventilation in adult patients with acute respiratory distress syndrome were included in this meta-analysis.

RESULTS: A total 1,759 patient data from seven randomized controlled trials have

been analyzed here. Primary outcome of the review is in-hospital/30-day mortality and secondary outcomes are duration of intensive care unit stay, duration of mechanical ventilation, requirement of additional treatment, and complications associated with the interventions. HFOV does not offer any in-hospital/30-day mortality benefit (386 of 886 in HFOV vs. 368 of 873 in conventional ventilation; risk ratio, 0.96; 95% CI, 0.77 to 1.19; P = 0.70) over conventional ventilation. It may also prolong the duration of mechanical ventilation (mean difference, 1.18 days; 95% CI, 0.00 to 2.35 days; P = 0.05). Duration of intensive care unit stay (mean difference, 1.24 days; 95% CI, -0.08 to 2.56 days; P = 0.06) and requirement of neuromuscular blocker is similar between two treatment arm. Incidence of refractory hypoxemia is significantly less (risk ratio, 0.60; 95% CI, 0.39 to 0.93; P = 0.02) with the use of HFOV. HFOV is not associated with increased incidence of barotrauma and refractory hypotension. CONCLUSION: HFOV should not be used routinely in all adult patients with acute respiratory distress syndrome as primary ventilation strategy in place of conventional lung-protective ventilation.

83: Makharia GK. Celiac disease screening in southern and East Asia. *Dig Dis.* 2015;33(2):167-74. doi: 10.1159/000369537. Epub 2015 Apr 22. PubMed PMID: 25925919.

Until 1970s, celiac disease (CD) was considered to be an uncommon disease except in Western Europe. The global epidemiology of CD continues to evolve with improvement in the diagnostic tests, simplification of the diagnostic criteria and increase in awareness about the disease. The Asian region is currently at the crossroads of the frontier of knowledge and awareness of CD. In many Asian nations, CD is still considered to be either nonexistent or very rare. A notable exception is India, where CD has been well recognized, especially in the northern part, and 2 population-based studies have revealed a prevalence of 0.3-1.04%. Initial reports from Malaysia, China, Japan and Singapore suggest the existence of CD in these countries. Furthermore, a meta-analysis of the predisposing factors predicts a high probability of occurrence of CD in fair numbers in China. There are no formal reports on CD from Malaysia, Indonesia, Korea, Taiwan and many other nations in this region. With the impending CD epidemic in Asia, there are many challenges. Some of the efforts which are required include determination of prevalence of CD across the region, spreading of awareness among physicians and patients, training of dieticians for proper counseling and supervision of patients, creation of gluten-free food infrastructure in the food supply and creation of patient advocacy organizations. Although the absolute number of patients with CD at present is not very large, this number is expected to increase over the next few years/decades. It is thus appropriate that the medical community across Asia define the extent of the problem and get prepared to handle the impending CD epidemic.

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84: Malhotra M, Kumar D, Verma R. Effect of psychosocial environment in children having mother with schizophrenia. *Psychiatry Res.* 2015 Apr 30;226(2-3):418-24. doi: 10.1016/j.psychres.2014.11.028. Epub 2014 Dec 8. PubMed PMID: 25700567.

The process of child's mental development depends heavily on the social interrelationship between the mother and her child. Schizophrenia in mothers potentially disrupts mother-infant relationship and adaptation to motherhood. Literature is limited on evaluating the emotional and behavioral problems of children of mother having schizophrenia with nearly none from the Indian subcontinent. The aim of the current study was to examine the effect of psychosocial environment in children of females with schizophrenia. Thirty

children of mothers suffering with schizophrenia were evaluated with Child Behavior Checklist (CBCL) and Mini International Neuropsychiatric Interview for children and adolescents. The psychosocial environment was assessed using Parent Interview Schedule. Control group of 30 children were evaluated in the same way as the cases. The children of female patients with schizophrenia were found to score significantly higher on internalizing and externalizing behavioral problems on CBCL as compared to control group, along with significant differences in the psychosocial environment between the groups. We conclude that there is a need for screening and evaluation of children of mothers diagnosed with schizophrenia, for identifying and managing possible mental and behavioral problems in them, and to assess the psychosocial environment and provide interventions for issues related to it.

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85: Mallick S, Giridhar P, Prasad Venkatesulu B. In regard to "Risk of second non-breast cancer after radiotherapy for breast cancer: A systematic review and meta-analysis of 762,468 patients". *Radiother Oncol*. 2015 Jun;115(3):431. doi: 10.1016/j.radonc.2015.03.025. Epub 2015 Apr 3. PubMed PMID: 25847871.

86: Mallick S, Gandhi AK, Joshi NP, Kumar A, Puri T, Sharma DN, Haresh KP, Gupta S, Julka PK, Rath GK, Sarkar C. Outcomes of pediatric glioblastoma treated with adjuvant chemoradiation with temozolomide and correlation with prognostic factors. *Indian J Med Paediatr Oncol*. 2015 Apr-Jun;36(2):99-104. doi: 10.4103/0971-5851.158838. PubMed PMID: 26157286; PubMed Central PMCID: PMC4477385.

BACKGROUND: Pediatric glioblastoma (pGBM) patients are underrepresented in major trials for this disease. We aimed to explore the outcome of pGBM patients treated with concurrent and adjuvant temozolomide (TMZ).

MATERIALS AND METHODS: 23 patients of pGBM treated from 2004 to 2010 were included in this retrospective analysis. Adjuvant therapy included conformal radiation 60 gray at 2 gray/fraction daily over 6 weeks with concurrent TMZ 75 mg/m² followed by six cycles of adjuvant TMZ 150-200 mg/m² (day 1-5) every 4 weeks. Kaplan-Meier estimates of overall survival (OS) were determined. Univariate analysis with log-rank test was used to determine the impact of prognostic variables on survival.

RESULTS: Median age at presentation was 11.5 years (range: 7-19 years) and M:F ratio was 15:8. All patients underwent maximal safe surgical resection; 13 gross total resection and 10 sub-total resection. At a median follow-up of 18 months (range: 2.1-126 months), the estimated median OS was 41.9 months. The estimated median OS for patients receiving only concurrent TMZ was 8 months while that for patients receiving concurrent and adjuvant TMZ was 41.9 months (P = 0.081). Estimated median OS for patients who did not complete six cycles of adjuvant TMZ was 9.5 months versus not reached for those who completed at least six cycles (P = 0.0005). Other prognostic factors did not correlate with survival.

CONCLUSIONS: Our study shows the benefit of TMZ for pGBM patients. Both concurrent and adjuvant TMZ seem to be important for superior OS in this group of patients.

87: Mallick S, Das S, Benson R, Roshan V, Bhasker S. Outcome of primary orbital lymphoma treated with induction chemotherapy followed by conformal radiotherapy. *J Egypt Natl Canc Inst*. 2015 Apr 29. pii: S1110-0362(15)00034-5. doi:

10.1016/j.jnci.2015.04.003. [Epub ahead of print] PubMed PMID: 25935857.

PURPOSE: To analyze the clinical outcome of primary orbital lymphoma (POL) patients treated with a combined modality approach with local radiotherapy after induction chemotherapy.

METHODOLOGY: We retrospectively retrieved demographic, treatment and outcome data of patients treated for POL from 2000 to 2010. The charts were reviewed and the data were tabulated in a predesigned pro-forma.

RESULTS: 23 patients of POL were found evaluable. Median age was 55years (range 24-70years). Of 23 patients, 15 were male and 8 female, making the male:female ratio approximately 1.9:1. Patients were thoroughly evaluated and staged. All but one patient received multi agent chemotherapy. Radiotherapy was delivered for all cases. Radiation was delivered by 3DCRT technique. Median dose of radiation was 45Gy (range 20-45Gy). Median follow up was 26.8months. None of the patients had any evidence of local failure or systemic progression.

CONCLUSION: A combined modality therapy with a combination of CHOP/COP based chemotherapy and moderate dose of radiotherapy imparts excellent long term local and systemic disease control.

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88: Mallick S, Benson R, Bhasker S, Mohanti BK. Long-term treatment outcomes of juvenile nasopharyngeal angiofibroma treated with radiotherapy. *Acta Otorhinolaryngol Ital.* 2015 Apr;35(2):75-9. PubMed PMID: 26019389; PubMed Central PMCID: PMC4443565.

Juvenile nasopharyngeal angiofibroma (JNA) is a disease of adolescent males characterised by high vascularity with local aggressiveness. This analysis was intended to see the effectiveness of radiation in locally advanced JNA. We included patients treated from 1990-2012. A total of 31 patients met study criteria. Median age was 16 years (range: 12-33 years). Radiation was used for refractory, residual or unresectable locally advanced disease. The median radiation dose was 30 Gy (range: 30-45 Gy). Median follow-up was 36 months (Range: 1-271 months). The median progression-free survival [PFS] was not reached. PFS at 3, 5 and 10 years was 91.7, 70.7 and 70.7% respectively. Three patients progressed at 38, 43 and 58 months after completion of treatment and opted for alternative therapy. One patient developed squamous cell carcinoma of the nasal ale 15 years after radiation.

89: Mandal PK, Saharan S, Tripathi M, Murari G. Brain Glutathione Levels - A Novel Biomarker for Mild Cognitive Impairment and Alzheimer's Disease. *Biol Psychiatry.* 2015 Apr 14. pii: S0006-3223(15)00312-1. doi: 10.1016/j.biopsych.2015.04.005. [Epub ahead of print] PubMed PMID: 26003861.

BACKGROUND: Extant data from in vivo animal models and postmortem studies indicate that Alzheimer's disease (AD) pathology is associated with reduction of the brain antioxidant glutathione (GSH), yet direct clinical evidence has been lacking. In this study, we investigated GSH modulation in the brain with AD and assessed the diagnostic potential of GSH estimation in hippocampi (HP) and frontal cortices (FC) as a biomarker for AD and its prodromal stage, mild cognitive impairment (MCI).

METHODS: Brain GSH levels were measured in HP of 21 AD, 22 MCI, and 21 healthy old controls (HC) and FC of 19 AD, 19 MCI, and 28 HC with in vivo proton magnetic resonance spectroscopy. The association between GSH levels and clinical measures

of AD progression was tested. Linear regression models were used to determine the best combination of GSH estimation in these brain regions for discrimination between AD, MCI, and HC.

RESULTS: AD-dependent reduction of GSH was observed in both HP and FC ($p < .001$). Furthermore, GSH reduction in these regions correlated with decline in cognitive functions. Receiver operator characteristics analyses evidenced that hippocampal GSH robustly discriminates between MCI and healthy controls with 87.5% sensitivity, 100% specificity, and positive and negative likelihood ratios of 8.76/.13, whereas cortical GSH differentiates MCI and AD with 91.7% sensitivity, 100% specificity, and positive and negative likelihood ratios of 9.17/.08.

CONCLUSIONS: The present study provides compelling in vivo evidence that estimation of GSH levels in specific brain regions with magnetic resonance spectroscopy constitutes a clinically relevant biomarker for MCI and AD.

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90: Mathur R, Dutta S, Velpandian T, Mathur SR. Psidium guajava Linn. leaf extract affects hepatic glucose transporter-2 to attenuate early onset of insulin resistance consequent to high fructose intake: An experimental study. *Pharmacognosy Res.* 2015 Apr-Jun;7(2):166-75. doi: 10.4103/0974-8490.151459. PubMed PMID: 25829790; PubMed Central PMCID: PMC4357967.

BACKGROUND: Insulin resistance (IR) is amalgam of pathologies like altered glucose metabolism, dyslipidemia, impaired glucose tolerance, non-alcoholic fatty liver disease, and associated with type-II diabetes and cardiometabolic diseases. One of the reasons leading to its increased and early incidence is understood to be a high intake of processed fructose containing foods and beverages by individuals, especially, during critical developmental years.

OBJECTIVE: To investigate the preventive potential of aqueous extract of *Psidium guajava* leaves (PG) against metabolic pathologies, vis-à-vis, IR, dyslipidemia, hyperleptinemia and hypertension, due to excess fructose intake initiated during developmental years.

MATERIALS AND METHODS: Post-weaning (4 weeks old) male rats were provided fructose (15%) as drinking solution, ad libitum, for 8 weeks and assessed for food and water/fructose intake, body weight, fasting blood sugar, mean arterial pressure, lipid biochemistry, endocrinal (insulin, leptin), histopathological (fatty liver) and immunohistochemical (hepatic glucose transporter [GLUT2]) parameters. Parallel treatment groups were administered PG in doses of 250 and 500 mg/kg/d, po × 8 weeks and assessed for same parameters. Using extensive liquid chromatography-mass spectrometry protocols, PG was analyzed for the presence of phytoconstituents like Myrecetin, Luteolin, Kaempferol and Guavanoic acid and validated to contain Quercetin up to 9.9%w/w.

RESULTS: High fructose intake raised circulating levels of insulin and leptin and hepatic GLUT2 expression to promote IR, dyslipidemia, and hypertension that were favorably re-set with PG. Although PG is known for its beneficial role in diabetes mellitus, for the first time we report its potential in the management of lifelong pathologies arising from high fructose intake initiated during developmental years.

91: Mishra B, Singhal S, Aggarwal D, Kumar N, Kumar S. Non operative management of traumatic esophageal perforation leading to esophagocutaneous fistula in pediatric age group: review and case report. *World J Emerg Surg.* 2015 Apr 2;10:19. doi: 10.1186/s13017-015-0012-y. eCollection 2015. PubMed PMID: 25866555; PubMed Central PMCID: PMC4393641.

Management of delayed presenting esophageal perforations has long been a topic of debate. Most authors consider definitive surgery being the management of choice. Management, however, differs in pediatric patients in consideration with better healing of younger tissues. We extensively review the role of aggressive non-operative management in pediatric esophageal perforations, especially with delayed presentation and exemplify with case of a young boy with esophageal perforation and esophago-cutaneous fistula. We also lay down the protocol to manage such patients based on our institutional recommendations.

92: Misra V, Vashist P, Malhotra S, Gupta SK. Models for primary eye care services in India. *Indian J Community Med.* 2015 Apr-Jun;40(2):79-84. doi: 10.4103/0970-0218.153868. PubMed PMID: 25861167; PubMed Central PMCID: PMC4389507.

Blindness and visual impairment continues to be a major public health problem in India. Availability and easy access to primary eye care services is essential for elimination of avoidable blindness. 'Vision 2020: The Right to Sight - India' envisaged the need for establishing primary eye care units named vision centers for every 50,000 population in the country by the year 2020. The government of India has given priority to develop vision centers at the level of community health centers and primary health centers under the 'National Program for Control of Blindness'. NGOs and the private sector have also initiated some models for primary eye care services. In the current situation, an integrated health care system with primary eye care promoted by government of India is apparently the best answer. This model is both cost effective and practical for the prevention and control of blindness among the underprivileged population. Other models functioning with the newer technology of tele-ophthalmology or mobile clinics also add to the positive outcome in providing primary eye care services. This review highlights the strengths and weaknesses of various models presently functioning in the country with the idea of providing useful inputs for eye care providers and enabling them to identify and adopt an appropriate model for primary eye care services.

93: Muthukrishnan SP, Singh A, Sampath N, Jaryal AK. Re.: How to make the best use of intraoperative motor evoked potential monitoring? Experience in 1162 consecutive spinal deformity surgical procedures. *Spine (Phila Pa 1976).* 2015 Apr 15;40(8):588. doi: 10.1097/BRS.0000000000000825. PubMed PMID: 25868098.

94: Nadarajah J, Baliyan V, Yadav AK, Kumar A, Gamanagatti S, Saini A, Gupta A. Traumatic pseudoaneurysm of bulbourethral artery managed by coil embolization. *Indian J Surg.* 2015 Apr;77(Suppl 1):140-2. doi: 10.1007/s12262-014-1204-5. Epub 2014 Dec 11. PubMed PMID: 25972675; PubMed Central PMCID: PMC4425773.

Urethral injury is a common form of urogenital trauma in males. Urethral injuries can be diagnosed with ease in emergency due to the presence of blood clot at external urethral meatus or inability to catheterize the urethra. Stricture formation is usual sequelae of such injuries. Uncontrolled urethral hemorrhage is a relatively rare complication which can present either as immediate or delayed. Such injuries can be managed conservatively in majority; however, if uncontrolled may require interventional management. Such patients usually have underlying pseudoaneurysm formation or arteriovenous fistula. Here, we are reporting a case of bulbar urethral injury which presented with delayed uncontrolled urethral

hemorrhage. On angiography, pseudoaneurysm arising from left bulbourethral artery with active urethral extravasation was noted and was managed with coil embolization.

95: Nalwa A, Nath D, Suri V, Jamaluddin MA, Srivastava A. Myeloid sarcoma of the breast in an aleukemic patient: a rare entity in an uncommon location. *Malays J Pathol.* 2015 Apr;37(1):63-6. PubMed PMID: 25890617.

Myeloid sarcoma (MS) is an extramedullary solid neoplasm of immature myeloid cells. These tumours usually develop in concurrence with or following acute leukemia. The breast is an uncommon site for presentation of this tumour, where it is often misdiagnosed as lymphoma or carcinoma. A 33-year-old female presented with a right breast lump in a private hospital, which was diagnosed as ductal carcinoma on lumpectomy. Subsequently she developed a lump in the left breast and a similar diagnosis of carcinoma was made on biopsy. A left mastectomy was performed. Histopathological examination revealed a tumour composed of mononuclear cells arranged in sheets and cords with round to oval vesicular nuclei and occasional prominent nucleoli. IHC for CK was very weak and focal. The tumour cells were immunonegative for ER, PR, Her2neu, epithelial membrane antigen, e-cadherin, CD3 and CD20. Diffuse immunopositivity for myeloperoxidase, CD34 and CD117 established a diagnosis of myeloid sarcoma. A histopathological review of the right breast lesion, with immunohistochemistry, also confirmed the diagnosis of myeloid sarcoma. Investigatory workup for acute myeloid leukemia, including bone marrow aspirate and biopsy and karyotypic studies, proved negative. The patient was treated with high dose cytarabine (HDAC) regimen and was disease free during the 12-month follow-up. Although extremely rare, awareness of such a presentation is crucial. This case also illustrates that careful histopathological review along with an expanded panel of immunohistochemistry is extremely important for recognizing such cases as a misdiagnosis can lead to unnecessary surgery and inappropriate therapy.

96: Nandish HS, Borkar SA, Kale SS, Sharma BS, Mahapatra AK. Pediatric posterior cerebral artery stroke as a presentation of atlantoaxial dislocation. *J Pediatr Neurosci.* 2015 Apr-Jun;10(2):149-52. doi: 10.4103/1817-1745.159186. PubMed PMID: 26167221; PubMed Central PMCID: PMC4489061.

We report an uncommon case of posterior circulation stroke in a young patient due to occlusion of posterior cerebral artery with reducible atlantoaxial dislocation (AAD). Plain dynamic radiography showed reducible AAD and intra-arterial digital subtraction angiography demonstrated occlusion of left posterior cerebral artery. Patient underwent stabilization of craniovertebral junction by occipito cervical fixation using occipit-C2/C3 lateral mass screws and rod fixation and has since experienced no recurrent symptoms. Vertebrobasilar insufficiency is a known entity in a patient with reducible AAD; however, isolated involvement of posterior cerebral artery is very rare. So this condition should be kept in mind, and necessary interventions must be undertaken at the earliest to avoid further irreversible brain damage.

97: Nehra A, Kaur H. Moyamoya Disease: a ray of hope from a psychosocial perspective. *Ann Neurosci.* 2015 Apr;22(2):121-4. doi: 10.5214/ans.0972.7531.221212. PubMed PMID: 26130918; PubMed Central PMCID: PMC4480261.

Moyamoya disease (MMD) is a rare blood vessel disorder occurring in people from Japan and other Asian countries, but people in other countries also have been diagnosed with MMD. Impaired neuropsychological functioning is a common sequelae

of MMD in children as well as adults. We report a male, diagnosed as MMD at 8 years who was referred for neuropsychological evaluation (NPE) at 12 year, revealed impaired intellectual functioning with moderate retardation on social adaptive functioning. After 2 years of follow up, post psychosocial intervention, the patient showed remarkably upward trend in his social adaptive functioning, with shift in his intellectual functioning by 21 I.Q. Points thereby bringing him to mild category of mental retardation. Therefore, this rare case shows improved neuropsychological functioning, highlighting importance of interplay between nature and nurture roles. Hence, NPE is sensitive in comparing and drawing inferences for neuropsychological rehabilitation and pharmacological management for such patients.

98: Ojha A, Gupta YK. Evaluation of genotoxic potential of commonly used organophosphate pesticides in peripheral blood lymphocytes of rats. *Hum Exp Toxicol.* 2015 Apr;34(4):390-400. doi: 10.1177/0960327114537534. Epub 2014 Sep 8. PubMed PMID: 25205738.

Chlorpyrifos (CPF), methyl parathion (MPT), and malathion (MLT) are among the most extensively used organophosphate (OP) pesticides in India. DNA protein cross-links (DPC) and DNA strand breaks are toxic lesions associated with the mechanism(s) of toxicity of carcinogenic compounds. In the present study, we examined the hypothesis that individual and interactive genotoxic effects of CPF, MPT, and MLT are involved in the formation of DPC and DNA strand break. The DNA strand break was measured by comet assay and expressed as DNA damage index, while DPC estimation was carried out by fluorescence emission assay. The results showed that exposure of rat lymphocytes with CPF, MPT, and MLT caused significantly marked increase in DNA damage and DPC formation in time-dependent manner. MPT caused the highest damage, and these pesticides do not potentiate the toxicity of each other.

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99: Ozair FF, Jamshed N, Sharma A, Aggarwal P. Ethical issues in electronic health records: A general overview. *Perspect Clin Res.* 2015 Apr-Jun;6(2):73-6. doi: 10.4103/2229-3485.153997. Review. PubMed PMID: 25878950; PubMed Central PMCID: PMC4394583.

Electronic health record (EHR) is increasingly being implemented in many developing countries. It is the need of the hour because it improves the quality of health care and is also cost-effective. Technologies can introduce some hazards hence safety of information in the system is a real challenge. Recent news of security breaches has put a question mark on this system. Despite its increased usefulness, and increasing enthusiasm in its adoption, not much attention is being paid to the ethical issues that might arise. Securing EHR with an encrypted password is a probable option. The purpose of this article is to discuss the various ethical issues arising in the use of the EHRs and their possible solutions.

100: Pal A, Samanta S, Samanta S, Wig J. Sustained Ventricular Tachycardia after Electroconvulsive Therapy: Can it be Prevented? *Indian J Psychol Med.* 2015 Apr-Jun;37(2):247-8. doi: 10.4103/0253-7176.155663. PubMed PMID: 25969619; PubMed Central PMCID: PMC4418266.

101: Panda A, Pal Singh T, Satpathy G, Wadhvani M, Monika Matwani. Comparison of polymerase chain reaction and standard microbiological techniques in presumed

bacterial corneal ulcers. *Int Ophthalmol*. 2015 Apr;35(2):159-65. doi: 10.1007/s10792-014-9925-9. Epub 2014 Jun 24. PubMed PMID: 24958188.

To assess utility of PCR in the diagnosis of bacterial corneal ulcer and to compare sensitivity and specificity of this technique with conventional laboratory methods. A prospective nonrandomized investigative study conducted on 122 eyes of presumed bacterial keratitis. Samples were collected for bacterial and fungal culture and Gram stain smear. A separate sample was taken for PCR with 26 gauge needle and was dipped directly into Eppendorff tube with lysis buffer in it. Diagnosis of culture proven bacterial keratitis was established in 53 (43.4 %) and most common bacterial isolate was staphylococcal sp. (83 %). Direct microscopic examination of Gram stained smear revealed presence of bacteria in 24 (23.9 %) specimens and PCR positivity was evident in 56 (45.5 %). In preantibiotic treated eyes culture was positive in 15 (30 %), Gram stain in 9 (18 %), and PCR in 18 (36 %). The same for untreated (fresh) eyes, positivity of culture as well as PCR was noted in 38 (52.7 %) and that of Gram stain was noted in 20 (27.7 %). Sensitivity of Gram stain and PCR was 45.28 and 88.68 % respectively; whereas specificity was 92.75 % for Gram stain and 86.96 % for PCR. The average time taken for PCR reaction was 4-8 h while culture reporting took at least 24-48 h. Our findings suggest that PCR is a good adjunct modality to the "Gold Standard" technique in the diagnosis of bacterial corneal ulcer.

102: Panda A, Kumar A, Gamanagatti S, Bhalla AS, Sharma R, Kumar S, Mishra B. Evaluation of diagnostic utility of multidetector computed tomography and magnetic resonance imaging in blunt pancreatic trauma: a prospective study. *Acta Radiol*. 2015 Apr;56(4):387-96. doi: 10.1177/0284185114529949. Epub 2014 Apr 23. PubMed PMID: 24760286.

BACKGROUND: Blunt pancreatic trauma is an uncommon injury with high morbidity and mortality. Retrospective analyses of computed tomography (CT) performance report CT to have variable sensitivity in diagnosing pancreatic injury. Both a prospective analysis of multidetector CT (MDCT) performance and diagnostic utility of magnetic resonance imaging (MRI) in acute blunt pancreatic injury remain unexplored.

PURPOSE: To prospectively evaluate the utility of MDCT with MRI correlation in patients with blunt pancreatic trauma using intraoperative findings as the gold standard for analysis.

MATERIAL AND METHODS: The contrast-enhanced CT (CECT) scans of patients admitted with blunt abdominal trauma were prospectively evaluated for CT signs of pancreatic injury. Patients detected to have pancreatic injury on CT were assigned a CT grade of injury according to American Association for Surgery of Trauma classification. MRI was performed in patients not undergoing immediate laparotomy and MRI grade independent of CT grade was assigned. Surgical grade was taken as gold standard and accuracy of CT and MRI for grading pancreatic injury and pancreatic ductal injury (PDI) was calculated. A quantitative and qualitative comparison of MRI was also done with CT to determine the performance of MRI in acute pancreatic injury.

RESULTS: Thirty out of 1198 patients with blunt trauma abdomen were detected to have pancreatic injury on CT, which was surgically confirmed in 24 patients. Seventeen underwent MRI and surgical correlation was available in 14 patients. CT and MRI correctly identified the grade of pancreatic injury in 91.7% (22/24) and 92.86% (13/14) patients, respectively. Both CT and MRI correctly identified PDI in 18/19 and 11/12 patients, respectively, with good inter-modality agreement of 88.9% (kappa value of 0.78). MRI also qualitatively added to the information provided by CT and increased diagnostic confidence in 58.8% of patients.

CONCLUSION: MDCT performs well in grading pancreatic injury and evaluating pancreatic ductal injury. MRI is useful in evaluation of acute pancreatic trauma as it can increase diagnostic confidence and provide more qualitative information

regarding the extent of injury.

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103: Pandey AK, Karunanithi S, Patel CD, Sharma SK, Bal C, Kumar R. Cold spot in the uniform Co-57 image may not necessarily be due to photomultiplier tube failure or variations in photomultiplier tube tuning: A technical note. *Indian J Nucl Med.* 2015 Apr-Jun;30(2):187-9. doi: 10.4103/0972-3919.152992. PubMed PMID: 25829748; PubMed Central PMCID: PMC4379689.

104: Pandey AK, Sharma SK, Karunanithi S, Kumar P, Bal C, Kumar R. Characterization of parallel-hole collimator using Monte Carlo Simulation. *Indian J Nucl Med.* 2015 Apr-Jun;30(2):128-34. doi: 10.4103/0972-3919.152974. PubMed PMID: 25829730; PubMed Central PMCID: PMC4379671.

OBJECTIVE: Accuracy of in vivo activity quantification improves after the correction of penetrated and scattered photons. However, accurate assessment is not possible with physical experiment. We have used Monte Carlo Simulation to accurately assess the contribution of penetrated and scattered photons in the photopeak window.

MATERIALS AND METHODS: Simulations were performed with Simulation of Imaging Nuclear Detectors Monte Carlo Code. The simulations were set up in such a way that it provides geometric, penetration, and scatter components after each simulation and writes binary images to a data file. These components were analyzed graphically using Microsoft Excel (Microsoft Corporation, USA). Each binary image was imported in software (ImageJ) and logarithmic transformation was applied for visual assessment of image quality, plotting profile across the center of the images and calculating full width at half maximum (FWHM) in horizontal and vertical directions.

RESULTS: The geometric, penetration, and scatter at 140 keV for low-energy general-purpose were 93.20%, 4.13%, 2.67% respectively. Similarly, geometric, penetration, and scatter at 140 keV for low-energy high-resolution (LEHR), medium-energy general-purpose (MEGP), and high-energy general-purpose (HEGP) collimator were (94.06%, 3.39%, 2.55%), (96.42%, 1.52%, 2.06%), and (96.70%, 1.45%, 1.85%), respectively. For MEGP collimator at 245 keV photon and for HEGP collimator at 364 keV were 89.10%, 7.08%, 3.82% and 67.78%, 18.63%, 13.59%, respectively.

CONCLUSION: Low-energy general-purpose and LEHR collimator is best to image 140 keV photon. HEGP can be used for 245 keV and 364 keV; however, correction for penetration and scatter must be applied if one is interested to quantify the in vivo activity of energy 364 keV. Due to heavy penetration and scattering, 511 keV photons should not be imaged with HEGP collimator.

105: Patil P, Kharbanda OP, Duggal R, Das TK, Kalyanasundaram D. Surface deterioration and elemental composition of retrieved orthodontic miniscrews. *Am J Orthod Dentofacial Orthop.* 2015 Apr;147(4 Suppl):S88-100. doi: 10.1016/j.ajodo.2014.10.034. PubMed PMID: 25836349.

INTRODUCTION: This study provides insight into surface and elemental analyses of orthodontic retrieved miniscrew implants (MSIs). The sole purpose was to investigate the behavior of MSIs while they are in contact with bone and soft tissues, fluids, and food in the oral cavity. The information thus gathered may help to understand the underlying process of success or failure of MSIs and can

be helpful in improving their material composition and design.

METHODS: The study was carried out on 28 titanium-alloy MSIs (all from the same manufacturer) split into 3 groups: 18 MSIs were retrieved after successful orthodontic treatment, 5 were failed MSIs, and 5 were as-received MSIs serving as the controls. All MSIs were subjected to energy dispersive x-ray microanalysis to investigate the changes in surface elemental composition and to scanning electron microscopy to analyze their surface topography. Data thus obtained were subjected to suitable statistical analyses.

RESULTS: Scanning electron microscope analysis showed surface manufacturing imperfections of the as-received MSIs in the form of stripes. Their elemental composition was confirmed to the specifications of the American Society for Testing of Materials for surgical implants. Retrieved MSIs exhibited generalized surface dullness; variable corrosion; craters in the head, neck, body, and tip regions; and blunting on tips and threads. Energy dispersive x-ray analyses showed deposition of additional elements: calcium had greater significance in its proportion in the body region by 0.056 weight percent; iron was seen in greater proportion in the failed retrieved MSIs compared with the successful miniscrews; cerium was seen in greater proportions in the head region by 0.128 weight percent and in the neck region by 0.147 weight percent than in the body and tip regions of retrieved MSIs.

CONCLUSIONS: Retrieved MSIs showed considerable surface and structural alterations such as dullness, corrosion, and blunting of threads and tips. Their surfaces showed interactions and adsorption of several elements, such as calcium, at the body region. A high content of iron was found on the failed MSIs, and cerium was seen in the head and neck regions of retrieved MSIs.

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106: Peasah SK, Purakayastha DR, Koul PA, Dawood FS, Saha S, Amarchand R, Broor S, Rastogi V, Assad R, Kaul KA, Widdowson MA, Lal RB, Krishnan A. The cost of acute respiratory infections in Northern India: a multi-site study. *BMC Public Health*. 2015 Apr 7;15:330. doi: 10.1186/s12889-015-1685-6. PubMed PMID: 25880910; PubMed Central PMCID: PMC4392863.

BACKGROUND: Despite the high mortality and morbidity resulting from acute respiratory infections (ARI) globally, there are few data from low-income countries on costs of ARI to inform public health policy decisions. We conducted a prospective survey to assess costs of ARI episodes in selected primary, secondary, and tertiary healthcare facilities in north India where no respiratory pathogen vaccine is routinely recommended.

METHODS: Face-to-face interviews were conducted among a purposive sample of patients with ARI from healthcare facilities. Data were collected on out-of-pocket costs of hospitalization, medical consultations, medications, diagnostics, transportation, lodging, and missed work days. Telephone surveys were conducted two weeks after medical encounters to ask about subsequent missed work and costs incurred. Costs of prescriptions and diagnostics in public facilities were supplemented with WHO-CHOICE estimates of hospital bed costs. Missed work days were assigned cost based on the national annual per capita income (US\$1,104). Non-medically attended ARI cases were identified from an ongoing community-based ARI surveillance project in Faridabad.

RESULTS: During September 2012-March 2013, 1766 patients with ARI were enrolled, including 451 hospitalized patients, 1056 outpatients, and 259 non-medically attended patients. The total direct cost of an ARI episode requiring outpatient

care was US\$4- \$6 for public and \$3-\$10 for private institutions based on age groups. The total direct cost of an ARI episode requiring hospitalized care was \$54-\$120 in public and \$135-\$355 in private institutions. The cost of ARI among those hospitalized was highest among persons aged ≥ 65 years and lowest among children aged <5 years. Indirect costs due to missed work days were 16-25% of total costs. The direct out-of-pocket cost of hospitalized ARI was 34% of annual per capita income.

CONCLUSIONS: The cost of hospitalized ARI episodes in India is high relative to median per capita income. Data from this study can inform evaluations of the cost effectiveness of proven ARI prevention strategies such as vaccination.

107: Prabhu SM, Venkatesan B, Shetty G, Narula MK, Chauhan U, Udiya AK. Recurrent sigmoid volvulus associated with eventration of diaphragm in a twenty-six-year-old man. *Iran J Radiol.* 2015 Apr 22;12(2):e8640. doi: 10.5812/iranjradiol.8640. eCollection 2015 Apr. PubMed PMID: 25901269; PubMed Central PMCID: PMC4394672.

Recurrent sigmoid volvulus is a clinical entity characterized by recurrent episodes of partial or complete sigmoid volvulus. Although it is commonly seen in the elderly, it can be occasionally seen in younger patients. Patients with recurrent partial sigmoid volvulus are relatively asymptomatic or present with mild abdominal pain. Early diagnosis and treatment is essential to prevent conversion to acute gangrenous volvulus. We present a case of recurrent partial sigmoid volvulus in association with eventration of diaphragm in a 26-year-old man.

108: Rahman SA, Singh Y, Kohli S, Ahmad J, Ehtesham NZ, Tyagi AK, Hasnain SE. Reply to "Mycobacterium indicus pranii" is a strain of Mycobacterium intracellulare': "M. indicus pranii" is a distinct strain, not derived from M. intracellulare, and is an organism at an evolutionary transition point between a fast grower and slow grower. *MBio.* 2015 Apr 7;6(2). pii: e00352-15. doi: 10.1128/mBio.00352-15. PubMed PMID: 25852162; PubMed Central PMCID: PMC4453546.

109: Ramesh V, Haldar P. Comment on Palmas et al. Results of the Northern Manhattan Diabetes Community Outreach Project: a randomized trial studying a community health worker intervention to improve diabetes care in Hispanic adults. *Diabetes Care* 2014;37:963-969. *Diabetes Care.* 2015 Apr;38(4):e58. doi: 10.2337/dcl4-2307. PubMed PMID: 25805872.

110: Ranjan P, Dutta S, Kakkar A, Goyal A, Vikram NK, Sharma MC, Sood R. T-cell lymphoma masquerading as extrapulmonary tuberculosis: case report and review of literature. *J Family Med Prim Care.* 2015 Apr-Jun;4(2):280-3. doi: 10.4103/2249-4863.154677. PubMed PMID: 25949984; PubMed Central PMCID: PMC4408718.

It is often difficult to establish confirmatory diagnosis in cases of extrapulmonary tuberculosis (TB) because of its paucibacillary nature and difficulty in accessing the involved organs. In several cases, empirical anti-tubercular treatment is started, and the patient is followed-up closely for response. In countries with high prevalence of TB, it is a reasonably good strategy and works most of the times. However, catastrophe may occur when aggressive lymphomas masquerade as TB.

111: Ranjan P, Jana M, Krishnan S, Nath D, Sood R. Disseminated cryptococcosis with adrenal and lung involvement in an immunocompetent patient. *J Clin Diagn Res.* 2015 Apr;9(4):OD04-5. doi: 10.7860/JCDR/2015/11499.5752. Epub 2015 Apr 1. PubMed PMID: 26023583; PubMed Central PMCID: PMC4437098.

Disseminated cryptococcosis usually occurs in immunocompromised patients. Occasionally, it affects immunocompetent persons and mimics tuberculosis in clinical presentation and radiological findings. Usually, it affects lungs and central nervous system. Rarely, it may affect adrenal glands. We present a case of 65-year-old gentleman with prolonged pyrexia. Computed Tomography (CT) scan of chest and abdomen showed miliary pattern in the chest with bilateral adrenal masses. On the basis of clinical and radiological findings, the case was initially diagnosed as disseminated tuberculosis and anti tubercular treatment was started. Subsequently, on histopathological examination, the diagnosis was confirmed as disseminated cryptococcosis. Even in a country with high prevalence of tuberculosis, other causes of miliary mottling should be considered and histopathological examination should be sought.

112: Rathore DK, Nair D, Raza S, Saini S, Singh R, Kumar A, Tripathi R, Ramji S, Batra A, Aggarwal KC, Chellani HK, Arya S, Bhatla N, Paul VK, Aggarwal R, Agarwal N, Mehta U, Sopory S, Natchu UC, Bhatnagar S, Bal V, Rath S, Wadhwa N. Underweight full-term Indian neonates show differences in umbilical cord blood leukocyte phenotype: a cross-sectional study. *PLoS One.* 2015 Apr 21;10(4):e0123589. doi: 10.1371/journal.pone.0123589. eCollection 2015. PubMed PMID: 25898362; PubMed Central PMCID: PMC4405369.

BACKGROUND: While infections are a major cause of neonatal mortality in India even in full-term neonates, this is an especial problem in the large proportion (~20%) of neonates born underweight (or small-for-gestational-age; SGA). One potential contributory factor for this susceptibility is the possibility that immune system maturation may be affected along with intrauterine growth retardation.

METHODS: In order to examine the possibility that differences in immune status may underlie the susceptibility of SGA neonates to infections, we enumerated the frequencies and concentrations of 22 leukocyte subset populations as well as IgM and IgA levels in umbilical cord blood from full-term SGA neonates and compared them with values from normal-weight (or appropriate-for-gestational-age; AGA) full-term neonates. We eliminated most SGA-associated risk factors in the exclusion criteria so as to ensure that AGA-SGA differences, if any, would be more likely to be associated with the underweight status itself.

RESULTS: An analysis of 502 such samples, including 50 from SGA neonates, showed that SGA neonates have significantly fewer plasmacytoid dendritic cells (pDCs), a higher myeloid DC (mDC) to pDC ratio, more natural killer (NK) cells, and higher IgM levels in cord blood in comparison with AGA neonates. Other differences were also observed such as tendencies to lower CD4:CD8 ratios and greater prominence of inflammatory monocytes, mDCs and neutrophils, but while some of them had substantial differences, they did not quite reach the standard level of statistical significance.

CONCLUSIONS: These differences in cellular lineages of the immune system possibly reflect stress responses in utero associated with growth restriction. Increased susceptibility to infections may thus be linked to complex immune system dysregulation rather than simply retarded immune system maturation.

113: Roy M, Jain D, Bakhshi S, Mathur S, Iyer VK. Primary Langerhans cell

histiocytosis of the thyroid gland: role of langerin in FNA cytological diagnosis. *Cytopathology*. 2015 Apr;26(2):128-30. doi: 10.1111/cyt.12142. Epub 2014 Mar 25. PubMed PMID: 24666642.

114: Roy SG, Karunanithi S, Agarwal KK, Bal C, Kumar R. Importance of SPECT/CT in detecting multiple hemangiomas on 99mTc-labeled RBC blood pool scintigraphy. *Clin Nucl Med*. 2015 Apr;40(4):345-6. doi: 10.1097/RLU.0000000000000663. PubMed PMID: 25546199.

Vascular malformations and hemangiomas are common in children, but gastric hemangioma is extremely rare with less than 15 reported cases in the pediatric age group. Gastric hemangioma accounts for only 0.05% of all gastrointestinal neoplasms, and intra-abdominal hemangiomas are rarely found outside of the liver. We present a unique case of gastric hemangioma, and multiple hemangiomas were detected in a single scan by 99mTc-labeled RBC blood pool imaging. This case also depicts the incremental role of SPECT/CT over planar acquisition for detecting multiple hemangiomas, especially for those lesions located adjacent to physiological blood pool activity.

115: Sahai P, Shukla NK, Arora S, Mohanti BK. Recurrent sebaceous carcinoma of the eyelid: Outcome after postoperative reirradiation. *Head Neck*. 2015 Apr 20. doi: 10.1002/hed.24089. [Epub ahead of print] PubMed PMID: 25900883.

BACKGROUND: The purpose of this study was for us to describe a case of recurrent sebaceous carcinoma treated with postoperative reirradiation.

METHODS: A 38-year-old man was diagnosed with sebaceous carcinoma of the right lower eyelid. The patient developed local recurrence 4 times, with the first one at 30 months after the excision. The first local recurrence was treated with excision and postoperative radiotherapy with 60 Gy/30 fractions/6 weeks. He manifested preauricular nodal metastasis with the third local recurrence, which was confirmed with (18) F-fluorodeoxyglucose positron emission tomography-CT ((18) F-FDG PET-CT). He received 2 courses of adjuvant reirradiation to the right orbit with 45 Gy/25 fractions/5 weeks and 30 Gy/15 fractions/3 weeks, respectively.

RESULTS: The patient was successfully treated with no evidence of locoregional recurrence at 2 years after the cancer-directed therapy. The patient's follow-up from the date of diagnosis has been 9 years.

CONCLUSION: Adjuvant reirradiation with modest doses may be considered with a view to provide disease control and long-term survival. © 2015 Wiley Periodicals, Inc. *Head Neck*, 2015.

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116: Sahoo K, Sahoo B, Choudhury AK, Sofi NY, Kumar R, Bhadoria AS. Childhood obesity: causes and consequences. *J Family Med Prim Care*. 2015 Apr-Jun;4(2):187-92. doi: 10.4103/2249-4863.154628. PubMed PMID: 25949965; PubMed Central PMCID: PMC4408699.

Childhood obesity has reached epidemic levels in developed as well as in developing countries. Overweight and obesity in childhood are known to have significant impact on both physical and psychological health. Overweight and obese children are likely to stay obese into adulthood and more likely to develop non-communicable diseases like diabetes and cardiovascular diseases at a younger

age. The mechanism of obesity development is not fully understood and it is believed to be a disorder with multiple causes. Environmental factors, lifestyle preferences, and cultural environment play pivotal roles in the rising prevalence of obesity worldwide. In general, overweight and obesity are assumed to be the results of an increase in caloric and fat intake. On the other hand, there are supporting evidence that excessive sugar intake by soft drink, increased portion size, and steady decline in physical activity have been playing major roles in the rising rates of obesity all around the world. Childhood obesity can profoundly affect children's physical health, social, and emotional well-being, and self esteem. It is also associated with poor academic performance and a lower quality of life experienced by the child. Many co-morbid conditions like metabolic, cardiovascular, orthopedic, neurological, hepatic, pulmonary, and renal disorders are also seen in association with childhood obesity.

117: Saini M, Dhiman R, Dada T, Tandon R, Vanathi M. Topical cyclosporine to control ocular surface disease in patients with chronic glaucoma after long-term usage of topical ocular hypotensive medications. *Eye (Lond)*. 2015 Jun;29(6):808-14. doi: 10.1038/eye.2015.40. Epub 2015 Apr 10. PubMed PMID: 25857609; PubMed Central PMCID: PMC4469670.

PURPOSE: To evaluate changes in ocular surface and central corneal sub-basal nerve fiber layer (SBNFL) after topical cyclosporin therapy in chronic glaucoma patients on long-term topical antiglaucoma therapy.

METHODS: A prospective comparative study of ocular surface evaluation of chronic glaucoma patients on long-term topical therapy treated concurrently with a topical cyclosporine 0.05% twice daily for 6 months and controls was done. The study parameters evaluated at recruitment and at the 6-month follow-up included details of topical antiglaucoma medications, visual acuity, intraocular pressure, ocular surface evaluation parameters (TBUT, Schirmers I, ocular surface staining scores and ocular surface disease (OSD) index score (OSDI)), central corneal sensation (Cochet Bonnett aesthesiometer), and central confocal microscopy to study the SBNFL density (SBNFLD).

RESULTS: Thirty-two eyes of 16 patients with chronic glaucoma and 30 eyes of 15 normal subjects as controls were studied. Mean TBUT, pre/post CsA treatment was $8.67 \pm 3.01 / 12.24 \pm 1.83$ s ($P=0.007$). Mean conjunctival/corneal staining scores pre/post CsA treatment were $3.38 \pm 1.93 / 1.50 \pm 0.718$ ($P=0.00$) / $5.19 \pm 1.82 / 1.81 \pm 0.78$ ($P=0.098$), respectively. Mean OSDI pre/post CsA treatment scores were $30.63 \pm 14.61 / 14.76 \pm 6.06$ ($P=0.007$). Mean corneal sensations scores pre/post CsA treatment were $4.64 \pm 0.46 / 4.94 \pm 0.39$ ($P=0.002$). Central corneal SBNFLD pre and post CsA treatment was $8811.35 \pm 2985.29 / 10335.13 \pm 4092.064$ $\mu\text{m}/\text{mm}^2$ ($P=0.0001$).

CONCLUSIONS: Schirmer's test, ocular surface staining scores, OSDI, corneal sensations, and corneal SBNFLD showed a statistically significant improvement following a 6-month concurrent topical CsA therapy.

118: Salve H, Rizwan SA, Kant S, Rai SK, Kharya P, Kumar S. Pre-treatment practices among patients attending an Animal Bite Management clinic at a primary health centre in Haryana, North India. *Trop Doct*. 2015 Apr;45(2):123-5. doi: 10.1177/0049475514562492. Epub 2014 Dec 23. PubMed PMID: 25540164.

A cross-sectional study was carried out at the Animal Bite Management (ABM) clinic in a primary health centre in the Faridabad district of Haryana. Information about socio-demographic characteristics, animal bite exposure and pre-treatment practices was obtained. Clinical examination determined the severity of the bite. All 619 patients who reported to the ABM clinic during January 2011 to December 2012 were included. Out of the total, 38% had applied chilli-oil paste, and 4% antiseptics to the wound as pre-treatment; only 30.6%

had washed the wound with water. There was a direct association between traditional pre-treatment practices and delay in seeking treatment for animal bites which was statistically significant ($P=0.01$). Health education of the general population with culturally appropriate Information, Education and Communication material is therefore a necessary strategy to reduce delay in seeking appropriate treatment.

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119: Sankar J, Shukla A, Dubey N, Sankar MJ. Can inferior vena cava saturations be used instead of ScvO₂ in children with septic shock? *Intensive Care Med.* 2015 Jun;41(6):1141-2. doi: 10.1007/s00134-015-3783-4. Epub 2015 Apr 8. PubMed PMID: 25851392.

120: Saraf DS, Gupta SK, Pandav CS, Nongkinrih B, Kapoor SK, Pradhan SK, Krishnan A. Effectiveness of a school based intervention for prevention of non-communicable diseases in middle school children of rural North India: a randomized controlled trial. *Indian J Pediatr.* 2015 Apr;82(4):354-62. doi: 10.1007/s12098-014-1562-9. Epub 2014 Sep 12. PubMed PMID: 25209052.

OBJECTIVE: To assess the effectiveness of a multi-component school based intervention in improving knowledge and behavioral practices regarding diet, physical activity and tobacco use in middle schoolchildren of rural-Ballabgarh, North-India.

METHODS: A total of 40 middle schools were grouped into two, based on geographic proximity and randomly assigned to the intervention or control group in a cluster randomized controlled trial. The target population consisted of 2,348 children studying in 6th and 7th grades in these schools. The intervention consisted of a school component (policies), a classroom component (activities) and a family component [Information Education & Communication (IEC) material]. The main outcome measures were knowledge and behavioral changes in physical activity, diet and tobacco which were self-reported.

RESULTS: Post-intervention, a significant number of intervention schools adopted the tobacco policy (16/19), physical activity policy (6/19) and healthy food policy (14/19) as compared to the control schools ($n=21$). Knowledge about physical activity, diet and tobacco improved significantly in the intervention group as compared to the control group. Proportion of students attending Physical Training (PT) classes for five or more days in a week in the intervention group compared to the control group increased significantly (17.8%; $p<0.01$). Proportion of students consuming fruits increased in the intervention group compared to the control group (10%; $p<0.01$). Pre-post decrease in the prevalence of current smoking was significantly more in the intervention group as compared to the control group (7.7%; $p<0.01$).

CONCLUSIONS: Healthy settings approach for schools is feasible and effective in improving knowledge and behavioral practices of non-communicable diseases (NCD) risk factors in adolescents in rural India.

121: Saxena A. Recurrent coarctation: interventional techniques and results. *World J Pediatr Congenit Heart Surg.* 2015 Apr;6(2):257-65. doi: 10.1177/2150135114566099. PubMed PMID: 25870345.

Coarctation of the aorta (CoA) accounts for 5% to 8% of all congenital heart defects. With all forms of interventions for native CoA, repeat intervention may be required due to restenosis and/or aneurysm formation. Restenosis rates vary from 5% to 24% and are higher in infants and children and in those with arch hypoplasia. Although repeat surgery can be done for recurrent CoA, guidelines from a number of professional societies have recommended balloon angioplasty with or without stenting as the preferred intervention for patients with isolated recoarctation. For infants and young children with recurrent coarctation, balloon angioplasty has been shown to be safe and effective with low incidence of complications. However, the rates of restenosis and reinterventions are high with balloon angioplasty alone. Endovascular stent placement is indicated, either electively in adults or as a bailout procedure in those who develop a complication such as dissection or intimal tear after balloon angioplasty. Conventionally bare metal stents are used; these can be dilated later if required. Covered stents, introduced more recently, are best reserved for those who have aneurysm at the site of previous repair or who develop a complication such as aortic wall perforation or tear. Stents produce complete abolition of gradients across the coarct segment in a majority of cases with good opening of the lumen on angiography. The long-term results are better than that of balloon angioplasty alone, with very low rates of restenosis. However, endovascular stenting is a technically demanding procedure and can be associated with serious complications rarely.

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122: Saxena A. Catheter interventions for mitral stenosis in children: results and perspectives. *World J Pediatr Congenit Heart Surg.* 2015 Apr;6(2):250-6. doi: 10.1177/2150135114568785. PubMed PMID: 25870344.

Stenosis of the mitral valve most often occurs as a result of chronic rheumatic heart disease, causing thickening and fibrosis of the mitral valve apparatus. Rheumatic heart disease continues to be a major public health problem in several developing countries and mitral stenosis is also common in these regions. According to the reports from India and Africa, the disease tends to follow a rapidly progressive course in children. The treatment of choice is balloon dilatation of the mitral valve. Echocardiography is indispensable for this procedure. Before planning the procedure, it is essential to assess the suitability of balloon dilatation. Echocardiography performed during the procedure helps to decide whether the size of the balloon needs to be increased in case of inadequate relief of stenosis. Most published series have reported an immediate success rate of over 90% with balloon dilatation in children and young adults. With an increase in mitral valve area and improvement in functional class, the left atrial pressure and the transmitral gradients fall. These gratifying results are also reported from very young children of less than 12 years of age. It is recommended to start with a smaller balloon size and increase its size in a stepwise fashion to minimize complications. The complications, seen in about 1% to 2% of cases, include development of significant mitral regurgitation and hemopericardium, secondary to cardiac chamber perforation. The long-term results indicate slightly higher restenosis rates in children than in adults. Most children with restenosis can undergo successful repeat dilatation.

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123: Shamim SA, Kumar A, Kumar R. PET/Computed Tomography in Neuroendocrine Tumor: Value to Patient Management and Survival Outcomes. *PET Clin.* 2015 Jul;10(3):411-21. doi: 10.1016/j.cpet.2015.03.005. Epub 2015 Apr 14. Review. PubMed PMID: 26099675.

PET/computed tomography evaluation of neuroendocrine tumors is gaining prominence with the availability of novel pet radiotracers, such as (18)F-DOPA and gallium 68 somatostatin peptide derivatives. These tumors have unique properties and hence the basis of use of these new radiotracers. Prominent centers worldwide have reported the usefulness of these PET tracers in diagnosis and clinical decision making. Portability of 68Ge/68Ga generators has also helped in more widespread use of these somatostatin peptide derivatives as PET radiotracers. This article reviews established and potential roles of these novel PET radiotracers in diagnosis, management, and prognosis of neuroendocrine tumors.

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124: Shankar H, Kumar N, Rao DN, Chandhiok N, Sandhir R, Kriplani A, Dhaliwal L, Sehgal R, Jindal VL, Maithi L, Kandpal S, Kumar A, Kurra S. Comparison of haematological and biochemical changes between non-anaemic and anaemic primigravid women in a north Indian population to establish normative values. *J Obstet Gynaecol.* 2015 Apr;35(3):221-4. doi: 10.3109/01443615.2014.948817. Epub 2014 Aug 25. PubMed PMID: 25153118.

Pregnancy is accompanied by several haemodynamic, biochemical and haematological changes, which may lead to severe problems, if they are not suitably addressed. The current study highlights the haematological and biochemical differences observed in anaemic (AP) and non-anaemic primigravida (NAP), in the 2nd trimester, in a north Indian population. There were significant differences ($p < 0.05$) in the body weight and body temperature of NAP compared with AP. A significant decrease ($p < 0.001$) in haematological parameters including haemoglobin, haematocrit, erythrocyte count, MCH and MCHC, was observed in AP; however, MCV was found to be significantly higher ($p = 0.038$). Many biochemical parameters viz. potassium, albumin, total protein and calcium levels were significantly reduced ($p < 0.01$) in AP, except alkaline phosphatase whose level was found significantly increased ($p < 0.01$). The findings of the study suggest that haematological and biochemical changes take place in anaemia during pregnancy. Further, the results obtained should be used for establishing normative values for similar populations.

125: Sharma A, Arora E, Singh H. Hypersensitivity reaction with deferasirox. *J Pharmacol Pharmacother.* 2015 Apr-Jun;6(2):105-6. doi: 10.4103/0976-500X.155491. PubMed PMID: 25969661; PubMed Central PMCID: PMC4419242.

Thalasseмии comprise a group of hereditary blood disorders. Thalassemia major presents with anemia within the first 2 years of life requiring frequent blood transfusions for sustaining life. Regular blood transfusions lead to iron overload-related complications. Prognosis of thalassemia has improved because of the availability of iron-chelating agents. Oral iron chelators are the mainstay of chelation therapy. Deferasirox is a new-generation oral iron chelator for once daily usage. We herein describe a patient of beta thalassemia major who developed an allergic manifestation in the form of erythematous pruritic skin rashes to the oral iron chelator deferasirox. This is a rare adverse reaction reported with deferasirox that led to a therapeutic dilemma in this particular case.

126: Sharma DN, Deo SV, Rath GK, Shukla NK, Bakhshi S, Gandhi AK, Julka PK. Perioperative high-dose-rate interstitial brachytherapy combined with external beam radiation therapy for soft tissue sarcoma. *Brachytherapy.* 2015 Jul-Aug;14(4):571-7. doi: 10.1016/j.brachy.2015.03.002. Epub 2015 Apr 7. PubMed PMID: 25861894.

PURPOSE: The aim of our study was to evaluate the role of perioperative high-dose-rate interstitial brachytherapy (PHDRIBT) in combination with external beam radiation therapy (EBRT) in patients with localized soft tissue sarcoma (STS).

METHODS AND MATERIALS: From year 2004 to 2010, 52 patients with localized STS were treated with wide local excision plus PHDRIBT followed by EBRT. Median size of the tumor was 8 cm (range, 4-19 cm). A single-plane interstitial brachytherapy implant with an average of nine catheters was performed during the surgical resection. The PHDRIBT was started on third postoperative day to deliver a high-dose-rate dose of 16 Gy in four fractions over 2 days using twice-a-day fractionation schedule. After 4 weeks, EBRT was started for a prescription dose of 50 Gy by conventional fractionation. Subsequently, chemotherapy was administered, if indicated as per our institutional policy. Patients were followed up regularly to study local control, survival, and toxicity.

RESULTS: At a median followup of 46 months, no patient developed local recurrence, but 12 patients developed distant metastases. The 5-year overall survival and disease-free survival were 67% and 63%, respectively. Main acute toxicity was delayed wound healing observed in 3 patients (5.7%). Commonest late toxicity was chronic skin/subcutaneous fibrosis noticed in 5 patients (9.6%).

CONCLUSIONS: The PHDRIBT combined with EBRT provides excellent local control and survival rates with acceptable acute and late toxicity in patients with localized STS.

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127: Sharma S, Jain P, Gulati S, Sankhyan N, Agarwala A. Use of the modified Atkins diet in Lennox Gastaut syndrome. *J Child Neurol*. 2015 Apr;30(5):576-9. doi: 10.1177/0883073814527162. Epub 2014 Mar 20. PubMed PMID: 24659735.

There is scanty data regarding the efficacy and tolerability of the modified Atkins diet in children with Lennox-Gastaut syndrome. This study was a retrospective review of children with Lennox-Gastaut syndrome treated with the modified Atkins diet from May 2009 and March 2011. The diet was initiated in those children who persisted to have daily seizures despite the use of at least 3 appropriate antiepileptic drugs. Twenty-five children were started on a modified Atkins diet, restricting carbohydrate intake to 10 g/d. After 3 months, 2 patients were seizure-free, and 10/25 children had >50% reduction in seizure frequency. At 6 months, of 11 patients on the diet, 3 were seizure free and 8 had >50% reduction in seizure frequency. At 1 year, all 9 children on diet had >50% reduction in seizure frequency. The side effects of the diet were mild. The modified Atkins diet was found to be effective and well tolerated in children with Lennox-Gastaut syndrome.

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128: Sharma U, Upadhyay D, Mewar S, Mishra A, Das P, Gupta SD, Dwivedi SN, Makharia GK, Jagannathan NR. Metabolic Abnormalities of Gastrointestinal Mucosa in Celiac Disease: An in-vitro Proton NMR Spectroscopy Study. *J Gastroenterol Hepatol*. 2015 Apr 13. doi: 10.1111/jgh.12979. [Epub ahead of print] PubMed PMID: 25867107.

BACKGROUND AND AIM: Celiac disease (CeD) is a common autoimmune disorder in which ingestion of gluten and related proteins leads to inflammation in the small intestine. Although the histological findings in CeD are characteristic, they are not specific. In this study, proton nuclear magnetic resonance (NMR) spectroscopy was used to investigate the differences in metabolic profile of duodenal mucosal biopsies of patients with CeD and controls to find out the biomarker/s of villous atrophy.

METHODS: Duodenal mucosal biopsies were collected from 29 CeD patients (mean age 26.2±10.8 yrs) and 17 controls (mean age 34.1±11.1 yrs) and were subjected to proton NMR spectroscopy following perchloric acid extraction. Assignment of metabolite resonances was carried out and their concentrations were determined. For comparison between the groups unpaired t-test/Wilcoxon rank sum test was used. Partial least squares-discriminant analysis (PLS-DA) was performed to study the clustering behavior of the samples from CeD patients and controls using Unscrambler 10.2 software.

RESULTS: PLS-DA clearly differentiated CeD patients from controls. Significantly higher concentrations of isoleucine, leucine, aspartate, succinate and pyruvate and lower concentration of glycerophosphocholine were observed in the duodenal mucosa of CeD patients compared to controls. The results suggest abnormalities in glycolysis, Krebs' cycle (energy deficiency) and amino acid metabolism which may affect the biosynthetic pathways and consequently contribute to villous atrophy.

CONCLUSIONS: NMR spectroscopy with multivariate analysis of duodenal mucosal biopsies revealed a characteristic metabolic profile in CeD patients. The work provided an insight in determining biomarker/s for villous atrophy and diagnosis of CeD patients.

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129: Shukla HS, Sirohi B, Behari A, Sharma A, Majumdar J, Ganguly M, Tewari M, Kumar S, Saini S, Sahni P, Singh T, Kapoor VK, Sucharita V, Kaur T, Shukla DK, Rath GK. Indian Council of Medical Research consensus document for the management of gall bladder cancer. Indian J Med Paediatr Oncol. 2015 Apr-Jun;36(2):79-84. doi: 10.4103/0971-5851.158829. PubMed PMID: 26157282; PubMed Central PMCID: PMC4477381.

The document is based on consensus among the experts and best available evidence pertaining to Indian population and is meant for practice in India. All postcholecystectomy gallbladder specimens should be opened and examined carefully by the operating surgeon and be sent for histopathological examination. All "incidental" gall bladder cancers (GBCs) picked up on histopathological examination should have an expert opinion. Evaluation of a patient with early GBC should include essential tests: A computed tomography (CT) scan (multi-detector or helical) of the abdomen and pelvis for staging with a CT chest or chest X-ray, and complete blood counts, renal and liver function tests. magnetic resonance imaging/positron emission tomography (PET)-CT are not recommended for all patients. For early stage disease (up to Stage IVA), surgery is recommended. The need for adjuvant treatment would be guided by the histopathological analysis of the resected specimen. Patients with Stage IVB/metastatic disease must be assessed for palliative e.g. endoscopic or radiological intervention, chemotherapy versus best supportive care on an individual basis. These patients do not require extensive workup outside of a clinical trial setting. There is an urgent need for multicenter trials from India covering various aspects of epidemiology (viz., identification of population at high-risk, organized follow-up), clinical management (viz., bile spill during surgery, excision of all port sites, adjuvant/neoadjuvant therapy) and basic research (viz., what causes GBC).

130: Shukla PK, Gautam L, Sinha M, Kaur P, Sharma S, Singh TP. Structures and binding studies of the complexes of phospholipase A2 with five inhibitors. *Biochim Biophys Acta*. 2015 Apr;1854(4):269-77. doi: 10.1016/j.bbapap.2014.12.017. Epub 2014 Dec 23. PubMed PMID: 25541253.

Phospholipase A2 (PLA2) catalyzes the hydrolysis of phospholipids into arachidonic acid and lysophospholipids. Arachidonic acid is used as a substrate in the next step of the multistep pathway leading to the production of eicosanoids. The eicosanoids, in extremely low concentrations, are required in a number of physiological processes. However, the increase in their concentrations above the essential physiological requirements leads to various inflammatory conditions. In order to prevent the unwanted rise in the concentrations of eicosanoids, the actions of PLA2 and other enzymes of the pathway need to be blocked. We report here the structures of five complexes of group IIA PLA2 from *Daboia russelli pulchella* with tightly binding inhibitors, (i) p-coumaric acid, (ii) resveratrol, (iii) spermidine, (iv) corticosterone and (v) gramine derivative. The binding studies using fluorescence spectroscopy and surface plasmon resonance techniques for the interactions of PLA2 with the above five compounds showed high binding affinities with values of dissociation constants (KD) ranging from 3.7×10^{-8} M to 2.1×10^{-9} M. The structure determinations of the complexes of PLA2 with the above five compounds showed that all the compounds bound to PLA2 in the substrate binding cleft. The protein residues that contributed to the interactions with these compounds included Leu2, Leu3, Phe5, Gly6, Ile9, Ala18, Ile19, Trp22, Ser23, Cys29, Gly30, Cys45, His48, Asp49 and Phe106. The positions of side chains of several residues including Leu2, Leu3, Ile19, Trp31, Lys69, Ser70 and Arg72 got significantly shifted while the positions of active site residues, His48, Asp49, Tyr52 and Asp99 were unperturbed.

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131: Sikri K, Batra SD, Nandi M, Kumari P, Taneja NK, Tyagi JS. The pleiotropic transcriptional response of *Mycobacterium tuberculosis* to vitamin C is robust and overlaps with the bacterial response to multiple intracellular stresses. *Microbiology*. 2015 Apr;161(Pt 4):739-53. doi: 10.1099/mic.0.000049. Epub 2015 Feb 2. PubMed PMID: 25645949.

Mycobacterium tuberculosis (Mtb) owes its success as a pathogen in large measure to its ability to exist in a persistent state of 'dormancy' resulting in a lifelong latent tuberculosis (TB) infection. An understanding of bacterial adaptation during dormancy will help in devising approaches to counter latent TB infection. In vitro models have provided valuable insights into bacterial adaptation; however, they have limitations because they do not disclose the bacterial response to the intracellular environment wherein the bacteria are simultaneously exposed to multiple stresses. We describe the pleiotropic response of Mtb in the vitamin C (vit C) model of dormancy developed in our laboratory. Vit C mediates a rapid regulation of genes representing ~14% of the genome in Mtb cultures. The upregulated genes were better represented in lipid, intermediary metabolism and regulatory protein categories. The downregulated genes mainly related to virulence, detoxification, information pathways and cell wall processes. A comparison of this response to that in other models indicates that vit C generates a multiple-stress environment for axenic Mtb cultures that resembles a macrophage-like environment. The bacterial response to vit C resembles responses to gaseous stresses such as hypoxia and nitric oxide, oxidative and nitrosative stresses, nutrient starvation and, notably, the

activated macrophage environment itself. These responses demonstrate that the influence of vit C on Mtb gene expression extends well beyond the DevR dormancy regulon. A detailed characterization of the response to vit C is expected to disclose useful strategies to counter the adaptive mechanisms essential to Mtb dormancy.

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

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

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

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

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

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133: Singh L, Pushker N, Sen S, Singh MK, Bakhshi S, Chawla B, Kashyap S. Expression of CDC25A and CDC25B phosphatase proteins in human retinoblastoma and its correlation with clinicopathological parameters. *Br J Ophthalmol.* 2015 Apr;99(4):457-63. doi: 10.1136/bjophthalmol-2014-305830. Epub 2014 Oct 17. PubMed PMID: 25326518.

BACKGROUND: CDC25 proteins play a pivotal role in controlling cell proliferation during development and tumorigenesis. The aim of the study is to elucidate the role of CDC25A and CDC25B proteins in retinoblastoma and their association with the clinical and histopathological parameters.

METHODS: One hundred and nine prospective cases of primary enucleated retinoblastomas were included in the present study. Expression of CDC25A and CDC25B proteins was investigated by immunohistochemistry, western blotting and mRNA expression by reverse-transcriptase PCR.

RESULTS: Immunohistochemistry showed CDC25A expression in (57/109) 52.29%, whereas CDC25B expressed in (69/109) 63.30% cases. Western blotting confirmed the

immunoreactivity results on representative cases. mRNA expression of CDC25A and CDC25B was found in 29/60 (48.33%) and 35/60 (58.33%) cases, respectively. Expression of CDC25A and CDC25B showed significant correlation with poor tumour differentiation and tumour invasion ($p < 0.05$). There was a statistically significant difference in the overall survival of patients with CDC25B expression ($p = 0.0270$).

CONCLUSIONS: Our results suggest that expression of CDC25B may be used as a potential prognostic marker in the pathogenesis of retinoblastoma. These findings demonstrate an important role of CDC25 phosphatase proteins and inhibition of these proteins may have therapeutic potential in retinoblastoma.

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134: Singh L, Pushker N, Saini N, Sen S, Sharma A, Bakhshi S, Chawla B, Kashyap S. Expression of pro-apoptotic Bax and anti-apoptotic Bcl-2 proteins in human retinoblastoma. *Clin Experiment Ophthalmol*. 2015 Apr;43(3):259-67. doi: 10.1111/ceo.12397. Epub 2014 Aug 28. PubMed PMID: 25132102.

BACKGROUND: Regulation of apoptosis is a complex process that involves a number of genes, including Bcl-2, Bcl-x, Bax and other Bcl-2 family members. The aim of the present study is to assess the expression of Bcl-2 and Bax in retinoblastoma, and correlate them with clinical and histopathological parameters.

METHODS: The expression of Bcl-2 and Bax proteins were examined using immunohistochemistry, Western blotting and reverse transcriptase-polymerase chain reaction in a series of 60 prospective cases of primary retinoblastoma tissues.

RESULTS: Immunohistochemistry showed expression of Bcl-2 in 40/60 (66.6%), whereas Bax expression was found only in 18/60 (30%) cases, and these correlated with mRNA expression. The Western blotting results also correlated well with the immunohistochemical expression of Bcl-2 (25 kDa) and Bax (21 kDa) proteins. Bcl-2 was expressed in 96% (24/25) of invasive tumours and in 45.7% (16/35) of non-invasive tumours. Expression of Bcl-2 significantly correlated with tumour invasiveness ($P = 0.0274$) and poor differentiation ($P = 0.0163$), whereas loss of Bax correlated with massive choroidal invasion and Pathological Tumor-Node-Metastasis (pTNM) ($P = 0.0341$). However, no correlation was found between Bax and Bcl-2 expression.

CONCLUSIONS: Our findings suggest that these apoptotic regulatory proteins may serve as poor prognostic markers and can be used as a therapeutic target for the treatment of invasive retinoblastoma. Further functional studies are required to explore the role of Bax and Bcl-2 in retinoblastoma.

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135: Singh MB. Epilepsy in developing countries: perspectives from India. *Neurology*. 2015 Apr 14;84(15):1592-4. doi: 10.1212/WNL.0000000000001468. PubMed PMID: 25870450.

136: Singh N, Sahu DK, Goel M, Kant R, Gupta DK. Retrospective analysis of FFPE based Wilms' Tumor samples through copy number and somatic mutation related

Molecular Inversion Probe Based Array. Gene. 2015 Jul 10;565(2):295-308. doi: 10.1016/j.gene.2015.04.051. Epub 2015 Apr 22. PubMed PMID: 25913740.

In this report, retrospectively, we analyzed fifteen histo-pathologically characterized FFPE based Wilms' Tumor (WT) samples following an integrative approach of copy number (CN) and loss of heterozygosity (LOH) imbalances. The isolated-DNA was tested on CN and somatic-mutation related Molecular-Inversion-Probe based-Oncoscan Array™ and was analyzed through Nexus-Express OncoScan-3.0 and 7.0 software. We identified gain of 3p13.0-q29, 4p16.3-14.0, 7, 12p13.33-q24.33, and losses of 1p36.11-q44, 11p15.5-q25, 21q22.2-22.3 and 22q11.21-13.2 in six samples (W1-6) and validated them in nine more samples (W7-9, W12-15, W17-18). Some observed that discrete deletions (1p, 1q, 10p, 10q, 13q, 20p) were specific to our samples. Maximum-LOH was observed in Ch11 as reported in previous studies. However, LOH was also observed in different regions of Ch7 including some cancer genes. The identified LOH-regions (1q21.2-q21.3, 2p24.1-23.3, 2p24.3-24.3, 3p21.3-21.1, 4p16.3, 7p11.2-p11.1, 7q31.2-31.32, 7q34-q35 and Ch 8) in W1-W6 were also validated in W7-9, W12-15 and W18. In addition, previously reported LOH of 1p and 16q region was also observed in our cases. The proven and novel onco (OG)- and tumor-suppressor genes (TSGs) involved in the CNV regions affected the major pathways like Chromatin Modification, RAS, PI3K; RAS in 14/15 cases, NOTCH/TGF- β and Cell Cycle Apoptosis in 10/15 cases, APC in 9/15 cases and Transcriptional Regulation in 7/15 cases, PI3K and genome maintenance in 6/15 cases. This exhaustive profiling of OG and TG may help in prognosis and diagnosis of the disease after validation of all the relevant results, especially the novel ones, obtained in this research in a larger number of samples.

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137: Singh N, Kaur SD, Malik N, Malhotra N, Vanamail P. Do increased levels of progesterone and progesterone/estradiol ratio on the day of human chorionic gonadotropin affects pregnancy outcome in long agonist protocol in fresh in vitro fertilization/intracytoplasmic sperm injection cycles? J Hum Reprod Sci. 2015 Apr-Jun;8(2):80-5. doi: 10.4103/0974-1208.158606. PubMed PMID: 26157298; PubMed Central PMCID: PMC4477454.

BACKGROUND: The effect of elevated levels of serum progesterone (P4) and estradiol (E2) on the day of human chorionic gonadotropin and their cut-off value on in vitro fertilization (IVF) outcomes is still not clear.

AIMS: The aim was to evaluate the association between serum P4, E2 and progesterone/estradiol ratio (P4/E2) on pregnancy outcome in IVF/intracytoplasmic sperm injection (ICSI) cycles with long agonist protocol.

SETTING AND DESIGN: Retrospective, single center, cohort study.

MATERIALS AND METHODS: A review of complete data of 544 women undergoing fresh IVF/ICSI cycles (539 cycles) with long agonist protocol from January 2012 to February 2014 was done. Data were stratified into Three groups according to the number of oocytes retrieved: low (≤ 4 oocytes obtained), intermediate (5-19 oocytes obtained), and high ovarian response (≥ 20 oocytes obtained).

STATISTICAL ANALYSIS: Fishers exact test/Chi-square was carried for comparing categorical data. Receiver operating characteristics analysis was performed to determine the cut-off value for P4 and P4/E2 detrimental for pregnancy.

RESULTS: A negative association was observed between pregnancy rate (PR) and serum P4 and P4/E2 levels with no effect on fertilization and cleavage rate. The overall cut-off value of serum P4 and P4/E2 ratio detrimental for pregnancy was found to be 1.075 and ≥ 0.35 , respectively. Different P4 threshold according to the ovarian responders were calculated, 1.075 for intermediate and 1.275 for high

responders. Serum E2 levels were not found to be significantly associated with PR.

CONCLUSION: Serum P4 levels and P4/E2 ratio are a significant predictor for pregnancy outcome without affecting cleavage and fertilization rate while serum estradiol levels do not seem to affect PR.

138: Singh N, Sazawal S, Upadhyay A, Chhikara S, Mahapatra M, Saxena R. Correlation of JAK2V617F mutational status in primary myelofibrosis with clinico-hematologic characteristics and international prognostic scoring system scoring: a single center experience. *Indian J Pathol Microbiol.* 2015 Apr-Jun;58(2):187-91. doi: 10.4103/0377-4929.155311. PubMed PMID: 25885131.

INTRODUCTION: Somatic mutation in the exon 14 of Janus Kinase 2 gene is an established diagnostic marker in bcr-abl negative myeloproliferative neoplasms, especially primary idiopathic myelofibrosis (PIMF).

AIM: Our primary aim was to find out the correlation between the JAK2V617F mutational status and the clinico-hematologic characteristics, as well as the international prognostic scoring system (IPSS) scoring of patients with PIMF.

MATERIALS AND METHODS: Clinical and hematologic features were reviewed for 68 patients with primary idiopathic myelofibrosis (PIMF). JAK2V617F mutation status was analyzed by amplification refractory mutation screening-polymerase chain reaction. The patients were further stratified into low, intermediate-1, intermediate-2 and high-risk groups on the basis of IPSS scoring.

RESULTS: The JAK2V617F mutation was detected in 58.8% patients. Univariate analysis of variables at presentation identified that JAK2V617F negative patients were significantly associated with more severe anemia ($P = 0.045$), younger age ($P = 0.008$), higher transfusion requirement ($P = 0.017$), and thrombocytopenia ($P = 0.015$). Patients who were homozygous for JAK2V617F mutation were associated with thrombocytosis ($P = 0.014$) and also had higher median total leucocyte count ($P = 0.20$) than the other groups. No significant correlation was detected between JAK2V617F mutational status and the presence of constitutional symptoms, spleen size, grade of bone marrow fibrosis or prognostic risk stratification of the PIMF patients.

CONCLUSION: The variations in the prognostic implication of PIMF patients with mutation status as stated by various publications worldwide, reinstates the need for larger prospective studies using standardized JAK2V617F quantification methods as well as estimation of other newer molecular markers to develop deeper insight into various molecular alterations involving PIMF patients in India as well as worldwide.

139: Singh N, Mishra P, Tyagi S, Pati HP, Mahapatra M, Seth T, Saxena R. Clinicohematologic Profile of Patients With Factor VIII Inhibitors: A Case Series. *Clin Appl Thromb Hemost.* 2015 Apr;21(3):246-50. doi: 10.1177/1076029614548720. Epub 2014 Aug 29. PubMed PMID: 25172870.

Factor VIII (FVIII) inhibitors present major clinical challenge as a complication of hemophilia A in patients on treatment with FVIII concentrates and as acquired autoantibodies in patients without hemophilia A. We aimed to study the prevalence of FVIII inhibitors in Indian settings, risk factors involved in early development of inhibitors in patients with hemophilia, differences in their clinical behavior, and approach to treatment, in comparison to patients with acquired hemophilia. The overall prevalence of FVIII inhibitors in patients with severe hemophilia A was found to be 22.3%. Two cases of acquired hemophilia were

reported. Due to heterogeneity of our study population, cases have been discussed individually. We observed that the early development of FVIII inhibitors in patients with hemophilia A is dependent upon an interplay of several risk factors that need to be studied in a multivariable analysis to bring out significant correlation with response to treatment. Also, they differ from patients without hemophilia A entirely in terms of presentation and management.

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140: Singh P, Wadhwa N, Lodha R, Sommerfelt H, Aneja S, Natchu UC, Chandra J, Rath B, Sharma VK, Kumari M, Saini S, Kabra SK, Bhatnagar S, Strand TA. Predictors of time to recovery in infants with probable serious bacterial infection. PLoS One. 2015 Apr 24;10(4):e0124594. doi: 10.1371/journal.pone.0124594. eCollection 2015. PubMed PMID: 25909192; PubMed Central PMCID: PMC4409397.

INTRODUCTION: Serious bacterial infections continue to be an important cause of death and illness among infants in developing countries. Time to recovery could be considered a surrogate marker of severity of the infection. We therefore aimed to identify clinical and laboratory predictors of time to recovery in infants with probable serious bacterial infection (PSBI).

METHODS: We used the dataset of 700 infants (7-120 days) enrolled in a randomised controlled trial in India in which 10mg of oral zinc or placebo was given to infants with PSBI. PSBI was defined as signs/symptoms of possible serious bacterial infection along with baseline C-reactive protein(CRP) level >12mg/L. Time to recovery was defined as time from enrolment to the end of a 2-day period with no symptoms/signs of PSBI and daily weight gain of at least 10g over 2 successive days on exclusive oral feeding. Cox proportional hazard regression was used to measure the associations between relevant variables and time to recovery.

RESULTS: Infants who were formula fed prior to illness episode had 33% longer time to recovery (HR=0.67, 95%CI=0.52, 0.87) than those who were not. Being underweight (HR=0.84, 95%CI=0.70, 0.99), lethargic (HR=0.77, 95%CI=0.62, 0.96) and irritable (HR=0.81, 95%CI=0.66, 0.99) were independent predictors of time to recovery. Baseline CRP was significantly associated with time to recovery (P<0.001), higher CRP was associated with longer time to recovery and this association was nearly linear.

CONCLUSION: Simple clinical and laboratory parameters such as formula feeding prior to the illness, being underweight, lethargic, irritable and having elevated CRP levels could be used for early identification of infants with PSBI at risk for protracted illness and could guide prompt referral to higher centers in resource limited settings. This also provides prognostic information to clinicians and family as longer recovery time has economic and social implications on the family in our setting.

TRIAL REGISTRATION: ClinicalTrials.gov NCT00347386.

141: Singh S, Kumar R, Jain H, Gupta YK. Anti-inflammatory and antiarthritic activity of UNIM-301 (a polyherbal unani formulation) in Wistar rats. Pharmacognosy Res. 2015 Apr-Jun;7(2):188-92. doi: 10.4103/0974-8490.150515. PubMed PMID: 25829793; PubMed Central PMCID: PMC4357970.

BACKGROUND: UNIM-301 is a polyherbal formulation used in the Unani system of medicine for the treatment of joint pain and rheumatoid arthritis (RA). **OBJECTIVE:** The objective was to evaluate the anti-inflammatory and antiarthritic activity of UNIM-301 in carrageenan-induced paw edema and complete Freund's

Adjuvant (CFA) induced arthritis.

MATERIALS AND METHODS: The anti-inflammatory and antiarthritic activity of UNIM-301 was evaluated using carrageenan-induced paw edema and CFA induced animal arthritis models, respectively, in doses of 250, 500, and 1000 mg/kg body weight. Anti-inflammatory activity of UNIM-301 was evaluated using carrageenan-induced paw edema model using a digital plethysmometer. Anti-arthritic activity was evaluated using CFA induced arthritis, and joint sizes were measured at regular intervals using a micrometer screw gauge. Serum was collected and subjected to estimation of pro-inflammatory cytokine. Indomethacin 3 mg/kg body weight) was used as a standard drug in both the models. The acute and chronic toxicity study was carried out to evaluate the safety of the test drug.

RESULTS: UNIM-301 treatment produced a dose-dependent reduction in paw edema and paw thickness in carrageenan-induced paw edema and CFA-induced arthritis, respectively, as compared to control. UNIM 301 also reduced the expression of pro-inflammatory mediator in a dose-dependent manner as compared to control.

CONCLUSION: The result of the present study suggests that anti-inflammatory and anti-arthritic activity of UNIM-301, which might be accredited to inhibitory activity on pro-inflammatory cytokines to its various individual constituents.

142: Singh SP, Menon R, Sahu MK, Rajashekar P, Kapoor PM. Single lumen tube as endobronchial stent to manage left bronchial compression post total anomalous pulmonary venous connection repair. *Ann Card Anaesth.* 2015 Apr-Jun;18(2):217-20. doi: 10.4103/0971-9784.154488. PubMed PMID: 25849694.

143: Sinha G, Patil B, Sihota R, Gupta V, Nayak B, Sharma R, Sharma A, Gupta N. Visual field loss in primary congenital glaucoma. *J AAPOS.* 2015 Apr;19(2):124-9. doi: 10.1016/j.jaapos.2014.12.008. PubMed PMID: 25892039.

PURPOSE: To assess the visual field defects in primary congenital glaucoma (PCG) and to identify associated risk factors.

METHODS: In this cross-sectional study visual fields of consecutive PCG patients were examined using Humphery Field Analyzer (HFA) or Goldmann visual field (GVF). All patients had maintained an intraocular pressure (IOP) \leq 14 mm Hg on standard care. Mean deviation, pattern standard deviation (PSD), foveal threshold in HFA, and global visual field extent (degrees) in 24 meridians for targets V4e, I4e, I2e in GVF were recorded and evaluated with respect to baseline IOP and age at detection. Statistical analysis was performed by Kruskal Wallis and Mann-Whitney test. Qualitative analysis of GVF and reliable fields in HFA was performed.

RESULTS: A total of 100 eyes of 77 patients were included: 56 eyes of 47 patients were in the HFA group; 44 eyes of 30 patients, in the GVF group. On HFA, mean deviation detected at \leq 1 month of age was significantly lower than eyes detected after 1 year ($P < 0.001$). On GVF, the global visual field extent for target I4e and I2e was significantly lower for PCG detected at \leq 1 month of age compared to those seen at >1 year (I4e, $P < 0.001$; I2e, $P = 0.005$). Mean deviation, PSD, and foveal threshold were significantly lower in PCG with baseline IOP of >30 mm Hg than with IOP of 20-25 mm Hg (mean deviation, $P < 0.001$; PSD, $P = 0.002$; foveal threshold, $P = 0.002$). Extent for targets V4e and I4e on GVF were significantly lower in patients with baseline IOP of >30 mm Hg compared to those with baseline IOP of 20-25 mm Hg (V4e, $P = 0.002$; I4e, $P = 0.003$). Definitive glaucomatous defects were found in 36 eyes (41%), most ommon being arcuate scotoma (19 eyes [22%]).

CONCLUSIONS: PCG detected at age \leq 1 month and those having a baseline IOP of >30 mm Hg show greater visual field loss.

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144: Swain R, Behera C, Mridha AR, Gupta SK. Massive hepatobiliary ascariasis at autopsy. *BMJ Case Rep.* 2015 Apr 15;2015. pii: bcr2015209839. doi: 10.1136/bcr-2015-209839. PubMed PMID: 25878238.

145: Tandon N. Understanding type 1 diabetes through genetics: Advances and prospects. *Indian J Endocrinol Metab.* 2015 Apr;19(Suppl 1):S39-43. doi: 10.4103/2230-8210.155391. PubMed PMID: 25941648; PubMed Central PMCID: PMC4413387.

The largest contribution of type 1 diabetes mellitus (T1DM) from a single locus comes from several genes located in the major histocompatibility complex on chromosome 6p21. Because DQB1 is the best single genetic marker for T1DM, it is the gene most often used to identify individuals with a high risk of developing disease. As per the data collected from the All India Institute of Medical Sciences, among the human leukocyte antigen (HLA)-DRB1 genes, HLA-DR3 showed strongest association with the disease; however, unlike Caucasians and other populations, DR4 was not significantly increased in these patients. HLA-DR10, 11, 13, and 15 showed a negative association with the disease as they were reduced in these patients. In India, the relative risk of developing T1DM is higher with the DR3-DQ2 haplotypes as compared to DR4-DQ8 haplotypes. Studies have shown that in North India, the relative risk for T1DM is comparatively higher (>30) with the DQ2/DQ8 genotype, but is relatively lower (approximately 18) for the DQ2/DQ2 genotype. In addition, the three sets of HLA-B-DR3 haplotypes, mainly B58-DR3, B50-DR3, and B8-DR3 have shown to have modulated susceptibility for T1DM in India and worldwide. New interventions that will be tested in the future will be conducted through T1DM TrialNet, a collaborative network of clinical centers and experts in diabetes and immunology. These studies will identify unaffected first-degree relatives with beta cell autoantibodies who will be eligible for new interventions.

146: Tembhre MK, Parihar AS, Sharma VK, Sharma A, Chattopadhyay P, Gupta S. Alteration in regulatory T cells and programmed cell death 1-expressing regulatory T cells in active generalized vitiligo and their clinical correlation. *Br J Dermatol.* 2015 Apr;172(4):940-50. doi: 10.1111/bjd.13511. Epub 2015 Feb 27. PubMed PMID: 25376752.

BACKGROUND: Vitiligo is an autoimmune depigmentation disease, and defects in regulatory T cells (Tregs) have been proposed in the pathogenesis of generalized vitiligo (GV). However, the role of programmed cell death (PD)1(+) Tregs has not been studied.

OBJECTIVES: To investigate the status of Tregs, PD1(+) Tregs and associated parameters in active GV (aGV) during the first episode of disease attack and to establish the clinical correlation.

METHODS: The percentages of circulating Tregs, PD1(+) Tregs and CD3(+) CD4(+) PD1(+) T cells were evaluated in 50 patients with aGV and 51 controls. Expression levels of FOXP3, TGFB1, CTLA4 and genes for chemokine receptors (CCR4, CCR7) and their ligands (CCL21, CCL22) were quantified in peripheral blood and in lesional, perilesional, nonlesional and normal skin sections. The corresponding proteins were immunolocalized in tissue of aGV.

RESULTS: The percentage of Tregs was decreased ($P = 0.001$) and that of PD1(+) Tregs increased ($P = 0.001$) in peripheral blood of patients with aGV compared

with controls. The abundance of TGFB1 and CCL21 mRNA was significantly decreased in the peripheral blood of patients with aGV. Significant differences in forkhead box P3, transforming growth factor- β and CCL21 protein expression were found in skin sections.

CONCLUSIONS: Deficiency in Treg frequency and decreased expression of Treg-associated parameters (TGFB and CCL21) suggested a possible defect in Tregs that may alter their suppression function and skin homing in aGV. The increased PD1(+) Tregs suggests that the PD1/PD ligand pathway may be involved in aGV and may have a role in Treg exhaustion. Further study is required to delineate the effect of PD1 in regulating Treg function in aGV.

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147: Titiyal JS, Tinwala SI, Shekhar H, Sinha R. Sutureless clear corneal DSAEK with a modified approach for preventing pupillary block and graft dislocation: case series with retrospective comparative analysis. *Int Ophthalmol*. 2015 Apr;35(2):233-40. doi: 10.1007/s10792-014-9941-9. Epub 2014 Apr 12. PubMed PMID: 24728534.

The purpose of this study was to describe a modified technique of sutureless DSAEK with continuous pressurized internal air tamponade. This was a prospective interventional case series, single-center, institutional study. Twenty-seven patients with corneal decompensation without scarring were included. Aphakic patients and patients with cataractous lens requiring IOL implantation surgery were excluded. Following preparation of the donor tissue, a corneal tunnel was made nasally with two side ports. All incisions were kept long enough to be overlapped by the peripheral part of the donor tissue. Descemet membrane scoring was done using a reverse Sinsky hook, following which it was removed with the same instrument or by forceps. The donor lenticule was then inserted using Busin's glide. Continuous pressurized internal air tamponade was achieved by means of a 30-gauge needle, inserted through the posterior limbus, for 12-14 min. At the end of the surgery, air was partially replaced with BSS, leaving a moderate-sized mobile air bubble in the anterior chamber. At the 6 month's follow-up, CDVA improved from counting fingers at half meter-6/24 preoperatively to 6/9-6/18 postoperatively, and the mean endothelial cell count decreased: to 1,800 from 2,200 cell/mm² preoperatively (18.19 % endothelial cell loss). Donor lenticule thickness as documented on AS-OCT was 70-110 μ on Day 1 and 50-80 μ at 6 months postoperative. None of the cases had flat AC or peripheral anterior synechiae formation. None of the patients required a second intervention. There were no cases of primary graft failure, pupillary block glaucoma or donor lenticule dislocation postoperatively. Our modified technique is simple and effective with reduction in postoperative complications associated with DSAEK, thereby maximizing anatomic and functional outcomes associated.

148: Tripathi M, Deo RC, Suri A, Srivastav V, Baby B, Kumar S, Kalra P, Banerjee S, Prasad S, Paul K, Roy TS, Lalwani S. Quantitative analysis of the Kawase versus the modified Dolenc-Kawase approach for middle cranial fossa lesions with variable anteroposterior extension. *J Neurosurg*. 2015 Jul;123(1):14-22. doi: 10.3171/2015.2.JNS132876. Epub 2015 Apr 3. PubMed PMID: 25839921.

OBJECT The surgical corridor to the upper third of the clivus and ventral brainstem is hindered by critical neurovascular structures, such as the cavernous sinus, petrous apex, and tentorium. The traditional Kawase approach provides a 10 \times 5-mm fenestration at the petrous apex of the temporal bone between the 5th cranial nerve and internal auditory canal. Due to interindividual variability, sometimes this area proves to be insufficient as a corridor to the posterior

cranial fossa. The authors describe a modification to the technique of the extradural anterior petrosectomy consisting of additional transcavernous exploration and medial mobilization of the cisternal component of the trigeminal nerve. This approach is termed the modified Dolenc-Kawase (MDK) approach. METHODS The authors describe a volumetric analysis of temporal bones with 3D laser scanning of dry and drilled bones for respective triangles and rhomboid areas, and they compare the difference of exposure with traditional versus modified approaches on cadaver dissection. Twelve dry temporal bones were laser scanned, and mesh-based volumetric analysis was done followed by drilling of the Kawase triangle and MDK rhomboid. Five cadaveric heads were drilled on alternate sides with both approaches for evaluation of the area exposed, surgical freedom, and angle of approach. RESULTS The MDK approach provides an approximately 1.5 times larger area and 2.0 times greater volume of bone at the anterior petrous apex compared with the Kawase's approach. Cadaver dissection objectified the technical feasibility of the MDK approach, providing nearly 1.5-2 times larger fenestration with improved view and angulation to the posterior cranial fossa. Practical application in 6 patients with different lesions proves clinical applicability of the MDK approach. CONCLUSIONS The larger fenestration at the petrous apex achieved with the MDK approach provides greater surgical freedom at the Dorello canal, gasserian ganglion, and prepontine area and better anteroposterior angulation than the traditional Kawase approach. Additional anterior clinoidectomy and transcavernous exposure helps in dealing with basilar artery aneurysms.

149: Ummar IS, Rajaraman V, Loganathan N. Cushing's syndrome presenting as treatment-resistant bipolar affective disorder: A step in understanding endocrine etiology of mood disorders. *Indian J Psychiatry*. 2015 Apr-Jun;57(2):200-2. doi: 10.4103/0019-5545.158194. PubMed PMID: 26124528; PubMed Central PMCID: PMC4462791.

Cushing's syndrome (CS) is the multisystem disorder which is due to cortisol excess. It is very difficult to diagnose in early stages, especially when psychiatric manifestations are the predominant complaints. It could result in significant morbidity and mortality. We report a case of resistant bipolar affective disorder secondary to CS. Early diagnosis and treatment will lead to better functional outcome and prevention of neurocognitive side-effects of excessive cortisol.

150: Upadhyay A, Verma KK, Lal P, Chawla D, Sreenivas V. Heparin for prolonging peripheral intravenous catheter use in neonates: a randomized controlled trial. *J Perinatol*. 2015 Apr;35(4):274-7. doi: 10.1038/jp.2014.203. Epub 2014 Dec 4. PubMed PMID: 25474552.

OBJECTIVE: To determine the efficacy of heparinized saline administered as intermittent flush on functional duration of the peripheral intravenous catheter (PIVC) in neonates.

STUDY DESIGN: Randomized, double-blind and placebo-controlled trial.

SETTING: Neonatal intensive care unit of a teaching hospital.

PARTICIPANTS: Term and preterm neonates born at >32 weeks of gestation who required PIVC only for intermittent administration of antibiotics.

INTERVENTION: Eligible neonates were randomized to receive 1ml of either heparinized saline (10Uml(-1)) (n=60) or normal saline (n=60) every 12h before and after intravenous antibiotics.

MAIN OUTCOME MEASURE: Functional duration of first peripheral intravenous catheter.

RESULT: A total of 120 neonates were randomized to two groups of 60 neonates each. The mean (s.d.) of age of babies in case and control group was 5.7 (2.5) days and 4.6 (3.1) days, respectively. The average weight of babies in both the groups was 2.1 kg. Mean functional duration of first catheter was more in heparinized saline group, mean (s.d.) of 71.68h (27.3) as compared with 57.7h (23.6) in normal saline group ($P < 0.005$). The mean (95% confidence interval) difference in functional duration in the two groups was 13.9h (4.7-23.15). Mean duration of patency for any catheter was also significantly more in heparinized saline group than control group.

CONCLUSION: Heparinized saline flush increases the functional duration of peripheral intravenous catheter.

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

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

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

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

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152: Venkatesh P, Gogia V, Gupta S, Tayade A, Shilpy N, Shah BM, Guleria R. Pulse cyclophosphamide therapy in the management of patients with macular serpiginous choroidopathy. *Indian J Ophthalmol*. 2015 Apr;63(4):318-22. doi: 10.4103/0301-4738.158070. PubMed PMID: 26044470; PubMed Central PMCID: PMC4463555.

PURPOSE: To evaluate safety and efficacy of intravenous pulse cyclophosphamide (CyP) in acute macular serpiginous choroiditis (SC).

METHODS: Patients with acute macular SC with lesions threatening and/or involving fovea were enrolled. All patients received CyP (1 g/m²) for 3 days followed by high-dose oral steroids (1.5 mg/kg) tapered over 6 months and monitored for

visual acuity, response to treatment and systemic side effects.

RESULTS: Eight patients (seven unilateral and one bilateral) with median age of 27 years (range: 13-40 years) were recruited. Mean visual acuity at presentation was 0.71 ± 0.35 logarithm of the minimum angle of resolution while postpulse visual acuity was 0.40 ± 0.32 . Final mean visual acuity at 1-year was 0.31 ± 0.23 ($P \leq 0.05$). Three eyes had recurrence and 3 patients developed transient hair loss with no other adverse effect.

CONCLUSION: Intravenous CyP provides rapid resolution of lesion activity and thereby helps in maintaining good functional acuity.

153: Venkatesulu BP, Mallick S, Singh A, Julka PK. Non small cell carcinoma of lung with metachronous breast metastasis and cardiac tamponade: Unusual presentation of a common cancer. *J Egypt Natl Canc Inst.* 2015 Apr 28. pii: S1110-0362(15)00031-X. doi: 10.1016/j.jnci.2015.03.006. [Epub ahead of print] PubMed PMID: 25934444.

INTRODUCTION: Lung cancer is the most common cause of cancer related death worldwide. Mostly these tumors present with cough, chest pain weight loss. However, presentation as breast mass and cardiac tamponade is very rare.

RESULTS: We are presenting a rare case of breast metastasis from primary lung cancer. This case presented as cardiac tamponade adding to the diagnostic dilemma.

CONCLUSION: The importance of this case is to highlight molecular profiling as an applicable tool to distinguish extra-mammary metastasis that masquerade as mammary neoplasm thereby preventing unnecessary need of surgery and radiation therapy.

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154: Yadav RK, Sarvottam K, Magan D, Yadav R. A two-year follow-up case of chronic fatigue syndrome: substantial improvement in personality following a yoga-based lifestyle intervention. *J Altern Complement Med.* 2015 Apr;21(4):246-9. doi: 10.1089/acm.2014.0055. Epub 2015 Mar 31. PubMed PMID: 25825998.

BACKGROUND AND OBJECTIVE: Chronic Fatigue Syndrome (CFS) is characterized by excessive fatigue after minimal physical or mental exertion, muscle and joint pain, poor concentration, dizziness, and sleep disturbances. We report here the effect of a yoga-based lifestyle intervention in a 30-year old male patient with a documented diagnosis of CFS with compromised quality of life (QoL) and altered personality.

METHODS: The patient initially attended a short-term yoga-based lifestyle intervention program that consisted of yoga-postures, breathing exercises (pranayama), meditation, group discussions, and individualized advice on stress management, diet and physical activity besides group support. Thereafter, patient attended 5 more such programs.

RESULTS: There was a notable and consistent improvement in his clinical profile, positive aspects of personality and subjective well-being, and reduction in anxiety following this yoga-based lifestyle intervention.

CONCLUSION: Overall, the results suggest that lifestyle intervention may improve clinical condition and personality in patients with CFS.

155: Zeeshan M, Tyagi RK, Tyagi K, Alam MS, Sharma YD. Host-parasite interaction: selective Pv-fam-a family proteins of *Plasmodium vivax* bind to a restricted number of human erythrocyte receptors. *J Infect Dis.* 2015 Apr 1;211(7):1111-20. doi: 10.1093/infdis/jiu558. Epub 2014 Oct 13. PubMed PMID: 25312039.

BACKGROUND: *Plasmodium vivax* synthesizes the largest number of 36 tryptophan-rich

proteins belonging to the Pv-fam-a family. These parasite proteins need to be characterized for their biological function because tryptophan-rich proteins from other Plasmodium species have been proposed as vaccine candidates.

METHODS: Recombinant *P. vivax* tryptophan-rich antigens (PvTRAGs) were used to determine their erythrocyte-binding activity by a cell-based enzyme-linked immunosorbent assay, flow cytometry, and a rosetting assay.

RESULTS: Only 4 (PvTRAG26.3, PvTRAG34, PvTRAG36, and PvTRAG36.6) of 21 PvTRAGs bind to host erythrocytes. The cross-competition data indicated that PvTRAG36 and PvTRAG34 share their erythrocyte receptors with previously described proteins PvTRAG38 and PvTRAG33.5, respectively. On the other hand, PvTRAG26.3 and PvTRAG36.6 cross-compete with each other and not with any other PvTRAG, indicating that these 2 proteins bind to the same but yet another set of erythrocyte receptor(s). Together, 10 of 36 PvTRAGs possess erythrocyte-binding activity in which each protein recognizes >1 erythrocyte receptor. Further, each erythrocyte receptor is shared by >1 PvTRAG.

CONCLUSIONS: This redundancy may be useful for the parasite to invade red blood cells and cause disease pathogenesis, and it can be exploited to develop therapeutics against *P. vivax* malaria.

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