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1: Acharya S, Goyal A, Bhalla AS, Sharma R, Seth A, Gupta AK. In vivo characterization of urinary calculi on dual-energy CT: going a step ahead with sub-differentiation of calcium stones. *Acta Radiol.* 2015 Jul;56(7):881-9. doi: 10.1177/0284185114538251. Epub 2014 Jun 17. PubMed PMID: 24938664.

BACKGROUND: The role of dual-energy computed tomography (DECT) in characterization of urinary calculi is evolving and literature regarding differentiation of calcium calculi is sparse and confounding.

PURPOSE: To evaluate the capability of DECT in assessing the urinary calculi composition in vivo, especially in differentiating various types of calcium calculi.

MATERIAL AND METHODS: One hundred and twenty patients underwent DECT for characterization of urinary calculi. Seventy patients with 114 calculi, including 93 calcium stones, were retrospectively analyzed. DE ratios and attenuation differences were compared using ANOVA and receiver-operating-characteristic (ROC) analysis was done to predict cut-off values, in particular for detecting calcium-oxalate-monohydrate (COM) stones.

RESULTS: DE ratio ≤ 1.14 accurately detected uric acid calculi, ≥ 1.29 was definitive for calcium and intermediate values were characteristic of cystine stones. DE ratios were significantly different between group 1 (COM [n=32]; mean 1.376 ± 0.041), group 2 ([calcium oxalate dihydrate (COD)+COM] [n=51]; 1.416 ± 0.048), and group 3 ([carbonate apatite (CaP)+COD+COM] [n=10]; 1.468 ± 0.038) (group 1 vs. 2, $P=0.001$; 1 vs. 3, $P=0.000$; 2 vs. 3, $P=0.004$). More importantly, pure COM calculi (group 1) had significantly lower DE ratio compared with mixed calcium calculi (groups 2 and 3) ($P=0.000$). Attenuation differences (between low and high kV images) could not distinguish between COM and mixed calculi. ROC analysis for detection of COM calculi yielded AUC of 0.770 with cut-off DE ratio 1.385 (sensitivity 65.6%, specificity 82%) and value < 1.335 was seen only with COM calculi (100% specificity).

CONCLUSION: DECT can be employed for in vivo differentiation of various types of calculi and for detection of relatively lithotripsy-resistant COM calculi.

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2: Ahuja V. Inventory of a reservoir: friends & foes. *Indian J Med Res.* 2015 Jul;142(1):4-6. doi: 10.4103/0971-5916.162085. PubMed PMID: 26261160; PubMed Central PMCID: PMC4557248.

3: Akhter MZ, Luthra K, Rajeswari MR. Molecular aspects on adriamycin interaction with hmgal regulatory region and its inhibitory effect on HMGA1 expression in human cervical cancer. *J Biomol Struct Dyn.* 2015 Jul 9:1-15. [Epub ahead of print] PubMed PMID: 26084422.

High mobility group A1 (HMGA1), a non-histone chromosomal protein, is highly expressed in a wide range of human cancers including cervical, breast, and prostate cancers. Therefore, hmgal gene is considered as an attractive potential target for anticancer drugs. We have chosen 27 bp DNA sequence from a regulatory region of hmgal promoter and studied its interaction with adriamycin (ADM) and in vitro expression of HMGA1 in the presence of ADM in HeLa cell line. A variety of biophysical techniques were employed to understand the characteristics of [DNA-ADM] complex. Spectrophotometric titration data, DNA denaturation profiles, and quenching of fluorescence of ADM in the presence of DNA demonstrated a strong complexation between DNA and ADM with a high binding affinity (K_a) of 1.3×10^6 M⁻¹ and a stoichiometry of 1:3 (drug:nucleotide). The energetics of binding obtained from isothermal titration calorimetry and differential scanning calorimetry suggest the binding to be exothermic and enthalpy (ΔH ,

-6.7 ± 2.4 kcal M⁻¹) and entropy (TAS, 18.5 ± 6.4 kcal M⁻¹) driven (20°C), which is typical of intercalative mode of binding. Further, results on decreased expression (by ~70%) of HMGAL both at mRNA and protein levels in association with the observed cell death (by ~75%) in HeLa cell line, clearly confirm that ADM does target hmgal; however, the effect of ADM on genes other than hmgal either directly or via hmgal-mediated pathways cannot be ruled out in the observed cytotoxicity. Therefore, hmgal in general and particularly the regulatory region is a promising target for therapeutic strategy in combating cancer.

4: 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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5: Alam MS, Choudhary V, Zeeshan M, Tyagi RK, Rathore S, Sharma YD. Interaction of Plasmodium vivax Tryptophan-rich Antigen PvTRAg38 with Band 3 on Human Erythrocyte Surface Facilitates Parasite Growth. *J Biol Chem*. 2015 Aug 14;290(33):20257-72. doi: 10.1074/jbc.M115.644906. Epub 2015 Jul 6. PubMed PMID: 26149684; PubMed Central PMCID: PMC4536434.

Plasmodium tryptophan-rich proteins are involved in host-parasite interaction and thus potential drug/vaccine targets. Recently, we have described several *P. vivax* tryptophan-rich antigens (PvTRAGs), including merozoite expressed PvTRAg38, from this noncultivable human malaria parasite. PvTRAg38 is highly immunogenic in humans and binds to host erythrocytes, and this binding is inhibited by the patient sera. This binding is also affected if host erythrocytes were pretreated with chymotrypsin. Here, Band 3 has been identified as the chymotrypsin-sensitive erythrocyte receptor for this parasite protein. Interaction of PvTRAg38 with Band 3 has been mapped to its three different ectodomains (loops 1, 3, and 6) exposed at the surface of the erythrocyte. The binding region of PvTRAg38 to Band3 has been mapped to its sequence, KVVQWKNDKIRSWLSSEW, present at amino acid positions 197-214. The recombinant PvTRAg38 was able to inhibit the parasite growth in *in vitro* Plasmodium falciparum culture probably by competing with the ligand(s) of this heterologous parasite for the erythrocyte Band 3 receptor. In conclusion, the host-parasite interaction at the molecular level is much more complicated than known so far and should be considered during the development of anti-malarial therapeutics.

6: Anand S, Shivashankar R, Ali MK, Kondal D, Binukumar B, Montez-Rath ME, Ajay VS, Pradeepa R, Deepa M, Gupta R, Mohan V, Narayan KM, Tandon N, Chertow GM, Prabhakaran D; CARRS Investigators. Prevalence of chronic kidney disease in two major Indian cities and projections for associated cardiovascular disease. *Kidney Int.* 2015 Jul;88(1):178-85. doi: 10.1038/ki.2015.58. Epub 2015 Mar 18. PubMed PMID: 25786102; PubMed Central PMCID: PMC4490055.

India is experiencing an alarming rise in the burden of noncommunicable diseases, but data on the incidence of chronic kidney disease (CKD) are sparse. Using the Center for Cardiometabolic Risk Reduction in South Asia surveillance study (a population-based survey of Delhi and Chennai, India) we estimated overall, and age-, sex-, city-, and diabetes-specific prevalence of CKD, and defined the distribution of the study population by the Kidney Disease Improving Global Outcomes (KDIGO) classification scheme. The likelihood of cardiovascular events in participants with and without CKD was estimated by the Framingham and Interheart Modifiable Risk Scores. Of the 12,271 participants, 80% had complete data on serum creatinine and albuminuria. The prevalence of CKD and albuminuria, age standardized to the World Bank 2010 world population, was 8.7% (95% confidence interval: 7.9-9.4%) and 7.1% (6.4-7.7%), respectively. Nearly 80% of patients with CKD had an abnormally high hemoglobin A1c (5.7 and above). Based on KDIGO guidelines, 6.0, 1.0, and 0.5% of study participants are at moderate, high, or very high risk for experiencing CKD-associated adverse outcomes. The cardiovascular risk scores placed a greater proportion of patients with CKD in the high-risk categories for experiencing cardiovascular events when compared with participants without CKD. Thus, 1 in 12 individuals living in two of India's largest cities have evidence of CKD, with features that put them at high risk for adverse outcomes.

7: Andrabi Y, Patino M, Das CJ, Eisner B, Sahani DV, Kambadakone A. Advances in CT imaging for urolithiasis. *Indian J Urol.* 2015 Jul-Sep;31(3):185-93. doi: 10.4103/0970-1591.156924. Review. PubMed PMID: 26166961; PubMed Central PMCID: PMC4495492.

Urolithiasis is a common disease with increasing prevalence worldwide and a lifetime-estimated recurrence risk of over 50%. Imaging plays a critical role in the initial diagnosis, follow-up and urological management of urinary tract stone disease. Unenhanced helical computed tomography (CT) is highly sensitive (>95%) and specific (>96%) in the diagnosis of urolithiasis and is the imaging investigation of choice for the initial assessment of patients with suspected urolithiasis. The emergence of multi-detector CT (MDCT) and technological innovations in CT such as dual-energy CT (DECT) has widened the scope of MDCT in the stone disease management from initial diagnosis to encompass treatment planning and monitoring of treatment success. DECT has been shown to enhance pre-treatment characterization of stone composition in comparison with conventional MDCT and is being increasingly used. Although CT-related radiation dose exposure remains a valid concern, the use of low-dose MDCT protocols and integration of newer iterative reconstruction algorithms into routine CT practice has resulted in a substantial decrease in ionizing radiation exposure. In this review article, our intent is to discuss the role of MDCT in the diagnosis and post-treatment evaluation of urolithiasis and review the impact of emerging CT technologies such as dual energy in clinical practice.

8: Arora S, Dhull VS, Mukherjee A, Tulsyan S, Behera A, Tripathi M. Metastatic superscan on (99m)Tc-methylene diphosphonate bone scintigraphy in pediatric neuroblastoma. *Indian J Nucl Med.* 2015 Jul-Sep;30(3):286-7. doi: 10.4103/0972-3919.158552. PubMed PMID: 26170581; PubMed Central PMCID: PMC4479927.

Excessive skeletal radioisotope uptake in relation to soft tissues along with absent or faint activity in the genitourinary tract on bone scintigraphy (BS) is

known as a "superscan." However the association of pediatric solid tumor malignancy with metastatic superscan has not been reported previously. We here describe two such cases of neuroblastoma who presented with metastatic superscan on (99m)Tc-methylene diphosphonate BS. Presence of a superscan usually indicates an advanced stage of the disease. The patient prognosis is usually poor. Though extremely rare superscan can be associated with pediatric solid tumor malignancies and should be kept in mind while reporting such cases.

9: Ateeq B, Kunju LP, Carskadon SL, Pandey SK, Singh G, Pradeep I, Tandon V, Singhai A, Goel A, Amit S, Agarwal A, Dinda AK, Seth A, Tsodikov A, Chinnaiyan AM, Palanisamy N. Molecular profiling of ETS and non-ETS aberrations in prostate cancer patients from northern India. *Prostate*. 2015 Jul 1;75(10):1051-62. doi: 10.1002/pros.22989. Epub 2015 Mar 23. PubMed PMID: 25809148.

BACKGROUND: Molecular stratification of prostate cancer (PCa) based on genetic aberrations including ETS or RAF gene-rearrangements, PTEN deletion, and SPINK1 over-expression show clear prognostic and diagnostic utility. Gene rearrangements involving ETS transcription factors are frequent pathogenetic somatic events observed in PCa. Incidence of ETS rearrangements in Caucasian PCa patients has been reported, however, occurrence in Indian population is largely unknown. The aim of this study was to determine the prevalence of the ETS and RAF kinase gene rearrangements, SPINK1 over-expression, and PTEN deletion in this cohort. **METHODS:** In this multi-center study, formalin-fixed paraffin embedded (FFPE) PCa specimens (n=121) were procured from four major medical institutions in India. The tissues were sectioned and molecular profiling was done using immunohistochemistry (IHC), RNA in situ hybridization (RNA-ISH) and/or fluorescence in situ hybridization (FISH).

RESULTS: ERG over-expression was detected in 48.9% (46/94) PCa specimens by IHC, which was confirmed in a subset of cases by FISH. Among other ETS family members, while ETV1 transcript was detected in one case by RNA-ISH, no alteration in ETV4 was observed. SPINK1 over-expression was observed in 12.5% (12/96) and PTEN deletion in 21.52% (17/79) of the total PCa cases. Interestingly, PTEN deletion was found in 30% of the ERG-positive cases (P=0.017) but in only one case with SPINK1 over-expression (P=0.67). BRAF and RAF1 gene rearrangements were detected in ~1% and ~4.5% of the PCa cases, respectively.

CONCLUSIONS: This is the first report on comprehensive molecular profiling of the major spectrum of the causal aberrations in Indian men with PCa. Our findings suggest that ETS gene rearrangement and SPINK1 over-expression patterns in North Indian population largely resembled those observed in Caucasian population but differed from Japanese and Chinese PCa patients. The molecular profiling data presented in this study could help in clinical decision-making for the pursuit of surgery, diagnosis, and in selection of therapeutic intervention.

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10: Bagri NK, Jose B, Shah SK, Bhutia TD, Kabra SK, Lodha R. Impact of Malnutrition on the Outcome of Critically Ill Children. *Indian J Pediatr*. 2015 Jul;82(7):601-5. doi: 10.1007/s12098-015-1738-y. Epub 2015 Mar 26. PubMed PMID: 25804317.

OBJECTIVE: To assess the impact of nutritional status on outcomes like mortality rate, length of mechanical ventilation and length of Pediatric Intensive Care Unit (PICU) stay, in critically ill children.

METHODS: In this retrospective study conducted at a tertiary care center, records of 332 critically ill children between 1 mo to 15 y of age for whom anthropometric parameters were available were included. Anthropometric parameters for the study subjects were used to assess the nutritional status using the WHO growth charts as the reference. The study subjects were categorized as

non-malnourished, moderately, and severely malnourished, defined by Body mass index (BMI) for age 0 to -2 SD, -2 to -3 SD and less than -3 SD of WHO growth charts, respectively. Various outcomes like mortality, duration of PICU stay and duration of mechanical ventilation were assessed in the 3 groups based on the nutritional status.

RESULTS: The prevalence of malnutrition in the index study was 51.2 % with an overall mortality of 38.8 %. No difference was found between mortality rates and proportion of ventilated children in the three study groups. However, more children who were severely malnourished had significantly prolonged ICU stay (>7 d) as well as duration of mechanical ventilation (>7 d). When the outcome variables were compared after adjusting for PIM2 scores, there were increasing odds of mortality, ventilation, prolonged PICU stay and duration of mechanical ventilation with increasing severity of malnutrition.

CONCLUSIONS: After stabilization of the initial critical phase, PICU outcome is influenced by the nutritional status of the children.

11: Baidya DK, Maitra S, Arora MK, Agarwal A. Quadratus lumborum block: an effective method of perioperative analgesia in children undergoing pyeloplasty. *J Clin Anesth*. 2015 Jul 11. pii: S0952-8180(15)00153-1. doi: 10.1016/j.jclinane.2015.05.006. [Epub ahead of print] PubMed PMID: 26174113.

Quadratus lumborum block: an effective method of perioperative analgesia in children undergoing pyeloplasty.

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12: Bal C, Ballal S, Soundararajan R, Chopra S, Garg A. Radioiodine remnant ablation in low-risk differentiated thyroid cancer patients who had R0 dissection is an over treatment. *Cancer Med*. 2015 Jul;4(7):1031-8. doi: 10.1002/cam4.443. Epub 2015 Mar 9. PubMed PMID: 25755077; PubMed Central PMCID: PMC4529341.

Low-risk (LR) differentiated thyroid cancer (DTC) patients should be ablated or not, albeit, with small dose of radioiodine is highly controversial. We hypothesized that those LR DTC patients who were surgically ablated need no radioiodine remnant ablation (RRA). This study aims to evaluate the long-term outcome in these two groups of patients. Retrospective cohort study conducted from January 1991 to December 2012. Based on extent of surgical resection and histopathology, LR DTC patients were classified as Gr-1: 169 patients, who were surgically ablated; Gr-2: 153 patients, who had significant remnant in thyroid bed. Basal parameters were comparable between two groups except pretherapy 24 h radioiodine uptake ($0.16 \pm 0.01\%$ vs. $5.64 \pm 0.46\%$; $P < 0.001$). No patient received RRA in Gr-1; Gr-2 patients were administered 30 mCi (131) I. Total number of events (recurrence, persistent, and progression of disease), with median follow up of 10.3 years, was observed in 10/322 (3.1%) of LR DTC patients. Only one patient had disease recurrence from Gr-1, who became disease-free after radioiodine therapy. Similarly, one patient from 126, who was ablated with single dose of RRA, had recurrence from Gr-2. However, 8/27 (29.7%) patients from Gr-2 had persistent disease; even two of them subsequently developed disease progression, who failed first-dose of RRA. The event-free survival rates were 99.4% and 94.1% ($P = 0.006$) in Gr-1 and Gr-2, respectively. RRA is an overtreatment in surgically ablated LR DTC patients. Successfully ablated RRA patients also had similar long-term outcome, however, those who failed, should be re-stratified as intermediate-risk category, and managed aggressively.

13: Balhara YP, Sarkar S, Gupta R. Phosphodiesterase-5 inhibitors for erectile dysfunction in patients with diabetes mellitus: A systematic review and meta-analysis of randomized controlled trials. *Indian J Endocrinol Metab.* 2015 Jul-Aug;19(4):451-61. doi: 10.4103/2230-8210.159023. Review. PubMed PMID: 26180759; PubMed Central PMCID: PMC4481650.

BACKGROUND AND AIMS: Patients with diabetes mellitus frequently experience erectile dysfunction. This systematic review and meta-analysis were conducted to find efficacy and tolerability of phosphodiesterase 5 (PDE5) inhibitors in patients with diabetes mellitus experiencing erectile dysfunction.

METHODOLOGY: Electronic searches were carried out to identify English language peer-reviewed randomized controlled trials (RCTs), which reported clinical efficacy of any PDE5 inhibitor in patients with diabetes mellitus having erectile dysfunction. Effect sizes were computed using Cohen's *d*, and *I*(2) -test was used to assess heterogeneity. Pooled mean effect sizes were computed using random-effects model. Number needed to treat (NNT), and the adverse event rates were computed.

RESULTS: The systematic review included a total of 17 studies yielding 25 comparisons. Three studies were open RCTs while others were double-blind RCTs. The pooled mean effect size of any PDE5 inhibitor over placebo was 0.926 (95% confidence intervals [CI]: 0.864-0.987; *I*(2) =26.3). The pooled mean effect size for sildenafil was 1.198 (CI: 1.039-1.357; *I*(2) =0), for tadalafil was 0.910 (CI: 0.838-0.981; *I*(2) =33.6), and for vardenafil was 0.678 (CI: 0.627-0.729; *I*(2) =0). In pooled analysis, the NNT for sildenafil, tadalafil, vardenafil and any PDE5 inhibitor was 2.4, 2.6, 4.1 and 3.0 respectively. The most common side effects were headache, flushing, and nasal congestion.

CONCLUSIONS: PDE5 inhibitors are effective and safe medications for the treatment of sexual dysfunction in patients with diabetes mellitus experiencing erectile dysfunction.

14: Balhara YP, Gupta R, Atilola O, Knez R, Mohorović T, Gajdhar W, Javed AO, Lal R. Problematic Internet Use and Its Correlates Among Students from Three Medical Schools Across Three Countries. *Acad Psychiatry.* 2015 Jul 1. [Epub ahead of print] PubMed PMID: 26130501.

OBJECTIVE: The authors aimed to assess and compare problematic internet use among medical students enrolled in a graduate degree course in one school each from Croatia, India, and Nigeria and to assess correlates of problematic use among these students.

METHODS: The questionnaire included a sociodemographic profile of participants and Young's Internet Addiction Test.

RESULTS: The final analysis included 842 subjects. Overall, 38.7 and 10.5 % of respondents scored in the mild and moderate categories. Only a small fraction (0.5 %) of students scored in the severe category. Being male and spending more time on the internet were correlated with problematic internet use. Moreover, a significantly higher proportion of participants who scored above the cutoff used the Internet for browsing, social networking, chatting, gaming, shopping, and viewing pornography. However, there was no difference between the two groups with regard to using the internet for e-mailing or academic activities.

CONCLUSIONS: It is important to address problematic internet use among medical students. The correlates can help identify those at increased risk.

15: Bansal A, Kumar A, Sharma MC, Purkait S, Sharma BS. Lateral ventricular cystic choroid plexus papilloma presenting with recurrent drop attacks: A rare manifestation of a rare variant. *Neurol India.* 2015 Jul-Aug;63(4):619-21. doi:

10.4103/0028-3886.162095. PubMed PMID: 26238908.

16: Barik M. In response to Evolutionary change: The new face of Annals of Cardiac Anesthesia. *Ann Card Anaesth.* 2015 Jul-Sep;18(3):416. doi: 10.4103/0971-9784.159814. PubMed PMID: 26139751.

17: Basu A, Chadda RK, Sood M, Kaur H, Kukreti R. Association of serotonin transporter (SLC6A4) & receptor (5HTR1A, 5HTR2A) polymorphisms with response to treatment with escitalopram in patients with major depressive disorder: A preliminary study. *Indian J Med Res.* 2015 Jul;142(1):40-5. doi: 10.4103/0971-5916.162094. PubMed PMID: 26261165; PubMed Central PMCID: PMC4557249.

BACKGROUND & OBJECTIVES: Genetic factors have potential of predicting response to antidepressants in patients with major depressive disorder (MDD). In this study, an attempt was made to find an association between response to escitalopram in patients with MDD, and serotonin transporter (SLC6A4) and receptor (5HTR1A, 5HTR2A) polymorphisms.

METHODS: Fifty five patients diagnosed as suffering from MDD, were selected for the study. The patients were treated with escitalopram over a period of 6-8 wk. Severity of depression, response to treatment and side effects were assessed using standardised instruments. Genetic variations from HTR1A (rs6295), HTR2A (rs6311 and rs6313) and SLC6A4 (44 base-pair insertion/deletion at 5-HTTLPR) were genotyped. The genetic data of the responders and non-responders were compared to assess the role of genetic variants in therapeutic outcome.

RESULTS: Thirty six (65.5%) patients responded to treatment, and 19 (34.5%) had complete remission. No association was observed for genotype and allelic frequencies of single nucleotide polymorphisms (SNPs) among remitter/non-remitter and responder/non-responder groups, and six most common side-effects, except memory loss which was significantly associated with rs6311 ($p=0.03$).

INTERPRETATION & CONCLUSIONS: No significant association was found between the SNPs analysed and response to escitalopram in patients with MDD though a significant association was seen between the side effect of memory loss and rs6311. Studies with larger sample are required to find out genetic basis of antidepressant response in Indian patients.

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

19: Bhadoo D, Chand K, Jana M, Gupta AK, Bhatnagar V. Colonic duplication: Treatment by limited division of common wall. *J Indian Assoc Pediatr Surg.* 2015 Jul-Sep;20(3):146-7. doi: 10.4103/0971-9261.159031. PubMed PMID: 26166987; PubMed Central PMCID: PMC4481628.

Colonic duplications are rare congenital anomalies. Treatment of choice is complete resection that in case of a long tubular duplication requires total or subtotal colectomy. A simple surgical technique for treatment of complete colonic duplication is described, which avoids the complications of extensive colonic resection.

20: Bhalla AS, Goyal A, Guleria R, Gupta AK. Chest tuberculosis: Radiological review and imaging recommendations. *Indian J Radiol Imaging.* 2015 Jul-Sep;25(3):213-25. doi: 10.4103/0971-3026.161431. PubMed PMID: 26288514;

PubMed Central PMCID: PMC4531444.

Chest tuberculosis (CTB) is a widespread problem, especially in our country where it is one of the leading causes of mortality. The article reviews the imaging findings in CTB on various modalities. We also attempt to categorize the findings into those definitive for active TB, indeterminate for disease activity, and those indicating healed TB. Though various radiological modalities are widely used in evaluation of such patients, no imaging guidelines exist for the use of these modalities in diagnosis and follow-up. Consequently, imaging is not optimally utilized and patients are often unnecessarily subjected to repeated CT examinations, which is undesirable. Based on the available literature and our experience, we propose certain recommendations delineating the role of imaging in the diagnosis and follow-up of such patients. The authors recognize that this is an evolving field and there may be future revisions depending on emergence of new evidence.

21: Bhatnagar V. Surgical gastroenterology in children. *J Indian Assoc Pediatr Surg.* 2015 Jul-Sep;20(3):103-4. doi: 10.4103/0971-9261.159012. PubMed PMID: 26166978; PubMed Central PMCID: PMC4481619.

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

BACKGROUND: Supra-tentorial primitive neuroectodermal tumors (SPNET) are high-grade, hemispheric tumors, which account for around 2-3 % of pediatric brain tumors. We herein intend to report the clinical features and treatment outcome of patients with nonpineal SPNET treated at our institute.

METHODS: Clinical data were collected by retrospective chart review from 2006 to 2012. Histopathology slides were reviewed, and relevant immunohistochemistry stains were done. Overall survival (OS), recurrence-free survival (RFS) and event-free survival (EFS) were analyzed by the Kaplan-Meier product-limit method.

RESULTS: Fifteen patients met the study criterion (male: female=2:1). Median age at presentation was 11 years (range 3-49 years). Surgical resection was gross total in 6 (40%) and subtotal in 8 (53.33%) patients. At presentation, two patients had leptomeningeal dissemination. Radiation therapy was delivered in 11 (73.33%) patients: craniospinal irradiation in 8 (36 Gy/20 fractions/4 weeks to the craniospinal axis followed by a local boost of 20 Gy/10 fractions/2 weeks) and focal RT in 3 patients. Systemic chemotherapy (median 6 cycles; range 1-16 cycles), given in 13 (86.67%) patients, included the VAC regimen (vincristine, adriamycin, cyclophosphamide) alternating with IE (ifosfamide, etoposide). After a median follow-up of 22.6 months (mean, 24.47 months), complete response and progressive disease were noted in 8 (53.33%) and 7 (46.67%) patients, respectively. Median OS was not reached, and estimated median EFS was noted to be 4.12 years (actuarial rate of EFS at 2 years, 55.2%).

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

23: Chand K, Bhatnagar V, Agarwala S, Srinivas M, Das N, Singh MK, Sharma R. The incidence of portal hypertension in children with choledochal cyst and the correlation of nitric oxide levels in the peripheral blood with portal pressure and liver histology. *J Indian Assoc Pediatr Surg.* 2015 Jul-Sep;20(3):133-8. doi:

10.4103/0971-9261.159024. PubMed PMID: 26166984; PubMed Central PMCID: PMC4481625.

BACKGROUND AND AIMS: Symptomatic portal hypertension (PHT) as a complication of the choledochal cyst (CDC) is well-known, but the actual incidence of PHT in CDC has not been studied. This study was undertaken to evaluate the incidence of PHT in patients of CDC and correlate portal pressure (PP) with liver histology and blood nitric oxide (NO) levels.

MATERIALS AND METHODS: In this cross-sectional study, PP was measured after surgical access but before any mobilization of the cyst by directly cannulating a tributary of portal vein (preoperative PP) and at completion of surgery before closure (postoperative PP). Blood sample for NO and liver function tests (LFTs) was taken before surgery and during subsequent follow-up at 1-month, 3 months, and 6 months. Liver histology was assessed under parenchymal, bile duct, and portal parameters.

RESULTS: Measurement of PP and blood levels of NO was done in 20 patients. Mean preoperative PP was 16.45 ± 7.85 mmHg, and the median pressure was 14 mmHg (range 9-43). Mean of the postoperative PP was 14 ± 6.87 mmHg, and median pressure was 11.5 mmHg (range 7-37). The mean level of NO in the preoperative period was 11.85 ± 4.33 $\mu\text{mol/l}$, and median was 11.605 (range 5.24-22.77) $\mu\text{mol/l}$. NO levels at the first follow-up (1-month postoperative) were 5.96 ± 4.56 $\mu\text{mol/l}$ and median value of 4.9 (range 1.74-23.56) $\mu\text{mol/l}$. Likewise, the mean and median values of NO at 3 months were 5.59 ± 7.15 $\mu\text{mol/l}$ and median value of 3.71 (range 1.49-34.74) $\mu\text{mol/l}$. The mean and median levels of NO at 6 months postoperative were 5.08 ± 2.22 $\mu\text{mol/l}$ and median of 4.59 (range 2.32-12.46) $\mu\text{mol/l}$. The fall in PP immediately after surgery was consistent and statistically significant ($P = 0.001$). There was statistically significant fall in the NO levels in the postoperative period as compared to the preoperative levels ($P = 0.002$). Bile duct proliferation was significantly correlated with PP ($P = 0.05$). Blood levels of NO closely followed the PP in the preoperative period and fell to baseline in subsequent follow-up. There was no statistically significant correlation between age at presentation, LFT and postoperative complications with either PP or NO levels.

CONCLUSIONS: In this study, all patients with CDC had some degree of PHT. Measurement of PP and liver histology should be part of standard management protocol to take timely preventive measures so as to avoid life-threatening manifestations of PHT.

24: Chandra PS, Prabhu M, Goyal N, Garg A, Chauhan A, Sharma BS. Distraction, Compression, Extension, and Reduction Combined With Joint Remodeling and Extra-articular Distraction: Description of 2 New Modifications for Its Application in Basilar Invagination and Atlantoaxial Dislocation: Prospective Study in 79 Cases. *Neurosurgery*. 2015 Jul;77(1):67-80; discussion 80. doi: 10.1227/NEU.0000000000000737. PubMed PMID: 25793730.

BACKGROUND: Recent strategies for treatment of basilar invagination (BI) and atlantoaxial dislocation (AAD) are based on simultaneous posterior reduction and fixation.

OBJECTIVE: To describe new modifications of the procedure distraction, compression, extension, and reduction (DCER), ie, joint remodeling (JRM) and extra-articular distraction (EAD) in patients with "vertical" joints, and to quantify the improvement in joint indices, ie, sagittal inclination (SI), craniocervical tilt (CCT), and coronal inclination.

METHODS: Prospective study (May 2010 to September 2014). Joint indices measured included (normal values): SI ($87.15 \pm 5.65^\circ$), CCT ($60.2 \pm 9.2^\circ$), and coronal inclination ($110.3 \pm 4.23^\circ$). Surgical procedures included DCER alone (performed in SI $<100^\circ$, group I) or JRM with DCER (in SI: $100-160^\circ$, group II), or EAD with

DCER in severe BI with almost vertical joints (SI $>160^\circ$, group III).

RESULTS: Seventy-nine patients were selected (mean, 22.5 years of age). All conventional indices improved significantly ($P < .001$). CCT improved in all groups ($P < .01$); group I ($n = 32$): $54 \pm 8.7^\circ$ (preoperative $80.71 \pm 12.72^\circ$); group II ($n = 40$): $58 \pm 7.0^\circ$ (preoperative $86.5 \pm 14^\circ$); group III ($n = 7$): $62 \pm 10.0^\circ$ (preoperative $104 \pm 11.2^\circ$). SI improved in both group I and II, $P < .01$ (cannot be measured in group III). At long-term follow-up ($n = 64$, 29 ± 8 months, range 12-39 months), the Nurick grade improved to 1.5 ± 0.52 (preoperative: 3.4 ± 0.65 ; $P < .001$).

CONCLUSION: DCER seems to be an effective technique in reducing both BI and AAD. JRM and EAD with DCER are useful in moderate to severe BI and AAD (with SI $>100^\circ$). Joint indices provide useful information for surgical strategy and planning.

25: Chandra SP, Tripathi M. Endoscopic epilepsy surgery: Emergence of a new procedure. *Neurol India*. 2015 Jul-Aug;63(4):571-82. doi: 10.4103/0028-3886.162056. PubMed PMID: 26238894.

BACKGROUND: The use of minimally invasive endoscopic surgery is fast emerging in many subspecialties of neurosurgery as an effective alternative to the open procedures.

OBJECTIVE: The author describe a novel technique of using an endoscope for performing a corpus callosotomy and hemispherotomy. A description of endoscopic disconnection for a hypothalamic hamartoma (HH) and a review of the literature is also presented.

MATERIALS AND METHODS: Thirty four patients underwent endoscopic procedures between January 2010 and March 2015. These included endoscopic-assisted inter-hemispheric trans-callosal hemispherotomy (EH; $n = 11$), endoscopic-assisted corpus callosotomy with anterior/posterior commissurotomy (CCWC; $n = 16$), and endoscopic disconnection for HH ($n = 7$). EH and CCWC were performed with the use of a small craniotomy (4 cm \times 3 cm). The surgeries were performed using a rigid high-definition endoscope, bayoneted self-irrigating bipolar forceps, and other standard endoscopic instruments along with the guidance of intra-operative magnetic resonance imaging and neuronavigation. HH disconnection was performed using endoscopic neuronavigation through a burr hole.

RESULTS: Hemispherotomy: Sequelae of middle cerebral artery infarct (5), Rasmussen's syndrome (3), and hemimegalencephaly (3).

OUTCOME: Class I Engel (9) and class II (2), mean follow-up of 8.4 months, range: 3-18 months. Mean blood loss: 85 cc, mean operating time: 210 min. CCWC: All had a diagnosis of Lennox-Gastaut syndrome (LGS), with etiologies of hypoxic insult (10), lissencephaly (2), bilateral band heterotopia (2), microgyria and pachygyria (2). Mean follow-up: 18 ± 4.7 (16-27 months). Drop attacks stopped in all the patients. Seizure frequency and duration decreased $>90\%$ (11) and $>50\%$ (5). HH: Type II (2), Type III (2), Type IV (3). 5 had IA outcome.

CONCLUSION: The article emphasizes the role of endoscopic procedures for epilepsy surgery and provides a review of literature. This experience may subserve to coin the term "endoscopic epilepsy surgery" for a fast emerging subspeciality in the field of epilepsy surgery.

26: Chhabra H, Malhotra R, Marwah S, Dave B, See K, Sohal S, Gurbuz S. An observational study to assess back pain in patients with severe osteoporosis treated with teriparatide versus antiresorptives: An Indian subpopulation analysis. *Indian J Endocrinol Metab*. 2015 Jul-Aug;19(4):483-90. doi: 10.4103/2230-8210.159039. PubMed PMID: 26180763; PubMed Central PMCID: PMC4481654.

BACKGROUND: One year, prospective, observational study in an Indian subpopulation to assess back pain in patients with severe osteoporosis treated with teriparatide or antiresorptives in a clinical setting.

MATERIALS AND METHODS: One hundred and nineteen teriparatide-naive Indian men and postmenopausal women (mean age 68.0 years) with previous osteoporotic vertebral fracture participated. Patients were assessed at baseline, 6-and 12-months to evaluate relative risk (RR) of new/worsening back pain using the Back Pain Questionnaire. The incidence of back pain and changes in back pain severity were assessed using the visual analog scale (VAS); Health outcomes were assessed using the euroqol-5 dimensions (EQ-5D) questionnaire. All tests were conducted with a two-sided alpha of 0.05.

RESULTS: Of 562 overall patients, 57, 60, and 2 Indian patients received teriparatide, antiresorptive, or teriparatide and antiresorptive, respectively. Baseline disease characteristics were slightly worse for antiresorptive-treated patients, whereas teriparatide-treated patients were older with more comorbidities. At 6-months, the incidence of new/worsening back pain was 5.3% for teriparatide-treated patients versus 4.4% for antiresorptive-treated patients (RR: 1.00, 95% confidence interval: 0.68, 1.48); the incidence of severe back pain was 0% versus 12.5% (P = 0.017); in these treatment groups, respectively. Mean VAS change scores (mean \pm standard deviation [SD]) were -1.9 ± 1.73 versus -1.4 ± 1.77 , and mean EQ-5D change scores were 4.2 ± 27.20 versus 9.9 ± 26.23 at 6-months. At 6 months, more teriparatide-treated patients felt better (89% vs. 61%; P = 0.001) and were at least very satisfied with their treatment (30% vs. 9%; P = 0.011).

CONCLUSION: Teriparatide-treated Indian patients had similar new/worsening back pain risk and minimal risk of severe back pain compared with antiresorptive-treated patients at 6-months.

27: Choudhury A, Narula J, Kumar P, Aggarwal S, Kiran U. Inverted left atrial appendage: a complication of de-airing during cardiac surgery. *Can J Anaesth.* 2015 Oct;62(10):1119-20. doi: 10.1007/s12630-015-0412-1. Epub 2015 Jul 3. PubMed PMID: 26138015.

28: Chowdhury R, Sinha B, Sankar MJ, Taneja S, Bhandari N, Rollins N, Bahl R, Martinez J. Breastfeeding and Maternal Health Outcomes: A Systematic Review and Meta-Analysis. *Acta Paediatr.* 2015 Jul 14. doi: 10.1111/apa.13102. [Epub ahead of print] PubMed PMID: 26172878.

29: 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.

30: Dada T, Rathi A, Angmo D, Agarwal T, Vanathi M, Khokhar SK, Vajpayee RB. Clinical outcomes of clear lens extraction in eyes with primary angle closure. *J Cataract Refract Surg.* 2015 Jul;41(7):1470-7. doi: 10.1016/j.jcrs.2014.10.029. PubMed PMID: 26287886.

PURPOSE: To evaluate the effect of clear lens extraction (CLE) on intraocular pressure (IOP) and the anterior chamber angle in primary angle closure after laser peripheral iridotomy (LPI).

SETTING: Tertiary eyecare center at a university hospital, New Delhi, India.

DESIGN: Prospective case series.

METHODS: The study included eyes with primary angle closure and an IOP over 25.0

mm Hg more than 8 weeks after LPI. All eyes had CLE by phacoemulsification. Absolute success was defined as an IOP less than 18.0 mm Hg without medications at 12 months.

RESULTS: In 44 eyes (24 women, 20 men; mean age 57.2 years \pm 4.2 [SD]), the mean preoperative IOP of 27.1 \pm 1.55 mm Hg decreased to 13.2 \pm 1.12 mm Hg at 12 months ($P < .0001$). The angle opening distance at 500 μ m increased from baseline values at 0 degrees (from 0.104 \pm 0.015 mm to 0.31 \pm 0.013 mm) and 180 degrees (from 0.202 \pm 0.008 mm to 0.412 \pm 0.012 mm). The trabecular iris angle also increased at 0 degrees (from 9.3 \pm 3.2 degrees to 32.7 \pm 5.6 degrees) and 180 degrees (from 9.12 \pm 3.2 degrees to 31.7 \pm 5.6 degrees) (all $P < .0001$). In multivariate analysis, the preoperative IOP was the strongest determinant of IOP change ($R(2) = 0.69$, $P < .0001$). Absolute success was achieved in 38 eyes (86.3%).

CONCLUSION: Clear lens extraction led to a significant reduction in IOP, a widening of the anterior chamber angle, and a reduced need for ocular hypotensive medications in eyes with primary angle closure and persistently raised IOP after LPI.

FINANCIAL DISCLOSURE: No author has a financial or proprietary interest in any material or method mentioned.

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31: Darlong V, Garg R, Pandey R, Khokhar S, Chandraleekha, Sinha R, Punj J, Sinha R. Evaluation of minimal dose of atracurium for cataract surgery in children: A prospective randomized double-blind study. Saudi J Anaesth. 2015 Jul-Sep;9(3):283-8. doi: 10.4103/1658-354X.154711. PubMed PMID: 26240547; PubMed Central PMCID: PMC4478821.

BACKGROUND: Cataract surgery when performed under general anesthesia, especially without neuromuscular blocking agents, eccentric position of the eye has been reported. However, no evidence exists for the need and optimal dose of neuromuscular blocking agents for surgical reasons when the anesthetic management may be done without its need. We hypothesize that the minimal dose atracurium may accomplish the surgical requirement of cataract surgery in children.

MATERIALS AND METHODS: After ethical committee approval, this double-blind, prospective, randomized study was conducted in children scheduled for cataract surgery under general anesthesia. Anesthesia was induced in a standardized manner and using laryngeal mask airway. The patients were randomized into four groups of 55 patients each and atracurium was administered as per group allocation: Group 0: No atracurium was administered; Group 50: Received atracurium at 50% dose of ED95; Group 75: Received atracurium at 75% dose of ED95; Group 100: Received atracurium of 100% dose of ED95. Surgeon was asked to grade surgical condition just after the stab incision in the cornea. The primary outcome variable included the need of atracurium supplementation based on grading of surgical conditions by the operating surgeon who was blinded to the randomized group.

RESULTS: The need of atracurium due to unacceptable surgical conditions based on surgeon satisfaction score was statistically significant when compared among the groups being maximum in Group 0 ($P < 0.001$). Also, the surgeon satisfaction score was statistically significant among the groups ($P < 0.0001$) with the least satisfaction in Group 0. The laryngeal mask airway (LMA) insertion score was statistically significant in the four groups ($P = 0.001$). However, number of attempts for LMA placement was comparable among the four groups ($P = 0.766$).

CONCLUSION: We conclude that a balanced anesthetic technique including atracurium provided better surgical condition for cataract procedures in children. The surgical condition improved with increasing dose of atracurium from 25% to 100% ED95 dose.

32: Das CJ, Baliyan V, Sharma S. Image-guided urological interventions: What the

urologists must know. *Indian J Urol.* 2015 Jul-Sep;31(3):202-8. doi: 10.4103/0970-1591.156919. Review. PubMed PMID: 26166963; PubMed Central PMCID: PMC4495494.

Advances in imaging technology, especially in the last two decades, have led to a paradigm shift in the field of image-guided interventions in urology. While the traditional biopsy and drainage techniques are firmly established, image-based stone management and endovascular management of hematuria have evolved further. Ablative techniques for renal and prostate cancer and prostate artery embolization for benign prostatic hypertrophy have evolved into viable alternative treatments. Many urologic diseases that were earlier treated surgically are now effectively managed using minimally invasive image-guided techniques, often on a day care basis using only local anesthesia or conscious sedation. This article presents an overview of the technique and status of various image-guided urological procedures, including recent emerging techniques.

33: Das CJ, Thingujam U, Panda A, Sharma S, Gupta AK. Perfusion computed tomography in renal cell carcinoma. *World J Radiol.* 2015 Jul 28;7(7):170-9. doi: 10.4329/wjr.v7.i7.170. Review. PubMed PMID: 26217456; PubMed Central PMCID: PMC4506935.

Various imaging modalities are available for the diagnosis, staging and response evaluation of patients with renal cell carcinoma (RCC). While contrast enhanced computed tomography (CT) is used as the standard of imaging for size, morphological evaluation and response assessment in RCC, a new functional imaging technique like perfusion CT (pCT), goes down to the molecular level and provides new perspectives in imaging of RCC. pCT depicts regional tumor perfusion and vascular permeability which are indirect parameters of tumor angiogenesis and thereby provides vital information regarding tumor microenvironment. Also response evaluation using pCT may predate the size criteria used in Response Evaluation Criteria in Solid Tumors, as changes in the perfusion occurs earlier following tissue kinase inhibitors before any actual change in size. This may potentially help in predicting prognosis, better selection of therapy and more accurate and better response evaluation in patients with RCC. This article describes the techniques and role of pCT in staging and response assessment in patients with RCCs.

34: Das RR, Sankar J, Naik SS. Efficacy and safety of diosmectite in acute childhood diarrhoea: a meta-analysis. *Arch Dis Child.* 2015 Jul;100(7):704-12. doi: 10.1136/archdischild-2014-307632. Epub 2015 Mar 17. PubMed PMID: 25784748.

OBJECTIVE: We evaluated the role of diosmectite as an add-on treatment to the 'recommended treatment' of acute diarrhoea in children.

METHODS: We searched all published literature through the major databases: Medline via Ovid, PubMed, CENTRAL, Embase and Google Scholar till May 2014. Randomised clinical trials comparing diosmectite versus placebo were included (PROSPERO registration: CRD42014013783).

MAIN OUTCOME MEASURES: The primary outcome measures were duration of acute diarrhoea (h), and day-to-day cure rates (%). The secondary outcome measures were stool output (volume), stool output (frequency) and adverse events.

RESULTS: Of 384 citations retrieved, a total of 13 randomised clinical trials (2164 children, 1-60 months old) were included in the meta-analysis. A dose of 3-6 grams per day of diosmectite was given for a duration from 3 days until recovery. Compared with placebo, diosmectite significantly decreased the duration of acute diarrhoea (mean difference, -23.39; 95% CI -28.77 to -18.01), and increased the cure rate (%) at day 5 (OR, 4.44; 95% CI 1.66 to 11.84), without any increases in the risk of adverse events. Diosmectite was effective in all types of acute childhood diarrhoea except dysentery. Because, most of the trials were open-label, and there was a high possibility of publication bias, the GRADE

evidence generated was of 'low quality'.

CONCLUSIONS: Diosmectite may be a useful additive in the treatment of acute childhood diarrhoea. As the evidence generated was of 'low quality', future research is needed with higher quality designs before any firm recommendations can be made.

TRIAL REGISTRATION NUMBER: PROSPERO registration: CRD42014013783.

35: Dasgupta A. The realm of auditory hallucinations. *Lancet Psychiatry*. 2015 Jul;2(7):585. doi: 10.1016/S2215-0366(15)00181-9. Epub 2015 Jun 30. PubMed PMID: 26303543.

36: Dhawan A, Chopra A, Jain R, Yadav D, Vedamurthachar. Effectiveness of yogic breathing intervention on quality of life of opioid dependent users. *Int J Yoga*. 2015 Jul-Dec;8(2):144-7. doi: 10.4103/0973-6131.154075. PubMed PMID: 26170596; PubMed Central PMCID: PMC4479894.

INTRODUCTION: The quality of life (QOL) of substance users is known to be impaired. Sudarshan Kriya Yoga (SKY), a yogic breathing program has potential to improve QOL and needs evaluation in an Indian setting.

AIMS: Study aimed to assess changes in QOL in treatment seeking male opioid dependent users following practice of SKY program.

SETTINGS AND DESIGN: Users were randomized into study (n = 55) and control group (n = 29). Study group besides standard treatment (long term pharmacotherapy with buprenorphine in flexible dosing schedule) underwent a 3 days, 12 h SKY program while control group received standard treatment alone.

MATERIALS AND METHODS: World Health Organization QOL-brief scale was used to measure QOL and urine tested to assess recent drug use. Assessments were made at baseline and at 3 and 6 months.

STATISTICAL ANALYSIS: Data were analyzed using generalized estimation equation to assess within group change with time and the overall difference between groups for changes at assessment points.

RESULTS: Overtime within study group, all four QOL domain scores were significantly higher at 6 months. Between group comparison showed significant increase in physical (P < 0.05); psychological (P < 0.001) and environment domains (P < 0.001) for study group while control group showed significant changes in social relationship domain only. Urine screening results were negative for study group indicating no drug use at 6 months.

CONCLUSION: SKY as a complementary therapy was found beneficial in improving QOL for group practicing it and is recommended for use as low cost and low-risk adjunct in substance treatment settings in India.

37: Doshi SR, Gopal A, Roy A. An unusual cause of left ventricular outflow tract obstruction. *Indian Heart J*. 2015 Jul-Aug;67(4):395-6. doi: 10.1016/j.ihj.2015.02.015. Epub 2015 Mar 10. PubMed PMID: 26304579; PubMed Central PMCID: PMC4561759.

Left ventricular outflow tract obstruction (LVOTO) has been reported with bio-prosthetic and mechanical mitral valves (MV), though it is more common with the former. The obstruction can be dynamic or fixed. We hereby report a case of fixed LVOTO following bio-prosthetic MV replacement (MVR).

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38: Einstein AJ, Pascual TN, Mercuri M, Karthikeyan G, Vitola JV, Mahmarian JJ, Better N, Bouyoucef SE, Hee-Seung Bom H, Lele V, Magboo VP, Alexanderson E, Allam AH, Al-Mallah MH, Flotats A, Jerome S, Kaufmann PA, Luxemburg 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 \leq 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.

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

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

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

FINDINGS: We obtained data for 22188 mothers from the five cohorts, enrolment into which took place at various times between 1969 and 1989. Data for maternal

age and at least one outcome were available for 19 403 offspring (87%). In unadjusted analyses, younger (≤ 19 years) and older (≥ 35 years) maternal age were associated with lower birthweight, gestational age, child nutritional status, and schooling. After adjustment, associations with younger maternal age remained for low birthweight (odds ratio [OR] 1.18 (95% CI 1.02-1.36)), preterm birth (1.26 [1.03-1.53]), 2-year stunting (1.46 [1.25-1.70]), and failure to complete secondary schooling (1.38 [1.18-1.62]) compared with mothers aged 20-24 years. After adjustment, older maternal age remained associated with increased risk of preterm birth (OR 1.33 [95% CI 1.05-1.67]), but children of older mothers had less 2-year stunting (0.64 [0.54-0.77]) and failure to complete secondary schooling (0.59 [0.48-0.71]) than did those with mothers aged 20-24 years. Offspring of both younger and older mothers had higher adult fasting glucose concentrations (roughly 0.05 mmol/L).

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

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40: Gamanagatti S, Rangarajan K, Kumar A, Jineesh. Blunt abdominal trauma: imaging and intervention. *Curr Probl Diagn Radiol*. 2015 Jul-Aug;44(4):321-36. doi: 10.1067/j.cpradiol.2015.02.005. Epub 2015 Feb 12. Review. PubMed PMID: 25801463.

Interventional radiology, particularly percutaneous angioembolization, plays an important role in the management of blunt abdominal trauma involving solid organs and pelvic fractures. The traumatic injuries of the central nervous system, heart, and great vessels often lead to death at the site of trauma. Although patients with visceral organ injuries can also die at the site of trauma, these patients often reach the hospital thus giving us an opportunity to treat them with surgical or radiological intervention depending on the clinical condition of the patient. The management of these patients with trauma is now well codified-patients who remain unstable despite resuscitation should be shifted either to an operating room for laparotomy if the ultrasound (US) revealed hemoperitoneum or to an interventional room for angioembolization in cases of pelvic fractures. In all other cases, computed tomography is essential. Currently, multidetector computed tomography with contrast is the gold standard imaging modality for the diagnosis of traumatic abdominal injuries; it helps in assessing the extent of injuries, and further management can be planned.

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41: Gandhi AK, Roy S, Biswas A, Raza MW, Saxena T, Bhasker S, Sharma A, Thakar A, Mohanti BK. Treatment of squamous cell carcinoma of external auditory canal: A tertiary cancer centre experience. *Auris Nasus Larynx*. 2015 Jul 9. pii: S0385-8146(15)00163-7. doi: 10.1016/j.anl.2015.06.005. [Epub ahead of print] PubMed PMID: 26165629.

OBJECTIVE: Carcinoma of external auditory canal (EAC) is a rare disease with variable management strategies and prognosis. We aimed to analyze treatment modalities, prognostic factors and survival outcomes in patients of squamous cell carcinoma of EAC treated at our institution.

METHODS: Forty-three patients of squamous cell carcinoma of EAC were analyzed for clinical presentation, stage, surgical procedures and radiotherapy (RT) modalities employed. Stell and McCormick staging system was used for staging of

the patients. Progression free survival (PFS) was estimated by the use of Kaplan-Meier product-limit method. Log rank test was used to assess the impact of prognostic variables on PFS. Multivariate analysis was performed using the Cox hazard regression model. p value of <0.05 was considered significant for all statistical analysis.

RESULTS: Median age was 56 years (range: 12-84 years). Male to female ratio was 31:12. Stage was T1, T2 and T3 in 2, 17 and 18 patients respectively. Sixteen patients underwent surgery. Thirty-six patients received RT (14 received definitive RT, 11 had post-operative RT and 11 had RT with palliative intent). Eight patients (16%) received chemotherapy (5 received concurrent with RT, 2 had adjuvant and 1 had neo-adjuvant chemotherapy). Nine patients (of 11 patients) achieved a complete response (CR) and 2 achieved a partial response (PR) after surgery plus post-operative RT. Nine patients and 5 patients respectively achieved CR and PR after definitive RT (with or without concurrent chemotherapy). Of the 11 patients who received palliative RT, 2 had very good objective response (>50%) and 7 patients had PR to palliative RT. After a median follow-up of 16 months, median PFS for the entire cohort was 14 months. Two-year PFS rates were 85.7%, 46.9% and 0% for patients treated with surgery and post-operative RT, definitive RT and palliative RT respectively. On univariate analysis, higher stage (p=0.05) and facial nerve palsy at presentation (p=0.0008) were significant predictors of inferior PFS.

CONCLUSION: Patients with carcinoma of EAC present mostly in advanced stage at our centre. Combined higher stage (T3) and facial nerve palsy at presentation portend poorer outcome. Combined modality treatment with surgery and radiotherapy should be advocated and palliative RT remains a reasonable treatment option in patients with advanced incurable disease.

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42: Gandhi AK, Roy S, Mridha AR, Sharma DN. Vulvar metastasis from carcinoma breast unveiling distant metastasis: Exploring an unusual metastatic pattern. *J Egypt Natl Canc Inst.* 2015 Jul 6. pii: S1110-0362(15)00056-4. doi: 10.1016/j.jnci.2015.05.005. [Epub ahead of print] PubMed PMID: 26160598.

A 76year old woman with a previous history of infiltrating ductal carcinoma of right breast (diagnosed and treated 14years back) presented to us with a non-healing ulcer on the left side of the vulva along with two satellite nodules close to the vulvar lesion. Biopsy showed an infiltrating ductal carcinoma of breast with a strong positivity for estrogen/progesterone receptors. Further, (18)F-FDG PET-CT (Fluoro-deoxy glucose positron emission tomography computed tomography) showed multiple bilateral lung metastases. She responded well to hormone therapy (Letrozole) with decrease in the size of primary vulvar lesion and disappearance of the satellite nodules. Repeating PET-CT at 6months showed partial response of the lung lesions. The present case is unique in the way of metastatic presentation of breast cancer to vulva after a long gap of primary diagnosis (longest reported till date) and also in unveiling of further metastatic sites in otherwise asymptomatic case. Patients (particularly elderly) with this unusual and clinically isolated pattern of metastasis might remain misdiagnosed for a long period of time and this case report aims to increase the awareness of clinicians toward the same. Gynecological surveillance remains of paramount importance in the follow up of breast cancer.

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Split cord malformation (SCM) is a rare congenital anomaly in which the cord is split over a portion of its length to form double dural tubes (SCM type I) or two hemicords in a single dural sheath (SCM type II). Dachling Pang classified SCM into 2 types with type I SCM consisting of two hemicords, each contained within its own dural sheath and separated by rigid osseocartilaginous median septum. We report a rare case of SCM type 1 c in which there was a single dural sheath.

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AIM: The differentiation between neonatal hepatitis (NH) and extrahepatic biliary atresia (EHBA) is not always possible despite all the currently available diagnostic modalities. In this study, an attempt has been made to evaluate the role of nitric oxide (NO) levels in the peripheral blood to differentiate between the two conditions, one requiring early surgical intervention (EHBA) and the other amenable to conservative medical management (NH).

PATIENTS AND METHODS: Twenty patients who presented to the pediatric surgical service, over a 2 years period, with features of neonatal cholestasis were enrolled in the study. The diagnostic workup included documentation of history and clinical examination, biochemical liver function tests, ultrasonography, hepatobiliary scintigraphy (HS), and magnetic resonance cholangio-pancreaticography (MRCP). These patients did not show excretion on HS and intrahepatic ducts on MRCP. Hence, they were subjected to mini-laparotomy and operative cholangiography (OC). The EHBA patients were treated with the Kasai's portoenterostomy procedure, and the extrahepatic ducts were flushed with normal saline in NH patients. All patients were evaluated preoperatively for levels of NO in the peripheral blood by the Greiss reaction spectrophotometrically at 540 nm. Normal values were determined from a cohort of controls. The median (range) levels of NO in patients with EHBA and NH were compared, and the statistical significance of the difference was calculated by applying the Wilcoxon Rank Sum test. A $P = 0.05$ was considered as significant.

RESULTS: Of the 20 patients enrolled in the study, 17 patients were treated for EHBA (Group I) and the remaining 3 patients had patent ducts on OC and were thus diagnosed as NH (Group II). The mean age of the patients in Groups I and II was comparable: 2.79 ± 0.75 and 2.67 ± 0.58 months, respectively ($P = 0.866$). The median NO levels were significantly elevated in each of the two groups as compared to the controls ($5.6 \mu\text{mol/l}$, range $1.26-11.34 \mu\text{mol/l}$); when compared among themselves, the NO levels were significantly higher in Group I, $64.05 \mu\text{mol/l}$ (range $24.11-89.43 \mu\text{mol/l}$), when compared with Group II, $41.72 \mu\text{mol/l}$ (range $23.53-45.63 \mu\text{mol/l}$) ($P = 0.022$).

CONCLUSION: The serum levels of NO were found to be significantly higher in patients with EHBA as compared to those with NH. Hence, this may be a useful biochemical marker for the preoperative differentiation of EHBA from NH. However, a larger study is required for establishing the validity of the statistical significance.

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OBJECTIVE: The objective of this study was to assess the prevalence of restless legs syndrome (RLS) among patients with stroke and to examine the anatomical correlation between location of stroke and RLS symptoms.

METHODS: We administered a pre-structured sleep questionnaire to consecutive stroke patients seen in our neurology services department over a 3-year period. Unconscious (Glasgow Coma Scale score <15) or aphasic, renally impaired, or neuropathic patients were excluded. Diagnosis of RLS was established according to the criteria of the International Restless Legs Syndrome Study Group (IRLSSG), and polysomnography was conducted.

RESULTS: Of 346 stroke patients, 35 (10.11%) fulfilled IRLSSG diagnostic criteria for RLS, which had existed for an average (\pm standard deviation) of 60 ± 40 months before stroke. The mean age of onset was 52.94 (± 10.32) years. Twenty-four patients (68%) had RLS symptoms contralateral to the hemisphere involved in the stroke (eight with unilateral and 16 with grossly asymmetrical RLS). Twenty-nine of 35 patients (82.86%) had imaging evidence of subcortical (16 with hemorrhagic and 13 with ischemic) stroke. Patients with pre-stroke RLS differed from those without it only by subcortical location of the stroke (82.9% vs 31.5% respectively, $p < 0.001$). The most significant differentiating factor between patients with subcortical stroke and those with cortical stroke was pre-stroke RLS (22.83% vs 2.74%, $p < 0.001$), the others being history of hypertension and hemorrhagic stroke type.

CONCLUSION: RLS, especially unilateral or asymmetrical, might frequently pre-exist in patients presenting with subcortical stroke. The common laterality may suggest an important predictive value for RLS, and may form an important point for future research.

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The pathogenesis of post-kala-azar dermal leishmaniasis (PKDL) is complex. Only 5

to 10% of kala-azar patients develop this dermal complication, and it is not known whether this is due to changes in the parasite genome or some host factors. Here, we report the whole-genome sequence and annotated genes of the whole genome of the PKDL strain.

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BACKGROUND: To determine the prevalence of peripheral retinal degenerations (PRD) and rhegmatogenous retinal detachment in patients with primary congenital glaucoma (PCG).

METHODS: Records of all patients with PCG operated from year 2000 onwards were evaluated to look for the prevalence of rhegmatogenous retinal detachment. Of these, those children who were old enough to cooperate and had sufficient medial clarity were screened with an indirect ophthalmoscopy in a cross-sectional evaluation from 2010 to 2014. Peripheral retina was examined, and prevalence of PRD was estimated in this subset. For statistical purposes, only one eye of each patient was considered in this cross-sectional analysis.

RESULTS: Of the 310 eyes (180 patients with PCG) operated from the year 2000 onwards, a rhegmatogenous retinal detachment was noted in 13 eyes (4%). Mean axial length of these eyes was 26.3 ± 3.2 mm (range, 19.8–34.7 mm). Among the eyes screened for PRD ($n = 60$), prevalence of pathologic PRD (lattices with/without atrophic holes and isolated holes/tears) was 15%. The average follow-up between glaucoma filtering surgery and the date of last examination was 8.55 ± 3.98 years (range, 5–20 years) in this subset. Mean axial length was significantly greater in eyes with pathologic PRD than in those without (28.1 ± 3.3 mm vs. 25.8 ± 2.6 mm; $P = 0.01$). For axial length ≥ 26 mm, the odds of having a pathologic PRD were 14.4 times more than those with axial length < 26 mm ($P < 0.001$; 95% confidence interval, 1.7–120.5).

CONCLUSION: Prevalence of PRD among eyes with PCG is high. Peripheral retinal screening should be performed in eyes with PCG, especially those with axial lengths ≥ 26 mm.

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AIM: The aim of our study was to examine the association of low

pregnancy-associated plasma protein-A (PAPP-A) with adverse pregnancy outcome.

MATERIAL AND METHODS: A total of 1640 consecutive pregnant women between 9(+5) and 13(+6) weeks of pregnancy were recruited. One hundred and thirty women with PAPP-A levels < 0.4 multiple of median were followed till delivery and the outcome information was obtained for fetal loss, birthweight, growth restriction, preterm birth, reduced liquor and development of pre-eclampsia.

RESULTS: During the study period, 130 (7.92%) women had low PAPP-A and were considered as cases and 200 women with normal PAPP-A were controls. Intrauterine growth restriction was observed in 28 (21.54%) cases as compared to 10 (5%) controls. Pre-eclampsia presented in 24 (18.46%) cases and in 18 (9%) controls. Twenty (15.38%) cases had preterm delivery compared to 12 (6%) controls. Fifty-six (43.08%) cases delivered low-birthweight babies compared to 22 (11%) controls. Thus, the incidence of intrauterine growth restriction, preterm birth and low birthweight was significantly more in the cases as compared to the control group.

CONCLUSIONS: PAPP-A is a valuable analyte for predicting risk of adverse pregnancy outcome and women with low serum PAPP-A levels would benefit from

closer surveillance.

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Type 1 Gaucher disease is an inherited lysosomal enzyme deficiency with variable age of symptom onset. Common presenting signs include thrombocytopenia, anemia, hepatosplenomegaly, bone abnormalities, and, additionally in children, growth failure. Fifty-seven patients aged 3-62 years at the baseline of two phase III trials for velaglucerase alfa treatment were enrolled in the single extension study. In the extension, they received every-other-week velaglucerase alfa intravenous infusions for 1.2-4.8 years at 60 U/kg, although 10 patients experienced dose reduction. No patient experienced a drug-related serious adverse event or withdrew due to an adverse event. One patient died following a convulsion that was reported as unrelated to the study drug. Only one patient tested positive for anti-velaglucerase alfa antibodies. Combining the experience of the initial phase III trials and the extension study, significant improvements were observed in the first 24 months from baseline in hematology variables, organ volumes, plasma biomarkers, and, in adults, the lumbar spine bone mineral density Z-score. Improvements were maintained over longer-term treatment. Velaglucerase alfa had a good long-term safety and tolerability profile, and patients continued to respond clinically, which is consistent with the results of the extension study to the phase I/II trial of velaglucerase alfa. EudraCT number 2008-001965-27; www.clinicaltrials.gov identifier NCT00635427.

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PURPOSE: To compare the visual outcome of microincision (2.2 mm) with standard (2.75 mm) corneal incision phacoemulsification.

METHODS: In this prospective, randomized comparative study, patients with senile cataract and less than 1 diopter (D) of astigmatism were divided into two groups. Group 1 included patients undergoing phacoemulsification with 2.2 mm clear corneal incision and group 2 included those undergoing phacoemulsification with 2.75 mm incision. The steep axis measured on keratometry was marked preoperatively. Phacoemulsification was performed through clear corneal incision on this steep axis. Assessment of visual acuity (distance and near), keratometry, keratometric cylinder, contrast sensitivity by Functional Acuity Contrast Test, and surgically induced astigmatism (SIA) was performed at 1 day, 1 week, and 1, 3, and 6 months.

RESULTS: Fifty eyes of 50 patients were included in the study (29 were male). There were 25 patients in each group. The mean (\pm SD) SIA calculated by vector analysis method (Holladay-Cravy-Koch) using keratometry value, at the end of 6 months, was 0.54 (\pm 0.18) D and 0.58 (\pm 0.14) D in groups 1 and 2, respectively (p

= 0.27). No significant differences were found in the distance and near uncorrected visual acuity, mean keratometry, keratometric cylinder, contrast sensitivity, and SIA at any follow-up visit between two groups.

CONCLUSIONS: In patients with less than 1 D astigmatism undergoing phacoemulsification, both 2.2-mm and 2.75-mm clear corneal incisions result in similar postoperative visual outcome in terms of SIA, keratometry, and contrast sensitivity.

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BACKGROUND: Despite widespread uses of ketamine, the clinical studies determining its effect on pulmonary blood flow in children with tetralogy of Fallot (TOF) are lacking. Furthermore, the quantification of pulmonary blood flow is not possible in these patients, because pulmonary artery catheter is contraindicated. Therefore, the purpose of this study was to evaluate the changes in pulmonary blood flow by intra-operative transesophageal echocardiography after ketamine or etomidate administration in children with TOF.

METHODS: Eleven children each in the two clinical variants of TOF (group A-moderate to severe cyanosis; group B-mild to minimal cyanosis) undergoing intracardiac repair were prospectively studied after endotracheal intubation. A single bolus dose of ketamine (2 mg/kg) and etomidate (0.3 mg/kg) was administered in a random order after 15 minute interval. Hemodynamic, arterial blood gas, and echocardiographic measurements were obtained at 7 consecutive times (T) points (baseline, 1, 2, 4, 6, 8, and 15 minutes after drug administration).

RESULTS: Ketamine produced a significant reduction in VTI-T (velocity time integrals total of left upper pulmonary vein), RVOT-PG (right ventricular outflow tract peak gradient), and MG (mean gradient) in group A while those in group B had a significant increase in VTI-T, RVOT-PG, and RVOT-MG at time (T1, T2, T4, and T6; P = 0.00). This divergent behavior, however, was not observed with etomidate.

CONCLUSION: Etomidate does not change pulmonary blood flow. However, ketamine produces divergent effects; it increases pulmonary blood flow in children with minimal cyanosis and decreases pulmonary blood flow in children with moderate to severe cyanosis.

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Epub 2015 Jul 30. PubMed PMID: 26229148.

We aimed to assess the additional value of SPECT/CT over planar lymphoscintigraphy (PI) in sentinel node (SN) detection in malignancies with different lymphatic drainage such as breast cancer, melanoma, and pelvic tumors. METHODS: From 2010 to 2013, 1,508 patients were recruited in a multicenter study: 1,182 breast cancer, 262 melanoma, and 64 pelvic malignancies (prostate, cervix, penis, vulva). PI was followed by SPECT/CT 1-3 h after injection of (99m)Tc-colloid particles. Surgery was performed the same or next day. RESULTS: Significantly more SNs were detected by SPECT/CT for breast cancer (2,165 vs. 1,892), melanoma (602 vs. 532), and pelvic cancer (195 vs. 138), all $P < 0.001$. The drainage basin mismatch between PI and SPECT/CT was 16.5% for breast cancer, 11.1% for melanoma, and 51.6% for pelvic cancers. Surgical adjustment was 17% for breast cancer, 37% for melanoma, and 65.6% for pelvic cancer. CONCLUSION: SPECT/CT detected more SNs and changed the drainage territory, leading to surgical adjustments in a considerable number of patients in all malignancies studied but especially in the pelvic cancer group because of this group's deep lymphatic drainage. We recommend SPECT/CT in all breast cancer patients with no SN visualized on PI, all patients with melanoma of the head and neck or trunk, all patients with pelvic malignancies, and those breast cancer and melanoma patients with unexpected drainage on PI.

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Mammary analogue secretory carcinoma (MASC) of the salivary gland is a malignant tumor which bears morphologic, immunohistochemical and molecular features similar to those of mammary secretory carcinoma. The tumor is considered as a low-grade malignancy perhaps slightly more aggressive than acinic cell carcinoma. High-grade transformation with recurrences, regional nodal involvement, metastases, and cancer-related death has been reported in a few cases. We report an unusual case of large MASC of the parotid gland in a young patient without regional lymph node involvement. To the best of our knowledge till date such a large MASC of the salivary gland has not been reported in the English literature.

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BACKGROUND: Multiple myeloma (MM) is a B-cell malignancy characterized by the accumulation of clonal population of plasma cells in the bone marrow (BM). A variety of angiogenic factors, proteases, reactive oxygen species and inflammatory cytokines induce the formation of an extensive and suitable BM microenvironment. Previous studies have established the importance of angiogenic factors, inflammatory molecules and oxidative stress in MM but their interplay and effect on each other are not being taken together.

METHODS: Circulatory levels of VEGF, angiopoietin-2 (Ang-2), IL-6 and TNF- α along with the activity of superoxide dismutase (SOD) and glutathione peroxidase (GPx) were investigated in 112 subjects including 62 MM patients and 50 healthy controls. Inter-stage analysis was done to evaluate the association of these molecules with the severity of disease. Pearson correlation was determined to find interrelationship, if any, between these molecules.

RESULTS: We have observed elevated levels of VEGF, Ang-2, IL-6, TNF- α and decreased activity of SOD, GPx in MM patients in comparison to controls. All these molecules also showed a trend with the severity of disease. We have found strong association between these factors upon their correlation and regression analysis.

CONCLUSION: This study is a step toward understanding the indepth contribution of angiogenesis, inflammation and oxidative stress together in making BM microenvironment suitable for growth, survival and proliferation of malignant plasma cells in MM.

65: Kabra SK, Bush A. Editorial: Old Problems and New Solutions in Pediatric Pulmonology. *Indian J Pediatr.* 2015 Sep;82(9):825-6. doi: 10.1007/s12098-015-1826-z. Epub 2015 Jul 25. PubMed PMID: 26204978.

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

67: Kakkar A, Vallonthaiel AG, Sharma MC, Bora G, Panda A, Seth A. Composite renal cell carcinoma and angiomyolipoma in a patient with Tuberous sclerosis: A diagnostic dilemma. *Can Urol Assoc J.* 2015 Jul-Aug;9(7-8):E507-10. doi: 10.5489/cuaj.2532. PubMed PMID: 26279726; PubMed Central PMCID: PMC4514502.

Tuberous sclerosis (TS) is an autosomal dominant disorder associated with various renal pathologies, including angiomyolipoma (AML). Renal cell carcinoma (RCC) with concomitant AML is rare. We report a case of composite RCC and AML in a young male with TS. This 25-year-old male presented with an abdominal mass. The abdominal computed tomography scan revealed RCC in the left kidney and AML in right kidney. A left radical nephrectomy was performed. Microscopy showed a tumour composed of closely intermingled RCC and AML components.

Immunohistochemistry was performed for confirmation. A diagnosis of composite tumour with clear cell RCC and AML was made. Though the coexistence of RCC with AML is rare, and the composite variant is even rarer, one must be aware of this entity to prevent misdiagnosis as well as upstaging of RCC, and also to avoid missing areas of RCC within a large AML, especially in TS patients.

68: Kaur K, Kakkar A, Kumar A, Mallick S, Julka PK, Gupta D, Suri A, Suri V, Sharma MC, Sarkar C. Integrating Molecular Subclassification of Medulloblastomas into Routine Clinical Practice: A Simplified Approach. *Brain Pathol.* 2015 Jul 29. doi: 10.1111/bpa.12293. [Epub ahead of print] PubMed PMID: 26222673.

Medulloblastoma (MB) is composed of four molecular subgroups viz. WNT, SHH, groups 3 and 4, identified using various high-throughput methods. Translation of this molecular data into pathologist-friendly techniques that would be applicable in laboratories all over the world is a major challenge. Ninety-two MBs were analyzed using a panel of 10 IHC markers, real-time PCR for mRNA and miRNA expression, and FISH for MYC amplification. β -catenin, GAB1 and YAP1 were the only IHC markers of utility in classification of MBs into three subgroups viz. WNT (9.8%), SHH (45.6%) and non-WNT/SHH (44.6%). mRNA expression could further classify some non-WNT/SHH tumors into groups 3 and 4. This, however, was dependent on integrity of RNA extracted from FFPE tissue. MYC amplification was seen in 20% of non-WNT/SHH cases and was associated with the worst prognosis. For routine diagnostic practice, we recommend classification of MBs into three subgroups: WNT, SHH and non-WNT/SHH, with supplementation by prognostic markers like MYC for non-WNT/SHH tumors. Using this panel, we propose a new three-tier risk stratification system for MBs. Molecular subgrouping with this limited panel is rapid, economical, works well on FFPE tissue and is reliable as it correlates

significantly with clinicopathological parameters and patient survival.

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69: Khalifa M, Noureen A, Ertelthalner K, Bandegi AR, Delpont R, Firdaus WJ, Geethanjali FS, Luthra K, Makemaharn O, Pang RW, Salem AH, Sasaki J, Schiefenhoevel W, Lingenhel A, Kronenberg F, Utermann G, Schmidt K. Lack of association of rs3798220 with small apolipoprotein(a) isoforms and high lipoprotein(a) levels in East and Southeast Asians. *Atherosclerosis*. 2015 Oct;242(2):521-8. doi: 10.1016/j.atherosclerosis.2015.07.015. Epub 2015 Jul 15. PubMed PMID: 26302166.

OBJECTIVE: The variant allele of rs3798220 in the apolipoprotein(a) gene (LPA) is used to assess the risk for coronary artery disease (CAD) in Europeans, where it is associated with short alleles of the Kringle IV-2 (KIV-2) copy number variation (CNV) and high lipoprotein(a) (Lp(a)) concentrations. No association of rs3798220 with CAD was detected in a GWAS of East Asians. Our study investigated the association of rs3798220 with Lp(a) concentrations and KIV-2 CNV size in non-European populations to explain the missing association of the variant with CAD in Asians.

METHODS: We screened three populations from Africa and seven from Asia by TaqMan Assay for rs3798220 and determined KIV-2 CNV sizes of LPA alleles by pulsed-field gel electrophoresis (PFGE). Additionally, CAD cases from India were analysed. To investigate the phylogenetic origin of rs3798220, 40 LPA alleles from Chinese individuals were separated by PFGE and haplotyped for further SNPs.

RESULTS: The variant was not found in Africans. Allele frequencies in East and Southeast Asians ranged from 2.9% to 11.6%, and were very low (0.15%) in CAD cases and controls from India. The variant was neither associated with short KIV-2 CNV alleles nor elevated Lp(a) concentrations in Asians.

CONCLUSION: Our study shows that rs3798220 is no marker for short KIV-2 CNV alleles and high Lp(a) in East and Southeast Asians, although the haplotype background is shared with Europeans. It appears unlikely that this SNP confers atherogenic potential on its own. Furthermore, this SNP does not explain Lp(a) attributed risk for CAD in Asian Indians.

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70: Khan MF, Nag TC, Igathinathane C, Osuagwu UL, Rubini M. A new method of detecting changes in corneal health in response to toxic insults. *Micron*. 2015 Nov;78:45-53. doi: 10.1016/j.micron.2015.07.007. Epub 2015 Jul 26. PubMed PMID: 26312735.

The size and arrangement of stromal collagen fibrils (CFs) influence the optical properties of the cornea and hence its function. The spatial arrangement of the collagen is still questionable in relation to the diameter of collagen fibril. In the present study, we introduce a new parameter, edge-fibrillar distance (EFD) to measure how two collagen fibrils are spaced with respect to their closest edges and their spatial distribution through normalized standard deviation of EFD (NSDEFD) accessed through the application of two commercially available multipurpose solutions (MPS): ReNu and Hippiia. The corneal buttons were soaked separately in ReNu and Hippiia MPS for five hours, fixed overnight in 2.5% glutaraldehyde containing cuproline blue and processed for transmission electron microscopy. The electron micrographs were processed using ImageJ user-coded plugin. Statistical analysis was performed to compare the image processed equivalent diameter (ED), inter-fibrillar distance (IFD), and EFD of the CFs of treated versus normal corneas. The ReNu-soaked cornea resulted in partly degenerated epithelium with loose hemidesmosomes and Bowman's collagen. In contrast, the epithelium of the cornea soaked in Hippiia was degenerated or lost but showed closely packed Bowman's collagen. Soaking the corneas in both MPS

caused a statistically significant decrease in the anterior collagen fibril, ED and a significant change in IFD, and EFD than those of the untreated corneas ($p < 0.05$, for all comparisons). The introduction of EFD measurement in the study directly provided a sense of gap between periphery of the collagen bundles, their spatial distribution; and in combination with ED, they showed how the corneal collagen bundles are spaced in relation to their diameters. The spatial distribution parameter NSDEFD indicated that ReNu treated cornea fibrils were uniformly distributed spatially, followed by normal and Hippias. The EFD measurement with relatively lower standard deviation and NSDEFD, a characteristic of uniform CFs distribution, can be an additional parameter used in evaluating collagen organization and accessing the effects of various treatments on corneal health and transparency.

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71: Khandpur S, Jain N, Singla S, Chatterjee P, Behari M. D-penicillamine Induced Degenerative Dermopathy. *Indian J Dermatol*. 2015 Jul-Aug;60(4):406-9. doi: 10.4103/0019-5154.160498. PubMed PMID: 26288416; PubMed Central PMCID: PMC4533546.

D-penicillamine interferes with elastin and collagen metabolism and produces several cutaneous and multi-systemic side-effects. We present two cases of Wilson's disease who on long-term penicillamine therapy developed drug-induced degenerative dermopathy manifesting as skin fragility over pressure sites and cutis laxa-like changes.

72: Khurana S, Pushker N, Naik SS, Changole MD, Ghonsikar V, Bajaj M. Periorbital necrotising fasciitis in infants: Presentation and management of six cases. *Trop Doct*. 2015 Jul;45(3):188-93. doi: 10.1177/0049475515575671. Epub 2015 Mar 17. PubMed PMID: 25786437.

PURPOSE: To present the clinical features and management of infants presenting with periorbital necrotising fasciitis (NF).

METHODS: Retrospective case series.

RESULTS: Six children were studied. The age at presentation was in the range of 5-11 months (median, 8 months). All children presented with acute onset eyelid inflammation and necrosis with fever, lethargy and poor oral intake. The management included intravenous antibiotics and repeated surgical debridement. The infection healed by 2-3 weeks in all cases, resulting in cicatricial ectropion and lagophthalmos. Full thickness skin grafting (with a Hughes tarso-conjunctival graft in one child) was performed in all patients at 3-5 weeks subsequently. Repeat surgery was required in three children. Adequate globe coverage and cosmesis was achieved in five children.

CONCLUSION: NF of eyelids is a potentially fatal infection that requires urgent and vigorous management and heals with sequelae that may need more than one surgical intervention over a period of time. Adequate cosmetic and functional outcomes can be achieved.

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73: Korwar A, Sharma S, Logani A, Shah N. Pulp response to high fluoride releasing glass ionomer, silver diamine fluoride, and calcium hydroxide used for indirect pulp treatment: An in-vivo comparative study. *Contemp Clin Dent*. 2015 Jul-Sep;6(3):288-92. doi: 10.4103/0976-237X.161855. PubMed PMID: 26321822; PubMed Central PMCID: PMC4549974.

AIMS AND OBJECTIVES: The study aims at determining pulp response of two high fluoride releasing materials silver diamine fluoride (SDF) and Type VII glass

ionomer cement (GIC) when used as indirect pulp treatment (IPT) materials.
MATERIALS AND METHODS: Deep Class V cavities were made on four first premolars indicated for extraction for orthodontic reasons. SDF, Type VII GIC, and calcium hydroxide base are given in three premolars, and one is kept control. Premolars were extracted 6 weeks after the procedure and subjected to histopathological examination to determine the pulp response. The results were analyzed using Chi-square test.

RESULTS: No inflammatory changes were observed in any of the groups. Significantly more number of specimens in SDF and Type VII GIC groups showed tertiary dentin deposition (TDD) when compared to control group. No significant difference was seen in TDD when intergroup comparison was made. Odontoblasts were seen as short cuboidal cells with dense basophilic nucleus in SDF and Type VII GIC group.
CONCLUSION: The study demonstrated TDD inducing ability of SDF and Type VII GIC and also established the biocompatibility when used as IPT materials.

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

The clinical use of doxorubicin is associated with dose limiting cardiotoxicity. This is a manifestation of free radical production triggered by doxorubicin. Therefore, we evaluated the efficacy of febuxostat, a xanthine oxidase inhibitor and antioxidant, in blocking cardiotoxicity associated with doxorubicin in rats. Male albino Wistar rats were divided into four groups: control (normal saline 2.5mL/kg/day i.p. on alternate days, a total of 6 doses); Doxorubicin (2.5mg/kg/day i.p. on alternate days, a total of 6 doses), Doxorubicin+Febuxostat (10mg/kg/day oral) and Doxorubicin+Carvedilol (30mg/kg/day oral) for 14 days. Febuxostat significantly ameliorated the doxorubicin-induced deranged cardiac functions as there was significant improvement in arterial pressures, left ventricular end diastolic pressure and inotropic and lusitropic states of the myocardium. These changes were well substantiated with biochemical findings, wherein febuxostat prevented the depletion of non-protein sulfhydryls level, with increased manganese superoxide dismutase level and reduced cardiac injury markers (creatine kinase-MB and B-type natriuretic peptide levels) and thiobarbituric acid reactive substances level. Febuxostat also exhibited significant anti-inflammatory (decreased expression of NF- κ Bp65, IKK- β and TNF- α) and anti-apoptotic effect (increased Bcl-2 expression and decreased Bax and caspase-3 expression and TUNEL positivity). Hematoxylin and Eosin, Masson Trichrome, Picro Sirius Red and ultrastructural studies further corroborated with hemodynamic and biochemical findings showing that febuxostat mitigated doxorubicin-induced increases in inflammatory cells, edema, collagen deposition, interstitial fibrosis, perivascular fibrosis and mitochondrial damage and better preservation of myocardial architecture. In addition, all these changes were comparable to those produced by carvedilol. Thus, our results suggest that the antioxidant and anti-apoptotic effect of febuxostat contributes to its protective effects against doxorubicin-induced cardiotoxicity.

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75: Kumar A, Gupta R, Garg A, Sharma BS. Giant Mesencephalic Dilated Virchow Robin Spaces Causing Obstructive Hydrocephalus Treated by Endoscopic Third Ventriculostomy. *World Neurosurg.* 2015 Jul 13. pii: S1878-8750(15)00876-1. doi: 10.1016/j.wneu.2015.07.010. [Epub ahead of print] PubMed PMID: 26183138.

BACKGROUND: Virchow Robin spaces (VRSs) are perivascular spaces that act as drainage pathways for interstitial fluid. Dilatation of VRSs is visible on

magnetic resonance images in asymptomatic individuals. However, giant dilatation of VRSS (dVRSS) is very rare. Such giant dVRSS may produce a pressure effect on surrounding structures and can be confused with more sinister conditions such as cystic neoplasm.

CASE DESCRIPTION: We describe a 30-year-old man who presented with complaints of headache, poor attention and concentration, forgetfulness, polyuria, urinary incontinence for past 3 years and hypersomnia for 3 months. He was found to have a multicystic lesion in the midbrain with extension into the third ventricle, causing hydrocephalus due to aqueductal obstruction. Although at first look, the radiologic features suggested a cystic neoplasm, a careful magnetic resonance imaging evaluation helped to establish the correct diagnosis of dVRS. Endoscopic third ventriculostomy resolved his symptoms.

CONCLUSIONS: Dilatation of VRS may produce multicystic giant lesions that can easily be confused with other pathologic condition that have a completely different prognosis and management. Knowledge about the existence of such an entity and their radiologic features is important to prevent such misdiagnosis and mismanagement in the form of biopsy/excision, which can have devastating consequences.

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

77: Kumar M R, Saini L, Kaushik JS, Chakrabarty B, Kumar A, Gulati S. A Combination of Moyamoya Pattern and Cerebral Venous Sinus Thrombosis: A Case of Tubercular Vasculopathy. *J Trop Pediatr*. 2015 Oct;61(5):393-6. doi: 10.1093/tropej/fmv036. Epub 2015 Jul 1. PubMed PMID: 26136258.

BACKGROUND: Moyamoya vasculopathy, arising secondary to tubercular meningitis (TBM) is unusual. There have also been a few reports of cerebral venous sinus thrombosis (CVST) in TBM. A case of TBM, complicated simultaneously by Moyamoya syndrome and CVST, is being presented here.

CASE: A 1-year-old girl presented with febrile encephalopathy, vomiting, seizures and left hemiparesis. Cerebrospinal fluid analysis was suggestive of TBM. Extensive infarcts were noted in the magnetic resonance imaging, involving right middle cerebral artery (MCA), anterior cerebral artery and the left MCA. Magnetic resonance venogram revealed left transverse venous sinus thrombosis and magnetic resonance angiography showed bilateral moyamoya pattern of arteriopathy. Patient was started on antitubercular therapy and low molecular weight heparin.

CONCLUSIONS: Early vascular involvement affecting both arterial and venous structures has not hitherto been reported in CNS tuberculosis. Early recognition of secondary complications of CNS tuberculosis is crucial to prevent the morbidity and mortality associated with TBM.

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78: Kumar N, Bindra A, Mahajan C, Yadav N. Airway management in a patient of ankylosing spondylitis with traumatic cervical spine injury. *Saudi J Anaesth*. 2015 Jul-Sep;9(3):327-9. doi: 10.4103/1658-354X.154741. PubMed PMID: 26240557; PubMed Central PMCID: PMC4478831.

Traumatic cervical lesions compressing the spinal cord pose a significant risk of exacerbating the existing neurological condition during tracheal intubation and subsequent positioning. Preexisting ankylosing spondylitis with spinal column

involvement renders the spinal column more rigid and introduces difficulty in airway management of the patient with traumatic cervical spinal cord. To improve ease and success, and reduce cervical spine movement, awake fiberoptic intubation (FOI) is considered the gold standard technique for airway management in such cases. Attaining appropriate position for intubation was challenge in this case due to rigid curvature of the ankylosed spinal column. To prevent neurological injury to the spinal cord and preserve spinal cord function, minimizing movement during intubation and attaining appropriate position was of prime concern. Optimal sedation with self-positioning by the patient in a comfortable posture is quite imperative and assures both airway as well as neurological protection in such expected difficult situations. We report the use of dexmedetomidine for self-positioning and awake FOI in a patient with ankylosing spondylitis having traumatic cervical spine who was otherwise neither able to co-operative nor able to give appropriate position for FOI.

79: Kumar N, Padma Srivastava MV, Verma R, Sharma H, Modak T. Can low-frequency repetitive transcranial magnetic stimulation precipitate a late-onset seizure in a stroke patient? *Clin Neurophysiol*. 2015 Jul 26. pii: S1388-2457(15)00727-0. doi: 10.1016/j.clinph.2015.06.033. [Epub ahead of print] PubMed PMID: 26306660.

80: Kumar R. Journalology and authors: Bridging the divide. *Indian J Urol*. 2015 Jul-Sep;31(3):163-4. doi: 10.4103/0970-1591.159512. PubMed PMID: 26166956; PubMed Central PMCID: PMC4495487.

81: Kumar R, Nair V, Gupta YK, Singh S. Anti-inflammatory and anti-arthritis activity of aqueous extract of *Rosa centifolia* in experimental models in rats. *Int J Rheum Dis*. 2015 Jul 27. doi: 10.1111/1756-185X.12625. [Epub ahead of print] PubMed PMID: 26222375.

AIM: The present study was carried out to evaluate the anti-inflammatory and antiarthritic activity of *Rosa centifolia* aqueous extract (RC) in a carrageenan-induced paw edema model and complete Freund's adjuvant (CFA)-induced arthritis.

METHODS: Anti-inflammatory activity of RC was evaluated using the carrageenan-induced paw edema model in rats. Arthritis was induced in rats by sub-plantar administration of CFA. Joint size was measured at regular intervals by using a micrometer screw gauge. Serum and ankle joints of rats immunized with CFA were collected and subjected to enzyme-linked immunosorbent assay for estimation of tumor necrosis factor (TNF)- α level and dot blot for secretory cytokines interleukin (IL)-1 β and IL-6. An acute and 28-day oral toxicity study was carried out to evaluate the safety of the test drug.

RESULTS: Pre-treatment with RC produced a dose-dependent reduction in carrageenan-induced paw edema and CFA-induced arthritis models and was effective as indomethacin. RC also inhibited the delayed increase in joint diameter as seen in control and indomethacin-treated animals in CFA-induced arthritis. The expression of proinflammatory mediators TNF- α , IL-6 and IL-1 β was also found to be less in the RC-treated group as compared to controls.

CONCLUSION: Based on these results, it was suggested that *Rosa centifolia* could be considered as a potential anti-inflammatory and anti-arthritis agent.

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82: Kumar R, Dey M. Spontaneous heterotopic pregnancy with tubal rupture and pregnancy progressing to term. *Med J Armed Forces India*. 2015 Jul;71(Suppl 1):S73-5. doi: 10.1016/j.mjafi.2013.02.017. Epub 2013 Jun 6. PubMed PMID: 26265877; PubMed Central PMCID: PMC4529527.

83: Kumar SB, Yadav RK, Dada R. Yoga as an effective lifestyle intervention for Bhopal methyl isocyanate gas leakage catastrophe victims. *Int J Yoga*. 2015 Jul-Dec;8(2):162. doi: 10.4103/0973-6131.154072. PubMed PMID: 26170601; PubMed Central PMCID: PMC4479899.

84: 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 , PGE(2), 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 PGE(2), 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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85: Lohiya A, Kant S, Kapil A, Gupta SK, Misra P, Rai SK. Pattern of Antibiotic Resistance Among Community Derived Isolates of Enterobacteriaceae Using Urine Sample: A Study From Northern India. *J Clin Diagn Res*. 2015 Jul;9(7):LC15-9. doi: 10.7860/JCDR/2015/14230.6254. Epub 2015 Jul 1. PubMed PMID: 26393150; PubMed Central PMCID: PMC4572981.

BACKGROUND: Despite world-wide evidence of increased antibiotic resistance, there is scarce data on antibiotic resistance in community settings. One of the reasons being difficulty in collection of biological specimen (traditionally stool) in community from apparently healthy individuals. Hence, finding an alternative specimen that is easier to obtain in a community setting or in large scale surveys for the purpose, is crucial. We conducted this study to explore the feasibility of using urine samples for deriving community based estimates of antibiotic resistance and to estimate the magnitude of resistance among urinary isolates of *Escherichia coli* and *Klebsiella pneumoniae* against multiple antibiotics in apparently healthy individuals residing in a rural community of Haryana, North India.

MATERIALS AND METHODS: Eligible individuals were apparently healthy, aged 18 years or older. Using the health management information system (HMIS) of Ballabgarh Health Demographic Surveillance System (HDSS), sampling frame was prepared. Potential individuals were identified using simple random sampling. Random urine sample was collected in a sterile container and transported to

laboratory under ambient condition. Species identification and antibiotic susceptibility testing for Enterobacteriaceae was done using Clinical Laboratory and Standards Institute (CLSI) 2012 guidelines. Multi-drug resistant (MDR) Enterobacteriaceae, Extended Spectrum Beta Lactamase (ESBL) producing Enterobacteriaceae, and Carbapenem producing Enterobacteriaceae (CRE) were identified from the urine samples.

RESULTS: A total of 433 individuals participated in the study (non-response rate - 13.4%), out of which 58 (13.4%) were positive for Enterobacteriaceae, 8.1% for *E. coli* and 5.3% for *K. pneumoniae*. Resistance against penicillin (amoxicillin/ampicillin) for *E. coli* and *K. pneumoniae* was 62.8% and 100.0% respectively. Isolates resistant to co-trimoxazole were 5.7% and 0.0% respectively. None of the isolates were resistant to imipenem, and meropenem.

CONCLUSION AND RECOMMENDATIONS: It is feasible to use urine sample to study magnitude of antibiotic resistance in population based surveys. At community level, resistance to amoxicillin was considerable, negligible for co-trimoxazole, and to higher antibiotics including carbapenems.

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87: Madhusudhan KS, Gamanagatti S, Gupta AK. Endovascular embolization of pseudoaneurysm of left colic artery developing after renal biopsy. *Indian J Nephrol.* 2015 Jul-Aug;25(4):242-5. doi: 10.4103/0971-4065.146029. PubMed PMID: 26199477; PubMed Central PMCID: PMC4495480.

Vascular complications after percutaneous renal biopsy are uncommon and may require interventional management. In most of these cases, the pathology is a renal arterial pseudoaneurysm (PsA) or an arterio-venous fistula. Injury to other vessels like aorta, lumbar arteries or mesenteric arteries is rare with only one case of left colic artery PsA reported in literature. We report a case of a 60-year-old female, who developed left colic artery PsA after renal biopsy, which was successfully embolized through endovascular route using microcoils.

88: Malhotra R, Kumar V, Garg B, Singh R, Jain V, Coshic P, Chatterjee K. Role of autologous platelet-rich plasma in treatment of long-bone nonunions: a prospective study. *Musculoskelet Surg.* 2015 Jul 21. [Epub ahead of print] PubMed PMID: 26193983.

PURPOSE: Fracture union is a complex biological process, which depends upon several systemic and local factors. Disturbance of any of these factors may lead to nonunion of the fracture. These nonunions have a huge impact on quality of life as well as socioeconomical aspects. The platelets on activation release a number of growth factors and differentiation factors, which play important role in fracture healing. This study aimed to look for efficacy of platelet-rich plasma in the treatment of established fracture nonunions of long bones.

METHODS: A total of 94 patients with established nonunion of long bone (35 tibia, 30 femur, 11 humerus, 4 radius, 12 ulna, 2 with both radius and ulna) were included in this study. We injected 15-20 ml of autologous platelet-rich plasma (>2,000,000 platelets/ μ l) under image intensifier at each nonunion site. The fracture union was evaluated clinically and radiologically regularly at monthly interval till 4 months.

RESULTS: Eighty-two patients had their fracture united at the end of 4 months. Thirty-four patients showed bridging trabeculae on X-rays at the end of 2 months, while 41 patients showed bridging trabeculae at the end of third month. Twelve patients did not show any attempt of union at 4 months and were labeled as failure of treatment. There were no complications.

CONCLUSION: Platelet-rich plasma is a safe and effective treatment for the treatment of nonunions. More studies are needed to look into molecular mechanism of this fracture healing acceleration by platelet-rich plasma.

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

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

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90: Mallick S, Breta M, Gupta SD, Dinda AK, Mohanty BK, Singh MK. Angiogenesis, Proliferative Activity and DNA Ploidy in Oral Verrucous Carcinoma: A Comparative Study Including Verrucous Hyperplasia and Squamous Cell Carcinoma. *Pathol Oncol Res*. 2015 Sep;21(4):1249-57. doi: 10.1007/s12253-014-9856-9. Epub 2015 Jul 9. PubMed PMID: 26156885.

Verrucous carcinoma (VC) is a rare and distinct clinicopathologic variant of well-differentiated squamous cell carcinoma (SCC). This study aims to evaluate the histomorphology, proliferative activity, level of angiogenesis, and DNA ploidy of these pathological entities. This was a retrospective-prospective study of 18 cases of verrucous hyperplasia (VH), 41 cases of VC, and 44 cases of SCC. Immunohistochemical analysis for Ki-67 (MIB-1) and CD34 were performed. The tumor proliferative index, endothelial proliferative index and microvascular density were calculated. DNA ploidy was determined using image cytometry. The age range and gender ratio were similar in all three groups. The differences in MIB-1 labeling index ($p=0.0001$), microvascular density ($p=0.01$), and endothelial proliferative index ($p=0.001$) between VC and SCC were found to be statistically significant. A non-significant increasing trend was observed in all of these parameters between VH and VC. On ploidy analysis, 100 % of SCC cases were aneuploid, compared to 39 % of VH and 86 % of VC cases. Our study demonstrates a significant difference in tumor proliferation, microvessel density, and ploidy between VC and SCC while increasing trend between VH and VC. These parameters, along with morphological findings, may be useful in differentiating these entities in small mucosal biopsies.

91: Mallick S, Madan R, Julka PK. Primary spinal glioblastoma treated with adjuvant radiation and temozolomide: Report of two cases. *J Cancer Res Ther.* 2015 Jul-Sep;11(3):654. doi: 10.4103/0973-1482.137998. PubMed PMID: 26458640.

Primary spinal glioblastoma multiforme (GBM) is a rare entity, which is invariably associated with poor outcome. Standard treatment is surgery followed by post-operative radiotherapy. Due to paucity of cases role of chemotherapy is investigational. We intend to report two cases of primary spinal GBM treated with radiation and adjuvant temozolomide.

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

93: Mittal D, Mandelia A, Bajpai M, Agarwala S. Adrenal neuroblastoma with metastatic mandibular mass: An unusual presentation. *J Cancer Res Ther.* 2015 Jul-Sep;11(3):645. doi: 10.4103/0973-1482.147389. PubMed PMID: 26458598.

Neuroblastoma very rarely presents as a mandibular mass. We report the case of a 3-year-old female child who presented to us with a right mandibular mass of 3 months duration. She was investigated and diagnosed as a case of stage 4 right adrenal neuroblastoma with mandibular and skull metastasis.

94: Mittal D, Bagga A, Tandon R, Sharma MC, Bhatnagar V. Hirschsprung's disease with infantile nephropathic cystinosis. *J Indian Assoc Pediatr Surg.* 2015 Jul-Sep;20(3):153-4. doi: 10.4103/0971-9261.159033. PubMed PMID: 26166990; PubMed Central PMCID: PMC4481631.

The case of a 3-year-old boy diagnosed to have Hirschsprung's disease with infantile nephropathic cystinosis is being reported. Both these conditions are etiologically and genetically different as per current understanding and available information. The association is incidental and has not reported before in the English literature.

95: Mohan A, Shrestha P, Guleria R, Pandey RM, Wig N. Development of a mortality prediction formula due to sepsis/severe sepsis in a medical intensive care unit. *Lung India.* 2015 Jul-Aug;32(4):313-9. doi: 10.4103/0970-2113.159533. PubMed PMID: 26180378; PubMed Central PMCID: PMC4502193.

BACKGROUND: Although sepsis is one of the leading causes of mortality in hospitalized patients, information regarding early predictive factors for mortality and morbidity is limited.

MATERIALS AND METHODS: Patients fulfilling the Infectious Disease Society of America criteria of sepsis within the medical intensive care unit (ICU) were included over two years. Apart from baseline hematological, biochemical, and metabolic parameters, Acute Physiology and Chronic Health Evaluation II (APACHE II), Simplified Acute Physiology Score II and III (SAPS II and SAPS III), and Sequential Organ Function Assessment (SOFA) scores were calculated on day 1 of admission. Patients were followed till death or discharge from the ICU.

RESULTS: One hundred patients were enrolled over two years (54% males). The overall mortality was 53%, (69.5% in females, 38.8% in males ($P < 0.01$)). Mortality was 65.7%, 55.7%, and 33.3% in patients with septic shock, severe sepsis, and sepsis, respectively. Patients who died were significantly older than the survivors (mean age, 57.37 ± 20.42 years and 44.29 ± 15.53 years

respectively, $P < 0.01$). Nonsurvivors were significantly more anemic and had higher APACHE II, SAPS II, SAPS III, and SOFA scores. The presence of acute respiratory distress syndrome and renal dysfunction were associated with higher mortality (75% and 70.2%, respectively). There was no significant difference in the duration of mechanical ventilation or ICU stay between survivors and nonsurvivors. On multivariate analysis, significant predictors of mortality with odds ratio greater than 2 included the presence of anemia, SAPS II score greater than 35, SAPS III score greater than 47, and SOFA score greater than 6 at day 1 of admission.

CONCLUSION: Several demographic and laboratory parameters as well as composite critical illness scoring systems are reliable early predictors of mortality in sepsis. A sepsis mortality prediction formula (AIIMS Sepsis Score) based on SAPS II, SAPS III, and SOFA scores and hemoglobin has greater predictive power than these scoring methods individually. Routine use of critical illness scoring systems and a composite mortality prediction formula may provide useful early prognostic information in sepsis/severe sepsis.

96: Morey VM, Das A, Ansari MT, Gowda KK. Osteochondroma of the Proximal Fibula-Revisited. *J Clin Diagn Res.* 2015 Jul;9(7):RL01. doi: 10.7860/JCDR/2015/10880.6140. Epub 2015 Jul 1. PubMed PMID: 26393177; PubMed Central PMCID: PMC4573009.

97: Mukherjee A, Chakraborty PS, Behera A, Bal C, Kumar R. Radiation-Induced Esophagitis Masquerading as Disease Progression in Case of Esophageal Carcinoma: A Diagnostic Dilemma Solved on Follow-up FDG PET/CT. *Clin Nucl Med.* 2015 Jul;40(7):e380-1. doi: 10.1097/RLU.0000000000000736. PubMed PMID: 25706793.

Radiation esophagitis is one of the commonest complications of the radiotherapy involving esophagus. It is characterized by diffuse radiotracer uptake in the esophagus on ^{18}F -FDG PET/CT. Thus, it can be often confused with the esophageal malignancy. We present the sequential ^{18}F -FDG PET/CT images of a 45-year-old woman with locally advanced squamous cell carcinoma of the esophagus who developed radiation esophagitis after chemoradiotherapy. It was confused with the progression of the disease, and the dilemma was resolved by the follow-up PET/CT.

98: Padma Srivastava MV. Single small enhancing CT Lesions, with special reference to neurocysticercosis: How I treat. *Ann Indian Acad Neurol.* 2015 Jul-Sep;18(3):286-9. doi: 10.4103/0972-2327.162269. PubMed PMID: 26425004; PubMed Central PMCID: PMC4564461.

Single small enhancing CT lesions (SSECTL) have been very commonly encountered in clinical practice. These lesions typically are small (often < 20 mm), enhancing as a ring lesion or a disc and with varying amounts of surrounding edema. Most SSECTL present as focal seizures. Once the diagnosis of SSECTL and likely to be a solitary cysticercus lesion is made, the patient is given appropriate AED therapy. Depending on the resolution pattern on repeat imaging performed at intervals not less than six months if patient remains asymptomatic, cysticidal therapy is instituted along with AEDs. Any deviation from the classical clinical or radiological patterns needs further evaluation and other etiologies described for the SSECTL will need to be ruled out, including that of tuberculosis. Largely these lesions resolve and the clinical condition remains benign and in most patients AEDs can be withdrawn in two to three years period.

99: Pandey A, Garg S, Khunger M, Garg S, Kumbhani DJ, Chin KM, Berry JD. Efficacy and Safety of Exercise Training in Chronic Pulmonary Hypertension: A Systematic Review and Meta-Analysis. *Circ Heart Fail.* 2015 Jul 16. pii:

CIRCHEARTFAILURE.115.002130. [Epub ahead of print] PubMed PMID: 26185169.

BACKGROUND: -Exercise training has been shown to improve cardiorespiratory fitness, physical capacity and quality of life in patients with cardiopulmonary conditions such as heart failure and COPD. However, its role in management of pulmonary hypertension is not well defined. In this study, we aim to evaluate the efficacy and safety of exercise training in patients with pulmonary hypertension.

METHODS AND RESULTS: -We included all prospective intervention studies that evaluated the efficacy and safety of exercise training in patients with pulmonary hypertension. Primary outcome of this meta-analysis was a change in six-minute walk distance (6MWD). We also assessed the effect of exercise on peak oxygen uptake (VO₂peak), resting pulmonary arterial systolic pressure (PASP), peak exercise heart rate (HR_{peak}), and quality of life. A total of 16 studies with 434 exercise-training participants were included. In the pooled analysis, exercise training was associated with significant improvement in 6MWD [Weighted mean difference (WMD): 57.7 meters (95% CI: 42.5 to 72.8)], VO₂peak [WMD = 1.7 ml/kg/min (95% CI: 1.3 to 2.0)], PASP [WMD = -3.6 mmHg (95% CI = -5.8 to -1.4)], HR_{peak} [WMD = 10.4 beats per min (95% CI: 5.5 to 15.3)], and quality of life as measured on SF-36 questionnaire subscale scores. Furthermore, exercise training was well tolerated with a low dropout rate and no major adverse events related to exercise training.

CONCLUSIONS: -Exercise training in patients with pulmonary hypertension appears safe and is associated with a significant improvement in exercise capacity, pulmonary arterial pressure and quality of life.

100: Pandey D, Garg PK, Jakhetiya A, Pandey R, Bhorawal S, Nath D, Kumar S. Surgical experience of primary salivary gland tumors of lung: A case series. *Int J Surg.* 2015 Sep;21:92-6. doi: 10.1016/j.ijsu.2015.06.084. Epub 2015 Jul 17. PubMed PMID: 26192970.

INTRODUCTION: Primary salivary gland type tumors of lung (PSGTTL) are rare intra-thoracic malignant neoplasm. Their description in literature is largely limited to a few case series/case reports. We herewith present our surgical experience of and review its clinical presentation, management options and survival outcomes.

METHODS: This retrospective analysis of prospectively maintained computerized data-base of patients was conducted in a tertiary teaching oncology centre in North India. The case records of all the patients who underwent surgery for PSGTTL were reviewed. Details concerning the clinical presentation, preoperative therapy, operative procedure, histopathological examination, postoperative complications and outcome were retrieved from the case records.

RESULTS: There were seven patients who underwent surgery for PSGTTL during the period from January 2012 to December 2014. Hemoptysis (n = 6, 85.7%) and dyspnoea (n = 6, 85.7%) were common presenting clinical features. Fiber-optic bronchoscopy revealed endobronchial growth in all patients - five patients had growth in left main bronchus while one each had growth in right main bronchus and right intermediate bronchus. Biopsy confirmed adenoid cystic carcinoma in 4 (57.1%) and muco-epidermoid carcinoma in 3 (42.9%) patients. All but one had R'0' resection - pneumonectomy in five and bilobectomy in one patient; one patient was found to be unresectable in view of dense adhesions between lung and heart. Median pathological tumor size was 3.5 cm; none of the patient was found to have metastatic spread to lymph nodes. Overall, six patients are alive after a median follow up of 5 months (range 1-30).

CONCLUSION: Radical surgery to achieve R'0' resection is the main stay of treatment of PSGTTL to achieve prolonged survival.

101: Parida GK, Soundararajan R, Passah A, Bal C, Kumar R. Metabolic Skeletal Superscan on ^{18}F -FDG PET/CT in a Case of Acute Lymphoblastic Leukemia. *Clin Nucl Med*. 2015 Jul;40(7):567-8. doi: 10.1097/RLU.0000000000000785. PubMed PMID: 26018718.

Superscan is a well-known finding described in skeletal scintigraphy characterized by intense radiotracer uptake in axial skeleton and decreased uptake in soft tissues and kidneys. Metabolic skeletal superscan has also been described in ^{18}F -fluorodeoxyglucose (FDG) positron emission tomography (PET)/computed tomography (CT) in various conditions. We describe here a case of 12-year-old boy who presented with a scalp swelling, progressive pallor, easy fatigability, poor appetite, and fever for 6 months. The initial diagnosis was inconclusive. ^{18}F -FDG PET/CT revealed metabolic skeletal superscan and the final histopathological diagnosis was acute lymphoblastic leukemia.

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

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

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103: Prakash S, Mandal P. Etiology-based classification--the way forward for psychiatry. *Acta Psychiatr Scand*. 2015 Jul;132(1):81. doi: 10.1111/acps.12404. Epub 2015 Feb 20. PubMed PMID: 25702902.

104: Rai R, Das B, Choudhary N, Talukdar A, Rao DN. MAP of F1 and V antigens from *Yersinia pestis* astride innate and adaptive immune response. *Microb Pathog*. 2015 Oct;87:13-20. doi: 10.1016/j.micpath.2015.07.012. Epub 2015 Jul 15. PubMed PMID: 26188288.

Yersinia pestis, a causative agent of plague, has a plethora of armors to fight against major components of innate immunity and survive within host cells. Dendritic cells and macrophages are important antigen presenting cells for effective immune response. This report is focused on the changes in DC activation and TLR2 and TLR4 expression on macrophages induced by MAP of F1 and V antigens of *Y. pestis*. F1 and V MAPs bear potential synthetic T and B cell epitopes from F1 and V protein respectively. We evaluated these parameters in DC's isolated from spleen and lamina propria and macrophages isolated from peritoneal lavage of mice after intranasal immunization. F1 MAP and V MAP significantly increased the

expression of CD80 and CD86 on CD11c(+) dendritic cells isolated from spleen and lamina propria as well as intracellular IL-12 levels. Similarly, in macrophages derived from peritoneal cavity, the above formulation enhanced TLR2 and TLR4 expression. Again after in vitro stimulation with F1 and V MAP these macrophages produced significantly high IL12 and TNF α . The study clearly indicates involvement of DC and macrophages for efficient antigen presentation to immune cells. From this study we conclude that F1MAP and VMAP ameliorate innate immune mechanism. These two synthetic constructs exert their effect via TLR2 and TLR4, leading to the production of proinflammatory cytokines by macrophages and are able to increase DC activation, that could be helpful in generation of adaptive immunity as well as is important strong immune response.

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105: Rajaraman P, Anderson BO, Basu P, Belinson JL, Cruz AD, Dhillon PK, Gupta P, Jawahar TS, Joshi N, Kailash U, Kapambwe S, Katoch VM, Krishnan S, Panda D, Sankaranarayanan R, Selvam JM, Shah KV, Shastri S, Shridhar K, Siddiqi M, Sivaram S, Seth T, Srivastava A, Trimble E, Mehrotra R. Recommendations for screening and early detection of common cancers in India. *Lancet Oncol.* 2015 Jul;16(7):e352-61. doi: 10.1016/S1470-2045(15)00078-9. Review. PubMed PMID: 26149887.

Cancers of the breast, uterine cervix, and lip or oral cavity are three of the most common malignancies in India. Together, they account for about 34% of more than 1 million individuals diagnosed with cancer in India each year. At each of these cancer sites, tumours are detectable at early stages when they are most likely to be cured with standard treatment protocols. Recognising the key role that effective early detection and screening programmes could have in reducing the cancer burden, the Indian Institute for Cytology and Preventive Oncology, in collaboration with the US National Cancer Institute Center for Global Health, held a workshop to summarise feasible options and relevant evidence for screening and early detection of common cancers in India. The evidence-based recommendations provided in this Review are intended to act as a guide for policy makers, clinicians, and public health practitioners who are developing and implementing strategies in cancer control for the three most common cancers in India.

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106: Rajkumari N, Mathur P, Farooque K, Sharma V. Wound infection by Salmonella Typhi in a spinal injury patient without underlying osteomyelitis. *Indian J Med Microbiol.* 2015 Jul-Sep;33(3):453-4. doi: 10.4103/0255-0857.158597. PubMed PMID: 26068359.

107: Rajkumari N, Mathur P, Gunjiyal J, Misra MC. Effectiveness of Intensive Interactive Classes and Hands on Practice to Increase Awareness about Sharps Injuries and Splashes among Health Care Workers. *J Clin Diagn Res.* 2015 Jul;9(7):DC17-21. doi: 10.7860/JCDR/2015/12833.6219. Epub 2015 Jul 1. PubMed PMID: 26393129; PubMed Central PMCID: PMC4572960.

BACKGROUND: Occupational exposure to sharps and splashes pose a major hazard among health care workers (HCWs); so knowledge and awareness regarding sharps/splashes by blood and potentially infectious body fluids (BBF) is a must. Hence, the study was done to assess the extent of knowledge of the staff and using awareness classes and hands on practice as a model to increase awareness as well as prevention.

MATERIALS AND METHODS: This prospective interventional cohort study, using before - after trial, was conducted in a Level I trauma care centre. All cadres of HCWs were enrolled randomly into 5 different groups of 15 each. This study was

conducted in 2 phases - interactive classes and hands on practice (Phase I) and questionnaire assessment and work area observation (phase II). This was repeated twice and the final outcome was analysed. A systematic level of grading was used to assess the improvement.

RESULTS: It was observed that Group 1 (doctors) and group 2 (nurses) had the maximum knowledge about such exposures and its prevention compared to the other groups (groups 3, 4 and 5) during the initial assessment (Phase I). The remaining groups showed a major improvement after the 2(nd) assessment, though their knowledge was poor in the beginning. Groups 1 and 2 showed 32% and remaining groups showed a 25% improvement in voluntary reporting after the second assessment (Phase II).

CONCLUSION: Awareness classes and hands on practice are indeed useful in generating knowledge about sharps/ splashes. Certain incentives given at right time can improve it further.

108: Ramakrishnan S. Current Concepts in Management of Pulmonary Hypertension: Fighting the Old Demon with Modern Weapons. *Indian J Pediatr.* 2015 Jul 31. [Epub ahead of print] PubMed PMID: 26223872.

Pulmonary hypertension in children is a rare disease associated with high morbidity and mortality. The pathogenesis is not fully understood. Diagnostic evaluation focuses on ruling out other etiologies of pulmonary hypertension and prognosticating the disease. Congenital heart disease and left sided heart disease associated pulmonary hypertension are more common in children. Therapies for idiopathic pulmonary hypertension have evolved over the past decade. Phosphodiesterase 5 inhibitors (sildenafil, tadalafil), endothelin antagonists (Bosentan and ambrisentan) and prostanoids are the classes of drugs shown to be useful in pulmonary hypertension. However, use of these drugs in children is based on extrapolation of adult usage and on expert consensus rather than based on randomized controlled trial evidence. Despite these advances, the outcomes of various forms of pulmonary hypertension remain poor, especially in India, where some forms of therapy are not available and children often are diagnosed at an advanced stage of disease.

109: Ramam M. Ahead of print: Reducing time to publication for accepted manuscripts. *Indian J Dermatol Venereol Leprol.* 2015 Jul-Aug;81(4):341-3. doi: 10.4103/0378-6323.159927. PubMed PMID: 26144848.

110: Raman VS, Agarwala S, Bhatnagar V, Gupta AK. Correlation between functional outcomes and postoperative pelvic magnetic resonance imaging in children with anorectal malformation. *J Indian Assoc Pediatr Surg.* 2015 Jul-Sep;20(3):116-20. doi: 10.4103/0971-9261.159017. PubMed PMID: 26166980; PubMed Central PMCID: PMC4481621.

BACKGROUND: Though the outcomes in operated children with anorectal malformation (ARM) have greatly improved, postoperative soiling and constipation remain major issues. Among the various factors described for poor outcomes; misplaced bowel, hypoplastic sphincters and obtuse anorectal angle bear special mention. The aim of this study was to compare the stooling outcomes, type of anomalies and surgical procedure with postoperative pelvic magnetic resonance imaging (MRI). MATERIALS AND METHODS: This was a cross-sectional study involving operated children of ARM who had at least 2 years of follow-up, and who were at least 3 years of age. The subtypes of ARM, surgical procedures, and functional outcomes were documented using the Krickbeck classification. All children were subjected to a pelvic MRI. RESULTS: Thirty-three eligible children were part of this study. Twenty-two patients underwent posterior sagittal anorectoplasty, seven patients underwent abdominoperineal pull-through (APPT) and four patients underwent perineal

operations. Local abnormalities were present in 66% patients, and 34% had abnormalities of the spine detected on MRI. Poorer stooling outcomes were twice as common in children with local pelvic MRI abnormalities as compared to asymptomatic children. The highest incidence of local abnormalities were seen in patients treated with APPT ($P = 0.0001$). No significant difference in the pelvic MRI was seen among children who were constipated and those who had soiling. CONCLUSION: MRI is a useful imaging modality in operated children of ARM with poor stooling outcomes. Local abnormalities were the most common in children undergoing abdominoperineal pull-through procedure.

111: Ranjan R, Singh L, Nath D, Sable MN, Malhotra N, Bhatla N, Kumar S, Datta Gupta S. Uterine Adenomatoid Tumors: A Study of Five Cases Including Three Cases of the Rare Leiomyoadenomatoid Variant. *J Obstet Gynaecol India*. 2015 Jul;65(4):255-8. doi: 10.1007/s13224-014-0557-9. Epub 2014 Aug 29. PubMed PMID: 26243993; PubMed Central PMCID: PMC4518008.

OBJECTIVE: Adenomatoid tumor is a benign neoplasm of mesothelial origin encountered most often in the male and female genital tracts. This tumor has a distinct morphology and is characterized by anastomosing and variably sized tubules lined by epithelioid and flattened cells. Only 4 cases of the extremely rare leiomyoadenomatoid variant are on record. We report 5 cases of adenomatoid tumor including 3 cases of leiomyoadenomatoid tumor of the uterus, which is an extremely rare variant of adenomatoid tumor, difficult to recognize on morphology.

METHOD: A detailed histopathological review of all the uterine tumor diagnosed as fibroid and adenomatoid tumor over the period of 4 years was done.

RESULTS: A total of 5 cases of adenomatoid tumor were documented including 3 cases of leiomyoadenomatoid variant.

CONCLUSION: Leiomyoadenomatoid variant of adenomatoid tumor often missed both on imaging and histopathological examination and hence needs to be recognized as a distinct morphological entity.

112: Rathore S, Datta G, Kaur I, Malhotra P, Mohammed A. Disruption of cellular homeostasis induces organelle stress and triggers apoptosis like cell-death pathways in malaria parasite. *Cell Death Dis*. 2015 Jul 2;6:e1803. doi: 10.1038/cddis.2015.142. PubMed PMID: 26136076.

A regulated protein turnover machinery in the cell is essential for effective cellular homeostasis; any interference with this system induces cellular stress and alters the normal functioning of proteins important for cell survival. In this study, we show that persistent cellular stress and organelle dysfunction because of disruption of cellular homeostasis in human malaria parasite *Plasmodium falciparum*, leads to apoptosis-like cell death. Quantitative global proteomic analysis of the stressed parasites before onset of cell death, showed upregulation of a number of proteins involved in cellular homeostasis; protein network analyses identified upregulated metabolic pathways that may be associated with stress tolerance and pro-survival mechanism. However, persistent stress on parasites cause structural abnormalities in endoplasmic reticulum and mitochondria, subsequently a cascade of reactions are initiated in parasites including rise in cytosolic calcium levels, loss of mitochondrial membrane potential and activation of VAD-FMK-binding proteases. We further show that activation of VAD-FMK-binding proteases in the parasites leads to degradation of phylogenetically conserved protein, TSN (Tudor staphylococcal nuclease), a known target of metacaspases, as well as degradation of other components of spliceosomal complex. Loss of spliceosomal machinery impairs the mRNA splicing, leading to accumulation of unprocessed RNAs in the parasite and thus dysregulate vital cellular functions, which in turn leads to execution of apoptosis-like cell

death. Our results establish one of the possible mechanisms of instigation of cell death by organelle stress in Plasmodium.

113: Rewari V, Sabapathy S, Ramachandran R. Giant maxillary hemangioma in a child-Ketamine to the rescue. *Acta Anaesthesiol Taiwan*. 2015 Sep;53(3):114-5. doi: 10.1016/j.aat.2015.07.005. Epub 2015 Jul 30. PubMed PMID: 26306477.

114: Roy S, Madan R, Gogia A, Tripathy K, Sharma D, Julka PK, Rath GK. Short course palliative radiotherapy in the management of choroidal metastasis: An effective technique since ages. *J Egypt Natl Canc Inst*. 2015 Jul 31. pii: S1110-0362(15)00061-8. doi: 10.1016/j.jnci.2015.07.003. [Epub ahead of print] PubMed PMID: 26239538.

PURPOSE: Uveal tract is the most common site of intra-ocular metastasis. Overall, the reported prevalence of clinically evident uveal metastases in patients with cancer ranges from 2% to 9%, with the majority of the cases being due to breast cancer. We aimed at evaluating the role of palliative radiotherapy in the management of choroidal metastasis from carcinoma breast.

MATERIALS AND METHODS: We describe the clinico-pathologic features, treatment and outcome of ten patients of carcinoma breast who presented to the ophthalmology department at our institution with ocular symptoms attributable to choroidal metastasis.

RESULTS: Nine of the patients were female while one was male. All of them presented with painless progressive diminution of vision. Median duration of symptoms was 2.25months. Five patients had associated lung metastasis while bone and brain metastases were seen in three and two patients respectively. All of them received palliative radiotherapy (RT) to the involved eye (or eye+brain) by 3D-CRT (n=7), or 2 Dimensional technique (n=2) or electron therapy (n=1). Doses prescribed were 30Gy/10#/2weeks (n=8); 20Gy/5 #/1week (n=2). Simultaneously they received hormonal therapy (n=6) or systemic chemotherapy (n=3). After a median follow up of 18months seven patients had complete resolution and two patients had partial resolution of the metastases.

CONCLUSION: Short course palliative radiation therapy is an effective modality for the management of choroidal metastasis in patients of carcinoma breast. In the current report it led to formidable local control with acceptable radiation induced toxicity.

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115: Saha S, Saini S, Makharia GK, Datta Gupta S, Goswami R. Prevalence of coeliac disease in idiopathic hypoparathyroidism and effect of gluten-free diet on calcaemic control. *Clin Endocrinol (Oxf)*. 2015 Jul 6. doi: 10.1111/cen.12850. [Epub ahead of print] PubMed PMID: 26147910.

BACKGROUND: Patients with idiopathic hypoparathyroidism (IH) require variable doses of calcium and 1- α -(OH)D. The reasons for such variability are not clear. As autoimmune mechanisms may play a role in IH, there is a possibility of coexistent coeliac disease with calcium/vitamin D malabsorption.

OBJECTIVE: We assessed the prevalence of coeliac disease and antitissue transglutaminase autoantibodies (anti-tTGAb) in IH and analysed the effect of a gluten-free diet on calcaemic control.

METHOD: A total of 171 patients with IH and 126 healthy controls were screened for anti-tTGAb. IH patients with anti-tTGAb >20 RU/ml underwent duodenoscopy and intestinal biopsy; those with biopsy-proven coeliac disease were followed up on a gluten-free diet.

RESULTS: Eleven of 171 (6.4%) patients with IH and seven of 126 (5.6%) controls had anti-tTGAb (P = 0.81). There was no difference in the clinical and

biochemical parameters at diagnosis and during long-term follow-up of 7.2 ± 4.8 year (mean serum total calcium = 1.88 ± 0.16 vs 1.82 ± 0.36 mmol/l, $P = 0.52$; phosphorus = 1.81 ± 0.17 vs 1.87 ± 0.36 mmol/l, $P = 0.53$) in IH patients with and without anti-tTGAb. Although CaSRAb positivity was comparable in the two groups, IH patients with anti-tTGAb had higher TPOAb positivity (45.5% vs 12.8%, $P = 0.02$). Coeliac disease was diagnosed in only 2/9 patients with IH on biopsy, both of whom showed improved calcaemic control with a gluten-free diet.

CONCLUSION: The prevalence of coeliac autoimmunity (6.4%) and coeliac disease (1.2%) in patients with IH seems to be similar to that in the general population. Notwithstanding this modest prevalence, it is important to be aware of the potential occurrence of coeliac disease with IH and the beneficial effect of a gluten-free diet on calcium control.

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116: Sahi PK, Gupta N. Pharmacogenetics of Asthma. *Indian J Pediatr.* 2015 Sep;82(9):773-4. doi: 10.1007/s12098-015-1832-1. Epub 2015 Jul 7. PubMed PMID: 26144568.

117: Sahu MK, Manikala VK, Singh SP, Bisoi AK, Chowdhury UK. Use of dexmedetomidine as an adjunct in the treatment of paradoxical hypertension after surgical repair of coarctation of the aorta in infants. *Ann Card Anaesth.* 2015 Jul-Sep;18(3):437-40. doi: 10.4103/0971-9784.159826. PubMed PMID: 26139759.

Severe persistent hypertension is seen infrequently in newborns and infants, but we came across two infants who developed severe paradoxical hypertension after successful coarctation repair. Treatment of systemic hypertension following repair of coarctation of the aorta is always challenging particularly in infants. Dexmedetomidine was used successfully as an adjunct to the established anti-hypertensive drugs in the immediate postoperative period in our cases to treat postoperative paradoxical hypertension.

118: Saxena A. Evaluation of Acquired Valvular Heart Disease by the Pediatrician: When to Follow, When to Refer for Intervention? Part I. *Indian J Pediatr.* 2015 Nov;82(11):1033-41. doi: 10.1007/s12098-015-1796-1. Epub 2015 Jul 5. PubMed PMID: 26141545.

Lesions of the heart valves are the commonest acquired cardiac abnormalities seen in pediatric age group. In India, the underlying cause for most valvular diseases is chronic rheumatic heart disease (RHD). The aim of evaluation of patients with valvular heart disease is not only to make a diagnosis, but also to decide the management plan. The pediatrician or physician is usually the first health care provider to whom such patients (or their parents) report. It is therefore imperative that the general physician and pediatricians are well versed with valvular heart diseases. Valvular abnormalities produce characteristic murmurs and a bedside diagnosis is possible in majority. However, further investigations such as X ray of the chest and an ECG are useful tools to refine the diagnosis. Echocardiography is now widely available to most of the patients in India and is very useful for assessing the severity of valve lesion and to identify the underlying etiology. Serial echocardiography is instrumental in deciding the timing of intervention. Mitral valve is most commonly affected followed by aortic; in some patients both valves may be affected. The valve may not close properly, resulting in regurgitation of blood flow in reverse direction or does not open fully (stenosis). In mitral regurgitation (MR), the blood flows in the reverse direction. MR can occur secondary to several causes, but in India, the commonest cause is RHD. Patient may remain asymptomatic for a long period of time. Symptoms include fatigue, palpitations and later exertional breathlessness.

MR typically produces a pansystolic murmur at apex, which may radiate to left axilla. Surgical intervention is reserved for all symptomatic patients with severe MR. Valve repair is preferred over prosthetic valve replacement. Mitral stenosis (MS) is almost always due to RHD. Severe MS results in pulmonary hypertension, right ventricular failure and tricuspid regurgitation. Patients are often symptomatic with dyspnea. Hemoptysis may occur. A typical rumbling mid diastolic murmur is the hallmark of MS. Balloon mitral valvotomy, performed in the catheterization lab, is recommended for severe MS.

119: Saxena A. Evaluation of Acquired Valvular Heart Disease by the Pediatrician: When to Follow, When to Refer for Intervention? Part II. *Indian J Pediatr.* 2015 Nov;82(11):1042-9. doi: 10.1007/s12098-015-1804-5. Epub 2015 Jul 4. PubMed PMID: 26138578.

Lesions of the heart valves are the commonest acquired cardiac abnormalities seen in pediatric age group. Aortic regurgitation (AR) results from abnormality of the valve leaflets or of the aortic root. Mitral valve lesion may be associated in patients with rheumatic heart disease (RHD). Left ventricle dilates and may develop dysfunction in advanced states. Coronary perfusion also tends to suffer in severe AR. The symptoms develop later and include dyspnea and palpitations. An early diastolic, high pitched murmur, best heard at base of the heart is the hallmark of AR. All symptomatic patients with severe AR and those with left ventricular dysfunction should undergo surgical intervention. Aortic stenosis (AS) is often due to congenitally bicuspid or unicuspid valve. RHD rarely results in AS; associated AR is common in such cases. The most common cause of tricuspid valve involvement is secondary to dilatation of right ventricle and tricuspid annulus resulting in tricuspid regurgitation (TR). Rarely RHD affects the tricuspid valve directly; resulting in stenosis with TR. Involvement of both mitral and aortic valves is almost pathognomonic of RHD etiology. Severity of individual lesions may be difficult to ascertain as proximal valve lesion tends to modify the assessment of the distal valve lesion. It is important to understand that all valvular lesions do not require surgery. Regular secondary prophylaxis with long acting penicillin (for patients with RHD) may retard further progression of valve lesion and must be emphasized to the family. For mild and asymptomatic moderate valvular lesions, periodic monitoring with clinical examination and echocardiography is sufficient. No guidelines are available for timing of intervention in such children; data may have to be extrapolated from published guidelines for adult patients. Various types of surgical options are available for regurgitant valves, but none is ideal. The pediatricians are required to have knowledge of valvular diseases so as to refer the patient at an appropriate time for intervention or further evaluation. His/her role is also crucial in follow up of post operated patients, especially those on oral anticoagulation.

120: Saxena R, Phuljhele S, Sharma P, Pinto CN. Periosteal Fixation Procedures in the Management of Incomitant Strabismus. *Middle East Afr J Ophthalmol.* 2015 Jul-Sep;22(3):320-6. doi: 10.4103/0974-9233.159736. Review. PubMed PMID: 26180470; PubMed Central PMCID: PMC4502175.

Managing a case of incomitant strabismus from nerve palsy or extraocular muscle loss is a major challenge. Among possible management options are globe or extraocular muscle fixation to the orbital wall coupled with weakening or strengthening of the relevant antagonist. Extraocular muscle fixation to the orbital wall can also be used in cases of abnormal synkinesis to eliminate the abnormal eye movements of a misfiring extraocular muscle, which thereby allows the use of standard paralytic strabismus surgery techniques. This review article summarizes indications and techniques of periosteal fixation procedures for incomitant strabismus.

121: Saxena R, Vashist P, Singh D, Tandon R. Preventing Childhood Blindness: Synergy Between Ophthalmology and Community Medicine. *Indian J Community Med.* 2015 Jul-Sep;40(3):149-51. doi: 10.4103/0970-0218.158841. PubMed PMID: 26170536; PubMed Central PMCID: PMC4478653.

122: Saxena R, Kumar MV, Kumar S, Gharde P, Talwar S, Choudhary SK. Thrombus in the Proximal Aorta: Cardiopulmonary Bypass Strategy and Surgical Management. *Ann Thorac Surg.* 2015 Jul;100(1):311-3. doi: 10.1016/j.athoracsur.2014.07.078. PubMed PMID: 26140777.

123: Seth R, Selvam P, Jain R, Gosh R, Arun J, Lodha R. Langerhans cell histiocytosis in a pediatric HIV patient. *Virusdisease.* 2015 Sep;26(3):200-2. doi: 10.1007/s13337-015-0262-z. Epub 2015 Jul 28. PubMed PMID: 26396988; PubMed Central PMCID: PMC4571586.

Children infected with human immunodeficiency virus (HIV) have an increased risk of malignancies. Herein, we present a 16 month old HIV infected child receiving antiretroviral therapy who presented with pain and swelling of both knees and ankles. This child was diagnosed as Langerhans cell histiocytosis (LCH) which is an uncommon proliferative disorder rarely reported in a HIV patient. The child was treated with chemotherapy and is well clinically. Infiltrative disorders like LCH should be kept among the differential diagnosis of bony pain and swelling in HIV infected children.

124: Shah DM, Arora M, Trikha A, Prasad G, Sunder R, Kotwal P, Singh PM. Comparison of dexamethasone and clonidine as an adjuvant to 1.5% lignocaine with adrenaline in infraclavicular brachial plexus block for upper limb surgeries. *J Anaesthesiol Clin Pharmacol.* 2015 Jul-Sep;31(3):354-9. doi: 10.4103/0970-9185.161672. PubMed PMID: 26330715; PubMed Central PMCID: PMC4541183.

BACKGROUND AND AIMS: The role of clonidine as an adjuvant to regional blocks to hasten the onset of the local anesthetics or prolong their duration of action is proven. The efficacy of dexamethasone compared to clonidine as an adjuvant is not known. We aimed to compare the efficacy of dexamethasone versus clonidine as an adjuvant to 1.5% lignocaine with adrenaline in infraclavicular brachial plexus block for upper limb surgeries.

MATERIAL AND METHODS: Fifty three American Society of Anaesthesiologists-I and II patients aged 18-60 years scheduled for upper limb surgery were randomized to three groups to receive 1.5% lignocaine with 1:200,000 adrenaline and the study drugs. Group S (n = 13) received normal saline, group D (n = 20) received dexamethasone and group C (n = 20) received clonidine. The time to onset and peak effect, duration of the block (sensory and motor) and postoperative analgesia requirement were recorded. Chi-square and ANOVA test were used for categorical and continuous variables respectively and Bonferroni or post-hoc test for multiple comparisons. $P < 0.05$ was considered significant.

RESULTS: The three groups were comparable in terms of time to onset and peak action of motor and sensory block, postoperative analgesic requirements and pain scores. 90% of the blocks were successful in group C compared to only 60% in group D ($P = 0.028$). The duration of sensory and motor block in group S, D and C were 217.73 ± 61.41 min, 335.83 ± 97.18 min and 304.72 ± 139.79 min and 205.91 ± 70.1 min, 289.58 ± 78.37 min and 232.5 ± 74.2 min respectively. There was significant prolongation of sensory and motor block in group D as compared to group S ($P < 0.5$). Time to first analgesic requirement was significantly more in groups C and D as compared with group S ($P < 0.5$). Clinically significant complications were absent.

CONCLUSIONS: We conclude that clonidine is more efficacious than dexamethasone as

an adjuvant to 1.5% lignocaine in brachial plexus blocks.

125: 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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126: Sharan P, Sundar AS. Eating disorders in women. *Indian J Psychiatry.* 2015 Jul;57(Suppl 2):S286-95. doi: 10.4103/0019-5545.161493. Review. PubMed PMID: 26330646; PubMed Central PMCID: PMC4539873.

Eating disorders, especially anorexia nervosa and bulimia nervosa have been classically described in young females in Western population. Recent research shows that they are also seen in developing countries including India. The classification of eating disorders has been expanded to include recently described conditions like binge eating disorder. Eating disorders have a multifactorial etiology. Genetic factor appear to play a major role. Recent advances in neurobiology have improved our understanding of these conditions and may possibly help us develop more effective treatments in future. Premorbid personality appears to play an important role, with differential predisposition for individual disorders. The role of cultural factors in the etiology of these conditions is debated. Culture may have a pathoplastic effect leading to non-conforming presentations like the non fat-phobic form of anorexia nervosa, which are commonly reported in developing countries. With rapid cultural transformation, the classical forms of these conditions are being described throughout the world. Diagnostic criteria have been modified to accommodate for these myriad presentations. Treatment of eating disorders can be quite challenging, given the dearth of established treatments and poor motivation/insight in these conditions. Nutritional rehabilitation and psychotherapy remains the mainstay of treatment, while pharmacotherapy may be helpful in specific situations.

127: Sharma BS, Sawarkar DP. Vasospasm: The enigma of subarachnoid hemorrhage. *Neurol India.* 2015 Jul-Aug;63(4):483-5. doi: 10.4103/0028-3886.161982. PubMed PMID: 26238878.

128: 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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129: Sharma G, Singh R, Gn KK, Jain V, Gupta A, Gamanagatti S, Farooque K, Sharma V. Which AO/OTA 31-A2 pertrochanteric fractures can be treated with a dynamic hip screw without developing a lateral wall fracture? A CT-based study. *Int Orthop*. 2015 Jul 4. [Epub ahead of print] PubMed PMID: 26141048.

PURPOSE: To determine whether radiographic measurements derived from standard computed tomography (CT) evaluation can be used to predict likelihood of a peri-operative lateral femoral wall fracture in AO/OTA 31-A2 pertrochanteric fractures treated with a dynamic hip screw (DHS).

METHODS: Fifty-one patients with AO/OTA 31-A2 classified pertrochanteric fractures were evaluated using a pre-operative CT scan of the pelvis with both hips. Dimensions of the lateral wall were calculated for each patient using four parameters: (1) height of the lateral wall above the vastus ridge; (2) circumference of the lateral wall 2 cm below the vastus ridge at an angle of 135°; this circumference was further divided into an anterior, lateral and posterior component; (3) cortical thickness at the centre of the lateral component of the lateral wall; and (4) cortical index. All patients were treated with a 135° DHS. Postoperative radiographs were assessed for lateral femoral wall fracture.

RESULTS: Patients with a lateral wall fracture (17/51) had a smaller circumference (4.47 cm vs 5.44 cm p value<0.001) as well as a lower height of the lateral femoral wall (1.37 cm vs 2.21 p value<0.001). Analysis of the three components of the circumference revealed a significant difference for the anterior component only and not for the lateral and posterior components. There was no statistical difference in the cortical thickness or cortical index in the two groups. The cutoff values for height of the lateral wall and anterior component were calculated using ROC curves and found to be 1.68 cm (AUC 0.918) and 2.10 cm (AUC 0.851) respectively.

CONCLUSION: AO/OTA 31-A2 pertrochanteric fractures with a lateral wall height of > 1.68 cm and an anterior component of > 2.10 cm in circumference are not likely to sustain a lateral wall fracture when treated with a DHS.

130: Sharma P, Kumar R, Alavi A. PET/Computed Tomography Using New Radiopharmaceuticals in Targeted Therapy. *PET Clin*. 2015 Oct;10(4):495-505. doi: 10.1016/j.cpet.2015.05.007. Epub 2015 Jul 3. Review. PubMed PMID: 26384596.

Targeted therapy is gaining prominence in the management of different cancers. Given different mechanism of action compared with traditional chemoradiotherapy, selection of patients for targeted therapy and monitoring response to these agents is difficult with conventional imaging. Various new PET radiopharmaceuticals have been evaluated for molecular imaging of these targets to achieve specific patient selection and response monitoring. These PET/computed tomography (CT) agents target the cell surface receptors, hormone receptors, receptor tyrosine kinases, or angiogenesis components. This article reviews the established and potential role of PET/CT with new radiopharmaceuticals for guiding targeted therapy.

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131: Sharma P, Mukherjee A, Karunanithi S, Naswa N, Kumar R, Ammini AC, Bal C. Accuracy of ^{68}Ga DOTANOC PET/CT Imaging in Patients With Multiple Endocrine Neoplasia Syndromes. *Clin Nucl Med*. 2015 Jul;40(7):e351-6. doi: 10.1097/RLU.0000000000000775. PubMed PMID: 25783509.

OBJECTIVE: The aim of this study was to evaluate the role of ^{68}Ga DOTANOC PET/CT imaging in patients with multiple endocrine neoplasia (MEN) syndromes.

PATIENTS AND METHODS: Data of 33 patients (age, 33.5 [13.8] years; male 14/female 19) with MEN syndromes (MEN 1, 9; MEN 2A, 19; MEN 2B, 5) who underwent 41 ^{68}Ga DOTANOC PET/CT studies were retrospectively analyzed. Twenty PET/CTs were done for staging and 21 for restaging. PET/CT images were evaluated in consensus by 2 nuclear medicine physicians, qualitatively and semiquantitatively (SUV(max)). A combination of histopathology, clinical, and biomarker follow-up was taken as reference standard.

RESULTS: Of the total 41 ^{68}Ga DOTANOC PET/CTs, 34 were interpreted as positive for neuroendocrine tumors (NETs) and 7 as negative. The patientwise sensitivity of PET/CT was 94% (95% confidence interval [CI], 80-99), specificity was 71% (95% CI, 29-96), positive predictive value was 94% (95% CI, 80-99), negative predictive value was 71% (95% CI, 29-96), and accuracy was 90%. A total of 74 disease sites were demonstrated on PET/CT, including 41 primary NETs (pancreas, 10; stomach, 2; pheochromocytoma, 10; medullary thyroid carcinoma, 19), 31 metastatic sites (lymph node, 15; liver, 10; bone, 4; lung, 1; breast, 1), and 2 parathyroid adenomas. Lesionwise sensitivity, positive predictive value, and accuracy of PET/CT were 93%, 96%, and 90% overall, 89%, 95%, and 85% for primary tumors, and 100%, 97%, and 97% for metastasis, respectively. Among primary tumors, the SUV(max) of medullary thyroid carcinoma was significantly lower than gastro pancreatic NETs ($P = 0.003$) and pheochromocytomas ($P = 0.003$). No site-specific difference was seen in SUV(max) of metastatic lesions.

CONCLUSIONS: ^{68}Ga DOTANOC PET/CT shows high diagnostic accuracy in MEN syndrome and can demonstrate both primary and metastatic NETs in these patients.

132: Sharma S. Newer imaging modalities in urology. *Indian J Urol*. 2015 Jul-Sep;31(3):168-9. doi: 10.4103/0970-1591.159597. PubMed PMID: 26166958; PubMed Central PMCID: PMC4495489.

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

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

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

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

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

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

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

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

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

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

135: Sharma SK, Katoch VM, Mohan A, Kadhiravan T, Elavarasi A, Ragesh R, Nischal N, Sethi P, Behera D, Bhatia M, Ghoshal AG, Gothi D, Joshi J, Kanwar MS, Kharbanda OP, Kumar S, Mohapatra PR, Mallick BN, Mehta R, Prasad R, Sharma SC, Sikka K, Aggarwal S, Shukla G, Suri JC, Vengamma B, Grover A, Vijayan VK, Ramakrishnan N, Gupta R. Consensus and evidence-based Indian initiative on obstructive sleep apnea guidelines 2014 (first edition). *Lung India*. 2015 Jul-Aug;32(4):422-34. doi: 10.4103/0970-2113.159677. PubMed PMID: 26180408; PubMed Central PMCID: PMC4502224.

Obstructive sleep apnea (OSA) and obstructive sleep apnea syndrome (OSAS) are subsets of sleep-disordered breathing. Awareness about OSA and its consequences among the general public as well as the majority of primary care physicians across India is poor. This necessitated the development of the Indian initiative on obstructive sleep apnea (INOSA) guidelines under the auspices of Department of Health Research, Ministry of Health and Family Welfare, Government of India. OSA is the occurrence of an average five or more episodes of obstructive respiratory events per hour of sleep with either sleep-related symptoms or co-morbidities or ≥ 15 such episodes without any sleep-related symptoms or co-morbidities. OSAS is

defined as OSA associated with daytime symptoms, most often excessive sleepiness. Patients undergoing routine health check-up with snoring, daytime sleepiness, obesity, hypertension, motor vehicular accidents, and high-risk cases should undergo a comprehensive sleep evaluation. Medical examiners evaluating drivers, air pilots, railway drivers, and heavy machinery workers should be educated about OSA and should comprehensively evaluate applicants for OSA. Those suspected to have OSA on comprehensive sleep evaluation should be referred for a sleep study. Supervised overnight polysomnography is the "gold standard" for evaluation of OSA. Positive airway pressure (PAP) therapy is the mainstay of treatment of OSA. Oral appliances (OA) are indicated for use in patients with mild to moderate OSA who prefer OA to PAP, or who do not respond to PAP or who fail treatment attempts with PAP or behavioral measures. Surgical treatment is recommended in patients who have failed or are intolerant to PAP therapy.

136: Sharma VK, Pai G, Deswarte C, Lodha R, Singh S, Kang LW, Yin CC, Casanova JL, Bustamante J, Kabra SK. Disseminated Mycobacterium avium complex infection in a child with partial dominant interferon gamma receptor 1 deficiency in India. *J Clin Immunol*. 2015 Jul;35(5):459-62. doi: 10.1007/s10875-015-0173-1. Epub 2015 Jun 9. PubMed PMID: 26054576.

Mendelian susceptibility to mycobacterial disease (MSMD) is a rare condition characterized by clinical disease caused by weakly virulent mycobacteria. All genes mutated in MSMD patients are involved in IFN- γ immunity. Autosomal partial dominant (PD) interferon- γ receptor 1 (IFN- γ R1) deficiency is the most frequent abnormality affecting the group of MSMD patients leading to impaired response of IFN- γ . We describe here a patient from India with disseminated infection due to Mycobacterium avium intracellulare (MAC) including multifocal osteomyelitis and BCG disease. A heterozygous mutation in exon 6 of IFNGR1 gene was identified, conferring an autosomal PD IFN- γ R1 deficiency. Patient had recurrence of mycobacterial disease during antibiotic therapy for which subcutaneous IFN- γ was added as a modality of treatment for resistant MAC infection.

137: Shrivastava N, Singh P, Seth A, Dogra PN, Kumar R. Device Malfunction with the da Vinci S Surgical System and Impact on Surgical Procedures: Could Device Aging be Responsible? *Eur Urol*. 2015 Nov;68(5):914-5. doi: 10.1016/j.eururo.2015.07.014. Epub 2015 Jul 22. PubMed PMID: 26209035.

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

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

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

RESULTS: The average age of patients was 62.6 \pm 9.8 years and 61.2 \pm 8.1 years in Group 1 and 2, respectively; p=0.57. The mean preoperative IOP was 22.5 \pm 1.4 mmHg and 23.3 \pm 1.8 mmHg; p=0.10. The mean IOP at 2 years was 11.1 \pm 1.6 mmHg

and 10.8 ± 2.8 mmHg, a mean reduction in IOP of 50.6 ± 1.23 %, and 53.7 ± 2.25 % in Group I and II, respectively. The complete success was 92.0 % and 91.7 % in the two groups, respectively ($p=0.99$), and there was one failure (Group II, post trauma). A wider bleb extent and larger areas of thin, transparent conjunctiva over the bleb were seen with the 0.2 mg/ml MMC group ($p<0.001$) and in PACG eyes; $p<0.04$.

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

139: Singh HN, Rajeswari MR. Role of long purine stretches in controlling the expression of genes associated with neurological disorders. *Gene*. 2015 Nov 10;572(2):175-83. doi: 10.1016/j.gene.2015.07.007. Epub 2015 Jul 3. PubMed PMID: 26149656.

Purine repeat sequences present in the human genome are known to act as hotspots for mutations leading to chromosomal imbalances. It is established that large purine repeats (PRs) form stable DNA triplex structure which can inhibit gene expression. Friedreich's ataxia (FRDA), the autosomal neurodegenerative disorder is the only human disease known so far, where a large purine (GAA) repeat in the FXN gene is known to inhibit the expression of frataxin protein. We explored the hidden purine repeats (PRn with $n \geq 200$) if any, in the human genome to find out how they are associated with neurological disorders. The results showed 28 PRs, which are mostly restricted to the intronic regions. Interestingly, the transcriptome expression analysis of PR-carrying genes (PR-genes) revealed that most of them are down-regulated in neurological disorders (autism, Alzheimer's disease, schizophrenia, epilepsy, mental retardation, Parkinson's disease, brain tumor) as compared to that in healthy controls. The altered gene expression in brain disorders can be interpreted in terms of a possible expansion of purine repeats leading to formation of very stable DNA-triplex and/or alleviation of the repair enzymes and/or other unknown cellular factors. Interactome analysis identified four PR-genes in signaling pathways whose dysregulation is correlated directly with pathogenesis: GRK5 and KLK6 in Alzheimer's disease; FGF14 in craniosynostosis, mental retardation and FLT1 in neuroferritinopathy. By virtue of being mutational hotspots and their ability to form DNA-triplex, purine repeats in genome disturb the genome integrity and interfere with the transcriptional regulation. However, validation of the disease linkage of PR-genes can be validated using knock-out techniques.

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140: Singh L, Ranjan R, Madan R, Arava SK, Deepak RK, Singh MK. Microvessel density and Ki-67 labeling index in esthesioneuroblastoma: is there a prognostic role? *Ann Diagn Pathol*. 2015 Jul 18. pii: S1092-9134(15)00112-4. doi: 10.1016/j.anndiagpath.2015.06.008. [Epub ahead of print] PubMed PMID: 26343569.

Esthesioneuroblastoma (ENB) is a malignant neuroectodermal tumor. Hyams grading has an established role in its prognostication. The importance of microvessel density (MVD) and Ki-67 labeling index (Ki-67 LI) is well studied in various tumors, but the same remains understated in ENB. The aims of the study were to estimate proliferation index and MVD in ENB and to correlate them with Hyams grade. Twenty-six ENB cases diagnosed over a period of 5 years were included. Hyams grade, MVD, and Ki-67 LI were evaluated for each of them. The cases were categorized as low (Hyams grades 1 and 2) and high (Hyams grades 3 and 4) grades. Microvessel density and Ki-67 LI were correlated with grade. The treatment

response was analyzed in different grades. The commonest histologic grade was 4 (42%). The mean Ki-67 LI was 2%, 8.2%, 30.8%, and 40.5% and mean MVD was 81.67/mm², 37/mm², 24/mm², and 25.2/mm² in grades 1, 2, 3, and 4, respectively. A statistically significant correlation of grade with Ki-67 LI ($P < .001$) and MVD ($P < .007$) was noted. Hyams grade in ENB correlates well with treatment response. Ki-67 LI is an important prognostic factor in ENB. We propose a cutoff of 25% for Ki-67 LI to differentiate low- vs high-grade ENB, but larger studies are needed for validation. Contrary to epithelial tumors, there is a decrease in MVD with increasing grade in ENB.

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141: Singh L, Saini N, Bakhshi S, Pushker N, Sen S, Sharma A, Kaur J, Kashyap S. Prognostic significance of mitochondrial oxidative phosphorylation complexes: Therapeutic target in the treatment of retinoblastoma. *Mitochondrion*. 2015 Jul;23:55-63. doi: 10.1016/j.mito.2015.06.001. Epub 2015 Jun 10. PubMed PMID: 26071002.

PURPOSE: Altered energy metabolism plays an important role in the development and progression of cancer. The objective of this study was to elucidate the role of mitochondrial oxidative phosphorylation complexes and their prognostic significance in retinoblastoma (Rb).

METHODS: Immunohistochemistry was performed on 109 primary enucleated retinoblastoma tissues for mitochondrial OXPHOS complexes and their expression was confirmed by western blotting.

RESULTS: Histopathological high risk factors (HRFs) were identified in 42.2% cases. Mitochondrial OXPHOS complexes III, IV and V were expressed in more than 50% of primary retinoblastoma cases each whereas mitochondrial complex I was expressed in only 29/109 (26.60%) cases by immunohistochemistry. Loss of mitochondrial complex I correlated well with poor tumor differentiation and tumor invasion ($p < 0.05$) whereas expression of mitochondrial complexes III, IV and V was associated with better survival (Kaplan-Meier method).

CONCLUSIONS: This was the first study predicting a relevant role of mitochondrial OXPHOS complexes and highlights the prognostic significance with patient outcome in retinoblastoma. Loss of mitochondrial complex I immunorexpression could prove to be a useful independent prognostic biomarker to identify high risk retinoblastoma patients. Differential expression of these mitochondrial complexes is a novel finding and may be used as an attractive future anticancer target in primary retinoblastoma tumors.

FINANCIAL DISCLOSURE: The author(s) have no proprietary or commercial interest in any materials discussed in this article.

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142: Singh M, Sawarkar D, Sharma BS. Neurosurgery at All India Institute of Medical Sciences, a center of excellence: A success story. *Neurol India*. 2015 Jul-Aug;63(4):589-96. doi: 10.4103/0028-3886.162065. PubMed PMID: 26238896.

The department of neurosurgery at All India Institute of Medical Sciences (AIIMS) started its humble beginning in 1965. With the untiring and selfless hard work of Prof. P N Tandon and Prof. A K Banerji, the department progressed over time to become a center of excellence in the subcontinent. To establish a neurosciences center at AIIMS was an uphill task, which was accomplished with great efforts. The department has established itself as one of the highest centers of learning in the country with its vast infrastructure and diversity in all fields of neurosurgery. AIIMS, New Delhi was established by an act of the parliament in 1956. It was started with a grant from the Government of New Zealand under the "Colombo Plan." It was the vision of Rajkumari Amrita Kaur, the first Health

Minister of India, that led to the establishment of a medical institute of international repute in India. AIIMS, New Delhi is an autonomous institute and is governed by the AIIMS Act, 1956. The department of neurosurgery at AIIMS was started in March 1965 with Prof. P.N. Tandon as the Head of the Department. Prof. A.K. Banerji joined him a few months later. The Department celebrated its golden jubilee in the year 2015, and has tremendously grown in stature from its humble beginnings to being a center of excellence with world-wide recognition.

143: Singh N, Usha BR, Malik N, Malhotra N, Pant S, Vanamail P. Three-dimensional sonography-based automated volume calculation (SonoAVC) versus two-dimensional manual follicular tracking in in vitro fertilization. *Int J Gynaecol Obstet.* 2015 Nov;131(2):166-9. doi: 10.1016/j.ijgo.2015.04.045. Epub 2015 Jul 23. PubMed PMID: 26341173.

OBJECTIVE: To compare the predictive value of manual two-dimensional follicular monitoring with that of sonography-based automated volume calculation (SonoAVC) in routine follicular tracking in in vitro fertilization (IVF).

METHODS: A prospective study was undertaken of women undergoing IVF with controlled ovarian hyperstimulation at a center in New Delhi, India, between October and November 2013. Follicular monitoring was performed both manually and in three dimensions with SonoAVC. On the day of oocyte retrieval, the follicular count and dimensions were calculated with both techniques and correlated with the number of oocytes retrieved.

RESULTS: Overall, 46 patients and 91 ovaries were studied. The mean times taken to perform manual and SonoAVC measurements were 209.2 ± 47.4 s and 156.6 ± 38.6 s, respectively ($P < 0.001$). The mean follicular count was significantly lower when measured manually than with SonoAVC (8.46 ± 3.35 vs 9.91 ± 4.60 ; $P = 0.016$). However, the mean leading follicle diameter measured manually (19.45 ± 2.46 mm) was similar to both the mean diameter (21.12 ± 2.65 mm) and the volume-based diameter (19.56 ± 2.16 mm) measured with SonoAVC.

CONCLUSION: Three-dimensional SonoAVC could be a useful adjunct for follicular monitoring, with a significant reduction in time and a good correlation with manual counts. However, further studies with larger sample sizes are required.

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144: Singh N, Kumar R, Malhotra A, Bhalla AS, Kumar U, Sood R. Diagnostic utility of fluorodeoxyglucose positron emission tomography/computed tomography in pyrexia of unknown origin. *Indian J Nucl Med.* 2015 Jul-Sep;30(3):204-12. doi: 10.4103/0972-3919.158528. PubMed PMID: 26170562; PubMed Central PMCID: PMC4479908.

PURPOSE OF THE STUDY: The present study was undertaken to evaluate the diagnostic utility of fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography (F-18 FDG PET/CT) in patients presenting as pyrexia of unknown origin (PUO).

MATERIALS AND METHODS: Forty-seven patients (31 males and 16 females; mean age of 42.7 ± 19.96 years) presenting as PUO to the Department of Medicine at the All India Institute of Medical Sciences, New Delhi over a period of 2 years underwent F-18 FDG PET/CT. PET / CT was considered supportive when its results correlated with the final definitive diagnosis. Final diagnosis was made on the basis of combined evaluation of history, clinical findings, investigations, and response to treatment.

RESULTS: Thirty-five PET/CT studies (74.5%) were positive. However, only 18 (38.3%) were supportive of the final diagnosis. In three patients (6.4%), PET/CT was considered diagnostic as none of the other investigations including contrast-enhanced computed tomography of chest and abdomen, and directed tissue sampling could lead to the final diagnosis. All these three patients were diagnosed as aortoarteritis.

CONCLUSION: Fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography is an important emerging modality in the workup of PUO. It supported the final diagnosis in 38% of our patients and was diagnostic in 6.4% of patients. Thus, PET/CT should only be considered as second-line investigation for the diagnostic evaluation of PUO; especially in suspected noninfectious inflammatory disorders.

145: 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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146: Singh S. Can Establishment of Human Microbiome be Customized After Birth with Local Traditions of First Feed and Intimate Kissing? *J Lab Physicians*. 2015 Jul-Dec;7(2):73-4. doi: 10.4103/0974-2727.163140. PubMed PMID: 26417154; PubMed Central PMCID: PMC4559631.

147: Singh SP. Hematuria in a child eight hours, postcardiac surgery. *Ann Card Anaesth*. 2015 Jul-Sep;18(3):417-8. doi: 10.4103/0971-9784.159815. PubMed PMID: 26139752.

148: Sinha B, Chowdhury R, Sankar MJ, Martines J, Taneja S, Mazumder S, Rollins N, Bahl R, Bhandari N. Interventions to Improve Breastfeeding Outcomes: Systematic Review and Meta Analysis. *Acta Paediatr*. 2015 Jul 16. doi: 10.1111/apa.13127. [Epub ahead of print] PubMed PMID: 26183031.

AIM: To provide comprehensive evidence of the effect of interventions on early initiation, exclusive, continued and any breastfeeding rates when delivered in five settings: (i) Health systems and services (ii) Home and family environment (iii) Community environment (iv) Work environment (v) Policy environment or a

combination of any of above.

METHODS: Out of 23977 titles identified through a systematic literature search in PUBMED, Cochrane and CABI, 195 articles relevant to our objective, were included. We reported the pooled relative risk and corresponding 95% confidence intervals as our outcome estimate. In cases of high heterogeneity, we explored its causes by subgroup analysis and meta-regression and applied random effects model.

RESULTS: Intervention delivery in combination of settings seemed to have higher improvements in breastfeeding rates. Greatest improvements in early initiation of breastfeeding, exclusive breastfeeding and continued breastfeeding rates, were seen when counselling or education were provided concurrently in home and community, health systems and community, health systems and home settings respectively. Baby friendly hospital support at health system was the most effective intervention to improve rates of any breastfeeding.

CONCLUSION: To promote breastfeeding, interventions should be delivered in a combination of settings by involving health systems, home and family and the community environment concurrently. This article is protected by copyright. All rights reserved.

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149: Sinha R, Sharma A, Anand R, Ray BR, Singh PM. Inspired-expired oxygen gap: an alternative method for oxygen saturation monitoring in a patient with an undiagnosed hemoglobinopathy. *Paediatr Anaesth*. 2015 Jul;25(7):758-60. doi: 10.1111/pan.12619. PubMed PMID: 26053776.

150: Somasundaram V, Purohit A, Manivannan P, Saxena R. Transfusion-acquired Hemoglobinopathies: A Report of Two Cases. *J Lab Physicians*. 2015 Jul-Dec;7(2):128-30. doi: 10.4103/0974-2727.163128. PubMed PMID: 26417166; PubMed Central PMCID: PMC4559627.

Transfusion-acquired hemoglobinopathy occurs when a carrier of hemoglobinopathy with no significant abnormalities donates blood, and the blood is transfused to a recipient. This process can lead to spurious results in the recipient without any clinical abnormality or infrequently can result in disastrous situations. The incidental finding of such posttransfusion related abnormal peaks in hemoglobin high-performance liquid chromatography (Hb HPLC) may cause diagnostic dilemmas and result in unnecessary laboratory testing. Here, we report two such cases of transfusion-acquired hemoglobinopathies, which were subsequently resolved by the abnormally low percentage of the Hb variants, transient nature of the peaks, and parental Hb HPLC.

151: Soni S, Chopra A, Bakhshi S, Vishwanath A, Verma D, Rai S, Kumar R. Prognostic impact of CD56 in pediatric AML. *Int J Lab Hematol*. 2015 Jul 6. doi: 10.1111/ijlh.12402. [Epub ahead of print] PubMed PMID: 26147745.

152: Sood R. The leadership crisis of medical profession in India: Ongoing impact on the health system. *J Family Med Prim Care*. 2015 Jul-Sep;4(3):474. doi: 10.4103/2249-4863.161366. PubMed PMID: 26288795; PubMed Central PMCID: PMC4535119.

153: Sood S. Gonococcal antimicrobial resistance. *Indian J Med Microbiol*. 2015 Jul-Sep;33(3):341-2. doi: 10.4103/0255-0857.158531. PubMed PMID: 26068331.

154: Srivastava S, Kedia S, Kumar S, Pratap Mouli V, Dhingra R, Sachdev V, Tiwari V, Kurrey L, Pradhan R, Ahuja V. Serum human trefoil factor 3 is a biomarker for

mucosal healing in ulcerative colitis patients with minimal disease activity. *J Crohns Colitis*. 2015 Jul;9(7):575-9. doi: 10.1093/ecco-jcc/jjv075. Epub 2015 May 10. PubMed PMID: 25964429.

BACKGROUND: The goals of treating ulcerative colitis (UC) have shifted from clinical remission to mucosal healing. Non-invasive biomarkers are required to assess mucosal healing as endoscopic assessment is inconvenient for patients. Enhanced expression of trefoil factor 3 (TFF3, a mucin-associated peptide) is observed after injury of the gastrointestinal tract. The present study was designed to evaluate TFF3 as a biomarker of mucosal healing in patients with UC. **METHODS:** This cross-sectional study included consecutive patients with UC (18-65 years old, disease duration >3 months, either left-sided colitis or pancolitis) who had a Simple Clinical Colitis Activity Index (SCCAI) <6. Colonoscopy was done to assess the presence or absence of mucosal healing (defined using the Baron score) in all patients. Serum level of TFF3 was assessed in all patients and 20 healthy controls.

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

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

155: Talwar S, Chandra D, Choudhary SK, Airan B. Repair of coarctation of aorta with preservation of blood supply to upper limb. *Indian Heart J*. 2015 Jul-Aug;67(4):368-70. doi: 10.1016/j.ihj.2015.05.005. Epub 2015 Jul 7. PubMed PMID: 26304571; PubMed Central PMCID: PMC4561849.

In this report, we present a modified technique of extended resection and end-to-end anastomosis of aorta for repair of coarctation of aorta. The advantages of this technique are a larger tension free anastomosis without compromising the blood supply into the left subclavian artery.

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156: Tian M, Ajay VS, Dunzhu D, Hameed SS, Li X, Liu Z, Li C, Chen H, Cho K, Li R, Zhao X, Jindal D, Rawal I, Ali MK, Peterson ED, Ji J, Amarchand R, Krishnan A, Tandon N, Xu LQ, Wu Y, Prabhakaran D, Yan LL. A Cluster-Randomized, Controlled Trial of a Simplified Multifaceted Management Program for Individuals at High Cardiovascular Risk (SimCard Trial) in Rural Tibet, China, and Haryana, India. *Circulation*. 2015 Sep 1;132(9):815-24. doi: 10.1161/CIRCULATIONAHA.115.015373. Epub 2015 Jul 17. PubMed PMID: 26187183; PubMed Central PMCID: PMC4558306.

BACKGROUND: In rural areas in China and India, the cardiovascular disease burden is high but economic and healthcare resources are limited. This study (the Simplified Cardiovascular Management Study [SimCard]) aims to develop and evaluate a simplified cardiovascular management program delivered by community health workers with the aid of a smartphone-based electronic decision support system.

METHODS AND RESULTS: The SimCard study was a yearlong cluster-randomized, controlled trial conducted in 47 villages (27 in China and 20 in India).

Recruited for the study were 2086 individuals with high cardiovascular risk (aged ≥ 40 years with self-reported history of coronary heart disease, stroke, diabetes mellitus, and/or measured systolic blood pressure ≥ 160 mmHg). Participants in the intervention villages were managed by community health workers through an Android-powered app on a monthly basis focusing on 2 medication use and 2 lifestyle modifications. In comparison with the control group, the intervention group had a 25.5% ($P < 0.001$) higher net increase in the primary outcome of the proportion of patient-reported antihypertensive medication use pre- and post-intervention. There were also significant differences in certain secondary outcomes: aspirin use (net difference: 17.1%; $P < 0.001$) and systolic blood pressure (-2.7 mmHg; $P = 0.04$). However, no significant changes were observed in the lifestyle factors. The intervention was culturally tailored, and country-specific results revealed important differences between the regions. CONCLUSIONS: The results indicate that the simplified cardiovascular management program improved quality of primary care and clinical outcomes in resource-poor settings in China and India. Larger trials in more places are needed to ascertain the potential impacts on mortality and morbidity outcomes. CLINICAL TRIAL REGISTRATION: URL: <http://www.clinicaltrials.gov>. Unique identifier: NCT01503814.

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157: 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 10×5 -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.

158: Varshney M, Gupta R, Balhara YP. Yes, India has done it: Decriminalization of suicide in India. *Asian J Psychiatr*. 2015 Jul 26. pii: S1876-2018(15)00163-X. doi: 10.1016/j.ajp.2015.07.005. [Epub ahead of print] PubMed PMID: 26253554.

159: Venkatesulu BP, Pathy S, Vallonthaiel AG, Chawla B. Epithelial-myoepithelial carcinoma of lacrimal gland from an ex pleomorphic adenoma. *BMJ Case Rep*. 2015 Jul 31;2015. pii: bcr2015210795. doi: 10.1136/bcr-2015-210795. PubMed PMID: 26231189.

47-year-old man with a history of recurrent pleomorphic adenoma of the right lacrimal gland presented with rapid onset of a swelling in the right orbit. Initial imaging with CT showed that the swelling was grossly involving the extraocular muscles. Hence we had a suspicion of malignant transformation, so a radical approach in the form of right orbital exenteration with anterior skull base resection and temporalis muscle reconstruction was taken. Postoperative histology revealed epithelial-myoepithelial carcinoma, with immunopositivity for epithelial and myoepithelial components. Adjuvant radiation of 60 Gy was given with three-dimensional CT-based planning. This case portrays the importance of adjuvant treatment in recurrent pleomorphic adenoma and chance of malignant transformation in rare histologies.

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160: Vo AA, Sinha A, Haas M, Choi J, Mirocha J, Kahwaji J, Peng A, Villicana R, Jordan SC. Factors Predicting Risk for Antibody-mediated Rejection and Graft Loss in Highly Human Leukocyte Antigen Sensitized Patients Transplanted After Desensitization. *Transplantation*. 2015 Jul;99(7):1423-30. doi: 10.1097/TP.0000000000000525. PubMed PMID: 25606792.

BACKGROUND: Desensitization with intravenous immunoglobulin and rituximab (I+R) significantly improves transplant rates in highly sensitized patients, but antibody-mediated rejection (ABMR) remains a concern.

PATIENTS AND METHODS: Between July 2006 and December 2012, 226 highly sensitized patients received transplants after desensitization. Most received alemtuzumab induction and standard immunosuppression. Two groups were examined: ABMR (n = 181) and ABMR (n = 45, 20%). Risk factors for ABMR, pathology, and outcomes were assessed.

RESULTS: Significant risks for ABMR included previous transplants and pregnancies as sensitizing events, donor-specific antibody (DSA) relative intensity scores greater than 17, presence of both class I and II DSAs at transplant and time on waitlist. The ABMR showed a significant benefit for graft survival and glomerular filtration rate at 5 years (P < 0.0001). Banff pathology characteristics for ABMR patients with or without graft loss did not differ. C4d versus C4d ABMR did not predict graft loss (P = 0.086). Thrombotic microangiopathy (TMA) significantly predicted graft failure (P = 0.045). The ABMR episodes were treated with I+R (n = 25), or, in more severe ABMR, plasma exchange (PLEX)+I+R (n = 20). Graft survival for patients treated with I+R was superior (P = 0.028). Increased mortality was seen in ABMR patients experiencing graft loss after ABMR treatment (P = 0.004). The PLEX + Eculizumab improved graft survival for TMA patients (P = 0.036).

CONCLUSION: Patients desensitized with I+R who remain ABMR have long-term graft and patient survival. The ABMR patients have significantly reduced graft survival and glomerular filtration rate at 5 years, especially TMA. Severe ABMR episodes benefit from treatment with PLEX + Eculizumab. The DSA-relative intensity scores at transplant was a strong predictor of ABMR. Donor-specific antibody avoidance and reduction strategies before transplantation are critical to avoiding ABMR and improving long-term outcomes.

161: Wadhwa B, Jain V, Bhutia O, Bhalla AS, Pruthi G. Flapless versus open flap techniques of implant placement: A 15-month follow-up study. *Indian J Dent Res.* 2015 Jul-Aug;26(4):372-7. doi: 10.4103/0970-9290.167629. PubMed PMID: 26481883.

AIM: To evaluate and compare the effect of flapless and "open flap" techniques of implant placement on crestal bone height (CBH) around implants.

MATERIALS AND METHODS: This prospective study comprised of 32 implants placed in 16 subjects with a bilateral missing mandibular first molar. In each subject, one implant was placed with "flapless" and other using "open flap" technique. Radiographic assessment of CBH was carried out using standardized intraoral periapical radiograph of the site at baseline, 3 months, 9 months and 15 months after implant placement.

STATISTICAL ANALYSIS: Data were analyzed using STATA 11.0 statistical software. To determine the changes in CBH from baseline, at 3-, 9-, and 15-month, repeated measures analysis of variance followed by post-hoc Bonferroni was used for each of the two techniques for mesial and distal aspects separately. For both techniques, changes in CBH from baseline to 15 months were compared using an independent t-test with a confidence interval of 95%.

RESULTS: For "flapless" technique, there was no statistically significant ($P > 0.05$) reduction of CBH in initial 9 months but was significant for the 9-15 months period while for "open flap" technique, statistically significant ($P < 0.05$) reduction was observed up to 15 months. Comparison of both techniques showed significantly lesser reduction with "flapless" than "open flap" technique. The overall average crestal bone loss was 0.046 ± 0.008 mm on mesial aspect, 0.043 ± 0.012 mm on distal aspect with "flapless" technique and 1.48 ± 0.085 mm on mesial aspect, 1.42 ± 0.077 on distal aspect "open flap" technique.

CONCLUSIONS: Both techniques showed a reduction in CBH with time but the flapless technique showed a lesser reduction. Therefore, the flapless technique can be considered as a better treatment approach for placement of implants, especially where adequate width and height of available bone are present.

162: Yadav K, Kumar R, Chakrabarty A, Pandav CS. A reliable and accurate portable device for rapid quantitative estimation of iodine content in different types of edible salt. *Indian J Public Health.* 2015 Jul-Sep;59(3):204-9. doi: 10.4103/0019-557X.164658. PubMed PMID: 26354396.

BACKGROUND: Continuous monitoring of salt iodization to ensure the success of the Universal Salt Iodization (USI) program can be significantly strengthened by the use of a simple, safe, and rapid method of salt iodine estimation. This study assessed the validity of a new portable device, iCheck Iodine developed by the BioAnalyt GmbH to estimate the iodine content in salt.

MATERIALS AND METHODS: Validation of the device was conducted in the laboratory of the South Asia regional office of the International Council for Control of Iodine Deficiency Disorders (ICCIDD). The validity of the device was assessed using device specific indicators, comparison of iCheck Iodine device with the iodometric titration, and comparison between iodine estimation using 1 g and 10 g salt by iCheck Iodine using 116 salt samples procured from various small-, medium-, and large-scale salt processors across India.

RESULTS: The intra- and interassay imprecision for 10 parts per million (ppm), 30 ppm, and 50 ppm concentrations of iodized salt were 2.8%, 6.1%, and 3.1%, and 2.4%, 2.2%, and 2.1%, respectively. Interoperator imprecision was 6.2%, 6.3%, and 4.6% for the salt with iodine concentrations of 10 ppm, 30 ppm, and 50 ppm respectively. The correlation coefficient between measurements by the two methods was 0.934 and the correlation coefficient between measurements using 1 g of iodized salt and 10 g of iodized salt by the iCheck Iodine device was 0.983.

CONCLUSIONS: The iCheck Iodine device is reliable and provides a valid method for the quantitative estimation of the iodine content of iodized salt fortified with potassium iodate in the field setting and in different types of salt.

163: Yadav P, Khalil S, Mirdha BR, Makharia GK, Bhatnagar S. Molecular characterization of clinical isolates of *Cyclospora cayetanensis* from patients with diarrhea in India. *Indian J Med Microbiol.* 2015 Jul-Sep;33(3):351-6. doi: 10.4103/0255-0857.158547. PubMed PMID: 26068334.

PURPOSE: *Cyclospora cayetanensis* is an intestinal coccidian protozoan that has emerged as an important cause of both epidemic and endemic protracted diarrhea worldwide. Though humans appear to be the only natural hosts; the role of animals as natural reservoir is uncertain but of increasing concern. The present study aimed to study the prevalence of coccidian in different groups such as immunocompromised, clinically apparent immunocompetent and healthy individuals. Also, the study isolates were assessed for heterogeneity among the sequences.

MATERIALS AND METHODS: Stool samples from different groups of patients were collected. The parasite was detected in stool by different diagnostic tools such as light microscopy and nested PCR-restriction fragment length polymorphism using 18S ribosomal RNA as the target gene.

RESULTS: The prevalence of *C. cayetanensis* was 2.4% (19/800) in the present study. The PCR assay amplified *Cyclospora cayetanensis* DNA in only 89% (17/19) isolates. Further, sequencing revealed no significant difference among the study isolates and the non-primates. Phylogenetic analysis of the study isolates however, formed two clusters. While one cluster showed close evolutionary association with the *C. cayetanensis* strains, the other cluster showed evolutionary association with the two non-primate species.

CONCLUSION: The methods described here for detection of *C. cayetanensis* oocysts are simple, efficient, specific, and sensitive and therefore can be effectively applied for laboratory diagnosis and environmental assessment of fresh produce and water sources. Clinicians should include *Cyclospora* infection in the differential diagnosis of prolonged or relapsing diarrheal illness even in clinically apparent immunocompetent individuals.

164: Yadav S, Singh A, Singh P. Biliary peritonitis following percutaneous nephrolithotomy: Minimally invasive management. *Indian J Urol.* 2015 Jul-Sep;31(3):251-3. doi: 10.4103/0970-1591.159656. PubMed PMID: 26166972; PubMed Central PMCID: PMC4495503.

Percutaneous nephrolithotomy (PCNL) is a standard procedure for large renal calculi but has potential for complications. Rarely, biliary tract injury can occur during PCNL that can lead to biliary peritonitis with sepsis. Such cases are usually managed by emergent cholecystectomy. We present a case of biliary peritonitis resulting from gall bladder injury during PCNL, managed minimally invasively with an abdominal drain and endoscopic retrograde cholangiography with common bile duct stenting.

165: Yadav S, Madan K. Tuberculous 'lock jaw'. *BMJ Case Rep.* 2015 Jul 9;2015. pii: bcr2015211183. doi: 10.1136/bcr-2015-211183. PubMed PMID: 26160553.