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List of publications of AIIMS, New Delhi
for the month of NOVEMBER, 2014
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1: Agarwal KK, Tripathi M, Karunanithi S, Das CJ, Suri V, Nalwa A. Crossed cerebellar diaschisis in cerebral toxoplasmosis demonstrated on (18)F-FDG PET/CT. *Rev Esp Med Nucl Imagen Mol*. 2014 Nov-Dec;33(6):397-8. doi: 10.1016/j.remn.2014.04.007. Epub 2014 Jul 17. PubMed PMID: 25043772.

2: Aggarwal D, Khurana AK. Exacerbations in non-COPD patients: truth or myth. *Thorax*. 2014 Nov;69(11):1050. doi: 10.1136/thoraxjnl-2014-205763. Epub 2014 Jun 26. PubMed PMID: 24969644.

3: Agrawal YO, Sharma PK, Shrivastava B, Ojha S, Upadhya HM, Arya DS, Goyal SN. Hesperidin produces cardioprotective activity via PPAR- γ pathway in ischemic heart disease model in diabetic rats. *PLoS One*. 2014 Nov 4;9(11):e111212. doi: 10.1371/journal.pone.0111212. eCollection 2014. PubMed PMID: 25369053; PubMed Central PMCID: PMC4219710.

The present study investigated the effect of hesperidin, a natural flavonoid, in cardiac ischemia and reperfusion (I/R) injury in diabetic rats. Male Wistar rats with diabetes were divided into five groups and were orally administered saline once daily (IR-sham and IR-control), Hesperidin (100 mg/kg/day; IR-Hesperidin), GW9962 (PPAR- γ receptor antagonist), or combination of both for 14 days. On the 15th day, in the IR-control and IR-treatment groups, rats were subjected to left anterior descending (LAD) coronary artery occlusion for 45 minutes followed by a one-hour reperfusion. Haemodynamic parameters were recorded and rats were sacrificed; hearts were isolated for biochemical, histopathological, ultrastructural and immunohistochemistry. In the IR-control group, significant ventricular dysfunctions were observed along with enhanced expression of pro-apoptotic protein Bax. A decline in cardiac injury markers lactate dehydrogenase activity, CK-MB and increased content of thiobarbituric acid reactive substances, a marker of lipid peroxidation, and TNF- α were observed. Hesperidin pretreatment significantly improved mean arterial pressure, reduced left ventricular end-diastolic pressure, and improved both inotropic and lusitropic function of the heart (+LVdP/dt and -LVdP/dt) as compared to IR-control. Furthermore, hesperidin treatment significantly decreased the level of thiobarbituric acid reactive substances and reversed the activity of lactate dehydrogenase towards normal value. Hesperidin showed anti-apoptotic effects by upregulating Bcl-2 protein and decreasing Bax protein expression. Additionally, histopathological and ultrastructural studies reconfirmed the protective action of hesperidin. On the other hand, GW9662, selective PPAR- γ receptor antagonist, produced opposite effects and attenuated the hesperidin induced improvements. The study for the first time evidence the involvement of PPAR- γ pathway in the cardioprotective activity of hesperidin in I/R model in rats.

4: Ahmed I, Biswas A, Krishnamurthy S, Julka PK. Toxic epidermal necrolysis in a patient receiving concurrent phenytoin and whole brain and thoracic radiotherapy. *Saudi Med J*. 2014 Nov;35(11):1393-5. PubMed PMID: 25399219.

Toxic epidermal necrolysis (TEN) is a severe drug induced type IV hypersensitivity syndrome that can be caused by anticonvulsant drugs, especially the aromatic anticonvulsants such as phenytoin. Most patients with brain metastasis receive whole brain radiotherapy along with anti-edema measures and anticonvulsants either as prophylactic or for symptom control; phenytoin being the most commonly used drug. In a subset of patients, cranial irradiation may act as a precipitating factor along with anticonvulsants for the development of TEN. We report a 54-year-old patient with metastatic non-small cell lung cancer treated with palliative whole brain and mediastinal radiotherapy with concurrent

phenytoin-developing TEN, which started within the radiation portals with subsequent generalization. Though a rare, but serious complication, avoidance of the use of phenytoin concurrent with radiotherapy, replacing phenytoin with newer anticonvulsants, early recognition, aggressive management and awareness of this possible complication has been implied upon in this report.

5: Ansari MT, Prakash P K, Machhindra MV. Wrist preserving surgery for multifocal giant cell tumor of carpal bones in a skeletally immature patient: a case report. *Orthop Surg.* 2014 Nov;6(4):322-5. doi: 10.1111/os.12143. PubMed PMID: 25430717.

6: Arjuman A, Chandra NC. Differential pro-inflammatory responses of TNF- α receptors (TNFR1 and TNFR2) on LOX-1 signalling. *Mol Biol Rep.* 2014 Nov 23. [Epub ahead of print] PubMed PMID: 25416967.

TNF- α potently induces LOX-1 expression in THP-1 macrophages at concentrations between 1.25-50 ng/mL. The interplay between the two TNF receptors (TNFR1 and TNFR2) was apparent in the expression pattern of LOX-1 in response to TNF- α . Interestingly, R1 signal abrogation depleted both TNFR2 as well as LOX-1 transcript expression, suggesting that TNFR1 holds priority in the relative signaling mechanism between TNFR1 and TNFR2. TNF- α was also found to abrogate the oxidized-LDL (ox-LDL) mediated increase in intracellular pool of NO, a known downstream intermediate of LOX-1 pro-inflammatory signaling cascade. At the level of ox-LDL clearance, TNF- α inhibited the uptake (scavenging) of ox-LDL via LOX-1. Our study demonstrates the ability of TNF- α to enhance the signaling propensity of LOX-1 by increasing its expression and inhibiting its scavenging property.

7: Arora S, Singh P, Singh PM, Trikha A. Procalcitonin levels in survivors and non survivors of Sepsis: Systematic review and Meta-analysis. *Shock.* 2014 Nov 24. [Epub ahead of print] PubMed PMID: 25423128.

Procalcitonin (PCT) is an acute phase reactant that has been used to diagnose and potentially track the treatment of sepsis. PCT values rise initially as the infection sets in and eventually fall off with resolution. Its level has been reported to be significantly higher in the potential non survivors of a septic episode than among the survivors. However there is also a significant amount of evidence against this. We thus conducted a meta-analysis to pool data from all the available studies regarding procalcitonin levels in survivors and non survivors of sepsis. **METHODS:** An extensive literature search was conducted using the key words "proclacitonin" "sepsis" and "prognosis". The references of the relevant studies were also scanned. The data from the eligible studies was extracted and analysed for any significant pooled mean difference between survivors and non-survivors both on day 1 and 3.

RESULTS: The mean difference in the day 1 PCT values between survivors and non survivors was found to be statistically significant ($P=0.02$). The mean difference on day 3 was also statistically significant ($P= 0.002$). However in a subgroup consisting of studies on patients with severe sepsis and septic shock day 1 difference was not found to be significant ($P=0.62$). We found heterogeneity of 90% in our study population which decreased to 62% after exclusion of studies conducted in Emergency Department patients.

CONCLUSIONS: PCT levels in early stages of sepsis are significantly lower among the survivors as compared to non survivors of sepsis.

8: Arya A, Jindal A. Acute renal failure in tetanus: correspondence. *Indian J Pediatr.* 2014 Nov;81(11):1274. doi: 10.1007/s12098-014-1364-0. Epub 2014 Feb 23. PubMed PMID: 24562673.

9: Balakrishna P, Parshad R, Rohila J, Saraya A, Makharia G, Sharma R. Symptomatic outcome following laparoscopic Heller's cardiomyotomy with Dor fundoplication versus laparoscopic Heller's cardiomyotomy with angle of His accentuation: results of a randomized controlled trial. *Surg Endosc.* 2014 Nov 27. [Epub ahead of print] PubMed PMID: 25427411.

BACKGROUND: The type of anti-reflux procedure to be used as an adjunct to laparoscopic Heller's cardiomyotomy (LHCM) in Achalasia cardia is controversial. We compared Angle of His accentuation and Dor fundoplication in a randomized controlled trial.

METHODS: From May 2010 to October 2013, 62 patients undergoing LHCM were randomized to receive either Dor fundoplication (Dor group) or Angle of His accentuation (AOH group) as an anti-reflux procedure. Symptomatic outcome was evaluated using modified Mellow and Pinkas scale for dysphagia and modified DeMeester's score for regurgitation and heartburn. Achalasia-specific quality-of-life (QOL) questionnaire was used to assess quality of life. The primary outcome was symptomatic relief and the secondary outcome was postoperative heartburn. Statistical analysis was done using SPSS software.

RESULTS: All the procedures were completed laparoscopically with no mortality. Morbidity was similar in the two groups (6.4 %). Median operative time was higher in Dor group (170 vs 130 min). At a median follow-up of 21 months relief of dysphagia, regurgitation, and heartburn was seen in 87, 90.3, and 90.3 % patients in Dor group versus 93.5, 96.7, and 77.4 % in AOH group patients with significant improvement in symptom scores. Improvement was similar in both groups with no statistically significant difference in the symptom scores ($p = 0.48$ for dysphagia, $p = 0.37$ for regurgitation, and $p = 0.19$ for heartburn). The QOL improved in both groups [62.3 to 12.3 ($p = 0.02$) in Dor group and 63.9-13 ($p = 0.02$) in AOH group] with no statistically significant difference between the two groups ($p = 0.96$). There was no statistically significant difference in the postoperative heartburn between the two groups ($p = 0.19$).

CONCLUSION: Laparoscopic Heller's cardiomyotomy with either Angle of His accentuation or Dor fundoplication leads to similar improvement in symptoms and quality of life.

10: Balhara YP, Ranjan R, Dhawan A, Yadav D. Experiences from a community based substance use treatment centre in an urban resettlement colony in India. *J Addict.* 2014;2014:982028. doi: 10.1155/2014/982028. Epub 2014 Nov 9. PubMed PMID: 25431739; PubMed Central PMCID: PMC4241574.

Background. There are limited community based treatment services for drug dependence in India. Rural areas and urban resettlement colonies are in particular deficient in such services. **Aims.** The current study aimed at preliminary assessment of substance use disorder management services at a community based substance use treatment clinic in an urban resettlement colony. **Methods.** The study was carried out at community based substance use treatment centre in a resettlement colony in India. The records of the centre were chart reviewed. **Results.** A total of 754 patients were registered at the clinic during the study period. Heroin was the primary drug of abuse for 63% of the patients. The mean duration of follow-up for the patients with opioid and alcohol dependence was 13.47 (SD \pm 10.37; range 0-39) months. A total of 220 patients of opioid dependence were prescribed substitution or abstinence directed therapy. Buprenorphine (87), slow release oral morphine (SROM) (16), and dextropropoxyphene (98) were used for opioid substitution. **Conclusion.** It is

possible to deliver substance use disorder treatment services in community setting. There is a need to develop area specific community based treatment services for substance abuse in socially disadvantaged populations such as urban resettlement colonies.

11: Bhatnagar S, Kumar P, Mohan T, Verma P, Parida MM, Hoti SL, Rao DN. Evaluation of Multiple Antigenic Peptides Based on the Chikungunya E2 Protein for Improved Serological Diagnosis of Infection. *Viral Immunol.* 2014 Nov 20. [Epub ahead of print] PubMed PMID: 25412351.

Abstract In recent years, Chikungunya virus (CHIKV) reemerged and numerous outbreaks were reported all over the world. After screening CHIKV-positive sera, we had already reported many dominant epitopes within the envelope E2 protein of CHIKV. In the present study, we aimed at developing a highly sensitive immunodiagnostic assay for CHIKV based on a multiple antigenic peptide (MAP) approach using selective epitopes of the E2 protein. MAPs in four different E2 peptide combinations were screened with CHIKV-positive sera. The MAPs reacted with all CHIKV-positive sera and no reactivity was seen with healthy or dengue-positive sera. Our results indicate that MAP 1 seems to be an alternate antigen to full-length protein E2 for immunodiagnosis of CHIKV infections with high sensitivity and specificity.

12: Bhowmik D, Agrawal A, Panda S. Assessing the prevalence of chronic kidney disease in the community: Estimating glomerular filtration rate is the Achilles heel. *Indian J Nephrol.* 2014 Nov;24(6):411-2. PubMed PMID: 25484546; PubMed Central PMCID: PMC4244732.

13: Bisoi AK, Sahu MK, Chander C N, Agarwala S, Chauhan S. Nutcracker syndrome in a young female with solitary functional left ovary: a surgical challenge. *Ann Vasc Surg.* 2014 Nov;28(8):1938.e1-3. doi: 10.1016/j.avsg.2014.07.019. Epub 2014 Aug 7. PubMed PMID: 25108096.

Nutcracker syndrome (NCS), a rare clinical entity, when refractory to medical management warrants surgical intervention. In the following discussion, we present a case of NCS which was managed successfully by left renal vein transposition using a decompression shunt.

14: Biswas B, Shukla NK, Deo SV, Agarwala S, Sharma DN, Vishnubhatla S, Bakhshi S. Evaluation of outcome and prognostic factors in extraosseous Ewing sarcoma. *Pediatr Blood Cancer.* 2014 Nov;61(11):1925-31. doi: 10.1002/pbc.25095. Epub 2014 Aug 17. PubMed PMID: 25132242.

BACKGROUND: Data on extraosseous Ewing sarcoma (EES) with uniform chemotherapy protocol are minimal. We aimed to examine this aspect in our patients, identify prognostic factors and compare the same with osseous Ewing sarcoma.

PROCEDURES: A single institutional data review of patients with EES treated between June 2003 and November 2011 with uniform chemotherapy and evaluated on intent-to-treat analysis was done.

RESULTS: Of 374 patients with Ewing sarcoma, 60 (16%) were EES with median age 16 years; 20 (33%) had metastases. After median follow-up of 25 months (range: 1.7-104.4), 5-year event free survival (EFS), OS, and local-control-rate were $47.1 \pm 7.9\%$, $61.6 \pm 7.8\%$, and $77.9 \pm 8.6\%$, respectively for entire EES cohort. In multivariate analysis, hemoglobin ≤ 10 g/dl ($P = 0.03$), and white blood cell count (WBC) $>11 \times 10^9$ /L ($P = 0.009$) predicted inferior EFS for the entire EES cohort. Low hemoglobin ($P = 0.05$) and high LDH ($P = 0.01$) predicted inferior OS

for the entire EES cohort on multivariate analysis. As compared to the cohort of skeletal primary (n = 314), higher proportion of patients underwent surgery in the cohort of EES (P = .003); EFS (P = 0.004) and OS (P = 0.08) were superior for patients with EES than patients with skeletal Ewing sarcoma.

CONCLUSION: These data of EES suggests that low hemoglobin and high WBC count adversely affect EFS. Overall outcome was significantly better for EES than skeletal primary tumors.

15: Biswas B, Rastogi S, Khan SA, Shukla NK, Deo SV, Agarwala S, Sharma DN, Thulkar S, Vishnubhatla S, Pathania S, Bakhshi S. Hypoalbuminaemia is an independent predictor of poor outcome in metastatic Ewing's sarcoma family of tumours: a single institutional experience of 150 cases treated with uniform chemotherapy protocol. *Clin Oncol (R Coll Radiol)*. 2014 Nov;26(11):722-9. doi: 10.1016/j.clon.2014.05.006. Epub 2014 Jun 8. PubMed PMID: 24919857.

AIMS: Data on metastatic Ewing's sarcoma family of tumours (ESFT) with uniform chemotherapy protocol are minimal.

MATERIALS AND METHODS: This was a single institutional patient review of patients treated between June 2003 and November 2011 and evaluated on an intent-to-treat analysis. All patients received uniform chemotherapy: neoadjuvant chemotherapy (NACT), surgery and/or radiotherapy as local treatment followed by adjuvant chemotherapy. Local treatment was offered if the patient achieved a complete response and/or a partial response at both the primary and the metastatic site.

RESULTS: In total, 150/374 (40%) ESFT patients were metastatic, with a median age of 15 years (range: 2-50); a tumour diameter of 10 cm (range: 1.8-26). Most common metastatic sites were lung only (53; 35%), bone only (35; 23%) and combined bone/lung (25; 17%). Twenty patients underwent surgery; 55 patients received radical radiotherapy after NACT. After a median follow-up of 26.1 months (range: 1.6-101.6), 5 year event-free survival (EFS), overall survival and local control rate (LCR) were $9.1 \pm 3.3\%$, $16.9 \pm 5.2\%$ and $31.8 \pm 7.9\%$, respectively. Univariate analysis showed serum albumin ≤ 3.4 g/dl (P < 0.001) to predict inferior EFS. Tumour size >8 cm (P = 0.05), haemoglobin ≤ 10 g/dl (P = 0.04), hypoalbuminaemia (P = 0.003) and radical radiotherapy as local treatment (P = 0.03) predicted inferior overall survival. No factor significantly predicted LCR, although age ≤ 15 years (P = 0.08) and radical radiotherapy as local treatment (P = 0.09) had a trend towards inferior LCR. Hypoalbuminaemia was the only prognostic factor to predict EFS on multivariate analysis.

CONCLUSION: This was the largest study of metastatic ESFT from Asia and identified a unique prognostic factor. In view of dismal prognosis with conventional chemotherapy in metastatic ESFT with hypoalbuminaemia, palliative intent therapy may be a potential therapeutic alternative for this subgroup of patients, especially in resource-challenged situations.

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16: Bothra M, Jain V. Diabetes insipidus in pediatric patients. *Indian J Pediatr*. 2014 Dec;81(12):1285-6. doi: 10.1007/s12098-014-1612-3. Epub 2014 Nov 6. PubMed PMID: 25371144.

17: Chakrabarty B, Dubey R, Gulati S, Yoganathan S, Kumar A, Kumar A. Isolated cerebellar involvement in vitamin B12 deficiency: a case report. *J Child Neurol*.

2014 Nov;29(11):NP161-3. doi: 10.1177/0883073813513498. Epub 2013 Dec 16. PubMed PMID: 24346315.

Deficiency of vitamin B12 causes megaloblastic anemia and nervous system demyelination. Structures affected in the nervous system include spinal cord, cranial and peripheral nerves, and brain white matter. A 9-year-old boy presented with knuckle hyperpigmentation and oral ulcers for 3 years, pallor and easy fatigability for 6 months, gait abnormalities for 3 months, and abnormal speech and behavioral abnormalities for 3 days. On examination, he had physical signs of megaloblastic anemia, mood swings with intermittent hallucinations, and features of cerebellar impairment. Blood investigations revealed megaloblastic anemia, and pernicious anemia was ruled out. Brain magnetic resonance imaging (MRI) revealed bilateral cerebellar signal changes. He received treatment for vitamin B12 deficiency and appropriate nutritional counseling. Three months later, he showed significant clinical and radiologic resolution. To our knowledge, isolated cerebellar involvement as the sole neurologic manifestation of vitamin B12 deficiency has not been described previously in children.

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18: Chakrabarty B, Tripathi M, Gulati S, Yoganathan S, Pandit AK, Sinha A, Rathi BS. Pediatric anti-N-methyl-D-aspartate (NMDA) receptor encephalitis: experience of a tertiary care teaching center from north India. *J Child Neurol*. 2014 Nov;29(11):1453-9. doi: 10.1177/0883073813494474. Epub 2013 Oct 4. PubMed PMID: 24097850.

Anti-N-methyl-D-aspartate (NMDA) receptor encephalitis is characterized by acute- or subacute-onset encephalopathy with extrapyramidal, psychiatric, and epileptic manifestations. Diagnosis is confirmed by positive antibodies to NMDA receptor in cerebrospinal fluid and serum. Eleven pediatric cases presented over a 2-year period at a tertiary care teaching hospital in North India. The average age at presentation was 9 years (range: 2.5 to 18 years, median: 10 years) with a slight female predominance (1.2:1). The common modes of presentation were progressive extrapyramidal syndrome with global neuroregression in 45% (5 of 11), epileptiform encephalopathy in 27% (3 of 11), and an overlap between the 2 in 27% (3 of 11). Fifty-eight percent showed significant response to steroids and intravenous immunoglobulin. This entity should be considered in an acute- or subacute-onset encephalopathy if common infectious etiologies are ruled out and there are specific clinical pointers. Early diagnosis and treatment significantly improves the outcome.

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19: Chauhan S, Sen S, Sharma A, Tandon R, Kashyap S, Pushker N, Vanathi M, Sharma N. American joint committee on cancer staging and clinicopathological high-risk predictors of ocular surface squamous neoplasia: a study from a tertiary eye center in India. *Arch Pathol Lab Med*. 2014 Nov;138(11):1488-94. doi: 10.5858/arpa.2013-0353-OA. PubMed PMID: 25357110.

CONTEXT: Ocular surface squamous neoplasia (OSSN) is the most common tumor of conjunctival epithelium associated with risk of permanent visual impairment. It includes conjunctival intraepithelial neoplasia and squamous cell carcinoma. Although American Joint Committee on Cancer-TNM (AJCC-TNM) staging is commonly used in various tumors, it has only recently been described for OSSN.

OBJECTIVES: To evaluate the prognostic relevance of AJCC-TNM staging and the clinicopathological features in OSSN.

DESIGN: Sixty-four histopathologically proven cases of OSSN (20 conjunctival intraepithelial neoplasia and 44 squamous cell carcinoma) were included in the

study. The AJCC-TNM staging and clinicopathological features of OSSN cases were recorded. Patients were followed up for 17 to 40 months (median, 32 months). Univariate and multivariate analyses were performed to determine the prognostic value of various clinicopathological features.

RESULTS: Longer sunlight exposure ($P = .01$), diffuse growth pattern ($P = .02$), larger tumor size (≥ 2 cm) ($P = .03$), histopathological diagnosis of squamous cell carcinoma ($P = .02$), and orbital invasion or invasion of adjacent structures (T3 or T4) ($P < .001$) emerged as significant predictors of reduced recurrence-free survival. Using multivariate analysis, a higher T category (T3 or T4) was the most important prognostic indicator of a poor outcome.

CONCLUSIONS: A higher T category (T3 or T4) is an important predictor of clinical outcome, and the use of the AJCC-TNM staging system is recommended in the management of all patients with OSSN. Longer sunlight exposure, larger tumor size (≥ 2 cm), orbital invasion or invasion of adjacent structures (T3 or T4), and a histopathological diagnosis of squamous cell carcinoma are other clinicopathological features of prognostic relevance in patients with OSSN.

20: Chaurasia R, Zaman S, Das B, Chatterjee K. Screening Donated Blood for Transfusion Transmitted Infections by Serology along with NAT and Response Rate to Notification of Reactive Results: An Indian Experience. *J Blood Transfus.* 2014;2014:412105. doi: 10.1155/2014/412105. Epub 2014 Nov 16. PubMed PMID: 25485163; PubMed Central PMCID: PMC4248483.

Background. Transfusion safety begins with healthy donors. A fundamental part of preventing transfusion transmitted infections (TTIs) is to notify and counsel reactive donors. Donor notification and counselling protect the health of the donor and prevent secondary transmission of infectious diseases. Methods. 113,014 donations were screened for TTIs, namely, HIV, HBV, HCV, and syphilis, by serology and nucleic acid testing. All reactive donors were retested (wherever possible) and notified of their status by telephone or letter. All initial reactive screens were followed over six months. Results. We evaluated 2,838 (2.51%) cases with reactive screening test results (1.38% HBV, 0.54% HCV, 0.27% HIV, and 0.32% syphilis). Only 23.3% of donors (662) responded to notification. The response among voluntary donors was better as compared to the replacement donors (43.6% versus 21.2%). Only 373 (56.3%) responsive donors followed their first attendance at referral specialties. Over six months, only 176 of 662 (26.6%) reactive donors received treatment. Conclusion. Our study shed light on the importance of proper donor counselling and notification of TTI status to all reactive donors who opt to receive this information. There is also an urgent need to formulate the nationally acceptable guidelines for notification and follow-up of reactive donors.

21: Cyriac SL, Walia R, Suri V, Bakhshi S. Colonic malignant peripheral nerve sheath tumor in a child. *J Pediatr Hematol Oncol.* 2014 Nov;36(8):661-2. doi: 10.1097/MPH.0b013e318290bc9f. PubMed PMID: 23652872.

22: Das CJ, Ahmad Z, Sharma S, Gupta AK. Multimodality imaging of renal inflammatory lesions. *World J Radiol.* 2014 Nov 28;6(11):865-73. Review. PubMed PMID: 25431641; PubMed Central PMCID: PMC4241493.

Spectrum of acute renal infections includes acute pyelonephritis, renal and perirenal abscesses, pyonephrosis, emphysematous pyelonephritis and emphysematous cystitis. The chronic renal infections that we routinely encounter encompass chronic pyelonephritis, xanthogranulomatous pyelonephritis, and eosinophilic cystitis. Patients with diabetes, malignancy and leukaemia are frequently immunocompromised and more prone to fungal infections viz. angioinvasive aspergillus, candida and mucor. Tuberculosis and parasitic infestation of the

kidney is common in tropical countries. Imaging is not routinely indicated in uncomplicated renal infections as clinical findings and laboratory data are generally sufficient for making a diagnosis. However, imaging plays a crucial role under specific situations like immunocompromised patients, treatment non-responders, equivocal clinical diagnosis, congenital anomaly evaluation, transplant imaging and for evaluating extent of disease. We aim to review in this article the varied imaging spectrum of renal inflammatory lesions.

23: Das S, Matlashewski G, Bhunia GS, Kesari S, Das P. Asymptomatic Leishmania infections in northern India: a threat for the elimination programme? *Trans R Soc Trop Med Hyg.* 2014 Nov;108(11):679-84. doi: 10.1093/trstmh/tru146. Epub 2014 Sep 9. PubMed PMID: 25205664.

Visceral leishmaniasis (VL) continues to embody as a mammoth public health problem and hurdle to the socioeconomic development of Bihar, India. Interestingly, all leishmanial infections do not lead to overt clinical disease and may stay asymptomatic for a period of time. Asymptomatic cases of VL are considered as probable potential reservoirs of VL, and thus can play a major role in transmission of the disease in highly endemic areas of Bihar, India. They outnumber the exact disease burden in endemic areas of this region, thus jeopardizing the goal of the elimination program that is due by 2015. This article discusses the potential risk factors, epidemiological markers of transmission and requirement of highly sensitive diagnostic tools for efficient recognition of the high risk groups of conversion to symptomatic for proper designing of strategies for implementation of the control programs.

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24: de-Madaria E, Garg PK. Fluid therapy in acute pancreatitis - Aggressive or adequate? Time for reappraisal. *Pancreatology.* 2014 Nov-Dec;14(6):433-5. doi: 10.1016/j.pan.2014.09.008. Epub 2014 Oct 2. PubMed PMID: 25455538.

25: Deorari A, Vidyasagar D. Editorial: current status and future prospects of neonatal care in India. *Indian J Pediatr.* 2014 Nov;81(11):1196-7. doi: 10.1007/s12098-014-1597-y. Epub 2014 Oct 15. PubMed PMID: 25316529.

26: Dharmani U, Jadhav GR, Kamal C, Rajput A, Dua A. Management of a rare combination of avulsion and intrusive luxation: A case report. *J Conserv Dent.* 2014 Nov;17(6):587-9. doi: 10.4103/0972-0707.144611. PubMed PMID: 25506151; PubMed Central PMCID: PMC4252937.

In traumatic dental injury, concomitant occurrence of avulsion and intrusive luxation is exceptional. This is because the vectors of forces responsible for both avulsive and intrusive injuries are in different directions. The present case report reviews the management of a rare combination of avulsion in right maxillary lateral incisor (tooth #12) and intrusive luxation in right maxillary central incisor (tooth #11) in a 22-year-old Asian male. Clinical and radiographic evaluation was done at 12-month follow-up. Various treatment modalities and complications associated with both avulsion and intrusion are also discussed in the paper.

27: Dhull VS, Arora S, Parida GK, Shamim SA, Tripathi M. Evaluating the extent of involvement in haemangiopericytoma using three-phase bone scintigraphy. *Eur J Nucl Med Mol Imaging.* 2014 Nov 1. [Epub ahead of print] PubMed PMID: 25361740.

28: Elhence A, Jalan D, Talreja H. To fix or not to fix? The role of fibular fixation in distal shaft fractures of the leg. *Injury*. 2014 Nov;45(11):1802-3. doi: 10.1016/j.injury.2014.02.004. Epub 2014 Feb 17. PubMed PMID: 24671008.

29: Ganie MA, Hassan S, Nisar S, Shamas N, Rashid A, Ahmed I, Douhat S, Mudassar S, Jan VM, Rashid F. High-sensitivity C-reactive protein (hs-CRP) levels and its relationship with components of polycystic ovary syndrome in Indian adolescent women with polycystic ovary syndrome (PCOS). *Gynecol Endocrinol*. 2014 Nov;30(11):781-4. doi: 10.3109/09513590.2014.924099. Epub 2014 Aug 19. PubMed PMID: 25137507.

C-reactive protein (CRP) is a risk marker for type 2 diabetes mellitus and cardiovascular diseases. In polycystic ovary syndrome (PCOS), limited data are available on high-sensitivity C-reactive protein (hs-CRP) levels and its relationship with components of PCOS especially in Indian women. The objective was to determine serum hs-CRP concentration in adolescent women with and without PCOS and to assess possible correlations of serum hs-CRP levels with components of PCOS in Indian women. One hundred and sixty women with PCOS and sixty non-PCOS women having normal menstrual cycles were included. Clinical assessment included anthropometry, Ferriman-Gallwey (FG) score and blood pressure (BP) measurement. Laboratory evaluation included estimation of T4, TSH, LH, FSH, total testosterone, prolactin, cortisol, 17OHP, hs-CRP, lipid profile, and insulin, and glucose after 2-h oral glucose tolerance test. Homeostasis Model Assessment Insulin resistance index (HOMA-IR) and Quantitative Insulin Sensitivity Check Index (QUICKI) and glucose intolerance was calculated. FG score, LH, FSH, total Testosterone, HOMA-IR and QUICKI were significantly different among women with or without PCOS ($p < 0.01$). Although hs-CRP levels showed a higher trend in women having PCOS, there was no significant difference between the groups ($p > 0.05$). A significant and positive correlation was found between hs-CRP and body mass index (BMI) ($r = 0.308$, $p < 0.01$) among PCOS group. The results in Indian adolescent women suggest that hs-CRP levels may not per se be associated with PCOS, rather can be related to fat mass in this subset of subjects.

30: George J, Pulickal SJ, Singh A, Gautam M, Prasoon P, Kumar R, Ray SB. Locally mediated analgesic effect of bradykinin type 2 receptor antagonist HOE 140 during acute inflammatory pain in rats. *J Burn Care Res*. 2014 Nov-Dec;35(6):e391-8. doi: 10.1097/BCR.0000000000000042. PubMed PMID: 24451303.

Opioids like morphine form the mainstay of treatment for moderate to severe burn pain. However, lack of dedicated burn care service and potentially serious side effects of opioids often compromise effective treatment. Newer drugs as well as newer routes of administration of analgesic drugs are long-felt needs in the management of burn pain. Bradykinin is a potent inflammatory mediator present at sites of tissue damage. The present study investigated the analgesic effect of bradykinin type 2 receptor antagonist HOE 140 after direct intrawound administration in rats. Also, whether the analgesic effect was locally mediated was further evaluated. Tissue damage was produced by a surgical incision involving skin, fascia, and muscle. It has been reported that there are minor differences in inflammatory mediators underlying incision-related and burn injury-related pain. HOE 140 (1, 3, or 10 $\mu\text{g}/10 \mu\text{l}$ physiological saline) was administered into the wound by a sterile micropipette. After an interval of 30 seconds, the wound was closed. HOE 140-induced analgesic effect was compared to other experimental groups of rats which did not receive any drug or those which were treated with either saline (vehicle) or water. Postincisional pain was determined by monitoring behavior, allodynia, and thermal hyperalgesia. Analgesic effect was also determined after drug administration in contralateral paw. HOE

140 (1, 3, 10 µg) significantly relieved mechanical allodynia and guarding in comparison with vehicle-treated group. The analgesic effect of HOE 140 was locally mediated. Healing of the wound was normal. In conclusion, the results suggest that bradykinin type 2 receptor antagonists such as HOE 140 could be useful in the treatment of acute inflammatory pain.

31: Gnanaguru V, Kabra SK, Lodha R. Ventilator-associated pneumonia in pediatric intensive care unit. *Indian J Pediatr.* 2014 Nov;81(11):1145-6. doi: 10.1007/s12098-014-1610-5. Epub 2014 Oct 17. PubMed PMID: 25324200.

32: Goswami P, Das P, Verma AK, Prakash S, Das TK, Nag TC, Ahuja V, Gupta SD, Makharia GK. Are alterations of tight junctions at molecular and ultrastructural level different in duodenal biopsies of patients with celiac disease and Crohn's disease? *Virchows Arch.* 2014 Nov;465(5):521-30. doi: 10.1007/s00428-014-1651-1. Epub 2014 Sep 21. PubMed PMID: 25240724.

Abnormalities of transmembrane and cytoplasmic proteins of tight junctions (TJ) have been implicated in pathogenesis of both celiac (CeD) and Crohn's diseases (CD). Since disease pathogenesis in CeD and CD are different, we planned to study if there is any differential expression pattern of TJ marker proteins and ultrastructural changes, respectively, in duodenal villi vs crypts. Endoscopic duodenal biopsies from treatment naïve patients with CeD (n=24), active CD (n=28), and functional dyspepsia (as controls, n=15), both at baseline and 6 months after treatment, were subjected to light microscopic analysis (modified Marsh grading); immune-histochemical staining and Western blot analysis to see the expression of key TJ proteins [trans-membrane proteins (claudin-2, claudin-3, claudin-4, occludin, and JAM) and cytoplasmic protein (ZO-1)]. Transmission electron microscopy and image analysis of the TJs were also performed. There was significant overexpression of claudin-2 (pore-forming) and occludin (protein maintaining cell polarity) with under-expression of claudin-3 and claudin-4 (pore-sealing proteins) in treatment naïve CeD and active CD with simultaneous alteration in ultrastructure of TJs such as loss of penta-laminar structure and TJ dilatation. Normalization of some of these TJ proteins was noted 6 months after treatment. These changes were not disease specific and were not different in duodenal villi and crypts. Overexpression of pore-forming and under-expression of pore-sealing TJ proteins lead to dilatation of TJ. These changes are neither disease specific nor site specific and the end result of mucosal inflammation.

33: Goyal S, Biswas A, Gupta R, Mohanti BK. Congenital peripheral primitive neuroectodermal tumor: A case treated successfully with multimodality treatment. *J Egypt Natl Canc Inst.* 2014 Nov 7;26(4):219-224. doi: 10.1016/j.jnci.2014.09.002. [Epub ahead of print] PubMed PMID: 25440226.

Neonatal tumors comprise less than two percent of childhood malignancies. Most are solid tumors, most common histologies being teratoma and neuroblastoma. We encountered a child who was detected to have a right arm mass on antenatal sonogram, which was diagnosed to be a primitive neuroectodermal tumor involving the triceps on fine needle aspiration cytology performed in the post-natal period. The child was successfully treated with multimodality treatment consisting of surgery, chemotherapy and radiotherapy. We also discuss briefly the problems associated with therapy in neonatal period. A review of all cases reported to have congenital Ewing's sarcoma family of tumors is presented. Novel therapies are needed to improve efficacy and decrease the devastating side effects of treatment in this age group.

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34: Goyal S, Puri T, Julka PK. Breast cancer with inguinal node recurrence. *J Egypt Natl Canc Inst.* 2014 Nov 1. pii: S1110-0362(14)00063-6. doi: 10.1016/j.jnci.2014.10.001. [Epub ahead of print] PubMed PMID: 25455282.

Surgery and irradiation for breast cancer may interfere with conventional pathways of spread, leading to bizarre patterns of dissemination through lymphatics or through hematogenous route. Lymphoscintigraphic studies may help identify nodal involvement. Other possible reasons could be occurrence of primary breast cancer in accessory breast tissue retained in the vulva following involution of milk line. We describe a case of triple negative breast cancer, who developed contralateral breast cancer during treatment. Three years later, she developed isolated inguinal nodal metastases, which responded to local radiotherapy and chemotherapy. However, the patient relapsed after 2 years and could not be salvaged thereafter.

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35: Goyal S, Mohanti BK. Leptomeningeal dissemination in gall bladder carcinoma: sequelae of long-term survival? *Case Reports Hepatol.* 2014;2014:717403. doi: 10.1155/2014/717403. Epub 2014 Nov 5. PubMed PMID: 25431707; PubMed Central PMCID: PMC4238167.

Patients with gall bladder malignancies usually present at an advanced stage with less than 20% cases being resectable at presentation and over a half harbouring distant metastases to liver or paraaortic nodes. Long-term cure is uncommon and so is the presence of central nervous system metastases. We present the case of a middle-aged woman with adenocarcinoma gall bladder, treated with postoperative locoregional irradiation following simple cholecystectomy, who developed headache, backache, vision loss, and multiple joint pains six years following adjuvant therapy. A diagnosis of leptomeningeal carcinomatous meningitis was established with cerebrospinal fluid cytology positivity for carcinoma. She deteriorated on palliative cranial irradiation and was managed with best supportive care.

36: Gulati S, Misra A, Nanda K, Pandey RM, Garg V, Ganguly S, Cheung L. Efficacy and tolerance of a diabetes specific formula in patients with type 2 diabetes mellitus: An open label, randomized, crossover study. *Diabetes Metab Syndr.* 2014 Nov 1. pii: S1871-4021(14)00101-5. doi: 10.1016/j.dsx.2014.10.001. [Epub ahead of print] PubMed PMID: 25458669.

AIM: This study evaluated the effect of a diabetes specific formula on acute glucose, insulin, and triglyceride responses in patients with type 2 diabetes mellitus (T2DM).

METHODS: This open-label, randomized, crossover, pilot single center study had two phases (pre-treatment and treatment). After screening, the patients entered run-in period and were counseled on diet and exercise regime. They were then randomly allocated to receive either diabetes specific formula (Nutren® Diabetes, Nestlé Health Science, Switzerland; Group A) or isocaloric meal (Cornflakes and milk; Group B). Blood samples were collected to estimate blood glucose, insulin and triglyceride levels (Baseline at 0min and post-meal at 30, 60, 120, and 180min).

RESULTS: Area under curve for blood glucose post-meal at 30min, 60min, 120min, and 180min was significantly lower for Group A as compared with Group B ($p=0.003$, 0.0001 , 0.0001 , 0.0001 , respectively). Increase in serum insulin levels from

baseline was also lower for Group A post-meal at 120 and 180min, respectively, as compared to Group B ($p=0.0001$ and 0.0002 , respectively).

CONCLUSION: The Diabetes specific formula tested in this study showed lower post-meal blood glucose and insulin levels as compared with isocaloric meal. Thus, diabetes specific formula may be an option for diabetic and hyperglycemic patients in need of nutritional support.

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37: Gupta B, Kohli S, Farooque K, Jalwal G, Gupta D, Sinha S, Chandralekha. Topical airway anesthesia for awake fiberoptic intubation: Comparison between airway nerve blocks and nebulized lignocaine by ultrasonic nebulizer. *Saudi J Anaesth.* 2014 Nov;8(Suppl 1):S15-9. doi: 10.4103/1658-354X.144056. PubMed PMID: 25538514; PubMed Central PMCID: PMC4268521.

OVERVIEW: Awake fiberoptic bronchoscope (FOB) guided intubation is the gold standard of airway management in patients with cervical spine injury. It is essential to sufficiently anesthetize the upper airway before the performance of awake FOB guided intubation in order to ensure patient comfort and cooperation. This randomized controlled study was performed to compare two methods of airway anesthesia, namely ultrasonic nebulization of local anesthetic and performance of airway blocks.

MATERIALS AND METHODS: A total of 50 adult patients with cervical spine injury were randomly allocated into two groups. Group L received airway anesthesia through ultrasonic nebulization of 10 ml of 4% lignocaine and Group NB received airway blocks (bilateral superior laryngeal and transtracheal recurrent laryngeal) each with 2 ml of 2% lignocaine and viscous lignocaine gargles. FOB guided orotracheal intubation was then performed. Hemodynamic variables at baseline and during the procedure, patient recall, vocal cord visibility, ease of intubation, coughing/gagging episodes, and signs of lignocaine toxicity were noted.

RESULTS: The observations did not reveal any significant differences in demographics or hemodynamic parameters at any time during the study. However, the time taken for intubation was significantly lower in Group NB as compared with the Group L. Group L had an increased number of coughing/gagging episodes as compared with Group NB. Vocal cord visibility and ease of intubation were better in patients who received airway blocks and hence the amount of supplemental lignocaine used was less in this group. Overall patient comfort was better in Group NB with fewer incidences of unpleasant recalls as compared with Group L.

CONCLUSION: Upper airway blocks provide better quality of anesthesia than lignocaine nebulization as assessed by patient recall of procedure, coughing/gagging episodes, ease of intubation, vocal cord visibility, and time taken to intubate.

38: Gupta N, Vashist P, Tandon R, Gupta SK, Dwivedi S, Mani K. Prevalence of corneal diseases in the rural Indian population: the Corneal Opacity Rural Epidemiological (CORE) study. *Br J Ophthalmol.* 2014 Nov 13. pii: bjophthalmol-2014-305945. doi: 10.1136/bjophthalmol-2014-305945. [Epub ahead of print] PubMed PMID: 25395684.

OBJECTIVE: The present population-based study was undertaken to estimate the prevalence, determinants and causes of corneal morbidity and blindness in a rural North Indian population.

DESIGN: Population-based study in India with 12899 participants of all ages.

METHODS: Participants were recruited from 25 village clusters of district Gurgaon, Haryana, India using random cluster sampling strategy. All individuals were examined in detail with a portable slit lamp for evidence of any corneal disease during the door-to-door examination. Comprehensive ocular examination including logMar visual acuity, slit lamp biomicroscopy, non-contact tonometry and dilated retinal evaluation was performed at a central clinic site in the respective villages.

RESULTS: Overall, 12113 of 12899 people (93.9% response rate) were examined during the household visits. Prevalence of corneal disease was 3.7% (95% CI 3.4% to 4.1%) and that of corneal blindness was 0.12% (95% CI 0.05% to 0.17%). Multivariable analysis demonstrated that corneal disease was significantly higher in the elderly ($p < 0.0001$) and illiterates ($p < 0.0001$). Common causes of corneal opacity in the study population were pterygium (34.5%), ocular trauma (22.3%) and infectious keratitis (14.9%). Corneal diseases contributing to blindness were post-surgical bullous keratopathy (46.2%) and corneal degenerations (23.1%).

CONCLUSIONS: The study findings demonstrate that currently ocular trauma, infectious keratitis, post-surgical bullous keratopathy, and corneal degenerations are responsible for the major burden of corneal blindness and morbidity in the Indian population. The prevalence of corneal morbidity due to vitamin A deficiency and trachoma was low in this rural population.

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39: Gupta S, Chaurasia S, Sankar MJ, Deorari AK, Paul VK, Agarwal R. Neonatal research in India: current status, challenges, and the way forward. *Indian J Pediatr.* 2014 Nov;81(11):1212-20. doi: 10.1007/s12098-014-1558-5. Epub 2014 Sep 17. PubMed PMID: 25223863.

The present article systematically reviews the current status of neonatal research in India by examining the research articles published by Indian authors in the last 10 years. It also enlists the major challenges and proposes a few potential solutions to improve the status of neonatal research in the country. The systematic review of 574 eligible articles indicates that majority of the studies were observational in nature, facility-based, and primarily investigator-driven with no external funding, had small sample size, and were published in journals with low impact factor. Only a few select government and non-government academic institutions contributed to most studies. The major challenges include shortage of faculty, no provision for dedicated research time, inadequate knowledge/skills in research methods, lack of funding opportunities, limited access to literature, non-existence of research administrative cell, inappropriately low perks to research staff, and poor support for data management and statistical analysis. The recently revised guidelines on clinical trials involving drugs have further increased the researcher's dilemma. The potential solutions are to increase the faculty strength in medical colleges, allow dedicated research time to them, appoint dedicated research cadre with emoluments at par with clinical faculty, initiate formal training in research methods, create nationwide free portal for access to literature, facilitate development of good protocols through technical guidance at all stages, make the process of funding quick and transparent, and to promote collaborative trans-disciplinary research. Experts from different domains should come together and formulate evidence based research priorities. Regulatory mechanisms should be kept proportionate to plausible risks of research, and detailed ethical guidelines for

research in children should be formulated. And last but not least, harnessing postgraduate thesis potential to answer simple and relevant clinical questions in a methodologically rigorous way is the need of the hour.

40: Gupta V, Sreenivas V, Mehta M, Khaitan BK, Ramam M. Measurement properties of the Vitiligo Impact Scale-22 (VIS-22), a vitiligo-specific quality-of-life instrument. *Br J Dermatol*. 2014 Nov;171(5):1084-90. doi: 10.1111/bjd.13093. Epub 2014 Oct 6. PubMed PMID: 24805089.

BACKGROUND: Vitiligo has a significant psychological impact which needs to be evaluated separately from the extent of depigmentation. We have developed a vitiligo-specific quality-of-life (QoL) instrument, Vitiligo Impact Scale-22 (VIS-22) for this purpose.

OBJECTIVES: To study the measurement properties of VIS-22 and compare it with the Dermatology Life Quality Index (DLQI) and Skindex-16.

METHODS: Item-reduction analysis was used to reduce the number of items in the original VIS from 27 to 22. The 5-point Physician's Global Assessment (PGA) was used to evaluate the QoL followed by a Visual Analogue Scale (VAS) to assess patient-perceived severity. VIS-22, DLQI and Skindex-16 were self-administered. The validity of the VIS-22 was assessed in 161 patients, reliability in 69 patients and responsiveness in 72 patients and compared with DLQI and Skindex-16.

RESULTS: Criterion validity was shown by strong correlation of VIS-22 with VAS ($r = 0.7076$). Convergent validity was evidenced by strong correlations with DLQI ($r = 0.71$) and Skindex-16 ($r = 0.72$). Known-groups validity was demonstrated by significantly higher scores in females, those with less education, patients with progressive disease and patients with vitiligo compared with controls ($P < 0.001$). Reliability was shown by excellent correlation of the scores between baseline and 2 weeks ($r = 0.9053$). VIS-22 was found to be responsive with scores at 12 weeks moving parallel to scores on VAS. Similar trends were noted with DLQI and Skindex-16.

CONCLUSIONS: VIS-22 is a valid, reliable and responsive QoL instrument. It is comparable to DLQI and Skindex-16 in its measurement properties, while being specific to the needs of patients with vitiligo.

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41: Guruprasad B, Chaudhary P, Choedon T, Kumar VL. Artesunate Ameliorates Functional Limitations in Freund's Complete Adjuvant-Induced Monoarthritis in Rat by Maintaining Oxidative Homeostasis and Inhibiting COX-2 Expression. *Inflammation*. 2014 Nov 26. [Epub ahead of print] PubMed PMID: 25425049.

Drugs exhibiting anti-inflammatory and analgesic properties have been clinically used in the management of pain and impairment of joint functions in arthritis. In view of available studies on the beneficial effect of artesunate in various inflammatory conditions, the present study was carried out to evaluate its efficacy in ameliorating functional limitations of arthritis and to understand the underlying mechanisms. The study was carried out in rat model of Freund's complete adjuvant-induced monoarthritis where artesunate was found to produce a dose-dependent reduction in joint inflammation, improvement in functional parameters like stair climbing ability, motility, and suppression of mechanical allodynia at the doses of 50 and 150 mg/kg. Our study shows that protection afforded by artesunate was brought about by decreasing the levels of nitric oxide, influx of neutrophils, maintenance of oxidative homeostasis, inhibition of COX-2 expression, and apoptosis. Further, histological analysis of the arthritic

joints also substantiated the anti-inflammatory property of artesunate. Thus, our study shows that artesunate has a potential for use in the treatment of arthritis.

42: Hadda V, Madan K, Mohan A, Kalai U, Guleria R. Successful flexible bronchoscopic management of dynamic central airway obstruction by a large tracheal carcinoid tumor. *Case Rep Pulmonol*. 2014;2014:349707. doi: 10.1155/2014/349707. Epub 2014 Nov 13. PubMed PMID: 25478275; PubMed Central PMCID: PMC4247927.

Typical carcinoid of the trachea presenting as an endoluminal polypoidal mass is a rare occurrence. Herein, we report a case of a 34-year-old female patient who presented with features of central airway obstruction. Flexible bronchoscopy demonstrated a large pedunculated growth arising from the lower end of the trachea near carina which was flopping in and out of the main tracheal lumen and the proximal right bronchus leading to dynamic airway obstruction. Successful electrosurgical excision (using a snare loop) of the polypoidal growth was performed using the flexible bronchoscope itself. The patient had immediate relief of airway obstruction and histopathological examination of the polyp demonstrated features of typical carcinoid (WHO Grade I neuroendocrine tumor).

43: Hazarika A, Rath GP. Modified prone positioning for dorsal spine surgery in a patient with postural deformity due to spasticity of lower limbs. *J Clin Anesth*. 2014 Nov;26(7):582-4. doi: 10.1016/j.jclinane.2014.05.001. Epub 2014 Oct 20. PubMed PMID: 25439426.

44: Iqbal N, Raina V. Successful treatment of disseminated subcutaneous panniculitis-like T-cell lymphoma with single agent oral cyclosporine as a first line therapy. *Case Rep Dermatol Med*. 2014;2014:201836. doi: 10.1155/2014/201836. Epub 2014 Nov 23. PubMed PMID: 25506440; PubMed Central PMCID: PMC4259071.

Subcutaneous panniculitis-like T-cell lymphoma (SPTL) is a rare cutaneous neoplasm of mature cytotoxic T-cells. Currently there are no standardized therapies for SPTL; however good responses have been seen with chemotherapy regimens generally employed for B-cell lymphomas. Cyclosporine, an immunosuppressant, has shown good responses in relapsed/refractory SPTL; however its use in first line setting is not well established. We, herein, describe a 22-year-old girl with disseminated SPTL who attained complete clinical remission with single agent oral cyclosporine used as a first line therapy.

45: Jacob TG, Sreekumar VI, Roy TS, Garg PK. Electron-microscopic evidence of mitochondriae containing macroautophagy in experimental acute pancreatitis: Implications for cell death. *Pancreatol*. 2014 Nov-Dec;14(6):454-8. doi: 10.1016/j.pan.2014.08.009. Epub 2014 Sep 3. PubMed PMID: 25280593.

BACKGROUND: Dysfunctional autophagy and necrosis are characteristic features of severe acute pancreatitis.

OBJECTIVE: To unravel the cellular mechanisms underlying the pathogenesis of acute pancreatitis.

METHODS: We studied the ultrastructural pancreatic morphology using electron microscopy in experimental acute pancreatitis. The control group of animals received intraperitoneal injections of normal saline. Different severity of acute pancreatitis was induced by low and high doses of caerulein in Swiss albino mice. In the low dose group, pancreatitis was induced by 4 injections of caerulein given hourly [50 µg/kg/dose - total of 200 µg/kg] and in the high dose group by 8

injections given hourly (total of 400 µg/kg). The experiments were repeated in Na-taurocholate model of acute pancreatitis in rats. The pancreatic tissue was processed and studied by transmission electron microscopy for ultrastructural changes.

RESULTS: The acinar cells of the pancreatitis animals revealed autophagosomes that contained cellular organelles, including mitochondria. The animals that received a higher dose of caerulein had numerous cells showing a necrotic morphology, whereas the animals in the low dose group showed a predominantly apoptotic cell morphology. The Na-taurocholate model in rats also showed similar features of severe pancreatitis with cellular necrosis and macroautophagy.

CONCLUSIONS: Dysfunctional mitochondria in the injured pancreatic acinar cells are degraded by macroautophagy. These observations are not model specific. Mitochondrial dysfunction and consequent energy deficit in the cells might be causally related to cellular necrosis.

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46: Jain S, Karunanithi S, Singla S, Kumar A, Bal C, Kumar R. (18)F-FDG PET/CT in worsening of Primary Sclerosing Cholangitis concomitant with improved Langerhans Cell Histiocytosis. *Rev Esp Med Nucl Imagen Mol.* 2014 Nov-Dec;33(6):386-7. doi: 10.1016/j.remnm.2013.12.005. Epub 2014 Jul 17. PubMed PMID: 25043775.

47: Jain TK, Karunanithi S, Sharma P, Vijay MK, Ballal S, Bal C. Asymptomatic solitary cerebral metastasis from papillary carcinoma thyroid: 131I SPECT/CT for accurate staging. *Clin Nucl Med.* 2014 Nov;39(11):977-9. doi: 10.1097/RLU.0000000000000385. PubMed PMID: 24566406.

Isolated asymptomatic brain metastasis in papillary carcinoma thyroid (PCT) is extremely rare. We here present such a case of a 48-year-old woman with PCT. SPECT/CT localized the 131I radiotracer concentration seen on whole-body scan in this patient to the right posterior parietal cortex, suggesting brain metastasis. Contrast-enhanced MRI and 18F-FDG PET/CT confirmed the diagnosis and the patient was taken for gamma-knife radiosurgery. 131I SPECT/CT in this case accurately restaged the patient by detecting asymptomatic isolated brain metastasis and correctly directed the management strategy.

48: Jyotsna VP. Prediabetes and type 2 diabetes mellitus: Evidence for effect of yoga. *Indian J Endocrinol Metab.* 2014 Nov;18(6):745-9. doi: 10.4103/2230-8210.141318. PubMed PMID: 25364666; PubMed Central PMCID: PMC4192976.

49: Kamath DY, Xavier D, Gupta R, Devereaux PJ, Sigamani A, Hussain T, Umesh S, Xavier F, Girish P, George N, Thomas T, Chidambaram N, Joshi R, Pais P, Yusuf S. Rationale and design of a randomized controlled trial evaluating community health worker-based interventions for the secondary prevention of acute coronary syndromes in India (SPREAD). *Am Heart J.* 2014 Nov;168(5):690-7. doi: 10.1016/j.ahj.2014.07.029. Epub 2014 Aug 10. PubMed PMID: 25440797; PubMed Central PMCID: PMC4254408.

BACKGROUND: There is a need to evaluate and implement cost-effective strategies to improve adherence to treatments in coronary heart disease. There are no studies from low- to middle income countries (LMICs) evaluating trained community health worker (CHW)-based interventions for the secondary prevention of coronary heart disease.

METHODS: We designed a hospital-based, open randomized trial of CHW-based interventions versus standard care. Patients after an acute coronary syndrome (ACS) were randomized to an intervention group (a CHW-based intervention package, comprising education tools to enhance self-care and adherence, and regular follow-up by the CHW) or to standard care for 12 months during which study outcomes were recorded. The CHWs were trained over a period of 6 months. The primary outcome measure was medication adherence. The secondary outcomes were differences in adherence to lifestyle modification, physiological parameters (blood pressure [BP], body weight, body mass index [BMI], heart rate, lipids), and major adverse cardiovascular events.

RESULTS: We recruited 806 patients stabilized after an ACS from 14 hospitals in 13 Indian cities. The mean age was 56.4 (± 11.32) years, and 17.2% were females. A high prevalence of risk factors such as hypertension (43.4%), diabetes (31.9%), tobacco consumption (35.4%), and inadequate physical activity (70.5%) was documented. A little over half had ST-elevation myocardial infarction (53.7%), and 46.3% had non-ST-elevation myocardial infarction or unstable angina.

CONCLUSION: The CHW interventions and training for SPREAD have been developed and adapted for local use. The results and experience of this study will be important to counter the burden of cardiovascular diseases in low- to middle income countries.

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50: Kedia S, Ahuja V, Tandon R. Management of acute severe ulcerative colitis. *World J Gastrointest Pathophysiol.* 2014 Nov 15;5(4):579-88. doi: 10.4291/wjgp.v5.i4.579. Review. PubMed PMID: 25401001; PubMed Central PMCID: PMC4231522.

The management strategy of acute severe ulcerative colitis has evolved over the past decade from being entirely restricted to twin choices of intravenous steroids or colectomy to include colon rescue therapies like cyclosporin as well as infliximab. However it still remains a medical emergency requiring hospitalization and requires care from a multidisciplinary team comprising of a gastroenterologist and a colorectal surgeon. The frame shift in management has been the emphasis on time bound decision making with an attempt to curtail the mortality rate to below 1%. Intravenous corticosteroids are the mainstay of therapy. Response to steroids should be assessed at day 3 of admission and partial/non-responders should be considered for alternative medical therapy/surgery. Medical rescue therapies include intravenous cyclosporin and infliximab. Cyclosporin is administered in a dose of 2 mg/kg per day and infliximab is administered as a single dose intravenous infusion of 5 mg/kg. Approximately 75% patients have short term and 50% patients have long term response to cyclosporin. Long term response to cyclosporin is improved in patients who are thiopurine naïve and are started on thiopurines on day 7. Infliximab also has a response rate of approximately 70% in short term and 50% in long term. Both cyclosporin and infliximab are equally efficacious medical rescue therapies as demonstrated in a recent randomized control trial. Patients not responding to infliximab or cyclosporin should be considered for colectomy.

51: Khandpur S, Sahni K. An open label prospective randomized trial to compare the efficacy of coal tar-salicylic Acid ointment versus calcipotriol/betamethasone dipropionate ointment in the treatment of limited chronic plaque psoriasis. *Indian J Dermatol.* 2014 Nov;59(6):579-83. doi: 10.4103/0019-5154.143523. PubMed PMID: 25484388; PubMed Central PMCID: PMC4248495.

BACKGROUND: Chronic plaque psoriasis is a common papulosquamous skin disorder, for which a number of topical agents are being used including coal tar, topical steroids and more recently topical calcipotriol/betamethasone dipropionate. There is no study comparing purified coal tar preparation with calcipotriol/betamethasone dipropionate ointment in limited chronic plaque psoriasis.

AIMS AND OBJECTIVES: A prospective randomized open label controlled trial to compare the efficacy and safety of topical application of coal tar-salicylic acid ointment with calcipotriol/betamethasone dipropionate ointment applied once at night for 12 weeks for the treatment of limited chronic plaque psoriasis.

MATERIALS AND METHODS: A total of 62 patients of limited chronic plaque psoriasis (body surface area <10%) were randomized into two treatment groups: Group A received topical application of 6% coal tar with 3% salicylic acid ointment and Group B received calcipotriol/betamethasone dipropionate, once at night for 12 weeks. Results were assessed based on psoriasis area severity index (PASI) scores and patient global assessment (PGA) at each visit.

RESULTS: Mean PASI was significantly lower at week 2 ($P = 0.01$) and week 4 follow-up ($P = 0.05$) and the mean reduction in PASI was significantly higher at week 2 ($P = 0.02$) with calcipotriol/betamethasone than coal tar-salicylic acid, but this difference was not sustained at subsequent follow-up visits. Similarly, PGA scores at weeks 2 and 4 were significantly lower with calcipotriol/betamethasone dipropionate ointment ($P = 0.003$ and $P = 0.007$ respectively). There was no significant difference in any parameter during subsequent follow-up visits or at the end of the treatment phase (12 weeks).

CONCLUSION: Topical nightly application of calcipotriol/betamethasone dipropionate ointment leads to an initial, more rapid reduction in disease severity, but the overall outcome parameters are comparable in the two treatment groups.

52: Kumar G, Dhull VS, Karunanithi S, Bal C, Kumar R. (68)Ga-DOTANOC PET/CT mimicking renal dynamic scan: Lack of physiological uptake in the spleen of a newborn and the pituitary gland in congenital hyperinsulinism. *Rev Esp Med Nucl Imagen Mol.* 2014 Nov-Dec;33(6):382-3. doi: 10.1016/j.remnm.2013.12.002. Epub 2014 Jul 17. PubMed PMID: 25043776.

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54: Kumar M, Thakur S, Puri A, Shukla S, Sharma S, Perumal V, Chawla R, Gupta U. Fetal renal anomaly: Factors that predict survival. *J Pediatr Urol.* 2014 Dec;10(6):1001-7. doi: 10.1016/j.jpuro.2014.11.007. Epub 2014 Nov 12. PubMed PMID: 25486943.

OBJECTIVE: To find out the relative prevalence of renal anomalies detected in the antenatal period, and to look at factors that predict the postnatal outcome.

METHODS: In this prospective study, all antenatal-detected renal anomalies booked at the tertiary health centre were evaluated and counselled. Aspects such as type of renal anomaly, oligohydramnios and presence of additional anomalies were noted. Stillborn babies underwent autopsy; all live born babies were followed for

one year. Appropriate statistical analyses were performed to compare the antenatal factors with outcomes.

RESULTS: Renal anomalies were detected in 136 out of 587 cases with major fetal anomalies. Most of the women were primiparous (65.4%). The mean gestation at presentation was 30 weeks; in 12 cases, diagnosis was possible before 20 weeks (8.8%). Antenatal hydronephrosis was the most commonly seen anomaly, with 61 cases; this was followed by bilateral cystic kidney in 50 cases. Out of the 136 cases, 12 (8.8%) underwent termination of pregnancy and 60 (44.1%) babies were stillborn. Autopsy was performed in 58 out of 72 (80.6%) cases after consent. Karyotyping was performed in 49 cases and abnormalities were detected in two (4.1%) of them. A total of 64 (47.1%) babies were live born; after one year, 49 (36.0%) of them were alive. Postnatal survival was highest in unilateral disease (85.7%). In cases with oligohydramnios, there was only 3.4% survival after one year; none of the cases with cystic kidney and oligohydramnios survived. The period of gestation at presentation of non-survivors was 25.9 weeks compared to 32.5 weeks with survivors. Among the cases with extra renal anomaly, 7.0% survived; none of the cases with associated cranio-vertebral defect or polydactyly survived after a year.

CONCLUSION: Out of the different renal pathologies that were diagnosed, survival was highest in the unilateral group. The factors associated with poor prognosis included bilateral disease, absence of amniotic fluid and presence of associated malformation.

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The callus and roots developed from the hypocotyl and cotyledon explants of the germinating seeds of *Calotropis procera* were grown in culture, and the proteins isolated from them (CP and RP) were evaluated for their efficacy in inhibiting edema formation induced by sub-plantar injection of carrageenan in the hind paw of rat. Intravenous administration of both CP and RP 30 min before inducing inflammation produced a dose-dependent inhibition of edema formation at 1 and 5 mg/kg doses. The extents of inhibition with these proteins ranged between 40 and 70 % at the doses included while the anti-inflammatory drug diclofenac produced 50 to 60 % inhibition at 5 mg/kg dose. The inhibitory effect with these proteins was accompanied by a dose-dependent reduction in the tissue levels of inflammatory mediators, tumor necrosis factor alpha (TNF- α) and prostaglandin E2 (PGE2), and oxidative stress markers namely glutathione and thiobarbituric acid-reactive substances and maintenance of tissue architecture. The present study shows that the proteins isolated from the differentiated and undifferentiated tissues derived from the germinating seeds have therapeutic application in the treatment of inflammatory conditions, and these tissues could be used as an alternative source to minimize variability of plant-derived formulations.

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BACKGROUND: The purpose of this study was to determine the cost implications of the Coronary Artery Bypass Graft Off or On Pump Revascularization Study (CORONARY) at 1 year.

METHODS: Country-specific healthcare costs were obtained from public databases or local experts from each country in the CORONARY trial. Purchasing power parities were applied to these costs of consumed healthcare resources. Analyses of subgroups included in the CORONARY clinical trial were also conducted. Costs are reported in US dollars.

RESULTS: After 1 year, the total cost per patient in the off-pump coronary artery bypass graft surgery (CABG) arm was \$9,650 (\$9,216 to \$10,285) compared with \$9,583 (\$9,239 to \$9,988) for the on-pump CABG arm; that resulted in a nonsignificant increase of \$68 (-\$575 to \$710). Similar findings were noted for various subgroups. There were also no differences due to late conversions.

CONCLUSIONS: The CORONARY trial demonstrated that off-pump CABG was clinically as safe and effective as on-pump CABG with no difference in costs. Thus, the decision as to which method to choose is free from costs considerations and should be based on patient preference and surgeon expertise (Coronary Artery Bypass Graft [CABG] Off or On Pump Revascularization Study [CORONARY]; clinicaltrials.gov NCT00463294).

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BACKGROUND: Micronutrients play an important role in immune function. To our knowledge, there have been no comprehensive studies on the role of micronutrient supplementation in children with tuberculosis.

OBJECTIVE: We assessed the effect of micronutrient supplementation in children treated with antituberculosis therapy (ATT).

DESIGN: A randomized, double-blind, placebo-controlled trial that used a 2 × 2 factorial design was undertaken at 2 teaching hospitals in Delhi. Children with newly diagnosed intrathoracic tuberculosis were enrolled, and they received ATT together with daily supplementation for 6 mo with either zinc alone, micronutrients without zinc, micronutrients in combination with zinc, or a placebo. Main outcomes were weight gain and an improvement in a chest X-ray (CXR) lesion assessed at 6 mo of treatment.

RESULTS: A total of 403 children were enrolled and randomly assigned. A microbiological diagnosis of tuberculosis was confirmed in 179 children (44.4%). The median (95% CI) increase in weight-for-age z score at 6 mo was not significantly different between subjects who received micronutrients [0.75 (0.66, 0.84)] and those who did not receive micronutrients [0.76 (0.67, 0.85)] and between subjects who received zinc [0.76 (0.68, 0.85)] and those who did not receive zinc [0.75 (0.66, 0.83)]. An improvement in CXR was observed in 285 children, but there was no difference between those receiving zinc and no zinc or between those receiving micronutrients and no micronutrients after 6 mo of ATT. However, children who received micronutrients had a faster gain in height over 6

mo than did those who did not receive micronutrients (height-for-age z score $\Delta = 0.08$; $P = 0.014$).

CONCLUSIONS: Micronutrient supplementation did not modify the weight gain or clearance of lesions on CXR in children with intrathoracic tuberculosis. However, micronutrient supplementation during treatment may improve height gain in children with intrathoracic tuberculosis. This trial was registered at clinicaltrials.gov as NCT00801606.

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Alveolar echinococcosis is a parasitic disease primarily invading the liver. Owing to its aggressive nature, it invades the adjacent structures and can even metastasize to distant organs. The appearance of hepatic involvement on computed tomographic scan is characteristic, but not specific, with areas of calcification seen within a hypoenhancing mass. Although magnetic resonance imaging may better define the extent of the disease, it often misleads the radiologist, especially if the lesion is devoid of cystic component(s) and if it occurs in nonendemic areas. Knowledge of the imaging appearance may prompt serological evaluation and aid in making an early diagnosis and planning appropriate treatment of this uncommon fatal disease, especially in nonendemic areas.

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Crohn's disease (CD) is a chronic and progressive inflammatory disease of the intestine. Overall, healthcare delivery for patients with CD is not optimal at the present time and therefore needs improvement. There are evidences which suggest that there is a variation in the care provided to patients with CD by the inflammatory bowel disease (IBD) experts and community care providers. The delivery of healthcare for patients with CD is often complex and requires coordination between gastroenterologists/IBD specialist, gastrointestinal surgeon, radiologists and IBD nurses. In order to improve the quality of health care for patients with CD, there is need that we focus on large-scale, system-wide changes including creation of IBD comprehensive care units, provision to provide continuous care, efforts to standardize care, and education of the community practitioners.

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BACKGROUND: Anal canal is the lower most part of the gastrointestinal tract harbouring 4 % of all gastrointestinal cancer. Most common treatment for anal canal carcinoma includes chemoradiotherapy.

METHODOLOGY: We reviewed the recent landmark trials to find a road map in the management of anal canal carcinoma.

RESULTS: Concurrent chemoradiotherapy appears to be the most effective treatment schedule. Induction, as well as maintenance chemotherapy, has no definite role. Moderate dose radiation 50.4-54 Gy with concurrent mitomycin C (MMC) and 5-fluorouracil (5-FU) remains the standard. Split course is detrimental. Intensity-modulated radiotherapy and targeted drugs are investigated.

CONCLUSION: Combined modality therapy is the standard for anal canal carcinoma.

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Neurocysticercosis is a common parasitic infection of the central nervous system. Intraparenchymal giant cysticercosis has been described in literature, but this is a rare report of a thalamic giant cysticercosis in a young child where the diagnosis could be made on follow-up. A 1½-year-old male child presented with seizures, hemiparesis, and features of raised intracranial pressure. Initial neuroimaging findings of thalamic swelling with minimal edema and contrast enhancement with choline peak on magnetic resonance spectroscopy were attributed to thalamic glioma. Subsequent imaging revealed a ring enhancing lesion with an eccentric nodule suggestive of neurocysticercosis. It later resolved with residual gliosis. The presence of a pathognomonic scolex and the resolution of size and symptoms without definitive treatment helped in making the diagnosis. This report reinforces the importance of considering cysticercosis in diagnosis of acute presentations of large cerebral masses in infants, particularly in prevalent regions, and emphasizes the follow-up of these patients.

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BACKGROUND: The functional significance of basal ganglia calcification (BGC) in

idiopathic hypoparathyroidism (IH) is not clear.

OBJECTIVE: To assess the effect of BGC on glucose metabolism and dopaminergic function in IH.

METHODS: (18) F-FDG and (99m) Tc-TRODAT-1 nuclear imaging were performed in 35 IH patients with (n = 26) and without (n = 9) BGC. Controls were subjects without hypoparathyroidism or BGC (nine for (18) F-FDG and 12 for (99m) Tc-TRODAT-1). Relationship of the glucose metabolism and dopaminergic function was assessed with the neuropsychological and biochemical abnormalities.

RESULTS: (18) F-FDG uptake in IH patients with calcification at caudate and striatum was less than that of IH patients without calcification (1.06 ± 0.13 vs 1.24 ± 0.09 , $P = <0.0001$ and 1.06 ± 0.09 vs 1.14 ± 0.08 , $P = 0.03$, respectively).

(18) F-FDG uptake did not correlate with neuropsychological dysfunctions. (18) F-FDG uptake in IH without BGC was significantly lower than that of controls. The mean (99m) Tc-TRODAT-1 uptake at basal ganglia was comparable between IH with and without BGC and between IH without BGC and controls. Serum calcium-phosphorus ratio maintained by the patients correlated with (18) F-FDG uptake at striatum ($r = 0.57$, $P = 0.001$). For every 0.1 unit reduction in calcium-phosphorus ratio, (18) F-FDG uptake decreased by $2.5 \pm 0.68\%$ ($P = 0.001$).

CONCLUSION: BGC was associated with modest reduction (15%) in (18) F-FDG uptake at basal ganglia in IH but did not affect dopaminergic function. (18) F-FDG uptake did not correlate with neuropsychological dysfunctions. Interestingly, chronic hypocalcaemia-hyperphosphataemia also contributed to reduction in (18) F-FDG uptake which was independent of BGC.

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68: Nagori SA, Jose A, Agarwal B, Bhatt K, Bhutia O, Roychoudhury A. Traumatic bone cyst of the mandible in Langer-Giedion syndrome: a case report. *J Med Case Rep.* 2014 Nov 25;8:387. doi: 10.1186/1752-1947-8-387. PubMed PMID: 25421062.

INTRODUCTION: Langer-Giedion syndrome (trichorhinophalangeal syndrome type II) is an extremely rare disorder characterized by dysmorphic facial features, multiple exostoses, mental retardation and digit deformities. We report the first case of any maxillofacial pathology in such a syndromic patient.

CASE PRESENTATION: A 22-year-old Indian woman with mild intellectual disability presented with malaligned teeth. Routine radiographic screening demonstrated a large multilocular lesion in her right mandible. She had peculiar features such as short stature, short limbs, brachydactyly, and dysmorphic facial characters, which prompted us to evaluate her further. After findings of multiple bony exostoses she was diagnosed with Langer-Giedion syndrome. On surgical exploration of her right mandibular lesion an empty cavity was found suggestive of traumatic bone cyst. The lesion healed completely after 1 year without loss of vitality of any teeth.

CONCLUSIONS: Although diagnosis and management of any maxillofacial pathology can be challenging in syndromic patients, our report suggests a possible correlation between traumatic bone cyst and Langer-Giedion syndrome. Clinicians should routinely screen these patients for any undetected maxillofacial pathology. In future cases of this syndrome, one should consider the possibility of traumatic bone cyst which may not require aggressive surgical management.

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OBJECTIVE: To evaluate the success of autogenous transplantation of embedded/impacted third molars harvested using piezosurgery.

MATERIALS AND METHODS: This prospective pilot study enrolled 20 healthy patients with non-restorable first/second molars and a caries-free retrievable embedded/impacted third molar. Piezosurgery was used for removing inter-radicular bone at the recipient socket as well as for bone removal around the donor teeth.

RESULTS: After an average follow-up of 16.4 months (SD = 1.9), 18 cases were successful with formation of periodontal ligament around the teeth. One tooth was lost due to infection at 1 month. One patient was lost to follow-up. There was no root resorption or ankylosis in any of the cases. In six donor teeth with complete root formation, root canal treatment was carried out. All the remaining teeth responded positively with vitality testing.

CONCLUSION: Piezosurgery is an effective device if embedded/impacted third molars are to be harvested for successful autogenous transplantation.

70: Nambiar D, Narayan VV, Josyula LK, Porter JD, Sathyanarayana TN, Sheikh K. Experiences and meanings of integration of TCAM (Traditional, Complementary and Alternative Medical) providers in three Indian states: results from a cross-sectional, qualitative implementation research study. *BMJ Open*. 2014 Nov 25;4(11):e005203. doi: 10.1136/bmjopen-2014-005203. PubMed PMID: 25424993; PubMed Central PMCID: PMC4248091.

OBJECTIVES: Efforts to engage Traditional, Complementary and Alternative Medical (TCAM) practitioners in the public health workforce have growing relevance for India's path to universal health coverage. We used an action-centred framework to understand how policy prescriptions related to integration were being implemented in three distinct Indian states.

SETTING: Health departments and district-level primary care facilities in the states of Kerala, Meghalaya and Delhi.

PARTICIPANTS: In each state, two or three districts were chosen that represented a variation in accessibility and distribution across TCAM providers (eg, small or large proportions of local health practitioners, Homoeopaths, Ayurvedic and/or Unani practitioners). Per district, two blocks or geographical units were selected. TCAM and allopathic practitioners, administrators and representatives of the community at the district and state levels were chosen based on publicly available records from state and municipal authorities. A total of 196 interviews were carried out: 74 in Kerala, and 61 each in Delhi and Meghalaya.

PRIMARY AND SECONDARY OUTCOME MEASURES: We sought to understand experiences and meanings associated with integration across stakeholders, as well as barriers and facilitators to implementing policies related to integration of Traditional, Complementary and Alternative (TCA) providers at the systems level.

RESULTS: We found that individual and interpersonal attributes tended to facilitate integration, while system features and processes tended to hinder it. Collegiality, recognition of stature, as well as exercise of individual personal initiative among TCA practitioners and of personal experience of TCAM among allopaths enabled integration. The system, on the other hand, was characterised

by the fragmentation of jurisdiction and facilities, intersystem isolation, lack of trust in and awareness of TCA systems, and inadequate infrastructure and resources for TCA service delivery.

CONCLUSIONS: State-tailored strategies that routinise interaction, reward individual and system-level individual integrative efforts, and are fostered by high-level political will are recommended.

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71: Naswa N, Karunanithi S, Sharma P, Soundararajan R, Bal C, Kumar R. Pre-operative (68)Ga-DOTANOC somatostatin receptor PET/CT imaging demonstrating multiple synchronous lesions in a patient with head and neck paraganglioma. *Rev Esp Med Nucl Imagen Mol*. 2014 Nov-Dec;33(6):374-7. doi: 10.1016/j.rem.2013.11.002. Epub 2014 Jul 17. PubMed PMID: 25043773.

Paragangliomas, or glomus tumors, are neoplasms arising from extra-adrenal chromaffin tissue. They frequently cause symptoms by over-production of catecholamines with known predilection to multicentricity. We describe the case of a patient with bilateral carotid body tumor who underwent a preoperative (68)Gallium labeled [1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid]-1-NaI3-Octreotide ((68)Ga-DOTANOC) positron emission tomography/computed tomography (PET/CT) imaging for staging. This is a unique case in which multiple paraganglioma and pheochromocytoma were demonstrated in a single patient using (68)Ga-DOTANOC PET/CT.

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72: Paswan SS, Kataria K, Parshad R, Srivastava A, Seenu V, Mishra B. Feasibility of fast track discharge in breast cancer patients undergoing definitive surgery and impact on quality of life: A prospective study from tertiary care center in India. *J Surg Oncol*. 2014 Nov 12. doi: 10.1002/jso.23817. [Epub ahead of print] PubMed PMID: 25393854.

OBJECTIVE: To evaluate the feasibility and impact of fast track discharge in patients undergoing definitive breast cancer surgery.

METHODS: One hundred six breast cancer patients older than 20 years of age were assigned to undergo definitive breast cancer surgery. It was ensured that enrolled patients had a ready access to hospital, reasonable home circumstances. They were assessed by using post-anesthesia discharge scoring system (PADSS) for fast track discharge. Quality of life both in preoperative and postoperative period was assessed by Functional Assessment of Cancer Therapy-Breast cancer version 4 (FACT-B4) questionnaires.

RESULT: Overall 90 patients (84.9%) were fit for fast track discharge. Eighty-nine patients (83.96%) were successfully discharged within 48hr. One patient (0.94%) could not be discharged despite being fit as she was of concern that it would put too much responsibility on the family. Mean duration of postoperative hospital stay in patients fit for fast track surgery was 42.27±5.73hr with a median of 44hr. All patients undergoing breast conservation could be discharged on fast track basis with a mean postoperative hospital stay of 32.12hr.

CONCLUSION: Fast track discharges in breast cancer patients after definitive surgery are feasible in Indian setting. *J. Surg. Oncol.* © 2014 Wiley Periodicals,

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OBJECTIVES: To review the success and technical aspects of pulmonary valve (PV) perforation using chronic total occlusion (CTO) hardware in patients with pulmonary atresia and intact ventricular septum (PA-IVS).

BACKGROUND: Interventional therapy is possible in selected patients with PA-IVS. Among the various interventional options available, radiofrequency and laser assisted perforation may be more successful, but require expertise and may be substantially costly.

METHODS: We describe the technique of mechanical catheter PV perforation using currently available coronary hardware meant for coronary CTO in nine cases with PA-IVS. After complete echocardiographic evaluation and informed parental consent was obtained, patients were electively intubated, mechanically ventilated, adequately heparinized and were placed on intravenous prostaglandin infusion. Basic steps involved were—localizing the atretic segment and accomplishing coaxial alignment of catheters using biplane fluoroscopy, crossing the atretic segment with the soft end of perforating guidewire, stabilizing the assembly and performing graded balloon dilatation with the balloon size never exceeding 130% of pulmonary annulus diameter. For crossing the atretic PV, a retrograde approach was used in one patient where the antegrade approach was not possible.

RESULTS: The procedure was successful in 8/9 cases (89%). Valve opening was achieved in all eight patients with immediate fall in right ventricular (RV) systolic pressures. One neonate died following surgery after catheter induced RV perforation. All surviving cases were discharged from the hospital in good general condition with no evidence of heart failure and a room air oxygen saturation of >85%. No patient required an additional pulmonary irrigation procedure.

CONCLUSION: With appropriate patient and hardware selection, PV perforation using readily available coronary hardware is feasible in PA-IVS. © 2014 Wiley Periodicals, Inc.

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74: Prasad GL, Sinha S. Spinal intradural subpial angioliipoma: Case report and review of literature. *Surg Neurol Int.* 2014 Nov 28;5:164. doi: 10.4103/2152-7806.145770. eCollection 2014. PubMed PMID: 25558423.

BACKGROUND: Spinal angioliipomas are rare tumors consisting of mature adipose tissue and abnormal vascular elements. Intradural location is very rare, and till now, only seven cases have been reported in literature. Authors report a case of an intradural intramedullary (subpial) angioliipoma located in the thoracic cord.

CASE DESCRIPTION: A 26-year-old patient presented with features of progressive myelopathy of relatively short duration. Imaging showed a heterogeneous fat-containing intradural lesion at D5-D9 level, which enhanced on contrast enhanced fat saturation sequences. Subtotal excision was performed and patient had partial recovery of his neurological deficits. Histopathology was suggestive

of angioliipoma.

CONCLUSIONS: Intradural angioliipomas are very rare. Complete excision often leads to neurological deficits. Hence, safe maximal decompression would suffice leading to long-term recurrence-free periods.

75: Rahman SA, Singh Y, Kohli S, Ahmad J, Ehtesham NZ, Tyagi AK, Hasnain SE. Comparative analyses of nonpathogenic, opportunistic, and totally pathogenic mycobacteria reveal genomic and biochemical variabilities and highlight the survival attributes of *Mycobacterium tuberculosis*. *MBio*. 2014 Nov 4;5(6):e02020. doi: 10.1128/mBio.02020-14. PubMed PMID: 25370496; PubMed Central PMCID: PMC4222108.

Mycobacterial evolution involves various processes, such as genome reduction, gene cooption, and critical gene acquisition. Our comparative genome size analysis of 44 mycobacterial genomes revealed that the nonpathogenic (NP) genomes were bigger than those of opportunistic (OP) or totally pathogenic (TP) mycobacteria, with the TP genomes being smaller yet variable in size--their genomic plasticity reflected their ability to evolve and survive under various environmental conditions. From the 44 mycobacterial species, 13 species, representing TP, OP, and NP, were selected for genomic-relatedness analyses. Analysis of homologous protein-coding genes shared between *Mycobacterium indicus pranii* (NP), *Mycobacterium intracellulare* ATCC 13950 (OP), and *Mycobacterium tuberculosis* H37Rv (TP) revealed that 4,995 (i.e., ~95%) *M. indicus pranii* proteins have homology with *M. intracellulare*, whereas the homologies among *M. indicus pranii*, *M. intracellulare* ATCC 13950, and *M. tuberculosis* H37Rv were significantly lower. A total of 4,153 (~79%) *M. indicus pranii* proteins and 4,093 (~79%) *M. intracellulare* ATCC 13950 proteins exhibited homology with the *M. tuberculosis* H37Rv proteome, while 3,301 (~82%) and 3,295 (~82%) *M. tuberculosis* H37Rv proteins showed homology with *M. indicus pranii* and *M. intracellulare* ATCC 13950 proteomes, respectively. Comparative metabolic pathway analyses of TP/OP/NP mycobacteria showed enzymatic plasticity between *M. indicus pranii* (NP) and *M. intracellulare* ATCC 13950 (OP), *Mycobacterium avium* 104 (OP), and *M. tuberculosis* H37Rv (TP). *Mycobacterium tuberculosis* seems to have acquired novel alternate pathways with possible roles in metabolism, host-pathogen interactions, virulence, and intracellular survival, and by implication some of these could be potential drug targets. **IMPORTANCE:** The complete sequence analysis of *Mycobacterium indicus pranii*, a novel species of *Mycobacterium* shown earlier to have strong immunomodulatory properties and currently in use for the treatment of leprosy, places it evolutionarily at the point of transition to pathogenicity. With the purpose of establishing the importance of *M. indicus pranii* in providing insight into the virulence mechanism of tuberculous and nontuberculous mycobacteria, we carried out comparative genomic and proteomic analyses of 44 mycobacterial species representing nonpathogenic (NP), opportunistic (OP), and totally pathogenic (TP) mycobacteria. Our results clearly placed *M. indicus pranii* as an ancestor of the *M. avium* complex. Analyses of comparative metabolic pathways between *M. indicus pranii* (NP), *M. tuberculosis* (TP), and *M. intracellulare* (OP) pointed to the presence of novel alternative pathways in *M. tuberculosis* with implications for pathogenesis and survival in the human host and identification of new drug targets.

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76: Raj D, Kabra SK, Lodha R. Childhood obesity and risk of allergy or asthma. *Immunol Allergy Clin North Am*. 2014 Nov;34(4):753-65. doi: 10.1016/j.iac.2014.07.001. Epub 2014 Aug 29. PubMed PMID: 25282288.

The simultaneous increment in the prevalence of obesity and allergic diseases suggests a possible link between them. This review focuses on the consequences of obesity on allergic diseases, especially asthma in children and adolescents, and evaluates the available evidence on the possible mechanisms. Obesity is related more strongly to nonatopic than atopic asthma, suggesting non-eosinophilic inflammation and Th1 polarization. Among other allergic diseases, the association is more consistent with eczema compared to allergic rhinitis/rhinoconjunctivitis. The mechanisms of asthma in obese individuals could involve mechanical effects of obesity on lung function, adipokines-mediated inflammation, shared factors (diet, genetics, sedentary lifestyle) and comorbidities.

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77: Rajkumari N, Sharma K, Mathu P, Kumar S, Gupta A. A study on surgical site infections after trauma surgeries in a tertiary care hospital in north India. *Indian J Med Res.* 2014 Nov;140(5):691-4. PubMed PMID: 25579155.

78: Rajput M, Saini SK. Prevalence of constipation among the general population: a community-based survey from India. *Gastroenterol Nurs.* 2014 Nov-Dec;37(6):425-9. doi: 10.1097/SGA.000000000000074. PubMed PMID: 25461464.

Constipation is a frequent health problem leading to great discomfort to the person and affects his or her quality of life. It is considered to be highly prevalent in the general population, but there is little data supporting the findings. This study was undertaken with an objective to assess the prevalence of constipation and its associated factors among the general population of Dadu Majra Colony, UT, Chandigarh, India. A total of 505 individuals were interviewed through structured questionnaire based on ROME II criteria for constipation. Results revealed that the prevalence of self-reported constipation within the last 1 year was 24.8% whereas 16.8% of participants had constipation according to the Rome II criteria. Most of the subjects (83%) were within the age group of 18-59 years with mean age (years) of 38.64 ± 15.57 . Constipation was significantly more frequent in females than in males (20% vs. 13%) and in nonworking population than in working population (20% vs. 12%). Poor dietary habits, lesser fluid intake per day, and lesser physical activity were found to be significant factors leading to the constipation. About 18% of constipated subjects reported physicians' consultation, whereas 8% reported the use of laxatives to relieve their constipation.

79: Ranjan R, Singh L, Arava SK, Singh MK. Margins in skin excision biopsies: principles and guidelines. *Indian J Dermatol.* 2014 Nov;59(6):567-70. doi: 10.4103/0019-5154.143514. PubMed PMID: 25484385; PubMed Central PMCID: PMC4248492.

Skin biopsies are usually undertaken to confirm a clinical diagnosis, to remove a lesion, and to determine the adequacy of excised tissue margin. A surgical margin is technically defined as the "edge" of the tissue removed. The term is especially pertinent when the tissue excised is suspected of being involved by a malignant process. One of the most important predictive and prognostic factors of a malignant lesion is whether the margins of the resected specimen are involved by the tumor or not. The purpose of this review is to provide an insight into grossing of a skin biopsy specimen with emphasis on techniques and reporting of excision biopsy margins.

80: Rongpharpi SR, Gur R, Duggal S, Kumar A, Nayar R, Xess I, Wadhwa V, Khanijo CM. *Candida krusei* fungemia in 7 neonates: Clonality tracked to an infusate. *Am J Infect Control.* 2014 Nov;42(11):1247-8. doi: 10.1016/j.ajic.2014.07.033. Epub 2014 Oct 30. PubMed PMID: 25444273.

81: Roy SG, Karunanithi S, Dhull VS, Bal C, Kumar R. (18)F-FDG PET/CT aids the diagnosis of adult onset Still's disease in a patient with fever of unknown origin. *Rev Esp Med Nucl Imagen Mol*. 2014 Nov-Dec;33(6):392-3. doi: 10.1016/j.remnm.2014.03.001. Epub 2014 Sep 16. PubMed PMID: 25242172.

82: Sahoo RK, Bakhshi S. Chylothorax at presentation in T-cell acute lymphoblastic leukemia: the milky puzzle. *J Pediatr Hematol Oncol*. 2014 Nov;36(8):663-4. doi: 10.1097/MPH.0b013e318290bcbc. PubMed PMID: 23652873.

83: Sankar J, Lodha R, Kabra SK. Parental stress in pediatric intensive care unit: how do we cope with it? *Indian J Pediatr*. 2014 Nov;81(11):1141-2. doi: 10.1007/s12098-014-1599-9. Epub 2014 Oct 15. PubMed PMID: 25316530.

84: Sankar J, Das RR, Jain A, Dewangan S, Khilnani P, Yadav D, Dubey N. Prevalence and outcome of diastolic dysfunction in children with fluid refractory septic shock--a prospective observational study. *Pediatr Crit Care Med*. 2014 Nov;15(9):e370-8. doi: 10.1097/PCC.0000000000000249. PubMed PMID: 25230313.

OBJECTIVES: Our primary objective was to determine the prevalence and outcome of diastolic dysfunction in children with fluid refractory septic shock. The secondary objective was to determine possible early predictors of diastolic dysfunction.

DESIGN: Prospective observational study.

SETTING: PICU of a tertiary care teaching hospital.

PATIENTS: Consecutive children 17 years old or younger with fluid refractory septic shock and not on mechanical ventilation admitted to our ICU from June 2011 to August 2012 were included. Survivors were followed up till 1 year of discharge (July 2013).

INTERVENTIONS: Children were subjected to 2D echocardiography and qualitative cardiac troponin-T test within the first 6 hours of admission.

MEASUREMENTS AND MAIN RESULTS: A total of 56 children were included. Median age was 7 years (interquartile range, 1.5, 14) and majority (52%) were males. Most common underlying diagnoses were meningitis and pneumonia. The prevalence of diastolic dysfunction was 41.1% (95% CI, 27.8-54.4), and mortality rate was 43% in those with diastolic dysfunction. At 1-year follow-up, residual dysfunction was present in only one of 11 of the survivors (11%). On univariable analysis of possible early predictors of diastolic dysfunction, we observed that these children tended to have higher mean central venous pressure (13 vs 6; $p < 0.0001$) and greater positivity for cardiac troponin-T (70% vs 36%; $p = 0.01$) compared with others. Although factors such as duration of illness and diastolic blood pressure were also lower in children with diastolic dysfunction compared with others, the difference was not statistically significant. On multivariable analysis, only the variable central venous pressure remained significant (adjusted odds ratio, 1.6; 95% CI, 1.12-2.14; $p = 0.008$).

CONCLUSIONS: Diastolic dysfunction is common in children with fluid refractory septic shock, and immediate outcomes may be poorer in such patients. Increased central venous pressure after initial fluid resuscitation may be an early indicator of diastolic dysfunction and warrant urgent bedside echocardiography to guide further management.

85: Sawhney C, Kaur M, Gupta B, Singh PM, Gupta A, Kumar S, Misra MC. Critical care issues in solid organ injury: Review and experience in a tertiary trauma center. *Saudi J Anaesth*. 2014 Nov;8(Suppl 1):S29-35. doi: 10.4103/1658-354X.144065. PubMed PMID: 25538517; PubMed Central PMCID: PMC4268524.

BACKGROUND AND AIM: Solid organ (spleen and liver) injuries are dreaded by both surgeons and anesthesiologists because of associated high morbidity and mortality. The purpose of this review is to describe our experience of critical care concerns in solid organ injury, which otherwise has been poorly addressed in the literature.

MATERIALS AND METHODS: Retrospective cohort of solid organ injury (spleen and liver) patients was done from January 2010 to December 2011 in tertiary level trauma Center.

RESULTS: Out of 624 abdominal trauma patients, a total of 212 patients (70%) were admitted in intensive care unit (ICU). Their ages ranged from 6 to 74 years (median 24 years). Nearly 89% patients in liver trauma and 84% patients in splenic trauma were male. Mechanism of injury was blunt abdominal trauma in 96% patients and the most common associated injury was chest trauma. Average injury severity score, sequential organ failure assessment, lactate on admission was 16.84, 4.34 and 3.42 mmol/L and that of dying patient were 29.70, 7.73 and 5.09 mmol/L, respectively. Overall mortality of ICU admitted solid organ injury was 15.55%. Major issues of concern in splenic injury were hemorrhagic shock, overwhelming post-splenectomy infection and post-splenectomy vaccination. Issues raised in liver injury are damage control surgery, deadly triad, thromboelastography guided transfusion protocols and hemostatic agents.

CONCLUSIONS: A protocol-based and multidisciplinary approach in high dependency unit can significantly reduce morbidity and mortality in patients with solid organ injury.

86: Sehgal M, Rizwan SA, Krishnan A. Disease burden due to biomass cooking-fuel-related household air pollution among women in India. *Glob Health Action*. 2014 Nov 4;7:25326. doi: 10.3402/gha.v7.25326. eCollection 2014. PubMed PMID: 25373414; PubMed Central PMCID: PMC4221659.

BACKGROUND: Household air pollution (HAP) due to biomass cooking fuel use is an important risk factor for a range of diseases, especially among adult women who are primary cooks, in India. About 80% of rural households in India use biomass fuel for cooking. The aim of this study is to estimate the attributable cases (AC) for four major diseases/conditions associated with biomass cooking fuel use among adult Indian women.

METHODS: We used the population attributable fraction (PAF) method to calculate the AC of chronic bronchitis, tuberculosis (TB), cataract, and stillbirths due to exposure to biomass cooking fuel. A number of data sources were accessed to obtain population totals and disease prevalence rates. A meta-analysis was conducted to obtain adjusted pooled odds ratios (ORs) for strength of association. Using this, PAF and AC were calculated using a standard formula. Results were presented as number of AC and 95% confidence intervals (CI).

RESULTS: The fixed effects pooled OR obtained from the meta-analysis were 2.37 (95% CI: 1.59, 3.54) for chronic bronchitis, 2.33 (1.65, 3.28) for TB, 2.16 (1.42, 3.26) for cataract, and 1.26 (1.12, 1.43) for stillbirths. PAF varied across conditions being maximum (53%) for chronic bronchitis in rural areas and least (1%) for cataract in older age and urban areas. About 2.4 (95% CI: 1.4,

3.1) of 5.6 m cases of chronic bronchitis, 0.3 (0.2, 0.4) of 0.76 m cases of TB, 5.0 (2.8, 6.7) of 51.4 m cases of cataract among adult Indian women and 0.02 (0.01, 0.03) of 0.15 m stillbirths across India are attributable to HAP due to biomass cooking fuel. These estimates should be cautiously interpreted in the light of limitations discussed which relate to exposure assessment, exposure characterization, and age-specific prevalence of disease.

CONCLUSIONS: HAP due to biomass fuel has diverse and major impacts on women's health in India. Although challenging, incorporating the agenda of universal clean fuel access or cleaner technology within the broader framework of rural development will go a long way in reducing disease burden.

87: Sharma A, Prasad K, Padma MV, Tripathi M, Bhatia R, Singh MB, Sharma A. Prevalence of Triggering Factors in Acute Stroke: Hospital-Based Observational Cross-sectional Study. *J Stroke Cerebrovasc Dis*. 2014 Nov 22. pii: S1052-3057(14)00437-6. doi: 10.1016/j.jstrokecerebrovasdis.2014.08.033. [Epub ahead of print] PubMed PMID: 25444031.

BACKGROUND: Although chronic risk factors for stroke are reasonably well understood, the acute precipitants, or triggers, of stroke relatively remain understudied. Identification of particular time periods during which stroke risk is elevated could prove a valuable strategy to reduce stroke incidence through the introduction of appropriate prevention strategies during a period of vulnerability. The aim of this study was to determine the prevalence of trigger factors in acute stroke patients and to investigate the association of the presence of trigger factors with initial stroke severity at presentation (National Institutes of Health Stroke Scale (NIHSS) score in ischemic stroke patients and volume of hematoma in hemorrhagic stroke patients).

METHODS: This was a hospital-based observational cross-sectional study. All consecutive patients of recent stroke (reporting within 1 week of stroke onset) were included in the study. This study examined the prevalence of 11 predefined triggers (including both well-established and potential triggers) in predefined hazard periods.

RESULTS: In total, 290 patients participated in the study. Presence of any trigger factor out of 11 trigger factors studied was seen in 128 (44.2%) of 290 patients, 104 (46.4%) of 224 ischemic stroke patients and 24 (36.4%) of 66 hemorrhagic stroke patients. Psychological stress was present in 51 (17.6%) patients, among psychological stress: stressful life event in 34 (11.7%), negative affect in 17 (5.9%), acute alcohol abuse in 31 (10.7%), clinical infections in 24 (8.3%), and anger and coffee intake in 12 (4.1%) each. Sexual activity, trauma, and surgery were present in 5 (1.7%), 4 (1.4%), and 5 (1.7%) patients, respectively. None of the patients reported exposure to recreational drug abuse, startling event, and unusual vigorous physical exertion in hazard periods. Two or more trigger factors were present in 16 (5.5%) patients. Clinical variables independently associated with the presence of trigger factors in acute stroke after multivariate analysis were younger age (<60 years) and stroke severity at initial presentation (ie, higher NIHSS score and higher hematoma volume).

CONCLUSIONS: Trigger factors were present in 44.2% of acute stroke patients. Psychological stress (17.6%), acute alcohol abuse (10.7%), and clinical infections (8.3%) were the most common triggers. Younger age (<60 years) and stroke severity at initial presentation were independently associated with the presence of trigger factors in acute stroke patients. However, these associations need to be further explored in community-based studies.

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88: Sharma N, Lathi SS, Sehra SV, Agarwal T, Sinha R, Titiyal JS, Velpandian T, Tandon R, Vajpayee RB. Comparison of umbilical cord serum and amniotic membrane transplantation in acute ocular chemical burns. *Br J Ophthalmol*. 2014 Nov 4. pii: [bjophthalmol-2014-305760](https://doi.org/10.1136/bjophthalmol-2014-305760). doi: [10.1136/bjophthalmol-2014-305760](https://doi.org/10.1136/bjophthalmol-2014-305760). [Epub ahead of print] PubMed PMID: 25370084.

PURPOSE: To compare the efficacy of umbilical cord serum (UCS) with amniotic membrane transplantation (AMT) in cases of acute ocular chemical burns.

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

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

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

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89: Sharma S, Sharma G, Hote M, Devagourou V, Kesari V, Arava S, Airan B, Ray R. Light and electron microscopic features of surgically excised left atrial appendage in rheumatic heart disease patients with atrial fibrillation and sinus rhythm. *Cardiovasc Pathol*. 2014 Nov-Dec;23(6):319-26. doi: [10.1016/j.carpath.2014.07.008](https://doi.org/10.1016/j.carpath.2014.07.008). Epub 2014 Aug 6. PubMed PMID: 25216788.

INTRODUCTION: There are few studies comparing the pathology of the remodeled substrate in patients of rheumatic heart disease with atrial fibrillation (AF) and normal sinus rhythm (NSR).

METHODS: The study group comprised 30 patients with rheumatic heart disease undergoing mitral valve replacement. Excised left atrial appendages of these patients [17 with persistent AF and 13 NSR (control group)] were subjected to light and electron microscopic examination.

RESULTS: The histopathological findings of the myocardium were characterized by cardiomyocyte hypertrophy (CH), nuclear enlargement (NE), perinuclear clearing (PC), sarcoplasmic vacuolation (SV), fibrosis, and inflammation in the patients with AF and NSR. NE (17/17 vs. 4/13; $P=0.004$), PC (17/17 vs. 4/13; $P=0.004$), SV (17/17 vs. 9/13; $P=0.06$), and fibrosis (15/17 vs. 3/13; $P=0.001$) were all

significantly more common in patients with AF. Inflammatory cells were observed in 9/17 patients of AF as compared to 1 in NSR patients (9/17 vs. 1/13; P=.02). CH was common in the patients with AF as compared with those in NSR (17/17 vs. 10/13; P=.103). In AF patients, electron microscopy revealed cardiomyocytes with depletion of the contractile elements (Z-bands), glycogen particle accumulation, and an increase in mitochondria. Cells severely affected by AF showed loss of contractile elements with extensive areas of SV, presence of myelin figures, and mitochondrial aggregates. Majority of AF cases showed extensive fibrosis in the form of collagen bundles in the interstitium.

CONCLUSION: The left atrial substrate in AF as compared with NSR, in rheumatic heart disease patients, is associated with significant degenerative remodeling and ongoing inflammation that is associated with extensive fibrosis.

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90: Shukla D, Bablani D, Chowdhry A, Thapar R, Gupta P, Mishra S. Dentofacial and cranial changes in down syndrome. *Osong Public Health Res Perspect.* 2014 Dec;5(6):339-44. doi: 10.1016/j.phrp.2014.09.004. Epub 2014 Nov 12. PubMed PMID: 25562042.

OBJECTIVES: This study aimed to determine the prevalence of certain oral characteristics usually associated with Down syndrome and to determine the oral health status of these patients.

METHODS: The cross-sectional study was conducted among patients attending a special education program at Faculty of Dentistry, Jamia Millia Islamia, Delhi, India. The study design consisted of closed-ended questions on demographic characteristics (age, sex, and education and income of parents), dietary habits, and oral hygiene habits. Clinical examination included assessment of oral hygiene according to Simplified Oral Hygiene Index (OHI-S), dental caries according to decayed, missing, and filled teeth (DMFT) index, periodontal status according to the Community Periodontal Index of Treatment Needs (CPITN), and malocclusion according to Angles classification of malocclusion. Examinations were carried out using a using a CPI probe and a mouth mirror in accordance with World Health Organization criteria and methods. Craniometric measurements, including maximum head length and head breadth were measured for each participant using Martin spreading calipers centered on standard anthropological methods.

RESULTS: The majority of the patients were males (n = 63; 82%) with age ranging from 6-40 years. The Intelligence Quotient (IQ) score of the patients indicated that 31% had moderate mental disability and 52% had mild mental disability. 22% exhibited hearing and speech problems. 12% had missing teeth and 15% had retained deciduous teeth in adult population. The overall prevalence of dental caries in the study population was 78%. DMFT, CPITN and OHI scores of the study group were 3.8 ± 2.52 , 2.10 ± 1.14 and 1.92 ± 0.63 respectively. The vast majority of patients required treatment (90%), primarily of scaling, root planing, and oral hygiene education. 16% of patients reported CPITN scores of 4 (deep pockets) requiring complex periodontal care. The prevalence of malocclusion was 97% predominantly of Class III malocclusions. Further 14% presented with fractured anterior teeth primarily central incisor. The percentage means of cephalic index was 84.6% in the study population. The brachycephalic and hyperbrachycephalic type of head shape was dominant in the Down syndrome individuals (90%).

CONCLUSION: The most common dentofacial anomaly seen in these individuals was fissured tongue followed by macroglossia.

91: Shukla KK, Chambial S, Dwivedi S, Misra S, Sharma P. Recent scenario of obesity and male fertility. *Andrology*. 2014 Nov;2(6):809-18. doi: 10.1111/andr.270. Epub 2014 Oct 1. PubMed PMID: 25269421.

The aim of this review was to provide current scenario linking obesity and male fertility. Obesity has been linked to male fertility because of lifestyle changes, internal hormonal environment alterations, and sperm genetic factors. A few studies assessing the impact of obesity on sperm genetic factor have been published, but they did not lead to a strong consensus. Our objective was to explore further the relationship between sperm genetic factor and obesity. There are emerging facts that obesity negatively affects male reproductive potential not only by reducing sperm quality, but in particular it alters the physical and molecular structure of germ cells in the testes and ultimately affects the maturity and function of sperm cells. Inhibition of microRNA in the male pronucleus of fertilized zygotes produces offspring of phenotypes of variable severity depending on miRNAs ratios. Hence, these RNAs have a role in the oocyte development during fertilization and in embryo development, fetal survival, and offspring phenotype. It has been reported that the miRNA profile is altered in spermatozoa of obese males, however, the impact of these changes in fertilization and embryo health remains as yet not known.

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92: Singh A, Kumar A, Gautam L, Sharma P, Sinha M, Bhushan A, Kaur P, Sharma S, Arora A, Singh TP. Structural and binding studies of peptidyl-tRNA hydrolase from *Pseudomonas aeruginosa* provide a platform for the structure-based inhibitor design against peptidyl-tRNA hydrolase. *Biochem J*. 2014 Nov 1;463(3):329-37. doi: 10.1042/BJ20140631. PubMed PMID: 25101795.

During the course of protein synthesis in the cell, the translation process is often terminated due to various reasons. As a result, peptidyl-tRNA molecules are released which are toxic to the cell as well reducing the availability of free amino acid and tRNA molecules for the required protein synthesis in the cell. Such a situation is corrected by an enzyme, Pth (peptidyl-tRNA hydrolase), which catalyses the release of free tRNA and peptide moieties from peptidyl-tRNAs. This means that the active Pth is essential for the survival of bacteria. In order to design inhibitors of PaPth (Pth from *Pseudomonas aeruginosa*), we determined the structures of PaPth in its native and bound states with compounds amino acylate-tRNA analogue and 5-azacytidine. The structure determination of the native protein revealed that the substrate-binding site was partially occupied by Glu161 from the neighbouring molecule. The structure of PaPth indicated that the substrate-binding site can be broadly divided into three distinct subsites. The structures of the two complexes showed that the amino acylate-tRNA analogue filled three subsites, whereas 5-azacytidine filled two subsites. The common sugar and the base moieties of the two compounds occupied identical positions in the cleft. Using surface plasmon resonance, the dissociation constants for the amino acylate-tRNA analogue and 5-azacytidine were found to be 3.53×10^{-8} M and 5.82×10^{-8} M respectively.

93: Singh AK, Salve H, Selvaraj K, Rai SK, Kant S. Quality of diagnostic and treatment practices of pulmonary tuberculosis management amongst health practitioners in Haryana, north India. *Rural Remote Health*. 2014 Oct-Dec;14(4):2784. Epub 2014 Nov 23. PubMed PMID: 25416920.

INTRODUCTION: Early diagnosis and supervised treatment remains the mainstay for tuberculosis (TB) control in India.

METHODS: A facility-based cross-sectional study was conducted to assess

diagnostic and treatment practices of tuberculosis management as per the Revised National Tuberculosis Control Programme at a secondary level health facility in north India. This hospital mostly caters to rural and peri-urban populations in the Ballabgarh block of Faridabad district, Haryana. A sample size of 244 was calculated. Consecutive chest symptomatic patients were recruited in the study. Information about socio-demographic characteristics and treatment was obtained from a routine history-taking process in the outpatient clinic. Results were expressed as mean, standard deviation (SD) and odds ratio (OR) with 95% confidence interval (CI).

RESULTS: A total of 250 pulmonary TB suspects were recruited, out of which 55.4% were males and mean age of study participants was 35.4 years (SD 14.6). Almost half (47.1%) of the participants had sought treatment from government hospitals, followed by 46.7% from private hospitals. Those who had visited a private facility were significantly more likely not to receive sputum acid-fast bacillus (AFB) diagnostic testing (OR=7.26, 95% CI 4.04-13.08), likely to be taking a second-line anti-TB drug as an antibiotic trial (OR=3.65, 95% CI 1.17-11.30), be empirically taking anti-TB drugs (OR=5.28, 95% CI 1.50-118.64) and getting a serological test done (OR=9.58, 95% CI 1.20-76.0) than those who went to a government health facility. Those who made at least three visits to a private facility were significantly more likely to have taken a second-line anti-TB drug as an antibiotic trial (OR=3.56, 95% CI 1.36- 9.28) and be empirically taking anti-TB drugs (OR=5.75, 95% CI 2.18-15.20) than those that made fewer than three visits.

CONCLUSIONS: This study documented inappropriate diagnostic and treatment practices in TB management and highlights the need to generate awareness about it among health practitioners in north India.

94: Singh K, Kumar S, Shekhar S, Dhawan B, Dey S. Synthesis and biological evaluation of novel peptide BF2 as an antibacterial agent against clinical isolates of vancomycin-resistant enterococci. *J Med Chem.* 2014 Nov 13;57(21):8880-5. doi: 10.1021/jm500960s. Epub 2014 Oct 29. PubMed PMID: 25291061.

Enterococci are the leading cause of nosocomial infections worldwide and acquired resistance to a variety of antibiotics. Antimicrobial peptides represent a promising molecule against the antibiotic resistance in bacteria and an indispensable component of the innate immune system. The aim of the study was to develop an antimicrobial peptide against vancomycin-resistant enterococci (VRE). We have designed a series of peptides based on Sapecin B as template. An in vitro antibacterial study of synthetic peptide BF2 against the clinical isolates of vancomycin-resistant and control strains of enterococci showed rapid killing effect on enterococci by killing 99.9% of bacterial cells in 60 min and susceptibility at minimum inhibitory concentration (MIC) range of 6.25-12.5 µg/mL. Synergy of BF2 was observed in combination with vancomycin and teicoplanin. The peptide was bactericidal and nontoxic to mammalian cells. An in vivo study also revealed the antibacterial activity against enterococci-infected Wistar albino rats. BF2 may be used synergistically with antibiotics.

95: Singh N, Rao PB, Ambesh SP, Gupta D. An innovative low-cost head-rest for anesthesia in prone position. *J Neurosci Rural Pract.* 2014 Nov;5(Suppl 1):S96-7. doi: 10.4103/0976-3147.145233. PubMed PMID: 25540561; PubMed Central PMCID: PMC4271404.

96: Singh P, Wadhwa N, Chaturvedi MK, Bhatia V, Saini S, Tandon N, Makharia GK, Maki M, Not T, Phillips A, Bhatnagar S. Validation of point-of-care testing for

coeliac disease in children in a tertiary hospital in north India. Arch Dis Child. 2014 Nov;99(11):1004-8. doi: 10.1136/archdischild-2013-305567. Epub 2014 Jun 18. PubMed PMID: 24942708.

OBJECTIVE: Some of the conventional serological tests for coeliac disease (CD) are expensive, time-consuming and not readily available in developing countries, leading to a delay in diagnosis. Recently, point-of-care tests (POCT) have been manufactured and tested in Europe but have not been validated in our setting. We therefore aimed to study the diagnostic accuracy of the POCT 'Biocard' test in diagnosing CD in Indian children.

DESIGN: Cross-sectional study.

SETTING: Tertiary care centre in north India.

PATIENTS: Children, aged 2-18 years, with chronic diarrhoea, short stature or refractory anaemia underwent serological testing for CD with antiendomysial antibodies (AEA), antitissue transglutaminase (tTG) antibodies and Biocard test followed by duodenal biopsy irrespective of serological results. CD was diagnosed with positive AEA and duodenal biopsy showing >grade 2 changes using modified Marsh criteria. Those who were both AEA negative and had normal histology were considered CD negative.

RESULTS: Of 319 children who underwent the serological testing, 170 agreed for biopsy. Of these, 110 were diagnosed with CD and 30 were found to be CD negative. Remaining 30 had discordant AEA and histology results and were not included in analysis. Biocard test agreed with 92/110 positive and 27/30 negative diagnoses based on reference tests (83.6% sensitivity and 90% specificity). tTG was found to be 93.8% sensitive and 96.4% specific.

CONCLUSIONS: We successfully validated the POCT for CD in our setting. It could be used to increase case detection rates in developing countries with a large undiagnosed CD burden.

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97: Singh S, Chouhan K, Gupta S. Intralesional immunotherapy with killed Mycobacterium indicus pranii vaccine for the treatment of extensive cutaneous warts. Indian J Dermatol Venereol Leprol. 2014 Nov-Dec;80(6):509-14. doi: 10.4103/0378-6323.144145. PubMed PMID: 25382507.

BACKGROUND: Multiple cutaneous warts in adults are often symptomatic, cosmetically disabling, and difficult to treat. Killed Mycobacterium indicus pranii (previously known as Mycobacterium w, popularly known as Mw) vaccine has earlier been investigated in genital warts with encouraging results.

OBJECTIVE: To evaluate the efficacy and safety profile of intralesional injected killed Mw vaccine for the treatment of extensive extragenital cutaneous warts.

METHODS: In this study, a retrospective analysis of medical records was performed in patients with cutaneous warts treated with intralesional Mw vaccine. Only patients with more than 5 extra-genital warts, involving at least two body sites and which had not shown any signs of spontaneous regression over 6 months were treated with the vaccine.

RESULTS: Forty four patients were treated with intralesional Mw vaccine. The mean number of warts was 41.5±25.7 with a disease duration of 3.1±2.5 years. Complete

clearance was achieved in 24 (54.5%) patients with a mean of 3.4 ± 1.1 intralesional injections. Cosmetically acceptable response to therapy (>75% clearance) was achieved in 37 (84.1%) patients. Wart response at distant sites was seen in 38 (86.3%) patients. Thirty-six patients (81.8%) experienced mild therapy-related side effects. Eighteen patients with complete response were followed up for 5.27 ± 1.7 months and none had recurrence of lesions.

CONCLUSIONS: Killed Mw vaccine is safe and effective in the treatment of extensive cutaneous warts. Larger, preferably randomized controlled trials are needed to assess its efficacy vis a vis standard therapies for warts.

98: Singh S, Rai PK, Chau R, Ravi AK, Neilan BA, Asthana RK. Temporal variations in microcystin-producing cells and microcystin concentrations in two fresh water ponds. *Water Res.* 2014 Nov 18;69C:131-142. doi: 10.1016/j.watres.2014.11.015. [Epub ahead of print] PubMed PMID: 25463934.

The relationship between microcystin production, microcystin-producing cyanobacteria, including *Microcystis* spp., and various biological and physicochemical parameters in Sankuldhara and Lakshmikund, situated in the same geographical area was studied over a period of 1.5 years. Seasonal variation in cyanobacterial 16S rRNA, *Microcystis* spp. 16S rRNA, *mcyA* and *mcyB* genes were quantitatively determined by real-time PCR. *Microcystis* was the dominant microcystin producer in both study sites constituting 67% and 97% of the total microcystin-producing cyanobacteria at Sankuldhara and Lakshmikund, respectively. Microcystin concentrations were 2.19-39.60 $\mu\text{g/L}$ and 15.22-128.14 $\mu\text{g/L}$ at Sankuldhara and Lakshmikund, respectively, as determined by LC-MS. Principal component analysis revealed a strong positive correlation between microcystin concentration and the copy number of *mcyA* and *mcyB*, chlorophyll a and cyanobacterial biomass at both sites. The higher microcystin concentrations in Lakshmikund pond were attributed to the high copy number of *mcy* genes present coupled with the pond's eutrophication status, as indicated by high total algal biomass, high chlorophyll a content, high nutrient load and low DO. Therefore, a significant difference in microcystin concentrations, correlating with these various biological and physicochemical parameters, confirms the importance of local environmental variables in the overall regulation of microcystins production.

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99: Singh SP, Kapoor PM, Devagourou V. Pulmonary vein stenosis in a child with ventricular septal defect. *Asian Cardiovasc Thorac Ann.* 2014 Nov;22(9):1130-1. doi: 10.1177/0218492313513600. Epub 2013 Nov 20. PubMed PMID: 24887910.

100: Soni KD, Aggarwal R, Gupta A, Sharma P. Is the use of high frequency oscillatory ventilator beneficial in managing severe chest injury with massive air leak? *BMJ Case Rep.* 2014 Nov 5;2014. pii: bcr2014204284. doi: 10.1136/bcr-2014-204284. PubMed PMID: 25378110.

Severe thoracic trauma can be associated with immediate life-threatening injuries including major air leak syndrome that can lead to acute respiratory failure and refractory hypoxaemia. Such injuries invariably require thoracotomy following failure of conventional ventilation strategy and paucity of other non-operative interventions. We describe a case in which we used high frequency oscillatory ventilation (HFOV) as a part of management of such injury and averted the need for thoracotomy.

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101: Sood S, Verma R, Mir SS, Agarwal M, Singh N, Kar HK, Sharma VK. Nucleic acid amplification tests (NAATs) for gonorrhoea diagnosis in women: Experience of a tertiary care hospital in north India. *Indian J Med Res.* 2014 Nov;140(5):649-52. PubMed PMID: 25579147.

BACKGROUND & OBJECTIVES: Gonorrhoea is among the most frequent of the estimated bacterial sexually transmitted infections (STIs) and has significant health implications in women. The use of nucleic acid amplification tests (NAATs) has been shown to provide enhanced diagnosis of gonorrhoea in female patients. However, it is recommended that an on-going assessment of the test assays should be performed to check for any probable sequence variation occurring in the targeted region. In this study, an in-house PCR targeting opa-gene of *Neisseria gonorrhoeae* was used in conjunction with 16S ribosomal PCR to determine the presence of gonorrhoea in female patients attending the tertiary care hospitals.

METHODS: Endocervical samples collected from 250 female patients with complaints of vaginal or cervical discharge or pain in lower abdomen were tested using opa and 16S ribosomal assay. The samples were also processed by conventional methods.

RESULTS: Of the 250 female patients included in the study, only one was positive by conventional methods (microscopy and culture) whereas 17 patients were found to be positive based on PCR results.

INTERPRETATION & CONCLUSIONS: The clinical sensitivity of conventional methods for the detection of *N. gonorrhoeae* in female patients was low. The gonococcal detection rates increased when molecular method was used giving 16 additional positives. Studies should be done to find out other gene targets that may be used in the screening assays to detect the presence of gonorrhoea.

102: Yadav K, Chakrabarty A, Rah JH, Kumar R, Aguayo V, Ansari MA, Sankar R, Karmarkar MG, Pandav CS. The National Coalition for Sustained Optimal Iodine intake (NSOI): a case study of a successful experience from India. *Asia Pac J Clin Nutr.* 2014 Nov;23 Suppl 1:S38-45. doi: 10.6133/apjcn.2014.23.s1.02. PubMed PMID: 25384725.

Iodine deficiency disorders (IDD) constitute the single most important preventable cause of mental handicap at global level. Recognizing the importance of coordination and synergy of the activities of wide range of universal salt iodisation (USI) stakeholders, WHO/ Unicef/ ICCIDD has prescribed a national multi-sectoral coalition as one of the ten indicators essential for attaining sustainable elimination of IDD at national level. Challenge for coordination among different stakeholders of IDD/USI is even greater in democratic and diverse country like India. In the present article we present successful experience from India regarding formation of a national coalition and contributions made by the coalition towards promoting USI in India. The activities of the national coalition in India are classified into three phases; 1) Phase 1- year 2006 to 2009- the inception; 2) Phase 2- year 2009 to 2012- consolidation; 3) Phase 3- year 2013 and ongoing- expansion. The National coalition for Sustained Optimal Iodine Intake (NSOI) has been instrumental in ensuring greater coordination and synergy amongst IDD and USI stakeholders in India and partially responsible for the current 71 percentage household level coverage of adequately iodised salt. The most significant contribution of the national coalition has been to act as a high level advocacy channel and provide a platform for regular dialogue for all partners of the coalition. With "mission" approach and allocation of optimal resource, India can achieve and should achieve USI by 2015, an apt culmination of a decade of existence of the national coalition.

103: Zühlke L, Engel ME, Karthikeyan G, Rangarajan S, Mackie P, Cupido B, Mauff

K, Islam S, Joachim A, Daniels R, Francis V, Ogendero S, Gitura B, Mondo C, Okello E, Lwabi P, Al-Kebsi MM, Hugo-Hamman C, Sheta SS, Haileamlak A, Daniel W, Goshu DY, Abdissa SG, Desta AG, Shasho BA, Begna DM, ElSayed A, Ibrahim AS, Musuku J, Bode-Thomas F, Okeahialam BN, Ige O, Sutton C, Misra R, Abul Fadl A, Kennedy N, Damasceno A, Sani M, Ogah OS, Olunuga T, Elhassan HH, Mocumbi AO, Adeoye AM, Mntla P, Ojji D, Mucumbitsi J, Teo K, Yusuf S, Mayosi BM. Characteristics, complications, and gaps in evidence-based interventions in rheumatic heart disease: the Global Rheumatic Heart Disease Registry (the REMEDY study). *Eur Heart J*. 2014 Nov 25. pii: ehu449. [Epub ahead of print] PubMed PMID: 25425448.

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

METHODS AND RESULTS: This prospective registry enrolled 3343 patients (median age 28 years, 66.2% female) presenting with RHD at 25 hospitals in 12 African countries, India, and Yemen between January 2010 and November 2012. The majority (63.9%) had moderate-to-severe multivalvular disease complicated by congestive heart failure (33.4%), pulmonary hypertension (28.8%), atrial fibrillation (AF) (21.8%), stroke (7.1%), infective endocarditis (4%), and major bleeding (2.7%). One-quarter of adults and 5.3% of children had decreased left ventricular (LV) systolic function; 23% of adults and 14.1% of children had dilated LVs. Fifty-five percent (n = 1761) of patients were on secondary antibiotic prophylaxis. Oral anti-coagulants were prescribed in 69.5% (n = 946) of patients with mechanical valves (n = 501), AF (n = 397), and high-risk mitral stenosis in sinus rhythm (n = 48). However, only 28.3% (n = 269) had a therapeutic international normalized ratio. Among 1825 women of childbearing age (12-51 years), only 3.6% (n = 65) were on contraception. The utilization of valvuloplasty and valve surgery was higher in upper-middle compared with lower-income countries.

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

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