and non renal pathology subjects from 1993 to December 2003. We assessed 361 adults males and 297 adult females and found that length, breadth, paranchymal thickness and cortical thickness averages are given below. Their age ranged between 15 and 71 and 15 and 72 in male and female respectively.

<table>
<thead>
<tr>
<th>Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>10.10 ± 4.2 ±</td>
<td>9.94 ± 3.95 ±</td>
</tr>
<tr>
<td>Breadth</td>
<td>4.59 ± 0.78 ±</td>
<td>4.59 ± 0.54 ±</td>
</tr>
<tr>
<td>Paranchymal thickness</td>
<td>10.32 ± 0.59 ±</td>
<td>10.30 ± 0.54 ±</td>
</tr>
<tr>
<td>Cortical thickness</td>
<td>1.22 ± 0.85 ±</td>
<td>1.25 ± 1.07 ±</td>
</tr>
<tr>
<td>Body mass</td>
<td>22.60 ± 0.60 ±</td>
<td>36.29 ± 0.63 ±</td>
</tr>
</tbody>
</table>

It is found that left kidneys are larger in length and breadth and male kidneys are larger than female. Body mass index showed that men fall into the low side and the women assessed into highly obese side. (see below table)

When we went through Gray’s anatomy and clinical sonography book we got only long range values of length, breadth and thickness of kidneys without cortical thickness and the right, left and male; female differences. So we suggest that this type of assays done in other parts of India, we will have been able to have the national and regional average of renal parameters and will be most useful in clinical application.

288 LV Dysfunction in CAD by RNVG

Mahapatra SC, Deba S Mohan
MKCG Medical College, Berhampur.

Modern gated blood pool imaging, RNVG (MUGA scan) was undertaken in five control and twenty CAD patients comprising up three subgroups CAD1 (unstable angina-n=6), CAD2 (AWMI -n=7), CAD3 (IWMI -n=7). RNVG has peculiar characteristic of non-geometric analysis with tridimensional approach to generate functional images (ES and ED images). In addition to global E.F., velocity dependent parameter like peak ejection rate (PER) and peak filling rate (PFR) were estimated. Regional ejection fraction (REF), was computed in 3 segments of 87.8° each representing septal, Inferior and lateral wall. Unique feature of MUGA study is measurement of PFR (peak filling rate), the most informative parameter of diastolic dysfunction in absence of systolic abnormality RWMA estimated by super imposing E.D. and E.S. contour of L.V., in form of akinesia and hypokinesia and dyskinesia.

<table>
<thead>
<tr>
<th>Group</th>
<th>EF (%) (global)</th>
<th>PER (EDV/Sec.)</th>
<th>PFR (EDV/Sec.)</th>
<th>Lateral</th>
<th>RF Inferior</th>
<th>Septal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>69.4 ± 3.09 ±</td>
<td>2.77 ± 0.38 ±</td>
<td>72 ± 3.53 ±</td>
<td>61.4 ± 9.83 ±</td>
<td>46.2 ± 3.19 ±</td>
<td></td>
</tr>
<tr>
<td>CAD1</td>
<td>59.5 ± 2.44 ±</td>
<td>2.33 ± 0.35 ±</td>
<td>50.16 ± 17.35 ±</td>
<td>54.38 ± 11.87 ±</td>
<td>40 ± 12.26 ±</td>
<td></td>
</tr>
<tr>
<td>CAD2</td>
<td>3.08 ± 0.48 ±</td>
<td>0.35 ± 6.74 ±</td>
<td>13.8 ± 7.5 ±</td>
<td>40.57 ± 7.5 ±</td>
<td>69 ± 7.25 ±</td>
<td></td>
</tr>
<tr>
<td>CAD3</td>
<td>48.25 ± 2.28 ±</td>
<td>1.5 ± 48.85 ±</td>
<td>18.42 ± 19.8 ±</td>
<td>21.57 ± 8.9 ±</td>
<td>10.6 ±</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Regional wall motion abnormality (RWMA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>NAD</td>
</tr>
<tr>
<td>CAD1</td>
<td>Hypokinesia (16.6%)</td>
</tr>
<tr>
<td>CAD2</td>
<td>Hypokinesia (42.8%), Akinesia (14.28%)</td>
</tr>
<tr>
<td>CAD3</td>
<td>Hypokinesia (28.57%), Akinesia (28.57%)</td>
</tr>
</tbody>
</table>

Co-relation of different functional parameters indicates that RNVG offers additional important diagnostic information in management of post M.I. patients.

Respiratory Diseases

289 Pulmonary Function Tests in Normal

Chaudhary Kamlesh, Bhattacharya Amal
Medical College, Baroda, Gujarat

Introduction: In evidence-based medicine era, with modern diagnostic procedures and awareness in general population, there was demand from people for complete health. One of the components of check up for normalcy is pulmonary function tests. In addition to find out the normal value in our population, PFT values vary in different subjects with different ethnic groups and physical characteristics like age, height, weight, chest circumference exercise and sex. Numerous formula have been derived to derive the normal values, but the PFT differ in different time and place and so we tried to derive the normal in healthy subjects in our set up.

Aim: To find normal PFT in our population.

Material and Methods: Two hundred healthy subjects were studied; M:F::100:100; history and physical examination carried out, subjects were selected only if respiratory exam - normal. So any person with upper/lower tract involvement were excluded. Person with respiratory illness, spinal deformity, pregnancy, smoker excluded. Only one person carried all tests, to exclude individual variation. To get representative distribution, all varieties of population included - rural, urban, students, employed, unemployed, labor, sedentary etc. Age, height, weight, chest circumference, spirometry were done.

Result: Age group: 15-60 years, M:F::100:100; Height: male: 165.6 cm, female: 155.7 cm; weight: male: 60.2 kg, female: 50.1 kg;CHDI (Insp) male: 86.3 cm, CHDE (Exp): 80.9 female: 81.3 cm, CHDE (Exp): 76.5 cm, FVC, FEV1, PEFR peak values at 21-25 yrs. group, and minimum at extremes of age. The PFT values are higher amongst the urbans in males, in females values were same. For 21-25 yrs.: FEV1 (L/sec): 2.55; FVC(L): 2.78; EV1%: 87%; PEFR: 525 L/min.

Discussion and Summary: We studied 100 male and 100 female. All parameters were significantly lower compared to western values, so different ethnic, racial groups with geographic, climate and altitude variability were observed by different workers. 21-25 showed highest values. Extremes of age showed lowest values. Mild variation between urban and rural noted. This data may change over time, so temporal profile should be maintained.

290 Unresolving Pneumonia - An Uncommon Cause

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Pneumonia due to *Pseudomonas aeruginosa* occurs in patients with pre-existing lung disease or in immunosuppressed state and rarely in otherwise healthy individuals. We present a young immunocompetent adult with *Pseudomonas* pneumonia. He was treated successfully. Twenty-three year old healthy male presented with right sided pleuritic chest pain of one day duration. He was diagnosed to have right lower lobe consolidation with minimal pleural effusion. Sputum culture grew *Pseudomonas aeruginosa*. He was treated with appropriate antibiotics. He was readmitted 4 days after discharge with persistent fever, chest pain and dry cough. He had developed empyema and was put on antibiotics along with intercostal tube drainage. He started expectorating copious amount of blood streaked purulent sputum. Sputum and bronchial lavage grew *Pseudomonas aeruginosa*. Fibre optic bronchoscopy showed some obstructing lesion. CT scan of the thorax showed an enhancing soft tissue density mass encasing the basal segmental bronchi.
Hospitalized patients having recurrent pneumonias of the left lower lobe with resultant parenchymal infiltration and atelectasis and loculated empyma of right lower hemithorax. Rigid bronchoscopy, done in view of the doubtful nature of the lesion, showed an encrusted lesion in the right lower lobe bronchus containing a fish/chicken bone. It was removed and the patient showed rapid clinical and radiological improvement. He was discharged one week later.

Aspiration of foreign body is a clinical diagnosis often overlooked in adults. Because of the absence or non-specificity of symptoms adult airway foreign bodies often are mis-diagnosed or diagnosis is delayed for months to years. Patients rarely report a history of choking, aspiration and precipitating event as in our case. A high index of suspicion is required to diagnose a non-asphyxiating tracheobronchial foreign body in adult to avoid the potential morbidities from a delayed diagnosis.

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291 Cefepime as a Monotherapy for Empiric Treatment of Hospitalized Patients with Community-Acquired Pneumonia

Shah AN, Shah Vipul V, Patel MN, Bagchi S, Subramanyam N, Desai S, Patel N, Rajendran Deepa
B.J. Medical College and Civil Hospital, Ahmedabad.

Introduction and Objectives: Hospitalized patients having community-acquired pneumonia (CAP) require empiric treatment with parenteral broad spectrum antibiotics which work against gram positive and gram negative pathogens including drug resistant isolates. The aim of this phase III clinical trial was evaluation of efficacy and safety of intravenous (i.v.) Cefepime, a fourth generation cephalosporin as a monotherapy for empiric treatment of hospitalized patients having CAP.

Material and Methods: In this open labeled, prospective, non-comparative study 36 patients hospitalized for CAP having age greater than 18 years were enrolled for study. All patients were given i.v. Cefepime 1 gm every 12 hourly for 10 days as an empiric monotherapy. Doses were adjusted for renal function. Patients were evaluated at the end of therapy for clinical outcome, microbiological eradication and adverse drug effect.

Results: Out of 36 evaluable patients 22 (61%) were men and 14 (39%) were women. Favorable outcomes (cure or improvement) were found in 91 % (33/36) patients. Number of sputum positive cultures were 20 out of 36 patients (55.5%) on day 1 and only 2 on day 11. The most common bacteria isolated were S. pneumoniae (n=9, 45%), H. influenzae (n=4, 20%), M. catarrhalis (n=3, 15%), S. aureus (n=2, 10%) and M. pneumoniae (n=2, 10%). Overall microbiological eradication was found in 90 % (18/20) bacteriologically evaluable patients. M. pneumoniae found in 2 patients on day 1 were not eradicated. The results were comparable with previous studies. The treatment was overall well tolerated.

Conclusion: Our data suggest that Cefepime is an appropriate choice for empiric treatment of hospitalized patients with CAP. However it is not effective against M. pneumoniae.

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292 Lung Sequestration: An Uncommon Cause of Recurrent Pneumonias

Guleria R, Sharma R, Mohan A, Sinha S, Das C
All India Institute of Medical Sciences, New Delhi

A 24 year old student presented with recurrent pneumonias of the left lower lobe of lung for the last 8 months. There were 6 episodes of left sided pneumonia between August 2002 and March 2003. Each episode would commence with fever and cough, radiologically as left lower lobe pneumonia and respond to broad spectrum antibiotics. Initial hemogram, blood chemistry, urine examination and Mantoux test were normal. In March 2003 when she presented with fever and cough with expectoration, the chest X-ray again revealed an area of consolidation in the left lower lobe, in the same position as the initial consolidation. At the same time the intervening x-rays continued to show a non-homogenous opacity in the left lower lobe. This time, due to recurrent nature of the condition the patient was investigated further. Repeat hemogram blood chemistry and tests to rule out fungal and tubercular infections (including mantoux and sputum examination for AFB) and immunodepressed states were carried out and found to be normal. Possible causes considered at this stage were: 1. Proximal left bronchus obstruction with distal infection, 2. Bronchiectasis, 3: Malignancy and 4: Sequestration of lung as a congenital anomaly. Computed tomography revealed evidence of consolidation of the left lower lobe close to left paravertebral gutter. There was no evidence of bronchiectasis. Fiberoptic bronchoscopy was normal with no endobronchial lesion. Due to the site of lesion, and as no obstructive or malignant lesion or bronchiectasis were found to account for recurrent pneumonias a possibility of lung sequestration as a cause of recurrent pneumonias was considered and an aortogram done. Aortogram revealed a big aberrant feeding vessel to the affected lobe directly from the abdominal aorta just distal the celiac axis. A diagnosis of intralobar sequestration of the lung was made. The patient is now advised surgery.

Sequestration of lung is an interesting and uncommon disorder causing recurrent pneumonias, commonly involving the left lower lobe. Some clue to its presence is obtained by recurrent pneumonitis in the same area in an otherwise healthy patient. Computed tomography shows posterior based pneumonia close to the paravertebral gutter. Aortogram is diagnostic and shows an independent blood supply to the affected area from the aorta. Surgical resection ensures cure.

Sequestration of lung must be considered in the differential diagnosis as a cause of localized recurrent pneumonia, especially in the left lower lobe in an otherwise healthy patient.

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293 Role of Intrapleural Streptokinase in The Treatment of Empyema Thoracis

Suresh Ambar Sameer, David Eric J, Kulkarni Pravin
Wanless Hospital, Miraj, Dist. Sangli, Maharashtra.

The word “Empyema” is used to denote the presence of pus in a natural body cavity, in respiratory medicine that is the pleural cavity. The study of 25 patients of empyema thoracis was conducted at Wanless Hospital, Miraj, from the period of January 2001 to December 2002. Pneumonia was the commonest cause for empyema thoracis in 14 patients (56%), followed by tuberculosis in 8 patients (32%). Other were iatrogenic and traumatic causes. Group I - These patients were in stage I empyema thoracis and were treated with repeated thoracentesis, 3 patients (12%) were treated by this method. Two patients were benefited, one patient required closed intercostal drainage. The success rate was 66%. Group II - 18 patients (72%) - in stage II empyema thoracis were treated with closed intercostal tube drainage. 12 patients (48%) - Group II A - were given intrapleural irrigation with normal saline, 8 patients were benefited, two patients died and two patients further required decortication surgery. The success rate was 78%. Other 6 patients (24%) Group II B were treated with closed intercostal drainage with intrapleural instillation of streptokinase. Group III - Six patients (24%) were operated for decortication, four patients were in stage III empyema and two had failed results with closed intercostal tube drainage. All the patients improved very well and success rate was 100%. The modalities of treatment applied to patient in proper stages of disease are capable of producing good results. The patients of stage II treated with ICT drainage and streptokinase instillation had better clinical and radiological outcome, there was no need of operative intervention and also had reduced hospital stay by 29%, as compared to patients treated with ICT drainage with normal saline irrigation.
294 Bronchogenic Carcinoma causing Unilateral Hyperinflation
Nayak A, Bhat KS, Nair AR
Fr. Muller Medical College, Mangalore.

Two cases of bronchogenic carcinoma presenting as unilateral hyperinflation are described. Among the various roentgenological presentations of bronchogenic carcinoma, unilateral hyperinflation is an uncommon and less well described manifestation. Both patients were heavy smokers and were symptomatic. In both cases clinical examination was suggestive of unilateral hyperinflation; however, chest x-ray did not show any hypertranslucency or classical manifestations of bronchogenic carcinoma like collapse, consolidation, lymphadenopathy or parenchymal shadowing. Chest computed tomography in both patients showed features of marked unilateral hyperinflation, patients with symptoms and clinical examination suggestive of hyperinflation of one lung should undergo further evaluation with tomography of chest or bronchoscopy to evaluate the underlying pathology, even in the presence of a normal chest radiography.

295 A Comparative Study of Adenosine Deaminase and Polymerase Chain Reaction in Pleural Fluid for Diagnosis of Tubercular Pleural Effusion
Deka P, Goswami D
Guwahati Medical College and Hospital, Guwahati, Assam.

Study Objectives: Pleural tuberculosis is a diagnostic challenge because of its non-specific clinical presentation and paucibacillary nature. The inefficiency of conventional laboratory methods and the reliance on pleural biopsy have motivated the evaluation of alternative diagnostic strategies. The aim of this study was to evaluate PCR for detection of Mycobacterium tuberculosis in pleural fluids and correlate the results with ADA activity and AFB screening in pleural fluid.

Patients: Patient >12 yrs. of age, presenting with pleural effusion for the first time have been taken up. Subsequently ADA activity, AFB screening, pleural biopsy and PCR for M. tuberculosis was done in the pleural fluid.

Results: As it is an ongoing study, sensitivity and specificity of ADA activity and PCR will be calculated for tubercular pleural effusion that had been confirmed by either culture or pleural biopsy specimen. The combination of PCR and ADA estimation allowed the selective increase of sensitivity and specificity for probable and confirmed cases compared to individual method.

Conclusion: The clinical variable together with the use of ADA estimation and PCR provide the basis for the rapid and efficient diagnosis of tubercular pleural effusion in different clinical setting.

296 Profile of Drug Resistance in Patients of Pulmonary Tuberculosis at A Tertiary Care Chest Center
Kumar V, Singh P, Barthwal MS, Deoskar RB, Rajan KE
Military Hospital (CTC) Pune.

Aim: To study current trends of drug resistance for guiding management with the goal of reducing its incidence and prevalence.

Methods: One thousand two hundred forty-nine patients with clinically diagnosed pulmonary tuberculosis presenting serially between July ’98 and June ’03 were enrolled for the study. Drug history, sputum smear examination, culture and drug sensitivity were part of evaluation protocol.

Results: Primary drug resistance - 221 (78.36%) cases; Acquired drug resistance - 61 (21.36%) cases; Smear positivity - 815 (65.25%) cases; Culture positivity - 1034 (82.78%) cases; drug resistant strains - 282 (27.27%) cases, of which 79 (07.64%) had single drug; 82 (07.93%) had two drug; 76 (07.35%) had three drug and 45 (04.35%) had resistance to four or more drugs. Seventy-seven (27.30%) drug resistant patients had positive smears.

Conclusion: The incidence of acquired resistance, resistance to one or two drugs has not decreased; however resistance to three or more drugs has increased considerably. Results highlight continued use of inappropriate regimens and warrant close supervision of drug therapy.

297 Ceftamet Pivoxyl HCL for The Patients Suffering From Lower Respiratory Tract Infections
B. J. Medical College and Civil Hospital, Ahmedabad – 380 016.

Introduction and objectives: Patients suffering from lower respiratory tract infections require empiric treatment with broad spectrum antibiotics which work against gram positive and gram negative pathogens including drug resistant isolates. The aim of this phase III clinical trial was evaluation of safety and efficacy of a oral third generation cephalosporin as a monotherapy for empiric treatment of L.R.T.I.

Material and Methods: In this open label, non-comparative, prospective study 30 patients were having age greater than 18 years were enrolled in the study. All patients were given oral Ceftamet Pivoxyl HCL 500 mg every 12 hrs. for 7 days as a empiric monotherapy. Patients were evaluated for clinical outcome, microbiological response and ADR. Out of 30 patients 20 (66%) were males and 10 (33%) were females. Favourable outcome (cure or improvement) were found in 27 (90%) patients. Number of positive sputum culture was 25 out of 30 patients on day 1 and only 3 at the end of treatment. Out of total 30 patients: AECB - 15, Acute Bronchitis - 07, CAP - 03 and Acute Exacerbation of Bronchial Asthma – 05. Most common bacteria isolated were S. pyogenes-12 (48%), K pneumonia - 11 (44%), E. coli - 01 (4%), Psuedomonas 01 (4%). Overall microbiological eradication was found in 22 patients (88%) out of 25 bacteriologically evaluable patients. The results were comparable with previous study, the treatment was overall well tolerated.

Conclusion: Our data suggests that ceftamet pivoxyl HCL is an appropriate choice for empiric treatment of lower respiratory tract infections.

298 Turpentine-Induced Chemical Pneumonitis and Bronchopleural Fistula - A Case Report
Satyanarayana N, Rodricks A, D’Souza GA, Chakraborty A, Vasnik M
St. John’s Medical College Hospital, Bangalore.

Introduction: Turpentine, a hydrocarbon belonging to terpene derivatives, causes pulmonary toxicity either by direct aspiration into the lungs or via inhalation, hydrocarbons commonly cause a chemical pneumonitis in the lung and rarely pneumatoceles, pneumothorax and pneumomediastinum.

Case Report: A 20 year old boy was admitted with breathlessness and vomiting following accidental ingestion of turpentine at his factory. The chest x-ray showed bilateral consolidation in mid and lower zones with hypoxiaon arterial blood gas analysis the sputum culture was negative, suggesting a chemical pneumonitis on day 5 of admission. He complained of increased breathlessness and the chest x-ray showed an increase of opacities he was started on intravenous steriods and improved on day 12 of admission, the patient developed acute breathlessness due to a pneumothorax and an intercostal drainage tube was introduced to relieve his breathlessness there was a persistent air leak for 10 days.
299 Clinical Profile of Pulmonary Tuberculosis with HIV Infection

Deoskar RB, Sengupta B, Barthwal MS, Dutta V, Rajan KE
Military Hospital (Cardiothoracic Centre) Pune - 411 040.

Object of the study: To study the clinical profile of pulmonary tuberculosis with HIV infection.

Methodology: One hundred fifty-five positive patients out of 1298 cases of pulmonary tuberculosis admitted to Military Hospital (Cardio Thoracic Centre) Pune between Jan 2000 and May 2003 were included in the study. Their clinical profile and disease pattern were noted.

Summary of Results: Incidence of HIV positivity was 11.9%. Mean age was 32 years. 22 patients (14.2%) were sputum AFB smear positive. Mycobacterium tuberculosis was grown from sputum in 21 patients (13.5%). Only 5 patients (3.2%) had drug resistance on antibiotic sensitivity testing. Lower zone involvement was seen in chest X Ray in 44 patients (28.4%). Mean CD count was 109.6. 30 cases had lymph node tuberculosis and 12 had CNS tuberculosis. 16 cases had Pneumocystis carinii pneumonia, 9 had Cryptococcal meningitis and 30 had oropharyngeal candidiasis. Majority of patients showed good response to treatment. Mortality was seen in 99 patients.

Conclusion: Incidence of HIV positivity was 11.9%. Incidence of sputum AFB smear positivity was low. Only 5 patients had drug resistant tuberculosis. Response to treatment was good and adverse drug reactions were seen in only nine patients.

300 A Rare Case of Superior Venacaval Syndrome due to Chronic Mediastinal Fibrosis in Young Male Associated with Rheumatoid Arthritis

Roy PP, Dutta S, Ghosh S
Medical College, Kolkata.

A 25 year old male patient was admitted to Medical College, Kolkata in 1997 with chief complaints of swelling of face and breathlessness for 4-5 months. Past history was nothing significant. On general survey the patient was conscious, cooperative and alert. Puffiness of the face and engorged non-pulsatile neck vein were present. Prominent superficial veins over lower chest wall and upper abdomen. Direction of flow of blood in veins was towards umbilicus. Respiratory System: No abnormality detected excepting impaired percussion note over parasternal area on both sides. GI System: No evidence of ascites. Liver and spleen - not palpable. CVS and Nervous System - NAD.

Investigations: Blood - TC - 8600/cmm DC - PoxL,Fd,Ep,Em, Hb - 11 gm%,, sugar 126 mg%/X-ray chest - widening of mediastinum. No evidence of SOL in lung or mediastinum. CT scan of thorax - mediaslitinal fibrosis. MRI of thorax - diffuse infiltrative lesions in mediastinal fat plane obliterating or compressing superior vena cava with dilatation of azygous vein and prominent collateral due to mediastinal fibrosis. Venography - No passage of catheter through SVC when tried through cubital vein or through inferior vena cava and right atrium. The same patient after two years (1999) presented with swelling of small joints of hands, morning stiffness, rheumatoid factor-positive, (861 IU/ ml), C reactive protein 5.3 mg%. The patient was ultimately diagnosed as SVC syndrome due to chronic fibrosing mediastinitis associated with rheumatoid arthritis. The case is unique in the sense that though SVC syndrome is not uncommon, in most of the cases it is caused either by bronchogenic carcinoma or lymphoma or other mediastinal tumour. SVC syndrome due to chronic mediastinal fibrosis is a rare occurrence. As mediastinal fibrosis is immunological in origin it may be associated with other autoimmune disorders like rheumatoid arthritis. This is exactly what has occurred in this patient.

301 Diagnostic Value of Pleural Fluid ADA Estimation in Different Types of Exudative Pleural Effusions

Asnani M, Gurjar SS, Meel R, Maniram, Gupta AK, Arora SK
J.L.N. Medical College and Hospital, Ajmer.

The present study was conducted on fifty cases of pleural effusion admitted in the Department of Medicine or TB and Chest Disease of JLN Medical College and Hospital, Ajmer to estimate diagnostic value of pleural fluid ADA estimation in different types of exudative pleural effusions. These patients were divided in 3 groups in the present study.

(1) Tubercular (2) Non-tubercular (a) Malignant (b) Synpneumonic and (3) Empyema. Majority i.e. 70% of these patients were found to have tubercular pleural effusion. Male to female ratio in these cases was 3:1. Total leukocyte count and ESR were raised in 74% and 80% of the patients of tubercular pleural effusion, respectively. Mantoux test was found to be positive in 51% cases of whole group of pleural effusion patients. Mantoux test was positive in 70% in tubercular group 28% cases were also positive for acid fast bacilli in sputum in this group due to associated parenchymal lung diseases. Protein content in pleural fluid was more than 3 g/100 ml (exude) in all the 50 cases. Sugar content was less than 100 mg% in all the infective cases (n=40). A sugar content of more than 100 mg was seen in all malignant effusion (n=4). Cytological study of pleural fluid revealed predominant lymphocytes in effusions of tubercular etiology. Malignant cells were seen in all the 4 malignant effusions included in the study. Pleural fluid ADA levels were more than 34 IU/L in all tubercular cases (100%). Mean value in these 28 cases was 60.97±16.8 IU/L. In the non-tubercular group excluding empyema (n=12) the mean value of pleural fluid ADA was 26.5±7.90 IU/L and 57.2±11.8 IU/L in patients with empyema (n=10). In 8 cases of sputum AFB positive smears the mean ADA value was 61.2±16.27 IU/L while sputum negative cases had a mean value of 60.36±19 IU/L. The sensitivity and specificity of ADA with a cut off value of 34 IU/L were 100% and 91.66%, respectively in patients with tubercular aetiology. We concluded that the diagnosis of tubercular aetiology of pleural effusions from non-tubercular effusion, can reasonably be made by estimation of pleural fluid ADA levels, except from frank cases of empyema.
which is cost-effective, devoid of injectable SM, tolerable with minimum side effects, good compliance is one of the best SCC regimens the treatment of pulmonary tuberculosis in rural and interior areas of India where medical care is sparse.

303 Role of Systemic Corticosteroid in The Management of Acute Bronchial Asthma in Sickle Cell Disease Patients - Beneficial or Harmful

Dalai RK, Pradhan N*, S.C.B. Medical College, Cuttack, **V.S.S. Medical College, Burla.

Purpose: Sickle cell anaemia is a very common problem in the western districts of Orissa which cause considerable morbidity and mortality. This study was designed to assess the role of systemic corticosteroid in the management of acute bronchial asthma in sickle cell disease patients.

Methods: Fifty Patients of sickle cell disease (Hb SS on electrophoresis) with acute bronchial asthma admitted to medicine and chest ward of V.S.S. Medical College, Burla, from January 1994 to December 1996 were taken for study. Out of 50 patients, 28 males and 22 females with age group of 14-40 yrs. majority in the age group of 15 - 25 yrs. (70%). 25 patients (Group-I) were treated with IV Aminophyllin or short acting B2 agonist in form of nebulizer or Metered dose inhalation along with steroid (Inj. Hydrocortisone 200mg IV bolus followed by 100mg iv 6 hourly for 2 days). Rest 25 patients (Group-II) were treated with IV Aminophyllin or short acting B2 agonist without steroid.

Results: It was observed - in Group II, 3 patients (12%) developed painful crisis in mild form, only 4 patients required, blood transfusion and hospital, stay was average 5 days. One patient died due to severe anaemia and pneumothorax. In group 1-symptomatic improvement was quicker, hospital stay average 3 days, 7 patients developed painful crises, 4 in mild form, managed conservatively. Rest 3 patients had serious complications - 2 cases had acute chest syndrome progressing to ARDS and multi-organ failure and the 3rd case developed sequestration crisis with huge asplenomegaly and H,b<2 gm%. All the 2 cases (8%) with ARDS and multiorgan failure died in spite of treatment.

Conclusion: Systemic corticosteroid used in asthmatic sickle cell disease patients produces quicker symptomatic improvement, but precipitates painful crises and may cause serious complications like acute chest syndrome, pulmonary fat embolisation or sequestration crisis. So all asthmatic sickle cell patients treated with steroid should be properly monitored.

304 A Rare Case of Pan-Lobular Emphysema Associated with Kartagener’s Syndrome

Krishnakumar M, Reddy Ajay Marri, Nagaraja MV
Kasturba Medical College, Manipal.

A 25 year old lady was admitted with h/o of recurrent episodes of cough with large quantities of purulent expectoration. Patient also gave h/o of intermittent mild hemoptysis. On examination patient had features of situs inversus like apical impulse situated on right side, liver dullness on left side. She also had bilateral coarse crepitations. Routine blood investigations including blood counts, L.F.T., R.F.T. and urine examination were normal. Chest x-ray showed right sided cardiac shadow, emphysematous changes, cystic lesions in the lower zones and the fundal gas shadow was noticed on right side. Paranatal sinus x-ray showed features of chronic bilateral frontal sinusitis. Echocardiography revealed mesocardia with grade-I mitral leaflet prolapse. C.T. scan of thorax showed panlobular emphysematous changes in both lungs along with bronchiectatic changes in anterior segments of upper lobes and the basal segments.

Pulmonary function test showed evidence of obstructive pattern with more than 30% reversibility after nebulization of salbutamol. The alpha-1 antitrypsin levels were on the lower limit of normal. Sputum culture grew Pseudomonas species and it was treated with cefdinir and ciprofloxacin. Patient was discharged on inhalational steroids.

Primary ciliary dyskinesia is responsible for 5% of cases of bronchiectasis. Kartagener’s syndrome is a rare syndrome, which is a triad of bronchiectasis, situs inversus and chronic sinusitis. Here we report a rare occurrence of panlobular emphysema in a patient with Kartagener’s syndrome.

305 Tuberculosis Masquerading as Sarcoidosis

Surya Prabha, Balasubramaniam R, Harirprasad Murali K.M.C., Manipal

38-year-old manual laborer and smoker presented with one and half year history of intermittent cough, fever and weight loss for which he was evaluated and was diagnosed to have pulmonary TB and was treated with full course of ATT for 9 months. In spite of this, his symptoms of cough, on and off fever persisted and even progressed to exertional breathlessness and he started to developed lymphadenopathy involving the cervical, right supracalvicular, bilateral inguinal nodes and right epitrochlear node. His physical examination was unremarkable except for clubbing. On examination he had fine crepitations in the right infra-axillary region and bilateral rhonchi. His other systems were unremarkable. Initial investigation showed high ESR with increased liver enzymes and high alkaline phosphatase level. Chest x ray showed non-homogenous opacities noted in bilateral upper zone and left mid zone with fibrotic strands with areas of cavitation in the right upper and mid zone with prominent left hilum. USG abdomen revealed mild hepatosplenomegaly and abdominal lymphadenopathy. Lymph node biopsy was done which revealed a non-caseating granuloma. So the other possibilities were considered and he was investigated with HIV Elisa, which was negative, AFB in fluorescence microscopy was negative three times. His C-reactive protein was very high, with high ACE levels. PFT was done which showed severe restrictive pattern. Later CT thorax was done and final diagnosis of sarcoidosis was made.

306 Effect of Pneumococcal Vaccine in Acute Exacerbations of COPD

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One of the common known causes of acute exacerbation COPD is Streptococcus pneumonia infection.

Aim: To evaluate the efficacy of pneumococcal vaccine in reducing the acute exacerbations of COPD.

Material and Methods: We studied eight COPD patients with previous frequent exacerbations for a period of 1 year following pneumococcal vaccination. The acute exacerbations were classified as mild, moderate and severe.

Mild cases were treated on outpatient basis. Moderate cases requiring hospitalization for less than 7 days and severe cases requiring hospitalization for more than 7 days with higher doses of bronchodilators.

Result: A significant decrease in exacerbation rates was found in mild and moderate groups (54% and 45% respectively) whereas reduction in rate of severe exacerbation was 28%. (Not statistically significant).

One patient succumbed to severe acute exacerbation in the follow up period. One patient died due to cardiac failure.

Conclusion: Pneumococcal vaccination may be tried as a prophylaxis to prevent mild to moderate exacerbation in COPD though larger studies are required to prove its efficacy as a standard prophylactic therapy in COPD patients.
307 A Young Male with Bronchial Aspergillosis
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Atypical presentations of carcinoma lung are frequently seen. Diagnosis may be delayed if not suspected early and this may lead to poor outcome. We report an atypical case of carcinoma lung in a 17-year-old non-smoker male patient who had an atypical presentation and course with unfavorable outcome. Patient presented with chief complaints of low-grade fever and cough with expectoration for last 3 months. He also had history of episodes of streaky hemoptysis. In addition there was history of swelling and pain in bilateral upper and lower limbs. He had been treated for TB without any response for 4 months. On examination he had hard diffuse swelling of all limbs up till elbows and knees with marked clubbing and findings of collapse of lower lobe of right lung. Radiographs of limbs revealed marked sub-periosteal thickening suggestive of hypertrophic pulmonary osteo-arthropathy (HPOA). Chest radiographs and CT chest revealed evidence of large mass occluding the main bronchus with extension into lower lobe bronchus leading to its collapse. Bronchoscopy revealed a large necrotic mass occluding the main bronchus. Bronchial biopsy as well as broncho-alveolar lavage showed features of aspergillus. Patient was initiated on amphotericin B and a cumulative dose of 650 mg was given over next 3 weeks. There was no response and repeat CT as well as bronchoscopy did not reveal any new findings. Bronchial biopsy again showed fungal hyphae suggestive of aspergillus but in addition fragments from a poorly differentiated carcinoma were seen. We reached a diagnosis of poorly differentiated carcinoma lung with pulmonary aspergillosis with HPOA. Radiotherapy was planned but patient deteriorated before it could be initiated. He developed massive empyema thoracis with sepsis and eventually died 1 week later. Malignancy was not suspected because of young age and presence of aspergillus that lead to a delay in the diagnosis. It is concluded that in cases with atypical features such as HPOA, carcinoma lung should be always suspected and aggressively looked for.

308 Diagnostic Value of Pleural Fluid Bilirubin - Serum Bilirubin Ratio Versus Pleural Fluid Protein - Serum Protein to Differentiate Exudative From Transudative Effusion
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Twenty-five patients with pleural effusion were studied to compare the diagnostic value of pleural fluid/serum bilirubin ratio v/s pleural fluid/ serum protein ratio, to differentiate exudative effusion from transudative pleural effusion. These 25 patients were divided into two groups. Group I constituted Transudative pleural effusion cases (12 patients); Group II constituted Exudative pleural effusion cases (13 patients). Transudative pleural effusion cases consisted of CHF, cirrhosis liver, nephrotic syndrome, hypoproteinemia patients where as exudative pleural effusion cases were of tubercular, paraneumonic and malignant pleural effusions. The cut off value for diagnosis of exudative pleural effusion in case of pleural/serum bilirubin ratio was taken as 0.6 where as same for pleural fluid/protein ratio was 0.5. In group I 33.33% patients had pleural fluid/serum protein ratio in range of 0.31 to 0.4 and pleural fluid/serum bilirubin ratio of 0.31 to 0.4 was present in 50% of patients. In group II, 46.15% patients had pleural protein/serum protein ratio in range of 0.5 to 0.75 compared to pleural fluid/serum bilirubin ratio which was present in 38.46% cases. In the present study pleural fluid/serum bilirubin ratio correctly classified all 12 cases of transudative pleural effusion but mis-classified 2 of 13 exudative pleural effusion. In the study pleural fluid/serum bilirubin ratio had sensitivity and specificity of 85.71% and 100% where as pleural fluid protein/ serum protein had sensitivity of 100% and specificity 85.71%. The study concluded that pleural fluid to serum bilirubin ratio is simple and highly effective parameter to distinguish transudative pleural effusion from exudative pleural effusion.

309 Spontaneous Subcutaneous Emphysema
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A 20-year-old female presented to the medical emergency with fever since 8 days and cough with expectoration for 5 days. Cough was barking in character and severe in intensity. Expectoration was yellow coloured, 4-5 teaspoons per day. Since three days she developed progressive swelling over the body involving the chest, trunk, upper and lower back. On examination the patient had subcutaneous emphysema over the chest, abdomen and back. Air entry on both sides of chest was equal and there were no added sounds. Chest radiograph revealed normal heart size, clear lung fields with splitting of bundles of both pectoral muscles and entrapped air in the soft tissues of the chest wall. Radiographs of the neck and abdomen also revealed air trapping in the subcutaneous tissues. CECT of the chest showed subcutaneous emphysema of the chest wall with encysted pneumomediastinum. Patient was put on high flow oxygen inhalation and cough suppressants. The patient improved with complete clinical and radiological resolution over 3 weeks.

Spontaneous subcutaneous emphysema is rare compared to that following trauma, pneumothorax and endoscopic procedures, the postulated mechanism is a breach in the bronchiolar/alveolar epithelium allowing dissection of air through the bronchial wall to the mediastium and thence to the subcutaneous tissues. This breach may be result of coughing, vomiting, valsalva or athletic activity.

310 Infected Bronchogenic Cyst with Lung Sequestration in Adult - A Case Report
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Bronchogenic cyst represents a spectrum of bronchopulmonary malformations that result from an abnormal budding of the tracheobronchial tree. We report a case of 38 year old female who presented to us in medicine OPD with chest pain and occasional mild to moderate fever. There was no history of cough, expectoration, hemoptysis, weightloss, anorexia, night sweats, diabetes, hypertension or pulmonary Tuberculosis. Chest X-ray revealed a cystic lesion in right middle zone, amoebic and hydatid serologies were negative. CECT of the chest showed pericardial effusion with cystic lesion in right lung. Aspirated fluid showed 100 cells/cmm, 100% polymorphs, nil glucose, 0.9g% proteins and was negative for AFB and Gram’s stain. Posterolateral thoracotomy was done and the cyst was deroofed and margins were underrun amenting to marsupialisation of the cyst. The cyst was not communicating with either the bronchus or pericardium and about 500ml of thick greenish pus was evacuated from the cyst. Histopathology report showed that majority of the cyst wall was composed of alveolar tissue and multiple small brochiches, the lining was consistent with bronchial cyst. In view of alveolar tissue and bronchiocles in the wall of cyst the possibility of bronchogenic cyst in extralobar sequestration of lung.
A Study of Pulmonary Function Tests in Obese Subjects
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Fifty obese normal subjects studied for their abnormal lung functions and they were compared with controls.
Fifty cases of obese and overweight normal subjects were tested for lung function to detect the abnormal lung functions, by testing them in Kit micro version-5, Cosmed Pulmonary Function equipment and the same tests were performed in normal controls. FVC, FEV1, FEV1/FVC ratio, SVC were tested.
53% of obese subjects had normal pulmonary function tests. 47% of obese subjects had abnormal function tests- restrictive type in 37% and obstructive type in 10%. A significant difference was noted in the restrictive type of pulmonary function tests in obese as compared to the controls (P<0.01). Also it was noted that there was positive correlation between BMI and severity of restrictive type of pulmonary function.

Management of Tuberculous Empyema
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Aim: To study the outcomes of current practices in the management of tuberculous empyemas in order to draw conclusions regarding the need for change.
Method: The case records of all patients diagnosed as tuberculous empyemas over a 5 year period were evaluated. The duration and outcome of intercostal drainage (LCD) as well as surgical interventions were noted.
Results: A total of 53 charts were studied. Surgical procedures (decortication and window drainage) were performed in 5 cases after an average duration of 79 days of LCD. In the remaining 48 patients, LCD alone was done. In 16 (30%) it was possible to remove the tube in an average of 20 days. In 28 patients (52.8%) drainage was prolonged beyond 25 days and patients were discharged on LCD. Detailed out-of-hospital follow up will be presented.
Conclusion: Conservative LCD was fairly rapidly successful in only a third of patients. Use of newer therapies such as VATS, and nonsurgical techniques need to be used in those with prolonged drainage.

Short Course Chemotherapy In Pulmonary Tuberculosis
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Fifty Newly diagnosed patients of sputum positive pulmonary tuberculosis were treated with 2 EHRZ + 6 EH regimen and results in terms of clinical, bacteriological and radiological changes were noted.
At the end of regimen, 90 % patients showed clinical improvement and 96 % patients turned bacteriologically negative. 55.10% patients were showing complete radiological clearance with cavity closure in 84.6%. Regression in previous lesions was observed in 30.61 % cases while 12.24 % patients had worsening in the previous lesions.
No major side effects were observed except 3 patients who developed severe hepatotoxicity and were excluded from the study retrospectively.
So, it is concluded from this study that this regimen 2 EHRZ + 6 EH which is cost effective, devoid of injectable SM, tolerable with minimum side effects, good compliance is one of the best SCC regimens in the treatment of pulmonary tuberculosis in rural and interior areas of India where medical care is sparse.