pneumococcal polysaccharide vaccine (PPV) against invasive pneumococcal disease while studies examining pneumonia case-fatality rates are inclusive. Accordingly, the Centers for Disease Control (CDC) recommends that PPV be given to adults 65 and older and those with chronic diseases. The study aimed to explore if PPV was associated with a reduction in 30 and 60-day mortality among stroke patients, a portion of which was likely related to Streptococcus pneumoniae infection.

Methods: Short-Stay records from the Medicare Provider Analysis and Review, 2007, were used to create a retrospective cohort. 382,959 unique in-patient admissions with a diagnosis of cerebrovascular disease International Classification of Disease Version (ICD-9 430–438.9) and without a diagnosis of pneumonia or lower respiratory track infections were identified for analysis. Vaccinated cases (n=2023) were defined by the presence of ICD-9 codes V03.82 and 995.2. A multiple regression using a Cox proportional hazard model (adjusted for age, sex, race, influenza vaccination status, comorbidities, and a quality of care index) was used to assess mortality risk at 30 and 60 days after stroke admission.

Results: A 21% reduction in mortality (HR=0.79) was observed in the vaccinated group at 30 (p<0.001, 99% CI: 0.68–0.92) and a 19% reduction in mortality (HR=0.81) at 60 days (p<0.001, 99% CI: 0.70–0.94).

Conclusion: This study suggests that PPV might reduce pneumococcal-associated mortality among patients recently hospitalized for stroke.

PP-212 Antitubercular agent mediated changes in rat type I collagen and spermatogenesis indices
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Background: Connective tissue disturbances accompany wide spectrums of accessory pathologies caused by tuberculosis. Necessity of tuberculosis chemotherapy adverse effects minimisation requires a comprehensive evaluation of the effects of antitubercular drugs on reproductive system and extracellular matrix proteins.

Methods: Wistar albino male rats (body weight [bw] 160–200 g) were divided into three groups: I – received pyrazinamide per os at a dose of 1000 mg/kg bw/day, II – at a dose of 2000 mg/kg bw/day, in both groups it was given for 60 days; III – intact animals. The contents of amino acids in rat type I collagens were determined using an amino acid analyzer. Morphological analyses were carried out by an optical microscope.

Results: The study of the effects of pyrazinamide administered in different doses on type I collagen amino acid contents, testis cells morphologic and morphometric parameters and spermatogenesis demonstrated presence of pyrazinamide-mediated quantitative and qualitative changes in male rat reproductive organs, spermatogenic epithelial cells and extracellular matrix proteins in comparison with norm. The largest number of changes were established at a dose 2000 mg/kg bw/day.

Conclusion: With pyrazinamide administration could be formed collagen molecules with changed helix structure, surface charge, rigidity, number and types of cross-links and specific locuses responsible for cell adhesion, interaction with chaperons and procollagen processing to collagen. Observed collagen molecules changes could hence affect the properties and correct functioning of spermatogenic epithelium and other tissues of reproductive organs. They could be caused by pyrazinamide via cytochrome P450 2E1 induction, reactive oxygen species production or direct action of this compound on protein biosynthesis processes.

PP-213 Splenic tuberculosis mimicking disseminated candidiasis in a leukaemic child
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Introduction: Tuberculosis is a very important public health problem in Sri Lanka. Tuberculosis with involvement of the spleen is uncommon. Immunodeficiency has become an important risk factor for the development of splenic tuberculosis. Complications can be life-threatening. Untreated splenic abscesses have a high mortality rate.

Case description: A 5 year old child with Acute Myelocytic Leukaemia while on intensive chemotherapy developed fever (104°F) and multiple subcutaneous nodules on left hand in the neutropenic phase while on cefoperazone–sulbactam for Acinetobacter spp. bacteraemia. Neutropenic phase became prolonged with total WBC ranging from 200 to 750/mm³. Fungal blood culture grew Candida tropicalis. He developed anaphylaxis to the test dose of amphotericin B. Fluconazole intravenously was commenced after taking biopsies of the nodules for fungal, mycobacterial and bacterial cultures and histopathology. Cultures were negative and histopathology was inconclusive. He was given 2 weeks of voriconazole after giving 1 week of fluconazole with poor response of the subcutaneous nodules but he became afebrile. 2D echocardiography and eye review were normal. Child became febrile (102°F) again. Ultrasound and computerized tomography scans of the abdomen revealed multiple abscesses. Splenectomy was performed. It showed multiple abscesses with histological appearance of caseous tuberculosis. Biopsy and abscess pus were not sent for cultures.

Antituberculous therapy was commenced. Bone marrow and cerebrospinal fluid for mycobacterial cultures and polymerase chain reaction for tuberculosis were normal. It was decided to continue therapy for one year. He has now completed 7 months therapy so far and has improved symptomatically.

In conclusion tuberculosis should be considered as one cause of splenic abscesses during prolonged neutropenia especially where the disease is endemic. Sending microbiological samples for diagnosis and sensitivity pattern of drugs to direct therapy needs to be encouraged considering failure of therapy due to resistant strains.

PP-214 Identification of Mycobacterium tuberculosis Beijing genotype with three methods
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Background: Beijing strains constitute more than 1/4 of Mycobacterium tuberculosis (MTB) genotypes. Beijing genotype is considered an important genotype because of its reasonable characteristics such as: association with multi-drugs resistance TB. Accordingly these strains are reluctant to conventional TB drugs. Therefore, it is necessary to investigate the transmission rate among Beijing strains within the studied communities. In this study, three molecular methods (Spoligotyping, VNTR, and RFLP–IS6110) were used to identify transmission among patients infected with Beijing strains.

Materials and Methods: The susceptibility tests were performed on 238 M. tuberculosis culture positive specimens. Thereafter, the isolated Beijing genotype was subjected to VNTR and RFLP. The results of Spoligotyping
were analysed by using SPOLD4 database. VNTR typing was used to identify alleles diversity in 9 locus (MPTR-A, ETR-A, ETR-B, ETR-C, ETR-D, ETR-E, ETR-F, QUB11B, QUB3232) of isolated Beijing strains. The allelic diversity of VNTR was measured by using Hunter Gaston Index (HGI).

**Results:** The spoligotyping of M. tuberculosis isolates revealed the following 8 patterns: Haarlem (27.7%), CAS1 (25.2%), EA13 (21.8%), CAS2 (6.7%), T1 (6.3%), Beijing (5.5%) U (5%), T (0.4%), EA12 (1.2%). The following VNTR loci (QUB3232), (QUB11B, ETR-E and ETR-F) and (other loci) were identified as most (HGI > 0.6), median (HGI 0.4-0.6) and weakest (HGI = 0) distinctive loci for Beijing families respectively. Whereas the Beijing strains demonstrated diverse patterns in RFLP, 13/13 (100%) and VNTR 10/13 (77%).

**Conclusions:** Beijing is one of the dominated circulating strains in Iran and interestingly majority of infected cases were due to reactivation rather than recent transmission. The VNTR and spoligotyping methods were more efficient to detect Beijing strains than by use VNTR and RFLP allow.

**PP-215** The value of ascitic adenosine deaminase activity and interferon gamma level in discriminating tuberculous from non-tuberculous ascites

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**Introduction:** Tuberculosis is still an important cause of ascites particularly in developing countries. The early diagnosis of tuberculous ascites is difficult because of its insidious onset, moreover the bacteriologic culture requires weeks to provide diagnosis, so a simple, rapid and safe screening test with high sensitivity and specificity would be most desirable.

**Aim:** To assess the value of adenosine deaminase activity (ADA) and interferon gamma level (IFN-γ) of the ascitic fluid in discriminating tuberculous from other causes of ascites.

**Subjects and Methods:** Fifty patients with ascites. Diagnostic paracentesis was performed and ascitic fluid samples were examined for:
1. Protein and glucose concentration.
2. bacteriologic study: a Gram & Ziehl–Neelsen stained smears & culture on blood agar plates. Sterile samples were inoculated on Lowenstein Jensen medium slopes which were incubated at 37°C and examined daily for the appearance for visible colonies, they were identified by growth on media containing 500 mg/l paravirtenzoic acid, niacin production, rate of growth, pigment production & growth at 35 &37°C and growth on nutrient agar.
3. Adenosine Deaminase Activity.
4. Interferon-Gamma Level.

**Results:** Of the fifty patients with ascites, tuberculosis was suspected clinically in 13 (26%) patients. By bacteriologic culture, tuberculous ascites was proven in 17 (34%) patients & 33 patients non-tuberculous. Nine (52.9%) patients with tuberculous ascites had underlying SHF. Ascitic ADA activity was significantly higher in tuberculous than in other cases of ascites (P < 0.001) regardless of the presence of liver disease. A cut-off of 28 U/L reached a sensitivity of 81%, specificity & PPV 97.1%. Ascitic IFN-γ level was also significantly higher in tuberculous ascites than in other causes of ascites (P < 0.05). A cut-off of 26 pg/ml reached a sensitivity of 81%, specificity & PPV 97.1%, & NPV 89.2%. There was no correlation between ascitic ADA activity and IFN-γ level in the tuberculous group (r = 0.329).

**Conclusion:** Tuberculosis should be considered as an important cause of ascites. Ascitic ADA was more sensitive than ascitic IFN-γ in detecting tuberculous ascites.

**PP-216** An analysis of the diagnostic value of thoracoscopy and closed pleural biopsy in the tuberculous pleuritis

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**Objective:** To evaluate the diagnosis value of thoracoscopy and percutaneous pleural needle biopsy in the pleural fluid patients with tuberculous pleuritis.

**Methods:** 149 patients with tuberculous pleuritis and pleural fluid were analyzed from January 2003 to March 2007. They were allocated to thoracoscope group (n = 19), concluding operational biopsy (n = 2) and percutaneous pleural needle biopsy group (n = 130). Two examinations were evaluated and compared for the diagnosis of tuberculous pleuritis.

**Results:** Among the 149 patients of tuberculous pleuritis and pleural fluid, 16 patients were found granulation tissue, chronic inflammation and so on in their pleural tissue in the thoracoscope group (n = 19), which confirmed to the histological changes of tuberculous pleuritis and the detection rate was 84.21%. There were 67 patients whose histological changes conformed to tuberculous pleuritis in the percutaneous pleural needle biopsy group and the detection rate was 51.54%. The difference of detection rate between the thoracoscope group and the percutaneous pleural needle biopsy group was significant (P < 0.05).

**Conclusion:** As examinations for tuberculous pleuritis, the detection rate of thoracoscope and operational biopsy was larger than percutaneous pleural needle biopsy, which were related to field of vision, thus needs further investigation.

**PP-217** A study on pulmonary parenchymal tuberculosis in patients with tuberculous pleuritis

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**Objective:** To examine the prevalence and characteristics of parenchymal tuberculosis in patients with tuberculous pleuritis.

**Design:** Retrospective cohort study. 149 patients >18 years old with a diagnosis of tuberculous pleuritis and pleural effusion who were operated on biopsy of pleura were enrolled retrospectively.

**Results:**
1. There were 12 cases (13.95%), 7 cases (11.11%) with parenchymal lesions had chest X-Ray examination characteristics of pulmonary tuberculosis in the group A (the pleuritis with histology positive) and group B (the pleuritis with histology negative) respectively.
2. There were 27 cases (27/41, 96.42%) and 13 cases (16/18, 81.25%) with parenchymal lesions had chest CT examination characteristics of pulmonary tuberculosis in the group A or group B respectively.
3. There were significant difference between using chest CT and chest X-Ray examination in finding inactive parenchymal lesions (7.78% vs 61.54%) (P < 0.05).

**Conclusions:** The patients mostly had radiographic features of inactive lung parenchymal lesions in the patients with tuberculous pleuritis, and the lung parenchymal lesions were more common by chest CT examination than has been reported in previous studies by chest X-Ray methods.