

MONDAY, SEPTEMBER 26TH 2011



Figure 1. Before ATT.

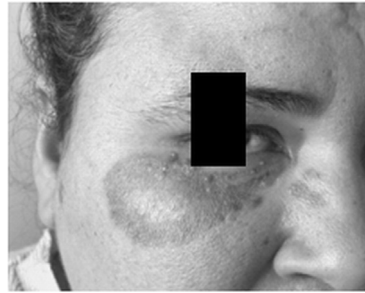


Figure 2. After ATT.

visual acuity. The lesions observed by funduscopy suggested *TB chorioretinitis*. Tuberculin skin test was positive. The diagnostic was confirmed by fluorescein angiography. After starting tuberculosis treatment the ocular symptoms regressed

**P2690****Rare localization of extra pulmonary tuberculosis**

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Tuberculosis (TB) can involve any organ system in the body by way of hematogenous or lymphatic dissemination or contiguity. While pulmonary tuberculosis is the most common presentation, extrapulmonary tuberculosis (EPTB) is also an important clinical problem.

The aim of the present study is to describe clinical manifestations and the outcome of patients with EPTB.

**Materials and methods:** We report the cases of 30 patients (17 men and 13 women) with a mean age 44 years (17-80 years) hospitalized for EPTB from January 2000 to January 2011.

**Results:** Seven patients (23%) had fever, loss of weight, anorexia and sweating; pain in effected site was noted in 6 cases (20%).

Urinary (16%), female genital (16%) and splenic tuberculosis (16%) were the most common site of involvement followed by parietal abscess (13.5%), abdominal (13.5%) and laryngeal tuberculosis (6%). The other localizations, spinal, meningitis, haematopoietic, hepatic, tongue and thyroid gland were noted in only in one case (3%). Miliary tuberculosis was found in 3 cases (10%). Pulmonary tuberculosis was associated in 53%.

Tuberculosis was microbiologically proven in only 33% of cases. The diagnostic was confirmed by a tissue samples in 12 patients (40%).

Mean course of standard anti-TB therapy (isoniazid, rifampin, pyrazinamide, streptomycin or ethambutol) was 8,5 months, cure was noted in 83,% and lost to follow-up in 17%.

**Conclusion:** High index of clinical suspicion, the use of invasive diagnostic methods for the confirmation of the diagnosis, early institution of specific antituberculosis treatment are the key to the successful management of EPTB.

**P2691****Current trends of extrapulmonary tuberculosis in Siberia**

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**Introduction:** Tuberculosis (TB) and HIV/AIDS have reached such proportions worldwide that the development of civil societies is seriously endangered. Extrapulmonary TB (EPTB) is not well-known, but it is dangerous too.

**Material and methods:** Estimates of incidence and spectrum of EPTB in Siberia are presented on the basis of the statistical reports for 1999 – 2009.

**Results:** During the last decade the incidence rate of TB in Siberia increased up to 20% (from 116 per 100,000 inhabitants in 1999 up to 139 in 2009). Every year in Siberia there are about 1000 new EPTB patients. Within the last decade the spectrum of EPTB has changed significantly. TB of the central nervous system

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## 282. Pulmonary and extrapulmonary tuberculosis

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**P2689****Unusual locations of tuberculosis: Three cases report**

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**Introduction:** Tuberculosis (TB) can involve any organ but unusual location concern specially immunodeficient patients. We report three unusual TB locations in immuocompetent patients.

**Case report:** The first patient is an immunocompetent woman admitted for pulmonary nodular lesions, pleural effusion and bilateral ovarian cysts. The elevated CA125 level suggested ovarian metastatic carcinoma. Pleural biopsy confirmed TB and presumed *ovarian TB*. Outcome was favorable with antituberculosis therapy (ATT) with disappearance of ovarian cysts. The second case interested an immunocompetent woman who presented simultaneous occurrence of *multifocal cutaneous TB* with pseudotumoral pulmonary TB. The cutaneous TB was revealed by squamous plaques and erythema in face, abdomen and breast. The diagnosis was confirmed by biopsy of the skin. Favorable outcome was observed with ATT. The third case is about an immunocompetent woman who presented decrease in

almost doubled from 4.9% to 8.5%, mostly due to co-morbidity with HIV. Bone and joints TB increased by about half from 20.3% to 30.8%, and among this group especially TB spondylitis with neurological disorders, the most debilitating form of the disease. The proportion of UGTB decreased from 42.9% to 33.9% with change in gender distribution from male: female of 1:2 in 1999 to 1:1 in 2008. In contrary, there was a decrease of peripheral lymph nodes TB from 16.7% to 11.0%, with fistulous disease still frequent. At the end of the last century ocular TB in Siberia accounted for 7.4% and in 2008 (in 2009 listed in "others") for 4.4% of the patients with EPTB. Accordingly, in 1999 other form of TB accounted for 7.8% and in 2009 for 15.8%.

**Conclusion:** In Siberia there is still a severe epidemic situation now. Low living standard, poverty, as well as poor knowledge and ignorance of EPTB both by medical service and population lead to late diagnosis of EPTB with complicated multi-organ forms.

#### P2692

##### Prostate biopsy for diagnostic of prostate tuberculosis

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World Health Organization (WHO) recognized tuberculosis (TB) as a global problem, but meant TB as a whole, mostly pulmonary TB, although 77% men died from TB, had prostate TB, mostly overlooked alive. Prostate TB has an importance due to: 1. It is a sexually transmitted disease; 2. It leads to infertility; 3. It results in chronic pelvic pain, that significantly reduces a quality of life; 4. It decreased a sexual function, that reduces a quality of life again.

The aim of our study was to estimate a role of a prostate biopsy in early diagnosis of a prostate TB.

93 patients suspicious on prostate TB were enrolled in study. All underwent ultrasound guided core prostate biopsy (Middle size needle 18 g, 19 mm length) with local anaesthesia. Straws were investigated by PCR, pathomorphology and culture. **Results:** Common complaints were pain (96.8%), dysuria (79.6%); laboratory findings - leucospermia (73.1%), haemospermia (51.6%). 37.6% had TB history, 34.4% had active TB of another localization, mostly - pulmonary. Results of PCR: HPV - 10.7%, Ureaplasma - 2.2%. Mycobacteria culture was positive in 6.9%. Pathomorphologically in 94.6% inflammation was found, in 65.6% - fibrosis, in 9.7% - intraprostatic neoplasia, in 5.4% - cancer, in 24.7% - TB.

**Conclusion:** The diagnosis of prostate TB is a very difficult task, because clinical features and laboratory signs are non-specific. Pathognomonic symptom is a cavern, but caverns mean late-diagnosed complicated form, cavernous prostate TB can't be cured neither chemotherapy nor by surgery. Prostate TB in early infiltrative non-cavernous stage may be diagnosed by PCR, culture or pathomorphology. Possibility of these methods alone is poor, it is necessary to use its in combination.

#### P2693

##### Masks of kidney tuberculosis

Denis Kholobin, Ekaterina Kulchavenya. *Urogenital, Research TB Institute, Novosibirsk, Russian Federation*

**Introduction & objectives:** Urogenital tuberculosis (UGTB) is the second most common form of TB in countries with a severe epidemic situation and the third most common form in regions with low incidence of TB. 77% of men who died from tuberculosis of all localizations had prostate tuberculosis which had mostly been overlooked during their life time. In actual figures, this means about 19,000 men yearly in Russia. The main reason for late diagnosis is an atypical clinical feature of UGTB, it courses under the mask of another disease.

**Material & methods:** We analyzed 816 history cases of UGTB patients to estimate clinical features.

**Results:** Most common complains were flank pain (68%), dysuria (48%) and renal colic (24%); laboratory signs - pyuria (78%) and haematuria (34%). Patients were treated by urologists or GPs with diagnoses pyelonephritis (27%), cystitis (43%), cancer (8%) or urolithiasis (22%) during 5.6 years on average. Positive smear was in 17% and positive culture of Mycobacterium tuberculosis was in 44%. 64% were diagnosed in late complicated cavernous stage, when surgery is necessary - and 90% of operations were nephrectomy due to total involvement of kidney tissue.

**Conclusions:** Most common masks of UGTB are pyelonephritis, cystitis and urolithiasis. UGTB presents non-specific symptoms and laboratory findings, except for positive MBT culture, but only about 44% cases are culture-positive. This is one of the main reasons for late and poor diagnosis of UGTB. The significance of UGTB may be considerable when the high prevalence of overall TB and the asymptomatic nature of UGTB are taken into account.

#### P2694

##### The reasons for late diagnosis of nephrotuberculosis

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**Introduction:** In fact nephrotuberculosis (NTB), like any other infectious disease, potentially can be cured by chemotherapy. But this statement is valid only for early diagnosis; actually more than 60% new-revealed patients are diagnosed late, in cavernous stage, when surgery is indicated.

The aim of study was to identify the reasons for late diagnosis of NTB.

**Material and methods:** 167 patients with nephrotuberculosis were enrolled in study. History cases were detailed analyzed to determine clinical features, previous therapy and a level of kidney destruction in time of diagnosis tuberculosis.

**Results:** 11 (6.6%) had acute onset like pyonephrosis, and were operated without previous therapy. Diagnosis was verified after surgery. Other 156 had chronic NTB with clinical features specific for chronic pyelonephritis and cystitis. 59 (37.8%) were revealed in small-destructive stage of nephrotuberculosis - papillitis. 47 patients among them (79.7%) were treated with optimal antimicrobials, that means drugs don't influence on Mycobacterium tuberculosis (nitrofurantoin, gentamycin, amoxicillin, cephalosporins). Average time of correct diagnosis in this group was 4.7 months. 97 patients in cohort (62.2%) had cavernous NTB. The main reason was prescription to 75.3% amycacin, rifampicin and fluoroquinolons that disguised, changed clinical features of NTB and resulted in long time of diagnostic - on average 27.4 months.

**Conclusion:** Nephrotuberculosis often mimics at chronic pyelonephritis and cystitis. Using amycacin, rifampicin and fluoroquinolons for therapy these diseases before excluding of NTB resulted in late diagnoses cavernous forms of NTB. Probably this statement is actual for region with severe epidemic situation, like Siberia.

#### P2695

##### Kidney tuberculosis in last century and now - Is it the same disease?

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Kidney tuberculosis (KTB) has non-specific clinical features and mimics on different other urological diseases: urolithiasis, cancer, pyelonephritis, cystitis etc. Moreover clinical features are not stable for ages, they change rather quickly.

The aim was to compare KTB in Siberia in 1980-1990 (1st group, 268 patients) and in 2000-2005 (2nd group, 227 patients), all were in-patients of Urogenital Department of Novosibirsk Research TB Institute.

A flank pain in 1st group was rarer (58.9% and 72.8% accordingly), but frequency of dysuria was the same (57.1% and 54.3%). Frequency of renal colic decreased from 16.1% up to 12.3%; haematuria increased from 30.4% up to 48.1%. Pyuria left most common laboratory sign - 91.7 - 91.4%. Significantly reduced a frequency of positive cultures - mycobacteriuria was revealed in 84.5% in first group and in 44.0% only in novo days.

Asymptomatic course was about equal - 8.9% and 6.2%, but frequency of acute debut changed significantly. In 1st group 34.5% patients got sick acutely, with manifesting clinical features, fever, pain etc. In second group the same patients there were 4.9% only. On contrary, obscure, vogue symptoms were in 56.6% in 1st group and in 88.9% - in 2nd group.

Mean age was stable: 40.5 in 1st group and 43.8 in 2nd group. A rate male: female was about 2:3 in both groups.

**Conclusion:** We can speak about clinical pathomorphosis of KTB. Clinical features of KTB has changed in last years. In 7 times rarer became acute onset of KTB, significantly more often patients have flank pain and haematuria now. Asymptomatic course of KTB is possible too. All this may be a reason for late diagnosis.

#### P2696

##### Diagnosis of tuberculosis lymph node disease (TBLN): Problems with mediastinal disease

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**Introduction:** TBLN requires material for culture and histological examination for diagnosis. This is especially important as drug-resistance increases. Current guidelines recommend empirical treatment after material for histology and culture has been obtained.

**Method:** A retrospective cohort review of all newly diagnosed cases of TBLN between January 1st 2009 and October 31st 2010 was performed against national standards [1]. Site, biopsy technique, reason for failure to biopsy and other investigations were recorded.

**Results:** 39 cases were identified (26 extrathoracic, 13 intrathoracic). 22 had a fine needle aspirate (FNA) and 6 required open biopsy. 15 (39%) were commenced on treatment with no laboratory evidence of TB: 6 had no compatible histology or culture and 9 had no biopsy performed (8 mediastinal, 1 supraclavicular). Failures to biopsy were due to patient refusal (2) or technical difficulty in mediastinal biopsy (7).

Site	n	FNA n (%)	Open Biopsy n (%)	Treated but no TB n (%)	Quantiferon +ve	Mantoux +ve
Extrathoracic	26	19 (73)	6 (23)	1 (3.8)	2	1
Intrathoracic	13	3 (23)	0 (0)	1 (7.7)	10	7

None had pulmonary evidence of TB on their chest x-ray. Ultrasound and CT confirmed caseation in 3 cases. Failure to improve after 2 months treatment led to open biopsies and diagnoses of follicular hyperplasia of the thymus and lipoma.

**Conclusion:** An endoscopic biopsy under ultrasound (EBUS) service for mediastinal TB will improve adherence to guidelines, obtain material for culture and reduce risk of misdiagnosis and inadequate treatment.

**Reference:**

- [1] National Collaborating Centre for Chronic Conditions. Tuberculosis: clinical diagnosis and management of tuberculosis, and measures for its prevention and control. 2006.

**P2697****Mycobacterial characteristics of tuberculous lymphadenitis in a tertiary care hospital in India**

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**Introduction:** Tuberculous lymphadenitis (TBLN) shows geographical variations. In developing countries, *Mycobacterium tuberculosis* is common pathogen, while in developed countries nontuberculous mycobacteria are common pathogens. Bacteriological studies are necessary to confirm the diagnosis and for proper management. **Aims:** To study: 1. Mycobacterial smear and culture positivity rate in histologically proven tuberculous lymph nodes. 2. Cultural characteristics of mycobacteria. 3. Prevalence of multidrug resistant (MDR) and extensively drug resistant (XDR) tuberculosis.

**Methods:** Lymph node smear for acid-fast bacilli (AFB) was done by Ziehl-Neelsen method, and culture was done by radiometric method (MB/Bact 240 system). Sensitivity tests for antitubercular drugs were performed by conventional method on LJ medium.

**Results:** During Jan. 2005 to Sept. 2010, mycobacteria were grown on 74 cultures. 72 cultures (97.3%) were positive for *Mycobacterium tuberculosis*, and only 2 (2.7%) were positive for *M. Kansaii*. In 89 histopathologically proven patients of TBLN, 56 (62.9%) cultures were positive and AFB smear positive in 21 (23.6%) patients. In 18 culture positive patients, histopathology of lymph nodes was not available. MDR TB was present in 12 (16.2%) cultures. XDR TB was not detected. **Conclusions:** 1. *Mycobacterium tuberculosis* is the common organism in TBLN. 2. In histopathologically proven patients with TBLN, mycobacterial smear and culture positivity rates were 23.6% and 62.9% respectively. 3. MDR TB was present in 16.2% of patients.

**References:**

- [1] G. Natraj: Correlation of fine needle aspiration cytology, smear and culture in tuberculous lymphadenitis: a prospective study. J. Postgrad. Med. 2002;48(2): 113-116.

**P2698****A prospective observational study to determine the adequacy of 6 months antitubercular therapy in tubercular mediastinal lymphadenopathy**

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**Background:** The present study was designed to evaluate adequacy of 6months antituberculosis therapy (ATT), Revised National Tuberculosis Control Programme (RNTCP) Cat I with isoniazid (H), rifampicin (R), pyrazinamide (Z), ethambutol (E) followed by HR thrice weekly in patients with tubercular mediastinal lymphadenopathy (TML).

**Material & methods:** 75 cases of significant mediastinal lymphadenopathy on contrast enhanced CT chest (CECT Chest) and diagnosis of Tuberculosis on trans-bronchial needle aspiration were included. All patients were given 6months ATT [2(HRZE)<sub>3</sub>/4(HR)<sub>3</sub>] as per RNTCP and followed up at the end of 2,5 and 6 months for clinico-radiological assessment. CECT Chest done at the end of 6months and treatment was extended with (HR)<sub>3</sub> in patients with persistent significant lymphadenopathy (> 1 cm) on CT Chest. Repeat CECT Chest was done 3 monthly till complete radiological response.

**Results:** Mean age of patients was 27.5±14.38 years with M:F ratio of 3:2. Common symptoms were fever (88%), dry cough (70%) and anorexia (60%). Right paratracheal (73%), Pretracheal (67%) were commonest lymph node groups involved. Only 15 out of 75 patients (20%) showed evidence of complete clinico-radiological improvement at end of 6 months while 5 (6.67%) patients were lost to follow up. Remaining 55 patients needed extended treatment (HR)<sub>3</sub>. 46 (61.33%) patients had complete clinico-radiological improvement at end of 9 months, while 9 (12%) patients required 12 months ATT.

**Conclusion:** 74% of the patients with TML required ATT for more than 6months (9-12 months) compared to 20% of the patients in whom 6 months ATT was adequate. The results suggest that 6months RNTCP CAT I is inadequate for treating TML.

**P2699****Comparison of treatment of TB lymphadenitis with daily vs. intermittent chemotherapy**

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Relatively better cure rates are noted with use of daily TB chemotherapy regimens compared to intermittent regimens for TB lymphadenitis in our clinical experience. We therefore did a randomized comparative prospective study of daily vs. intermittent chemotherapy for cases with TB lymphadenitis. A total of 170 cases were randomly put on daily or intermittent regimen. Any cases of proven

or suspected drug resistance were excluded. The regimens were selected as per the standard DOTS categories. 81 on daily and 73 on intermittent regimens completed their treatment and were available for analysis. 73/81 (90.12%) on daily regimen and 52/73 (71.23%) on intermittent regimens were cured. 17/81 (20.98%) and 23/73 (31.5%) respectively needed extension of treatment. 26/81 (32.09%) and 18/73 (24.65%) had adverse effects of chemotherapy on daily vs. intermittent treatment respectively. Daily TB chemotherapy seems to be superior to intermittent chemotherapy in terms of treatment outcome at the cost of slightly more adverse effects, in our study of TB lymphadenitis.

**P2700****Demographic, clinical, and radiographic assessment of symptomatic, smear-negative pulmonary tuberculosis in a public-private mixed DOTS setting in Iloilo City**

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**Background:** Annually, numerous cases of pulmonary tuberculosis are being referred to Public-Private Mixed DOTS (PPMD), and in most instances, they are of sputum smear-negative type. Clinicians need to decide when to initiate empiric anti-Koch's treatment based only on symptoms and radiographic findings, as a delay in the commencement of treatment could cause further transmission of the disease. Thus, an advocacy, heralded by a TB diagnostic committee, of treating smear-negative patients suspected of having active TB disease was started.

**Study objective:** To recognize the clinical, radiographic, and demographic profiles of all sputum smear-negative patients with symptomatic PTB enrolled in the Directly Observed Treatment Short-Course program of St. Paul Hospital-Iloilo (DOTS-SPH) from January 2008 to June 2009.

**Design:** Retrospective descriptive study

**Setting:** PPMD (DOTS-SPH) in Iloilo City

**Patients:** Total of 74, symptomatic, smear-negative TB patients enrolled in DOTS-SPH was included in the study.

**Results:** About half (51.4%) of the patients included in the study were females, mostly young adults (31.1%) in their productive years, residing in the urban areas (73.0%). Patients presented with cough (85.1%), backpain (64.9%), weight loss of >10% (44.6%), easy fatigability (44.6%), and chest pain (43.2%). The most common radiographic finding is the presence of an apical/upper lobe infiltrates (79.7%).

**Conclusion:** Most patients presented with at least 3 or more constitutional symptoms, cough being the most common. The initiation of anti-Koch's medications relies mostly on chest radiographic findings and symptomatology of patients.

**P2701****Post tubercular sequelae as an important non-smoking risk factor for developing COPD**

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**Background:** Tuberculosis (TB) and chronic obstructive pulmonary disease (COPD) are major public health problems in developing and under developed countries. Some studies have shown a association between these two diseases which are posing important problem for public health provider organizations.

**Aim of the study:** To evaluate the risk of developing COPD by previous pulmonary tuberculosis, independent of smoking.

**Methods:** Study includes 141 patients of COPD which were confirmed by spirometry (FEV1/FVC <0.7), were subjected to thorough history taking, clinical and radiological examination.

**Results:** Mean age of patients were 58.2 years. Out of 141 patients of COPD, 39 patients had a clinical and radiological evidence of previous pulmonary tuberculosis (SD 0.452, 39/141). 75 patients were having history of smoking (75/141, SD-0.504), 30 patients were identified as a non-smoker patients with previous pulmonary tuberculosis (30/141, 21.3%). In rest of the patients bio mass fuel, asthma and other occupational factors were identified as a risk factor for COPD.

**Conclusion:** Post Tuberculosis is a one of the important non-smoking risk factor for the development of COPD.

**P2702****Obstructive lung disease in patients with treated pulmonary tuberculosis**

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Little is known of functional sequelae of tuberculosis. The aim of the study was to evaluate the association between chronic obstructive pulmonary disease (COPD) and pulmonary tuberculosis.

**Methods:** In consecutive 224 patients treated for pulmonary tuberculosis (between the ages of 20 and 82 years) who were observed at a local dispensary pulmonary function tests were performed.

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**Results:** Pulmonary impairment was present in 105 (46,9%) patients including 81 (36,2%) patients with airflow obstruction (FEV1/FVC <0.7) and 24 (10,7%) patients with restrictive pattern (FEV1/FVC  $\geq$ 0.7 and FVC or FEV1 <80% predicted). Of 224 patients, GOLD criteria classified 10,3% of subjects as having mild COPD, 19,2% subjects as having moderate COPD, and 6,7% as having severe COPD. The prevalence of stage II or higher COPD in patients aged 40 and older and in younger patients was 31% and 5%, respectively ( $p < 0,001$ ). In patients with culture-positive pulmonary tuberculosis in the past the prevalence of stage II or higher COPD was 32% and in patients with culture-negative pulmonary tuberculosis the prevalence of stage II or higher COPD was 17% ( $p < 0,05$ ). In patients who had two or more episodes of tuberculosis the prevalence of stage II or higher COPD was 47% and in patients with one episode the prevalence of stage II or higher COPD was 23% ( $p < 0,01$ ). We did not find influence of gender, smoking on the prevalence of stage II or higher COPD.

**Conclusions:** A microbiological cure is not the end of illness. Tuberculosis is associated with frequent airflow obstruction. Culture-positive pulmonary tuberculosis in the past, episodes of tuberculosis may increase the prevalence of stage II or higher COPD.

#### P2703

##### Airflow limitation due to COPD despite tuberculosis sequelae

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Pulmonary (P) tuberculosis (TB) and COPD are both a significant worldwide burden in terms of morbidity and mortality. They can both induce similar respiratory symptoms and chronic air flow limitation (AFL) leading to diagnosis difficulties. To clarify if COPD can be considered in patients with TB sequelae, we retrospectively analyzed cases of patients with AFL (FEV1/VC post bronchodilator <70%) and medical history of PTB, hospitalized between 2000 and 2010 in which diagnosis of COPD was more probable than TB sequella because of important tobacco use and clinical history. All patients underwent CT scan to precise P lesions. Patients with PTB after COPD diagnosis were excluded and those with extended PTB sequellae as well.

Fifteen patients were included. Mean age was 60 years (44-83 years). Mean smoking level was 58 pack year. The mean delay between TB history and diagnosis of COPD was 20 years. Dyspnea was present in all cases and associated to chronic cough and sputum in 87% of cases. CT scan showed besides TB sequellae, P emphysema in all cases (centrolobular in 75%). AFL was severe in 80% of cases (GOLD III and IV). Treatment was based on theophylline and/or inhaled long-acting B2 agonists in all cases. All patients had clinical improvement with bronchodilator. Outcome was marked by at least one exacerbation for 13 patients due to P embolism in 2 cases, pneumothorax in 1 case and respiratory infections in all other cases.

COPD should be considered in smokers with AFL even if they have a previous history of PTB. Despite few cases of parapneumal emphysema, the majority of these patients show predominant P centrolobular and panlobular emphysema with an outcome similar to those with COPD and no PTB history.

#### P2704

##### Structure of extrapulmonary tuberculosis forms in Romania among 2007-2009

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Tuberculosis represents a major matter of public health in Romania and as a result the antituberculosis activities provided by NTP take into account also to point out all the aspects and tendencies of TB endemy.

**Objective:** In the context of an increased TB endemy (notification rate 99,9% 000 meaning 21457 cases in 2009) but with a decrease tendency in the last 7 years, we intended to determine extrapulmonary TB weight and structure by locations among 2007 - 2009.

**Material and method:** We have used information in the national data basis within the service of NTP epidemiologic supervision.

**Results:** Among 2007 - 2009, extrapulmonary TB weight from all sites was chronologically the following: 13,49% = 3351 cases (2007), 13,41% = 3310 (2008) and 14,51% = 3378 (2009). TB pleuresies represented 62,1% (2007), 62,1% (2008) and 58,1% (2009) of the extrapulmonary sites. In absolute figures, the other extrapulmonary sites were 1263 cases in 2007, 1252 in 2008 and 1381 in the last year, 2009. The most frequent extrapulmonary localizations (without pleuresies), whole values during the three studied years, were: intra and extra thoracic adenopathies (1804 cases), osteoarticular localizations (816), meningococcal (348), renal and urinary tracks (204) and pericarditis (152) etc. During this period, there were only 2 TB tiroidian cases and no surrenal case.

**Conclusions:** Extrapulmonary TB forms among 2007-2009 keep a constant weight level within the structure of TB sites. The high level of pleuresies (with phthisiogenic risk) and also the high frequency of TB meningitis (severe prognosis, element of epidemiologic gravity) involve an increased responsibility in TB control.

#### P2705

##### Pulmonary involvement in extrapulmonary tuberculosis patients

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**Background:** Molecular epidemiological studies using genotyping proved that disease transmission is higher in EPTB which also proves the infectiousness of EPTB.

**Aims and objectives:** To detect the pulmonary involvement in new EPTB patients with the help of sputum examination, X-ray chest, High Resolution Computed Tomography scan of Thorax (HRCT) and Fiberoptic Bronchoscopy (FOB).

**Methods:** A total of 140 patients of EPTB referred to our DOTs center were investigated for pulmonary involvement from July 2009 through November 2010.

**Results:** The most common EPTB site was the Lymph nodes 46.43%, followed by pleural effusion 40.71%. Sputum could be collected from 87.14% patients, and showed 9.83% positivity for AFB on Direct smear and 11.47% positivity on culture. X-Ray chest was done in all 140 patients and parenchymal lesions detected in 82.85%. CT-Thorax could be done in 60.71% patients, and 88.23% showed parenchymal lesions. In FOB performed on 33 patients, 84.84% were found bacteriologically positive. Sputum culture had an additional yield of 2 over sputum smear. CT scan had an additional yield of 13 over x-ray. FOB had an additional yield of 26 over sputum examinations and 5 over x-ray. Total patients with pulmonary involvement of 130 (92.85%) was found; of this bacteriologically proven was 40 (28.57%) patients.

**Conclusion:** We observed that majority of extra pulmonary tuberculosis patients showed parenchymal involvement, significant bacillary positivity sometimes even with a normal chest x-ray. It suggests the potential infectiousness of extra pulmonary tuberculosis patients which is always under estimated, so contact investigations and the disease prevention precaution measures should also be advised in these patients.

#### P2706

##### Pulmonary involvement in pleural tuberculosis: How often does it mean disease activity?

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To evaluate in chest X-ray and high resolution computed tomography (HRCT) of patients with pleural tuberculosis (PT), the incidence of lung lesions suggestive of active disease.

**Methods:** Prospective study evaluating radiological abnormalities of 88 patients with PT. The images reviewed by three independent specialists were classified according to previously established criteria: 1) *Disease activity* (presence of consolidation, thick-walled cavity, centrilobular or confluent nodules, and tree-in-bud pattern); 2) *Nonspecific findings* (solitary nodules, lymphadenomegaly, cylindrical bronchiectasis, and bronchial wall thickening) and, 3) *Signs of residual scarring* (parenchymal fibrotic bands and traction bronchiectasis). The results were expressed as the frequency of each observed radiological finding.

**Results:** All patients presented unilateral pleural effusion. Abnormal changes were observed in chest X-ray of 22 (25%) patients and in HRCT of 55 (63%). Images compatible with active pulmonary tuberculosis were detected by chest X-ray in 9 (10%) patients and by HRCT in 38 (43%). Centrilobular nodules (30.7%), confluent nodules (27.3%) and tree-in-bud pattern (10.2%) were only detected by HRCT. The presence of solitary nodules and lymphadenomegaly were more frequently detected by HRCT. Only four patients presented tomographic images suggestive of residual disease.

**Conclusion:** The present study demonstrates that pulmonary involvement is quite common in pleural tuberculosis and that the lesions were mainly detected by HRCT. These findings have epidemiological implications, since patients with pleural tuberculosis should be considered as potential sources of disease infection and spread.

#### P2707

##### Detecting pulmonary involvement in extra-pulmonary tuberculosis using chest radiographs (CXR) and sputum sampling: What happens in practice?

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**Background:** CXR plus sputum microscopy & culture (TBC) for *M.tuberculosis* (MTB) can identify co-existing pulmonary TB (PTB) in subjects presenting with extra-pulmonary tuberculosis (EPTB). In practice, EPTB subjects with normal

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CXR may not have sputum sampling performed, leading to underestimation of pulmonary disease.

**Objectives:** To determine the use of CXR & TBC in patients with EPTB & their diagnostic utility to detect co-existent PTB.

**Study design:** Retrospective clinical and demographic data for TB patients at our hospital (1.1.06 - 31.12.08) obtained from the London TB Register were linked to hospital microbiology & HIV test data. Baseline CXR (B-CXR) were scored by 2 respiratory radiologists blind to patient diagnosis.

**Results:** Of 308 cases (median age 39y, 52.9% female), 155 were notified as EPTB only. 143 (92.3%) had B-CXR, with abnormal (abN) features identified in 67 patients (46.9%): 48 (33.6%) consistent with possible PTB & 9 (6.3%) probable PTB, independent of HIV status. Sputum samples were obtained from 54 patients (37.8%). This was less likely in those with a normal B-CXR (21.4% vs. 56.2% abN,  $p < 0.001$ ). TBC was MTB positive in 9 patients (16.7%): 7 with abN B-CXR (5 possible PTB, 2 probable PTB) & 2 with normal B-CXR.

**Conclusion:** Most EPTB patients had a B-CXR, 40% of which were consistent with possible/probable active PTB. Sputum samples were infrequently obtained, though when performed MTB yield was high. Clinical diagnosis of EPTB using B-CXR review alone may underestimate co-existing PTB. To identify infectious cases & improve TB control, sputum collection & TBC should be performed in all patients.

#### P2708

##### Assessment of the prevalence of pulmonary involvement in cases with extrapulmonary tuberculosis

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**Introduction:** Tuberculosis (TB) remains a public health concern worldwide. Previous reports have shown that patients with smear-negative pulmonary TB could transmit TB to others. Whereas it is a common practice to obtain a chest X-ray (CXR) for all patients with extrapulmonary TB (EPTB), sputum examinations are typically limited to those with abnormal radiographic findings suggestive of pulmonary TB.

**Objective:** Is to assess the prevalence of pulmonary involvement in patients with EPTB.

**Methods:** The present study included 120 patients proved to have EPTB. Patients were subjected to symptoms review, full clinical examination, chest X-ray, and sputum examination for acid fast bacilli (AFB) by direct smear and culture.

**Results:** The mean age of the patients included in the study was  $34.42 \pm 13.43$  years with gender distribution of 40% males to 60% females. All patients had histopathological confirmation of having tuberculosis while culture for mycobacterium TB was positive in 41.7% (50 patients) and direct smear examination for acid fast bacilli was positive in only 1.7% (2 patients). Abnormal CXR was detected in 31 patients (25.8%) regardless of the original disease, while sputum culture for mycobacterium TB was positive in 35 patients (29.2%). Although there was no statistical difference between CXR and sputum culture, the crude number was higher in sputum culture. Direct sputum examination was positive in only 6 patients (5%).

**Conclusion:** The prevalence of pulmonary affection in EPTB is significant. The sputum culture for mycobacterium TB is crucial to reach the diagnosis especially in patients with normal CXR or negative direct smear.