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270. Tuberculosis: clinical findings II

P2593**Predictive factors of relapse in pulmonary tuberculosis**

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Background: Pulmonary tuberculosis (TB) relapse is a life-threatening condition. Revealing the factors that lead to relapse may help developing preventive measures.

Aim: The aim of this study is to reveal the main predictive factors of relapse in patients with pulmonary TB.

Methods: We compared the data reported during the first episode of TB of 22 non-HIV patients treated for pulmonary TB and who had a relapse with those of 36 non-HIV patients treated for the same disease without relapse. Files were selected if the follow-up period exceeds 3 years. Results are expressed as a percent or a mean with [CI_{95%}].

Results: Patients with relapsing disease, as compared to patients without relapse, are older (61[56-65] vs 37[33-41] years-old), with history of heavier smoking (40[29-51] vs 18[10-26] Pack-Years) and a lower proportion of TB-vaccinated patients (40% vs 80%; p=0.05). The 2 last findings are likely to be correlated to age. But independently of age, in patients with relapse, we found a higher proportion of patients who have a close contact with another TB-patient (63% vs 38%; p=0.01) and a more frequent right lung involvement (50% vs 36% p=0.05).

Conclusion: From our data, relapse of pulmonary TB is more likely to occur in older patients, those exposed to contagious persons and those with a right lung involvement during the first episode of TB.

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P2594**Relapse rate of tuberculosis and related factors in Korea; by using the nationwide tuberculosis notification data**

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Background: The relapse rate of tuberculosis(TB) was one of the indicators that assess indirectly the level of TB control. In Korea proportion of relapse TB was reported in about 12%.

Aims: To estimate the relapse rate of TB and investigate the related factors with relapse of TB by using the nationwide TB notification data in Korea.

Materials and methods: Data source was the nationwide TB notification data in 2005. For them to check that TB patients had been reported again from 2006 to 2010. Related factors were analyzed by using multivariate logistic regression.

Results: Of 45,434 TB patients in 2005, 4,371(9.6%) were reported with TB again and 564 were reported two or more. So the cumulative relapse cases were 5,072(11.2%). A relapse rate was 4.8% in 2006, 2.4% in 2007, 1.6% in 2008, 1.4% in 2009, and 1.0% in 2010.

Related factors with relapse of TB

	OR (95% CI)
Sex	
men	1.32 (1.23-1.42)
women	1
Age	
0-9	0.49 (0.23-1.06)
10-19	1
20-29	1.09 (0.92-1.29)
30-39	1.13 (0.95-1.34)
40-49	1.25 (1.06-1.48)
50-59	1.09 (0.92-1.30)
60-69	1.10 (0.93-1.31)
>70	0.97 (0.82-1.15)
Registration type	
new	1
relapse	1.76 (1.61-1.91)
TAF	2.11 (1.57-2.84)
TAD	3.14 (2.61-3.78)
TI	1.23 (1.05-1.44)
other	1.51 (1.33-1.71)
Sputum smear test	
+ pul TB	1.41 (1.32-1.68)
- pul TB	1
extra-pul TB	0.72 (0.62-0.81)
Medication	
only group 1	1
with group 2-5	1.48 (1.30-1.68)

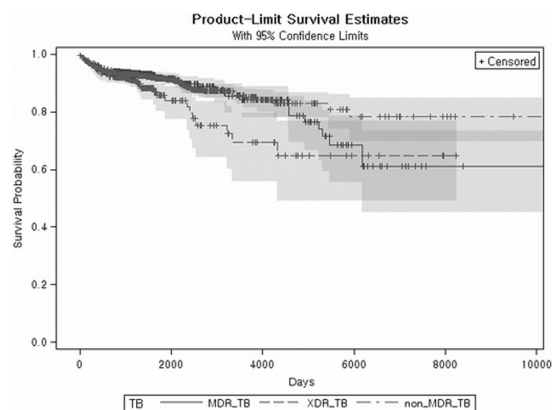
TAF = treatment after failure, TAD = treatment after default, TI = transfer in, pul = pulmonary.

Conclusion: The five-year relapse rate was 9.6%. It was likely to be underestimated because reporting rate was estimated to be 65-70%. A relapse was decreased over time, 65% of relapse occurred within two years. Related factors with relapse were various. Especially previous treatment failure or default were related strongly.

P2595**The risk factors of the TB death among case of initial treatment failure and retreatment after default**

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Background: Irregular medication is considered to be related to develop MDR-TB. We reviewed chart of patients who failed in the primary treatment to find out drug resistance is associated with death.



Methods: The result of chart review study of 76,315 cases who had been charged to Health Insurance Review and Assessment service in 2008, 53,579 cases were confirmed with TB patients. Among these 53,579 patients, 1,410 patients who failed in the primary treatment and treatment after default participated in this study. The data were matched to death cause statistics provided by Statistics Korea. Hazard ratio was calculated using Cox's proportional hazard models to analyze factors associated with death.

Results: Among 1,410 patients, 213 were MDR-TB, 29 were XDR-TB. The result of 2.7-year follow-up, 123 patients were died, 23 were MDR-TB, 8 were XDR-TB. There seemed no relationships to MDR-TB with death, but the risk for death increased with 3.3 times higher for XDR-TB patients comparing with non-XDR-TB.

The hazard ratio for XDR-TB was 3.3 times higher(95%CI:1.5-6.4), for gastric ulcer was 3.8 times higher(1.4-8.3), for cancer was 3.3 times higher(1.9-5.4), for chronic renal failure was 13.9 times higher(3.8-36.2).

Conclusions: The risk for death was increased with XDR-TB in patients who failed in the primary treatment and treatment after default in spite of controlling confounding variables.

P2596**Safety and benefit of adjunctive systemic corticosteroid therapy in the management of severe, smear positive pulmonary tuberculosis (SSP-PTB); an interim analysis of a randomized controlled trial**

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Objective: To assess the safety and benefit of adjuvant steroid therapy in SSPPTB. **Method:** SSPPTB patients were randomized to 2 groups. All were given standard category I anti-tuberculosis therapy(ATT). Test group was given a tapering 3 week course of oral prednisolone. Interim analysis done at 8 weeks.

Results: Steroid arm had 38 (36 males; mean age 49y) while control arm had 26 (19 males; mean age 46y) patients.

Night sweats and appetite showed a faster subjective improvement in the steroid arm. A weight gain within the initial 2 months was seen in 74% (average 1.7 kg) in steroid arm and in 76% (average 2.6 kg) of controls. A higher rate of sputum non-converters (18% vs.12%) was noted in steroid arm. The average, percentage improvement of ESR from pre-treatment value was higher in controls (39.2% vs.59.3%).

Pre-treatment and two month CXR average scores were 60.5 and 59.5 in the steroid arm and 52.4 and 43.4 in the control arm respectively (AP Ralph, *et al.* Thorax 2010;65:863-9). Mean improvement of CXR score was higher among controls, but without statistical significance (0.99 vs.8.97; t=-1.40; p=0.17).

Complications were noted in 5(13%) patients on steroids (hepatitis 1, itching 2, coronary ischemia 1, venous thrombosis 1) and in 2(8%) of controls (hepatitis 1, gastroptathy 1).

Conclusion: Adjunction of oral prednisolone to ATT in SSPPTB showed inferior results in the initial two months, with regard to weight gain, sputum conversion, percentage ESR and CXR improvement. Furthermore, patients treated with steroids showed an overall higher incidence of adverse drug effects and disease complications.

P2597**C-reactive protein in pulmonary tuberculosis-correlation with extent and severity of the disease**

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Background: Pulmonary tuberculosis (PT) presents a broad clinical spectrum. C-reactive protein (CRP) has been identified as a possible marker of severity in this disease.

Aims: To assess the role of CRP in patients admitted for PT and its relation with radiological extent, bacterial load, hospital stay and mortality.

Methods: We retrospectively evaluated 201 adult patients admitted in a tertiary hospital for PT without HIV infection (2007-2011). Demographic, clinical, analytical and radiological data as well as hospital evolution were studied. Patients were categorized according to radiological extent (National Tuberculosis Association classification) and initial bacterial sputum load (ATS criteria). For statistical analysis, Spearman correlation coefficient, analysis of variance ANOVA and Bonferroni test were used, with SPSS18 support.

Results: Most were male (74,3%), mean age 53,5 yrs. Sputum smear on admission was negative in 39,8%; in these, CRP was significantly lower (mean: 82.1 mg/L) than in smear-positive patients (mean: 114.5 mg/L), p=0.003. However, CRP did not increase with higher bacterial load (p=0.113). CRP values increased significantly with more extensive disease on chest X-ray (Est.I: 61.7mg/L; Est.II: 109,9mg/L; Est.III: 170.8mg/L), p=0.000. A positive correlation between CRP value and hospital mortality was found (r=0.141, p=0.027) but not with duration of hospitalization (p=0.065).

Conclusions: CRP may play an important role as an indicator of the extent and severity of PT and showed prognostic value for short term mortality of the disease.

Studies including ambulatory patients may help defining its role in identifying those who need to escalate health care.

P2598**Diagnosing value of closed-pleural biopsy in pleural tuberculosis**

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Introduction: Thoracoscopy is the gold standard for diagnosis of pleural tuberculosis (PTB). However, pleural biopsy (PB) is a blind technique of investigation of simple first intension designed to make the histological diagnosis.

Aim: To evaluate the contribution of PB in the histological diagnosis of PTB.

Method: We study retrospectively 49 patients in whom PTB were diagnosed in our military department. PB was sent for culture and histopathological examination. Patients were excluded if they had positive bacilloscopy.

Results: The mean age was 32 years (12 to 78). 81% were male. A past medical history of tuberculosis was found in 25% of cases. The most frequent symptoms are: chest pain, cough and constitutional symptoms. The TB effusions were all exudative with a mean lymphocyte fraction of 80%. PB was done in 89% of cases with a mild number of fragments was 4,5. Diagnosis was confirmed by closed-PB in 61,9% of cases, boxes from the first biopsy in 53,3% of cases. Thus the sensitivity of the PB is 53%. No complications of PB were noted. The thoracoscopy confirm the diagnosis in 24,4% of cases. 4,4% of cases was histologically non diagnostic. Pleurisy is isolated in 77,5% of cases associated with pericardial disease in 6,1% of cases. Histology found a tuberculous granuloma in 69% of cases with caseous necrosis in 50% of cases. Culture of pleural fragment was positive in 3 cases. In other cases the diagnosis is retained on elements of presumptions.

Conclusion: The profitability of PB depends on the extent of lesions and the experience of the operator. The PB is a minimally invasive and cost effective for the early diagnosis of pleural tuberculosis before considering more invasive examinations.

P2599**Atypical pulmonary tuberculosis**

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Introduction: Tuberculosis remains a common disease, but despite this, it is often diagnosed with long delay due to some atypical presentations. The aim of our work is to know unusual shapes because they may pose problems of differential diagnosis especially with malignant diseases.

Methods: We report 50 cases of pulmonary tuberculosis atypical between 2000 and 2009: 15 cases of endobronchial tuberculosis, 16 cases with basal localization and 19 cases of pseudotumoral form.

Results: The average age is 37 years. Smoking is found in 17 cases and diabetes in 12 cases. The clinical picture is dominated by bronchial syndrome. The chest rays show basal opacity in 16 cases, a pseudo-tumoral opacity in 19 cases and a retractile opacity in 15 cases. Bronchoscopy visualizes endobronchial granuloma in 6 cases, tumor buds in 5 cases and bronchial stenosis with extrinsic compression in 8 cases. CT show suspected tissular process in 19 cases, mediastinal lymphadenopathy associated in 11 cases and alveolar opacity in 5 cases. Pulmonary tuberculosis is confirmed by bacteriology in 23 cases, bronchial biopsies in 8 cases, transrural biopsy in 7 cases, by thoracotomy in 6 cases and by lymph node biopsy in 2 cases. Antibacillary treatment was prescribed in all cases with good evolution in 36 cases (72%).

Conclusions: Pulmonary tuberculosis may mimic atypical, mainly malignancy hence the interest to recognize its various unusual shapes.

P2600**Features and treatment outcome in caseous pneumonia**

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Caseous pneumonia is a clinical X-ray form of infiltrative TB or a complication of the acute progression of fibro-cavitary TB.

Aim of study is evaluation of features and treatment outcome in CP. A retrospective study included 95 patients with CP. Most of them (84%), were new cases of infiltrative TB and 16% fibro-cavitary TB. New-onset TB were 70% cases, relapse cases were 21%, after treatment failure 7% and after default 2%. Male/female ratio was 2/1, average age 42,6 yrs, unemployed 64%, disease disabled 11%, with bad living conditions 72%, homeless 10%, with medium level of education 59%. Regarding the way of detection, all were detected passively, 68% were late detected (average time 6 weeks). Regarding clinical picture, 77% had well-defined respiratory syndrome and 85% intoxication syndrome. Co-morbidities had 40% cases (alcoholism 19%, hepatitis 11%, diabetes 7%, HIV-infection 4%). Hematological predominates anemia in 61% cases, lymphocytosis 48%, lymphopenia 51%, increased ADA 42%. Radiological were revealed destructive lesions in 90% with bilateral localization in 89%, involving more 3 lobes in all cases. At the detection, smear positive for acid-fast bacilli were 83%, culture positive 84%. Primary drug resistance was identified in 34% cases. Conversion rate of smear positive patients

at 2 months of treatment was 56%. DOTS received 91%, individualized treatment 9%, compliant with treatment were 84% cases. Treatment outcome: anti-TB treatment completed 61%, dead 23%, treatment failure 12%, default 4%. Features that affect the outcome of CP are: late detection, co-morbidities (associated with low economical status), previous anti-TB treatment, high rate of primary resistance, bilateral involving.

P2601**How do we diagnose tuberculosis in early childhood?**

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Children are a special group when considering Tuberculosis(TB)diagnosis:they can develop disease quickly after primary infection,present severe forms and there is a lack of standardized case definition and difficulties in establishing a definitive diagnosis

Aims: Understand reasons to initiate TB treatment in children under 6 years old(6y) and identify risk factors associated with treatmet in the absence of laboratory criteria

Methods: We reviewed TB records of patients younger than 6y reported in Northern Portugal in 2000-09. Epidemiological,clinical,radiological,microbiological and treatment information were analyzed (univariate/multivariate analysis) using SPSS19.0 (p<0.05)

Results: In the last 10years 132 children under 6y were diagnosed with TB,60% male. Six children had co-morbidities: five HIV-positive and one diabetic. 90% were BCG vaccinated.Information about TB detection known in 130; 104 had symptoms (78.8%) and 26 were screened during contact investigation (19.7%). Laboratory criteria for TB obtained in 73 (56.2%): 31 culture-positive (23.7%). Having normal x-ray (OR 4.73, CI 1.45-15.45), positive tuberculin skin test-TST (OR 5.26, CI 1.92-14.29) and not having performed invasive tests-bronchoscopy/gastric fluid analysis (OR 5.95, 1.89-18.67) were independently related to the decision to treat without laboratory criteria. History of TB contact, existence of symptoms and co-morbidities were not associated to that decision

Conclusion: Our confirmation rate among this age group was higher than in Europe (19% in 2009). Decision to treat was neither based on laboratory criteria nor on radiological finding consistent with TB, but on a positive TST. Criteria to initiate treatment in this group must be reviewed in order to prevent loosing cases and over-treatment.

P2602**Gender difference in sputum positive pulmonary TB cases**

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Introduction: Incidences of tuberculosis among males are considered about double that of females. There was no geographical difference reported in this rate so far. Alappuzha district is one of backward district of South India. Females are usually of working class of manual labour group. So we are trying to evaluate any difference from usual presentation in gender difference in sputum positive pulmonary TB cases from a backward district of South India.

Material & method: All sputum positive cases registered for two years (ie, 2003 & 2004) were included in the study. Sputum positive grade with gender and age strata were analyzed from the TB lab register maintained at District TB Center, Alappuzha. Sputum was examined as per RNTCP policy and EQA activities were implemented at the centre.

Observations: A total of 260 sputum positive cases registered during the study period. 215 were male and 45 were female. Among the females there were no scanty cases and only 3 cases were 1+. 3+ cases were 33 among females and 156 among males.

Conclusion: A high incidence of sputum positive cases among males (1:5) may be due to low reporting of working class females. Late reporting is also common among females in backward areas.

P2603**Risk of serious adverse reactions during the treatment of new tuberculosis patients**

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Background: Treatment of tuberculosis (TB) may be complicated by serious adverse reactions (SADR). Correct risk assessment before the start of treatment enables to choose the right preventive strategy and thereby to reduce a frequency of SADR. The aim was to determine the rates of and risk factors for SADR during treatment of new TB patients.

Methods: 200 HIV-uninfected new pulmonary TB patients admitted to Research

and Clinical Center for TB control 2009 to 2011 were monitored for ADRs during the intensive phase of treatment. The median age was 28.0 (IQR 22-44) yrs, 93 were female, 108 were smear-positive, 172 received only first-line anti-TB drugs. ADRs having NCI CTCAE Grade 3-4 were recorded as serious. Multivariate logistic regression was used for risk assessment.

Results: Seventy-six (37.8%) experienced at least one SADR, to a total of 95 events (47 - hepatitis, 19 - allergic reactions, 14 - hyperuricemia, 7 - deafness). Female sex (OR = 2.11, 95%CI: 1.08-4.12), a smear-positive TB (OR = 2.08, 95%CI: 1.05-4.13), a cavity diameter > 30 mm (OR = 5.11, 95%CI: 1.44-18.12), a body mass index (BMI) <22 kg/m² (OR = 2.31, 95%CI: 1.18-4.53) and a history of drug/food allergy (OR = 2.94, 95%CI: 1.33-6.49) were identified as risk factors for developing a SADR.

Conclusion: During anti-TB treatment more than the third part of new TB patients experienced SADR (more often hepatitis and allergy). Female sex, a history of drug/food allergy, low BMI, smear-positive TB and large cavities are the risk factors associated with SADR.

P2604

Drug interaction in tuberculosis treatment – The role of pharmacists

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Introduction: Tuberculosis as a disease demands long-term multidrug treatment. Most first-line antituberculous drugs have clinically significant interactions with numerous drugs. In our clinic pharmacists review the drug therapy of all patients receiving antituberculous drugs.

Aim: To screen for drug interactions in patients with first-line antituberculous drugs and assess their clinical significance.

Methods: From June 2011 to February 2012 clinical pharmacists performed regular reviews of interactions with first-line antituberculous therapy in 57 hospitalized patients. The detected interactions were discussed with the doctor and changes in therapy implemented. Data on detected interactions were collected and analysed.

Results: Drug interactions were identified in 33,3% (18/54) of patients. The average number of drug interactions per patients was 1,4 (25/18). Most interactions (92%, 23/25) were with rifampicin, 8% (2/25) were with isoniazide. The most common interacting drugs were bisoprolol (5/25), esomeprazole and methadone (each 3/25) and clopidogrel and statins (each 2/29). Other interactions were with warfarin, carbamazepin, methylidigoxin, methylprednisolon, citalopram, risperidon, fentanyl, lercadipine, omeprazole and carvedilol (each 1/29).

Conclusion: Every third patient receiving first-line antituberculous therapy is at risk of experiencing an interaction with drugs in chronic therapy. These drugs belong to various different drug groups. Clinical pharmacists can detect these interactions and suggest interventions to assure safe and effective therapy. The actual clinical significance of these interactions is yet to be analysed. The project was supported by a grant of the Health Insurance Institute of Slovenia.

P2605

The pharmacotherapy options for the intensive treatment phase in patients with primarily diagnosed pulmonary tuberculosis

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The purpose: To improve the efficacy of treatment of patients with primarily diagnosed pulmonary tuberculosis via optimization of treatment protocols for the intensive phase of anti-TB therapy.

Methods: 60 patients, with primarily diagnosed pulmonary tuberculosis were distributed into the main (MG) and control (CG) groups. As complex therapy, the patients of the MG received isoniazid, rifamycin and ethambutol intravenously, pyrazinamide orally and streptomycin im. The patients of the CG were administered standardized oral therapy with isoniazid, rifampicin, ethambutol and pyrazinamide and streptomycin im.

Results: In complex parenteral administration of isoniazid, rifamycin and ethambutol a trend was noted towards 25% higher indices of bacteriostatic blood activity as compared with the oral anti-TB therapy. In patients of the MG, intensive therapy phase, the sputum was rendered bacillus-free 20.0% more frequently; these patients were typically found to heal decay cavities better – healing occurred in 54.5% versus 40.9% patients on po treatment during the intensive phase. In pharmacokinetic studies it was estimated that the maximal concentration of rifamycin after single iv dose of 450 - 600 mg was 22.9±2.3 mg/ml, which is significantly higher than rifampicin concentration in oral administration at the dose of 450 - 600 mg (8.9±1.3 mg/ml, p < 0.05).

Conclusions: Intravenous administration of rifamycin, ethambutol and isoniazid in the intensive phase of chemotherapy results in reduction of the amount of time, required for bacillus-free rendering of sputum and faster healing of decay cavities in patients with primarily diagnosed pulmonary tuberculosis.

P2606

Anti-tuberculosis therapy as a reason for ejaculatory disorders

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Introduction: The sexual life is an integral part full and happy life. Patient with pulmonary tuberculosis (TB) suffers from his disease itself as well as from different complications. The aim was to estimate the frequency of ejaculatory disorders in men suffering from tuberculosis and to determine the effect of TB treatment on the ejaculation.

Material and methods: 98 pulmonary TB patients were enrolled in study. The intravaginal latency time before onset of TB was estimated retrospectively and in 3 months of anti-TB therapy.

Results: Before anti-TB therapy 14.3% of pulmonary TB patients had ejaculatory disorders: 10.2% had premature ejaculation, and 4.1% delayed ejaculation. The rest 85.7% of patients had normal ejaculation.

After three months of the therapy with 4 anti-TB drugs (isoniazid, rifampicin, pyrazinamid and streptomycin) the proportion was changed significantly. The share of patients with normal ejaculation decreased to 61.2%. On contrary, frequency of premature ejaculation increased twice (20.4%), and delayed ejaculation – in 4.5 times (18.4%).

Conclusion: Proportion of ejaculatory disorders in patients with pulmonary TB before a start of anti-TB therapy was the same as in population as whole. So, tuberculosis as a disease doesn't damage an ejaculatory function. Three months of standard anti-TB therapy with four drugs significantly worsened the ejaculatory function of patients. The high growth of delayed ejaculation may be explained by neurotoxicity of anti-TB drugs. So, tuberculosis as a disease doesn't damage an ejaculatory function, but the treatment of tuberculosis does it. There is necessary a special pathogenetic therapy to prevent this complication.

P2607

Predictive factors for antituberculosis treatment failure

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The effectiveness of DOTS achieved 59% in Moldova in 2011. The result of an inadequate treatment is the treatment failure. Its increasing rate (7.5% in 2011) leads to accumulation of MDR sources in the population and puts more problems to the National TB Control Program. Treatment outcome depends by the social categories of patients, TB extension and co-morbidities. Aim of study is evaluation of predictive factors for anti-TB treatment failure (TF).

Method: We compared risk factors for TF in a study group (SG) of 110 patients with pulmonary TB failed after 5 months of DOTS and a control group (CG) of 100 patients cured with DOTS.

Results: Males 60% SG vs 50% CG, average age 35,6 SG vs 42,5 CG, unemployed 76% SG vs 48% CG, with bad living conditions 63% SG vs 48% CG (p<0.05). Were detected 80% of patients from both groups by passive way with known TB contact 26% SG vs 20% CG. All patients (100%) had destructive forms of TB with positive sputum, but bilateral extension had 84% of SG vs 24% in CG(p<0.05). Susceptibility test detected primary resistance in 55% SG vs 12% CG. Co-morbidities had 56% of SG vs 24% in CG, most frequent: alcoholism, hepatitis, diabetes, HIV infection. Noncompliance with treatment had 20% from SG vs 100% compliance in CG. Treatment outcome in SG: cured 42%, 30% dead,10% defaulted,18% continue another treatment regimen vs 100% cured in CG.

Conclusions: Predictive factors for TF: are treatment not adapted to susceptibility testing, noncompliance with treatment, low social status, extensive TB with co-morbidities.

P2608

Incremental yield of first, second and third sputum acid fast bacilli smear by microscopy in the diagnosis of pulmonary tuberculosis among patients referred to St. Paul Hospital Iloilo Public Private Mix directly observed treatment shortcourse

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Study included all TB suspects referred to St Paul Hospital Iloilo Public Private Mix DOTS for sputum microscopy who submitted 3 sputum specimens for 2 days and had at least 1 sputum positive for AFB by smear microscopy.3292 TB suspects submitted 3 specimens each.18.62% suspects fulfilled the definition of having at least 1 positive smear result confirmed by 2nd smear examination.0.27% had at least one positive smear.93.8% of suspects had their first specimen positive for AFB.5.55% were positive on the second specimen but not on the first and 0.65% were positive on the third specimen but not on the previous two.The distribution of smear positives among TB suspects in successive specimens and year, in 2003,116 TB suspects examined of whom, 28.4% were positive. For 2005,481 suspects wherein 22.24% were positive. For 2006, 481 suspects, 21% were positive.In

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2007, 670 suspects, 17% were positive. In 2008, 734 suspects, 16% were positive. In 2009, 401 suspects and 14% were positive. Result showed reliance on the first specimen detect 85% of the sputum positive patients in 2003, 94% in 2004, 91% in 2005, 98% in 2006, 97% in 2007, 94% in 2008 and 91% in 2009. If the second morning specimen was taken into consideration, then 97% were detected in 2003 and 2004 and 100% were detected from 2005-2009. As shown in this study that almost 100% of cases can be detected with submitting 2 specimens, one of which is the early morning specimen, the DOTS could improve the compliance of sputum submission of the patients as well as reduce the cost.

P2609**Presentations and treatment response of pulmonary tuberculosis in type 2 diabetes mellitus**

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Introduction: The association between diabetes and tuberculosis and their synergistic role in causing human disease has been recognized for centuries. They have serious implications on each other.

Aim: The aim was to study the coexistence between Tuberculosis and Diabetes, and to determine whether diabetes alters the radiological manifestations of pulmonary tuberculosis.

Methods: Patients with both Tuberculosis and Diabetes (28 patients), were compared with another TB patients without diabetes (30 patients). All were subjected to sputum smear for AFB examination and X ray chest. Bronchoalveolar lavage and tuberculin test were performed in selected cases.

Results: Diabetes diagnosed in 48.3% of TB patients. The majority were old females (60.7%) with mean age 51.80 ± 11.32 . All patients associated with diabetes had type 2 DM. Most of them had diabetes before TB infection (57.1%). TB caused uncontrolled diabetes in 71.4% of cases, while diabetes decreased the response to anti-TB drugs in 32.1%. In diabetic patients, lesions of tuberculosis were found to be bilateral in 39.3%, followed by left lung. It was significantly different from control group as it affected either right or left lung. Lower lung zone affection was significantly higher among diabetic patients 71.4% vs 3.3%. Atypical radiological features were significantly common in diabetic patients. Cavitating lesion and pneumonia were the most common presentation (42.9% and 25%). Patchy shadows reported in 21.4% while one case presented with normal x ray. Bronchectasis was reported in upper lobe in 7.1%.

Conclusion: DM and TB had an adverse effect on each other. The atypical radiological images masked the diagnosis of tuberculosis in diabetic patients, which may delay the proper treatment.

P2610**Cutaneous tuberculosis: Two cases report**

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Tuberculosis, which may involve most organs is still a major health problem in developing countries. Lupus Vulgaris is a rare form of extrapulmonary tuberculosis. Cutaneous tuberculosis must be considered in case with chronic skin lesions because tuberculosis prevalence is high in our country. Early diagnosis and treatment of patients with skin tuberculosis is extremely important in order to prevent complications.

Case I: A 36-year-old man attended our clinic with progressive, asymptomatic, annular skin lesions on his nose. There was past history of pulmonary tuberculosis and he received anti-tuberculosis treatment (HRZE) one year ago. There were no systemic symptoms such as tiredness, loss of appetite, nocturnal perspiration. The chest X-ray showed the apical fibrosis. A cutaneous biopsy taken from a lesion on the nose showed a granulomatous infiltration throughout the thickness of the dermis. The patient was diagnosed as a case of lupus vulgaris and was treated with anti-tuberculosis drugs (HRZES). There was dramatic improvement in the skin lesions after two months of treatment.

Case II: A 44-year-old woman attended our clinic with progressive, asymptomatic skin lesions on her face. The skin lesions began six months ago, and didn't improve after local dermatological treatment. There weren't systemic and respiratory symptoms. There wasn't past history of pulmonary tuberculosis. The chest X-ray was normal. A cutaneous biopsy showed a granulomatous infiltration. The patient was diagnosed as a case of lupus vulgaris and was treated with anti-tuberculosis drugs (HRZE). There was improvement in the skin lesions after one month of treatment. Treatment's of two cases still continue.

P2611**Tuberculosis and tumor necrosis factor alpha antagonist: Our experience**

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Tumor necrosis factor alpha (TNF-alpha) antagonist are used for the treatment of chronic inflammatory disorders when they are refractory to standard therapy. Among its side effects are tuberculosis infection.

Objective: To evaluate the tuberculosis in patients treated with TNF-alpha antagonist.

Method: A retrospective review of patients treated with infliximab, etanercept and/or adalimumab in our hospital. We obtained 633 potential cases. We included patients with a positive cultivation or histologic findings suggestive of Mycobacterium tuberculosis infection. Data collected: sex, age, underlying disease, prior immunosuppressive therapy, tuberculosis screening and prophylaxis, TNF-alpha antagonist used and location of the infection.

Results: Of the 633 patients, three developed active tuberculosis. Two men received chemoprophylaxis with isoniazid and they were affected by psoriatic arthropathy treated with infliximab (previously with methotrexate). One of them, a 39 year old man, developed pulmonary tuberculosis and the another one, a 53 year old man, a genitourinary disease with a resistant germ to isoniazid. And a 58-year old woman with rheumatoid arthritis treated with infliximab (and previously with sulfasalazine, penicillamine, chloroquine and methotrexate), with unknown screening and prophylaxis, who developed pulmonary tuberculosis.

Conclusions: Screening and prophylactic measures can not eliminate the risk totally. All the patient that developed tuberculosis disease were undergoing infliximab treatment and all of them suffered rheumatic disease. At least two of them developed tuberculosis disease despite chemoprophylaxis. Two developed pulmonary tuberculosis disease and another one genitourinary disease.