269. Tuberculosis: clinical findings I

P2573
Serum level of vitamin D3 before and after treatment in pulmonary tuberculosis
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Vitamin D3 is known to have potent immunomodulatory effect and it has been suggested that the low serum level of vitamin D3 increases the risk of tuberculosis. Serum levels of 25 hydroxyvitamin D3 (25HD3) were measured in 168 drug sensitive pulmonary tuberculosis (PTB) before and about 6 months after the treatment by using high performance liquid chromatography, and were compared with those of 197 healthy normal controls (HNC). Deficiency of vitamin D was defined by the serum level below 15 ng/mL of 25HD3. The sputum AFB smear grade was quantified from 1 to 4 according to ATS criteria. Heavy AFB smear was defined as 3 and 4 grades.

The mean level of 25HD3 in PTB before treatment was significantly low compared with HNC (18.7±8.33 vs. 13.13±8.6 pg/mL, p<0.05). The mean level of 25HD3 in PTB after treatment was also significantly low compared with HNC, but did not show difference compared with the level before treatment. The numbers of vitamin D deficiency before treatment were significantly higher in the PTB compared with HNC, and the numbers did not show significant change after treatment. The numbers of heavy AFB smear were also significantly higher in the vitamin D deficiency patients in the PTB (p<0.05).

These results strongly suggest that vitamin D deficiency increases the risk of tuberculosis, and is related with more severe form of PTB.

P2574
Supplementary cholecalciferol in recovery from pulmonary tuberculosis
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Introduction: Vitamin D is important for immune homeostasis. In vitro work suggests that 1-alpha-25-(OH)2D modulates host cell responsiveness to the T cell cytokine, interferon gamma (IFNγ). IFNγ is one of the key mediators of protective immunity against Mycobacterium tuberculosis infection therefore; vitamin D may enhance the host immune responses against the pathogen. The objectives of this study were to determine whether supplementation of vitamin D in patients with Tuberculosis could impact recovery.

Methods: 266 patients were randomized to receive either 600,000 IU of Intramuscular vitamin D3 or placebo for 2 doses. Clinical assessments were done
at 4, 8 and 12 weeks from baseline. Blood samples were obtained at 0 and 12 weeks. Statistical comparisons between outcome variables at 0 and 12 weeks were performed.

Main Results: 259 patients completed the study. At the end of 12 weeks, the vitamin D arm demonstrated significantly greater mean weight gain; + 4.02 (95% CI 3.18, 4.86) vs. + 2.61 (95% CI 1.99,2.23), p < 0.007 and increases in BMI; + 1.48 (95% CI 1.71, 1.78) vs. + 0.96 (95% CI 0.72,1.20), p<0.008 as compared with the placebo arm. There was a significant difference in chest radiographic improvement in the vitamin D group; number of zones involved -2.21 (95% CI -1.91, -2.51) v/s -1.77 (95% CI -1.51, -2.03), p<0.031 and resolution of cavitation 73(67.5%) vs 60 (55%), p<0.05.

No differences were seen in TB score or sputum smear conversion. At follow up (55%), in the vitamin D group; number of zones involved -2.21 (95% CI -1.91, -2.51) v/s + 2.61 (95% CI 1.99,2.23), p<0.007 as compared with the placebo arm. There was a significant difference in chest radiographic improvement in the vitamin D group; number of zones involved -2.21 (95% CI -1.91, -2.51) v/s -1.77 (95% CI -1.51, -2.03), p<0.031 and resolution of cavitation 73(67.5%) vs 60 (55%), p<0.05.

Conclusions: Vitamin D supplementation significantly impacted clinical improvement in patients with pulmonary TB.

P2575

Prevalence of hypovitaminosis D in TB patients in an East London population

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Introduction: There is a well-established link between vitamin D (25(OH)D) deficiency and TB, although in vivo associations are contentious.

Aims: This retrospective case control study aimed to compare the prevalence of hypovitaminosis D in cases diagnosed with TB in 3 East London Boroughs to controls, who were defined as non-respiratory inpatients who were not on vitamin D supplements and in whom 25(OH)D assay was performed during the study period.

Methods: We compared 25(OH)D levels in patients diagnosed with active TB with controls during a twelve month period from 01/09/10-30/08/11. Hypovitaminosis D was defined by two thresholds for 25(OH)D concentrations: deficiency <30nmol/L and insufficiency 30-75nmol/L.

Results: There were 211 TB cases of whom 75 (35%) had 25(OH)D levels measured. All 75 had hypovitaminosis D of whom 69 (85%) had 25(OH)D deficiency and 15 (20%) were insufficient in 25(OH)D.

There were 323 controls, 87 of whom were taking supplements and so were excluded. Of the remaining 236 controls, 6.8% was vitamin D replete (vs. 0% in TB cases), 52.1% had vitamin D deficiency (vs. 80% in TB cases) and 41.1% was vitamin D insufficient (vs. 26% in TB cases). Mean 25(OH)D levels were significantly lower in the study group as compared to the control group (18.11 nmol/L vs 34.38 nmol/L, p<0.0001)

Conclusions: The prevalence of hypovitaminosis D in both the study as well as the control groups is alarmingly high but importantly 100% of TB cases who had 25(OH)D levels checked were either deficient or insufficient. We hypothesize that this may be a unique finding in our ethnically-diverse population and thus may have implications for nutritional supplementation offered to active TB patients.

P2576

Factors influencing change in baseline vitamin D level in mycobacterial infection

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Background: Vitamin D may be an agent, of broad relevance in the treatment of tuberculosis. Vitamin D deficiency is common in patients with tuberculosis and may influence the severity of infection.

Methods: In an ongoing open label observational trial, baseline bloods, vitamin D levels, sputum smear and culture results, radiological changes and TB score were recorded in patients with mycobacterial infection. Each patient was supplemented with 100,000 units of cholecalciferol at 0, 8 and 12 weeks. Blood samples were obtained at 0 and 12 weeks. Statistical comparisons between outcome variables at 0 and 12 weeks were performed.

Main Results: 259 patients completed the study. At the end of 12 weeks, the vitamin D arm demonstrated significantly greater mean weight gain; + 4.02 (95% CI 3.18, 4.86) vs. + 2.61 (95% CI 1.99,2.23), p < 0.007 and increases in BMI; + 1.48 (95% CI 1.71, 1.78) vs. + 0.96 (95% CI 0.72,1.20), p<0.008 as compared with the placebo arm. There was a significant difference in chest radiographic improvement in the vitamin D group; number of zones involved -2.21 (95% CI -1.91, -2.51) v/s -1.77 (95% CI -1.51, -2.03), p<0.031 and resolution of cavitation 73(67.5%) vs 60 (55%), p<0.05.

No differences were seen in TB score or sputum smear conversion. At follow up there was a significant increase in mean Vitamin D levels of the treatment arm; 62.88 vs. 7.30 for the placebo arm, p < 0.001.

Conclusions: Vitamin D supplementation significantly impacted clinical improvement in patients with pulmonary TB.

P2578

Ethnic differences in the vitamin D levels of foreign-born tuberculosis patients in south London not reflected in patients born in the UK

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Vitamin D deficiency is more common in tuberculosis (TB) patients, and within certain ethnic groups. 70% of TB in the UK occurs in foreign-born persons. We investigated the roles of ethnicity and immigration on the vitamin D levels of TB patients in south London.

We analysed the vitamin D levels of all patients at the time of diagnosis. We compared results by country of birth, ethnicity, age and length of residency in the UK.

There were 470 patients; the mean serum 25(OH)D level was 29.1nmol/L (95% CI 27.3-31.0) and 90.6% had insufficient (<60nmol/L) 25(OH)D levels. Patients born in the horn of Africa and the Indian subcontinent have an increased risk of very low vitamin D levels. As there is little difference in ambient sunshine this raises the possibility of significant differences in diet or genetics. Children born in the UK had the highest vitamin D levels (mean 57.4 95% CI 45.6-69.2); this was significantly more than for children born outside of the UK (mean 19.5 95% CI 12.5-26.5, P<0.001).

TB patients born in the horn of Africa and the Indian subcontinent have an increased risk of very low vitamin D levels. As there is little difference in ambient sunshine this raises the possibility of significant differences in diet or genetics. Children born in the UK had high levels of vitamin D not attributed to ethnicity.
P2579  
Clinical analysis of reactions to second line anti TB drugs  
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Introduction: Adverse reactions to second line anti TB drugs not only lead to permanent discontinuation of treatment but also MDR/XDR treatment failure.

Aims and objective: MDR/XDR TB patients on second line anti TB drugs were analysed clinically for adverse reactions. These patients underwent pretreatment counselling and were instructed to report adverse reactions to adverse drug reactions monitoring center.

Methods: 146 patients with MDR/XDR TB on second line drugs were analysed. These adverse reactions were classified in to two groups. Severity based and system based. Severity further classified as 1) mild not requiring discontinuation of drugs 2) those requiring temporary discontinuation 3) requiring permanent discontinuation.

Results: 47.9% had no adverse reactions. 21.3% had mild reactions. 11.6% required temporary discontinuation and 19.8% required permanent discontinuation. Gastrointestinal were commonest system based reaction effecting 30% of patients. Followed by peripheral neuropathy 18.4%, Endocardial (hypothyroidism) 10.5%, Atrial fibrillation and optic neuritis 5.2%. Psychiatric disturbance 1.3% and 19.7% patients had more than one system involved. Majority of patients with peripheral neuritis, optic neuritis and hypothyroidism required discontinuation of offending drug.

Conclusion: Significant number of patients developed adverse reactions involving very severe reaction requiring discontinuation of drug which may effect treatment outcome. close monitoring and patient counselling is necessary to prevent permanent system damage and discontinuation of therapy.

P2580  
Evaluation of vitamin D replacement in the tuberculosis patients  
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Introduction: One hypothesis is that low serum vitamin D (25(OH)D) is a risk factor for tuberculosis infection. Historically 25(OH)D supplementation had been used as a treatment for Tuberculosis. In our study we have assessed the effect of two commonly used 25(OH)D supplements on the 25(OH)D levels in active TB (TB) patients.

Methods and results: We reviewed 113 TB cases from 2010 in our retrospective study. The study population consisted of 68 males and 45 females. 25(OH)D levels were checked in 96% (65/68) and 98% (44/45) of male and female patients respectively. 56/65 males were 25(OH)D insufficient (<20ng/ml), whereas 40/44 females were 25(OH)D deficient. 53/56 males and 38/40 females, who were 25(OH)D deficient, received 25(OH)D replacement therapies with Adcal-D3 (cholecalciferol) and Ergocalciferol to raise their 25(OH)D levels. We then assessed the effect of these agents on the 25(OH)D levels. Only 76% (20/26) of males and 87% (46/53) of females who received replacements, had their 25(OH)D levels repeated in 3-6 months. In both genders, 25(OH)D levels increased with the treatment (p <0.0001 in both genders). We also observed that the average increase of 25(OH)D levels with Adcal-D3, ergocalciferol and combination of these two agents were 14.6±5.4, 20.6±8.9 and 25.8±5.3 respectively. We found that the increase of 25(OH)D level with combination of two agents were greater than Adcal-D3 alone (p <0.0001).

Conclusions: Consistent with other studies, we have noticed that most of the TB patients had low 25(OH)D levels. Majority of these patients responded to supplementation, regardless of the gender or the therapeutic agent(s).

P2581  
Does vitamin D level influence the size of tuberculin skin test in household contacts with latent TB infection?  
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Introduction: Vitamin D (25(OH)D) has an immuno-regulatory role in vitro. Recently, a Spanish study has suggested that during the screening for latent tuberculosis (LTB) infection, sufficient 25(OH)D levels prevent positive conversion of tuberculin skin tests (TST). To further investigate the impact of 25(OH)D on TST, in this study we examined the association between the degree of 25(OH)D insufficiencies and the size of induration during treatment.

Methods: In this retrospective study we reviewed 212 TST cases from 2009-10. 146/212 cases had both values the 25(OH)D level and the induration size during TST recorded. Only 3% (5/146) of them had normal 25(OH)D levels (>30ng/ml). 71% (104/146) of LTB patients had insufficient (20-30ng/ml) and 29% (42/146) of them had deficient (<20ng/ml) 25(OH)D levels. The average induration sizes during TST for these three groups were 14.2±3.2, 18.1±5.4 and 17.2±6.94 respectively. Overall, we found a negative correlation between 25(OH)D levels and induration sizes during TST (Spearman correlation coefficient = -0.2), which was statistically significant (p = 0.02). We also found that the average 25(OH)D levels were lower in females than males (p = 0.01). However, there was no statistically significant difference in average induration sizes during TST between two genders.

Conclusions: We found that majority of the LTB patients had low 25(OH)D levels. In general, patients with low 25 (OH) D levels tend to react more strongly during TST. One limitation of our study is that the impact of BCG vaccination was not taken into account. Nevertheless, this study further highlights the impact of 25(OH) D as an immun-regulator in vivo.

P2582  
Adverse drug reactions and outcomes of tuberculosis treatment using fixed-dose combination therapy  
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Background: 4-drugs Fixed-dose combinations (FDCs) for treatment of tuberculosis (TB) have been encouraged to prevent the emergence of drug resistance; increase compliance and tolerance to treatment. However, there are limited data regarding adverse drug events (ADE) with this therapeutic regimen.

Objective: To assess the ADE and outcomes of 4FDCs for the treatment of tuberculosis.

Methods: Clinical and laboratory information were collected from medical records of 70 outpatients treated with 4FDCs including a tablet doses: rifampicin 150mg/saxinoxid 75mg/ethambutol 400mg/ethambutol 275mg, as recommended by World Health Organization and adopted by Brazilian guidelines at 2010.

Results: The results showed that 17% were human immunodeficiency virus (HIV) infected. The pulmonary form was predominant (76%), ADE occurred in 86%, incurring 29 different types of events. The most frequent were hyporesponsiveness (63%) followed by nausea and epigastralgia in 22% and pruritus in 11%. The majority of patients (66%), presented more than one event. Around the 15th day of treatment, incontinence, somnolence, abdominal pain and chest pain were the most frequently reported ADEs. Patients were found in blood samples in 71% of patients. The change in therapeutic regimen due to serious ADE was required in just 2 patients (due to liver toxicity and hyporesponsiveness). Other outcomes were bacterial resistances (2 defaults (14) and cures (52)).

Conclusions: The ADE was frequent with The 4FDCs regimen TB treatment, but changes in therapeutic regimens were necessary in less than 3% of patients. These findings support, at least, the need of clinical surveillance as it may avoid unnecessary changes in therapeutic regimens.

P2583  
Therapy for bladder tuberculosis: How to prevent complications  
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Introduction: Bladder TB (BTB) is one of the most serious complications of renal TB, and it is diagnosed in 45.6% among urogenital tuberculosis (UGTB). Inadequate treatment of BTB resulted in severe complications (shrinkage of the bladder).

Materials and methods: 149 patients with BTB were enrolled in study. 76 patients (1st group) were treated with standard TB therapy. 73 patients (2nd group) received modified therapy, included tiospam chloride.

Results: Standard therapy was insufficient in more than half of the cases: 42.1% were cured, 57.9% developed complications: posttuberculous cystitis (36.8%) and microcystitis (21.1%).

Conclusions: Bladder tuberculosis is always secondary to renal TB, however quite often renal TB may start with voiding symptoms such as dysuria, frequent and painful urination and incontinence. Urinary retention – pyuria, pyelourethritia and growth of unspecific bacteria is possible. In regions with endemic tuberculosis all patients with acute cystitis should be evaluated as suspicious to BT. Antituberculous therapy in combination with tiospam chloride is high effective for bladder TB patients.

P2584  
A 10-year retrospective observational study of TB meningitis in east London  
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Introduction: Tuberculosis is a public health concern in London, with an increasing incidence suggesting changing dynamics. The aim of this study was to identify the clinical, radiological and laboratory features of 10 years experience with TB meningitis in east London.

Thematic Poster Session
Halle A-31 - 12:50 - 14:40

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ing incidence. TB meningitis (TBM) is a rare form of extra-pulmonary TB, which carries disproportionately high mortality and morbidity rates. Barking, Havering and Redbridge University Hospitals Trust (BHRUT) serves an area in East London with a high incidence of TB. This study aims to evaluate the epidemiology, clinical presentation and outcome of patients diagnosed with TBM.

**Methods:** Individuals diagnosed with TBM between 2000 and 2010 were identified using the London TB Register. A retrospective observational study was conducted reviewing medical notes, microbiology results and radiology. Data was collected for epidemiology, clinical features, risk factors, treatment regimens and outcome.

Results: 50 patients with TBM were identified and notes were available for 42. 82% were born outside the UK with the highest incidence seen in patients born in India. All patients were treated for at least 12 months with 92% receiving concurrent steroids. Other information is shown below.

### Table 1. Presenting clinical features

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Percentage</th>
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<tr>
<td>&gt;1 week</td>
<td>72</td>
</tr>
<tr>
<td>Headache</td>
<td>62</td>
</tr>
<tr>
<td>Fever</td>
<td>50</td>
</tr>
<tr>
<td>Confusion</td>
<td>31</td>
</tr>
<tr>
<td>Focal neurology</td>
<td>12</td>
</tr>
<tr>
<td>Photophobia</td>
<td>14</td>
</tr>
<tr>
<td>Neck stiffness</td>
<td>12</td>
</tr>
<tr>
<td>Vomiting</td>
<td>38</td>
</tr>
</tbody>
</table>

### Table 2. Outcome

<table>
<thead>
<tr>
<th>ITU admission</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>21</td>
</tr>
<tr>
<td>Long term neurological deficits</td>
<td>13</td>
</tr>
</tbody>
</table>

**Conclusion:** TBM has a high mortality rate in East London with a high proportion of patients requiring treatment in intensive care or suffering long-term neurological sequelae. Confirming diagnosis is challenging as presentation is non-specific, potentially leading to treatment delay. Development of a diagnostic scoring system using clinical features, risk factors and CSF data to aid early diagnosis would prove extremely valuable.

**P2585**

**Miliary tuberculosis during treatment with anti TNF alpha – A report of three cases**

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The anti-TNFs have proven very effective in the treatment of rheumatoid arthritis, ankylosing spondylitis, psoriatic, Crohn's disease. Among the side effects is well known the risk of developing infections, particularly tuberculosis. We present three cases of miliary tuberculosis with mediastinal lymphadenopahy which occurred during treatment with anti-TNFs. Two male patients aged 36 respectively 41 years, were treated with infliximab for ankylosing spondylitis. One male patient aged 32 years was treated with adalimumab for psoriasis. All patients performed chest X-ray, tuberculin skin test, quantiferon TNB test for latent TB. The clinical signs of disease were febrile syndrome, dyspnoea, cough and weight loss. In the first case, the positive diagnosis was concluded on lung biopsy and culture positive for BK in sputum. In the second case, were revealed AFB in bronchial aspirate. In the third case, the diagnosis was confirmed as a result of IT.

**Conclusions:** All three cases are severe forms of miliary tuberculosis associating necrotic mediastinal lymphnodes occurred during treatment with anti-TNFs. There was a dramatic clinical syndrome with persistent fever and significant weight loss in the second case. The regression of pulmonary and mediastinal lesions has been very slow.

**P2586**

**Clinical and radiological (CR) features of tuberculosis formed as a result of immunosuppressive therapy (IT)**

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Research objective was an analysis of features of pulmonary tuberculosis (PT) formed as a result of IT.

**Material and methods:** CR features of PT were retrospectively studied in 31 patients who have undergone long-term courses (from 4.5 up to 26 months) of IT.

### TheWay of TB diagnosis Frequency Percent

<table>
<thead>
<tr>
<th>Pathology</th>
<th>12</th>
<th>20.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smear</td>
<td>7</td>
<td>12.1</td>
</tr>
<tr>
<td>Culture</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>PCR</td>
<td>6</td>
<td>10.3</td>
</tr>
<tr>
<td>Clinical and Radiological</td>
<td>28</td>
<td>44.9</td>
</tr>
<tr>
<td>Sputum+PCR</td>
<td>2</td>
<td>3.4</td>
</tr>
<tr>
<td>Pathology+Sputum</td>
<td>2</td>
<td>3.4</td>
</tr>
<tr>
<td>Sputum+PCR+Sputum</td>
<td>2</td>
<td>3.4</td>
</tr>
</tbody>
</table>

**Conclusion:** The diagnosis of skeletal TB is difficult and it will take time to detect it. Investigation of other involved site such as lungs, pleura or lymph nodes can help us early TB diagnosis.

**P2587**

**A dilemma of skeletal tuberculosis diagnosis**

Farzaneh Bagheri Shava, Majid Marjani, Payyam Tabarsi, Mohammad Reza Maysedi. Clinical Tuberculosis and Epidemiology Research Center, NRITLD, Tehran, Islamic Republic of Iran

**Objectives:** Skeletal tuberculosis reports 1-5% of all TB cases. The most common sites of involvement are spine, knee and hip. The diagnosis of extra-pulmonary TB is difficult. The aim of this study was to show up the different way of diagnosis and report this kind of TB in Iran.

**Method:** This study was done in Masih Daneshvari Hospital, a referral center of Iran, from 2003 to 2011. In this retrospective study, we extracted all skeletal TB. Demographic information, the method of diagnosis, and other information were evaluated.

**Results:** Of 426 extra-pulmonary TB, 58(13.6%) patients were skeletal TB. The mean age was 45.72±2.26yrs. 31(53.4%) patients were male. One patient was HIV positive. New cases of TB, relapse and history of TB treatment were 51, 4 and 3 respectively. Median of duration of symptoms was 7 months. 28 patients had pulmonary TB (sputum smear or culture was positive). The kind of skeletal TB was: 2patients with pleural, one patient with lymph node concomitant with spine and 52 patients just spine. Two patients were arthrits (knee) tuberculosis. Diagnostic method was: positive granuloma 43.7%, PCR positive 31.2%, positive smear and culture 43.7%, diagnosed by positive sputum for TB 31% and diagnosed by clinical/magnetic resonance imaging 13.7%.

**Conclusion:** The diagnosis of skeletal TB is difficult and it will take time to detect it. Investigation of other involved site such as lungs, pleura or lymph nodes can help us early TB diagnosis.
Out of 53 smokers (71.69%) had obstructive abnormality while out of 47 Non smokers (23 (48.93%) had obstructive abnormality (p=0.05). Smoker with prior PTB developed more severe air flow obstruction (Mean FEV1 40.03%) as compared to Non smoker with prior PTB (Mean FEV1 45.43%).

Conclusion: Prior PTB is an independent risk factor for airflow obstruction irrespective of smoking status which may explain the higher prevalence of COPD in India. Prior PTB along with smoking is associated with more severe form of airway obstruction.

P2589

Prevalence, features of the course and treatment efficiency airway obstruction in patients with newly diagnosed pulmonary tuberculosis

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Airway obstruction (AO) is an important factor for ineffective treatment of pulmonary tuberculosis. The aim of research was studying prevalence AO, features of its course and effect of inhalation therapy in patients with newly diagnosed pulmonary tuberculosis (TB).

Methods: In a prospective study was examined by spirometry among 311 patients of 18-75 with TB. The effectiveness of treatment was identified among 125 patients by randomization. The first group consisted of 31 patients, who, besides chemotherapy, got inhaled bronchodilators and/or nebulizer. The second group consisted of 32 patients, who got formoterol. The Control Group included 31 patients, who got only standard chemotherapy. Quality of life (QL) was evaluated using Short Form-36 (SF-36) at baseline and 1 month.

Results: The prevalence of AO among patients with TB was 62.70%. AO associated with greater frequency of shortness of breath (odds ratio (OR) = 11.78) and cough (OR=10.56) compared with patients without obstructive pattern (p=0.01). The relative risk of detecting endobronchial pathology in patients with AO was 2.01 times greater than without AO. In patients treated with inhalation therapy was observed greater improvements in HRQL by 5.6 scores for the physical component of SF-36, microscopic conversion of sputum to 16.17% cases and X-rays cavity closure to 11.31% cases more frequently compared with the Control Group (p=0.05).

Conclusions: TB is often complicated by AO, short course of inhaled bronchodilators and/or glucocorticoids improve results of a treatment for such patients.

P2590

Effect of tobacco on the pulmonary tuberculosis

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The first group was made of 37 smokers patients hospitalized because of the tuberculosis and its delay diagnosis.

Material and methods: It’s a comparative study between two groups of patients hospitalized in our department between January 2008 and June 2010. Results: The first group was made of 37 smokers patients hospitalized because of of confirmed pulmonary tuberculosis. The second group consists of 37 non smokers patients and also hospitalized because of confirmed pulmonary tuberculosis. Delay of diagnosis was shorter in the group of smokers (42 days versus 78 days). Cough and dyspnea were more found at the smoker’s (86% versus 82%). The biological investigations showed a high level of white blood cells with predominance of neutrophil cells especially in smokers (20 versus 10) and smokers were more likely to be smear-positive (21 versus 17). Chest X-ray showed essentially nodules in both groups. These nodules were bilateral in the group of smokers (22 versus 14). The duration of the treatment was longer at the smokers (7 months versus 6, 5 months). Evolution after tuberculosis treatment was favorable for all patients. The complications as the lung fibrosis (2 versus 1) were more among smokers than non-smokers.

Conclusions: The Smoking was not associated with delay in the diagnosis and treatment of tuberculosis.

P2591

Anxiety and depression in tuberculosis hospitalized patients in comparison to healthy individuals

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Introduction: Very little is known about the psychiatric comorbidities in tuberculosis (TB), which must be recognized and managed in order to improve adherence to the treatment.

Aim: To assess the presence of depression and anxiety in TB patients, at the diagnostic and after 6 weeks of hospitalization, in comparison with healthy individuals.

Methods: 63 consecutive pulmonary TB patients (31 M/32 F) and 63 healthy individuals, completed the Hospital Anxiety and Depression Scale (HADS) and a respiratory symptoms questionnaire.

Results: In the 63 TB patients the rate of moderate/severe level of anxiety and depression (HAD anxiety/depression ≥ 11) was 65%, significantly higher than in healthy individuals (11%, p<0.05). Anxiety was detected in 27 (43%) and depression in 31 (49%) of the patients at diagnosis, with higher prevalence of anxiety in women (57%, p=0.177).

After 6 weeks of hospitalization the rate of patients presenting anxiety and depression didn’t decrease (p=0.3). Their elevated HADS scores were associated with the persistence of respiratory symptoms and a poor clinical status.

Conclusions: The prevalence of anxiety and depression, which are independent predictors of poor treatment adherence, is very high in TB patients. The results suggest that the TB control programs should include strategies of regular screening and treatment for depression, which can improve treatment adherence, patient management and disease outcomes.

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Screening and monitoring of tuberculosis in patients on biologics treatment

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Background: The new class of drugs - biologics (B) - is high effective, but its essential effect is to increase (in different degree) the risk of tuberculosis (TB). Methods: 600 pts (rheumatoid arthritis - 264, ankylosing spondylitis - 257, psoriasis - 50, other - 29), 303 male and 297 female, 15-80 y.o. (95%CI 42.2, 43.3) were examined before (377 pts) and during (286 pts: infliximab - 159, adalimumab - 58, etanercept - 17, certolizumab - 12, rituximab - 28, abatacept - 11, tocolizumab - 21; 20 pts receive more one B consecutively) B treatment. Clinical examination, X-ray (CT in any abnormalities), tuberculin skin test (TST), interferon-gamma release assays (IGRA), skin test with recombinant protein ESAT-6/CFP-10 (developed in Russia as DIASKINTEST - DST) were performed.

Results: In all cases by primary screening active TB was rejected, but positive TST was obtained in 82,6%, IGRA - in 34,4% and DST - in 25,8%. Preventive TB treatment (PT) was administered in patients with residual TB changes (49) or defined latent TB infection (LTB) (positive both NST and IGRA/DST). During the B treatment active pulmonary TB was detected in 8 pts (all - on TNF-alpha inhibitors): in 2 active or LTB was rejected after screening, in 6 - the TB-screening was insufficient. Especially problem was to consider the LTB in patients with TST conversion from negative to positive (63 pts), but new tests were positive only in the one third of such cases (IGRA - 35%, DST - 33%).

Conclusion: The procedure of TB screening and monitoring is the essential part of the B treatment program. The tests based on specific M tuberculosis antigens are very useful as the tools for LTB monitoring and enable to reduce PT at least three times.