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-$(OH)_2$ D 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) v/s + 2.61 (95% CI +1.99,2.23), *p* 0.007 and increases in BMI; + 1.48 (95% CI 1.17, 1.78) v/s + 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(65.7%) v/s 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 v/s -7.30 for the placebo arm, $p < 0.0001$.
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 association is still 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 01/09/10-31/08/11. Hypovitaminosis was defined by two thresholds for 25(OH)D concentrations: deficiency < 30nmol/L and insufficiency 30-79 nmol/L.
Results: There were 211 TB cases of whom 75 (35%) had 25(OH)D levels measured. All 75 had hypovitaminosis D of whom 60 (80%) 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% were vitamin D replete (vs. 0% in TB cases), 52.1% had vitamin D deficiency (vs. 80% in TB cases) and 41.1% were vitamin D insufficient (vs. 20% 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 34.98 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 infectious disease because of its immunomodulatory properties.
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 16 weeks.
Results: The mean age of patients recruited (n=42) was 36 years (M:F 27:15), with pulmonary disease (n=29) or extrapulmonary disease (n=13). There was a non-significant difference in vitamin D levels between the groups.
Pre supplementation median vitamin D levels were 11.9 nmol/l (mean 16.96 nmol/l, 92.9% with 25(OH)D_3 levels <50nmol/l. At week 8 post supplementation levels had risen to median 44nmol/l (mean 43.9 nmol/l). There was a significant difference in vitamin D levels pre and post supplementation (p=0.00), with a significantly higher percentage rise in vitamin D levels in patients who were severely deficient (<20nmol/l) (p=0.01).
There was no correlation between vitamin D and DBP, antimicrobial product (LL37) levels or TB score at baseline measurement.
Conclusions: Supplementation with 100 000 units of cholecalciferol does not result in sufficient levels (>50nmol/l) at 8 weeks in all patients with just 65% attaining levels >50nmol/l. However, there is a statistically significant rise in levels of vitamin D in those supplemented between week 0 and week 8.
Patients with mycobacterial infection with vitamin D deficiency may benefit from higher initial doses to obtain sufficiency.

P2577
Does relationship exist between severity of vitamin D deficiency and development of active TB?
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Introduction: Deficient serum vitamin D levels have been associated with impaired mycobacterial immunity and incidence of active tuberculosis (TB). However, the significance of level of vitamin D in LTBI and the risk of progression to active disease is less clear.
Methods: A retrospective review of vitamin D levels of all patients with active TB and LTBI was undertaken between January 2010 and December 2010 at Heart of England NHS foundation trust, Birmingham. We compared vitamin D levels in cases with active and latent TB to explore a relationship between severity of vitamin D deficiency and incidence of active/latent TB.
Results: 148 cases with LTBI and 113 with active TB were included in the study. 117 out of 148 patients with LTBI and 108 out of 113 active TB cases had a Vitamin D level performed. Median Vitamin D level in patients with TB was 5.7ng/ml (Range 2-46.4). Median Vitamin D level for LTBI was 7.8ng/ml (2-95.30). The difference in Vitamin D levels between latent and active TB cases was statistically significant with P =0.003 (calculated Using Mann Whitney U Test). Subgroup analysis, Median Vitamin D levels of non-white TB and LTBI population were 5.2 (Range 2.00 - 36.20) and 6.5ng/ml (Range 2.00 - 43.40) respectively, P value 0.001. Median Vitamin D levels of white TB and LTBI cases were 17.0 (Range 2.50 - 46.40) and 22.6ng/ml (Range 7.30 - 95.30) respectively, P value 0.25(cohort of white population much smaller than non-white).
Conclusions: Vitamin D levels were significantly lower in active compared to latent tuberculosis cases suggesting that degree of vitamin D deficiency may influences development of active TB. We feel prospective study is needed to evaluate it further.

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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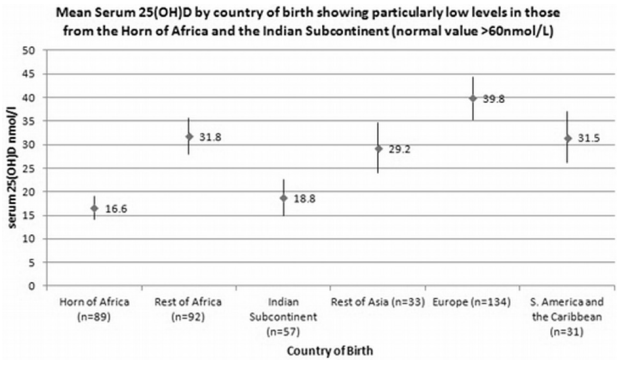
Vitamin D deficiency is more common in tuberculosis (TB) patients, and within certain ethnic groups. 70% of TB in the UK occurs in foreign-born persons. We investigated the roles of ethnicity and immigration on the vitamin D levels of TB patients in south London.
We analysed the vitamin D levels of all 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 27.2-31.0) and 90.6% had insufficient (<60nmol/L) 25(OH)D levels. Patients born in the Horn of Africa and Indian subcontinent had significantly lower vitamin D levels compared to patients born in the rest of Africa (P<0.001) and Asia (P<0.01). Patients born in Europe had significantly higher vitamin D levels than patients born in Africa (P<0.05) and Asia (P<0.05). 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 adverse reactions to second line anti TB drugs

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Introduction: Adverse reactions to second line anti T B drugs not only leads to permanent system damage in patients but also MDR/XDR treatment failure
Aims and objective: MDR/XDR TB patients on second line anti T B drugs were analysed clinicaly for adverse reactions.These patients underwent pretreatment counselling for possible adverse reactions to improve treatment adherance.
Methods: 146 patients with MDR/XDR T B 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 19.2% required permanent discontinuation.Gastrointestinal were commenest system based reaction effecting 30% of patients Followed by Peripheral neuritis 18.4%, Endocrinal (hypothyroidism)10.5%, Auditary and vestibular(deafness)9.2%, Ophthalmic (optic neuritis)6.5%,Hepatic 5.2%,Joint pains 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 reaction including 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) level 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 was 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 deficient (<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, vitamin D3), ergocalciferol (calciferol, vitamin D2) or combination of these two agents. We then assessed the effect of these agents on the 25[OH]D level. Only 76% (29/38) 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 TST.
Methods and results: In this retrospective study we reviewed 212 LTB 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). 5% (7/146) of LTB patients had insufficient (20-30ng/ml) and 92% (134/146) 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 and17.2±0.94 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, our study further highlights the impact of 25[OH] D as an immuno-regulator *in vivo*.

P2582

Adverse drug reactions and outcomes of tuberculosis treatment using fixed-dose combination (FDC) regimen

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Background: 4-drugs Fixed-dose combinations (4FDCs) 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 laboratories information were collected from medical records of 70 outpatients treated with 4FDCs including a tablet doses: rifampicin 150mg/isoniazida 75mg/pirazinamida 400mg/ethambutol 275, 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%, including 29 different types of events. The most frequent were hiperuricemia (63%) followed by nausea and epigastralgia in 22% and pruridus in 11%.The majority of patients (66%), presented more than one event. Around the 15th day of treatment, laboratorial abnormalities (hepatotoxicity and hiperuricemia) related with drugs were detected 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 hiperuricemia). 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 trospium chloride.
Results: Standard therapy was insufficient in more than half of the cases: 42.1% were cured, 57.9% developed complications: posttuberculous cystalgia (36.8%) and microcystis (21.1%).
2nd group of patients responded in a favourable manner to the combined treatment: urinary frequency reduced about 75%, bladder capacity increased an average of 4.7 fold. Recovery was reached in 84.3%. Posttuberculous cystalgia developed in 15.7% only. None of the patients developed microcystis after the combined treatment. In 2nd group also 8 patients had incontinence; among them five reported no urgency urinary incontinence episodes after 3 months therapy with trospium chloride. Tolerance to the treatment was good: only one patient had light side effect (mouth dryness).
Conclusion: 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. Urinalysis reveals – pyuria, erythrocyturia and growth of unspecific bacteria is possible. In regions with endemic tuberculosis all patients with acute cystitis should be evaluated as suspicious to TB. Antituberculous therapy in combination with trospium 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 increas-

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

	Percentage
Symptoms >1 week	72
Headache	62
Fever	50
Confusion	31
Focal neurology	12
Photophobia	14
Neck stiffness	12
Vomitting	38

Table 2. Outcome

	Percentage
ITU admission	31
Death	21
Long term neurological deficits	13

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 α have proven very effective in the treatment of rheumatoid arthritis, ankylosing spondylitis, psoriasis, 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 lymphadenopathy which occurred during treatment with anti-TNFα. Two male patients aged 56 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 TB 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 concluded on lung and mediastinal lymphnode biopsy. In all cases we observe an aspect of miliary and mediastinal lymphadenopathy on chest CT. In the first case, we find a pulmonary embolism. All three patients developed hepatic cytolysis during anti TB treatment, requiring discontinuation in two cases. The evolution was slowly favorable after the reintroduction of treatment.
Conclusions: All three cases are severe forms of miliary tuberculosis associating necrotic mediastinal lymphnodes occurred during treatment with anti TNFα. 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: prednisolone, cytostatics for – 23 patients with bronchial asthma, histiocytosis X, kidney allotransplantation, vasculitis, rheumatoid arthritis (1 group). 8 patients (2 group) - monoclonal antibodies for rheumatoid process.
Results: CR picture of PT has often been interpreted as progression of basic disease – in 67,7% of patients - in 4-9 months. Marked clinical symptoms were registered in 89,5% and 58,3% of patients, polysegmentary, bilateral changes were noted in 84,2% (1 group) and 100,0% (2 group) with prevalence of changes in lower parts of the lungs in 57,9% and 75,0% accordingly. Long-term absence of bacterioexcretion of MBT is typical for the patients of both groups. The patients, who were taking monoclonal antibodies had twice as high incidence of destructive changes (50,0% against 21,1%). 100,0% of patients of II group had visible bilateral enlargement of intrathoracic lymph nodes and tubercular affection of bronchial tree in 58,3% of cases. Generalized forms were registered in 25% of II group patients vs. 2,0% of I group patients. Characteristic property of PT in 2 group was wavelike course of the process with slow progression.
Conclusion: Disseminated processes are typical for PT formed as a result of IT. A feature of tuberculosis process in patients taking monoclonal antibodies, is marked bilateral affection of intrathoracic lymph nodes, predisposition to generalization of the infection and wavelike course.

P2587
A dilemma of skeletal tuberculous diagnosis
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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 TB in 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±20.26yrs. 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 CNS, one patient with lymph node concomitant with spine and 52 patients just spine. Two patients were arthritis (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%.

The Way of TB diagnosis	Frequency	Percent
Pathology	12	20.7
Smear	7	12.1
Culture	1	1.7
PCR	6	10.3
Clinical and Radiological	26	44.9
Smear+PCR	2	3.4
Pathology+Smear	2	3.4
Pathology+PCR+Smear	2	3.4
Total	58	100

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.

P2588
Obstructive airway disease in pulmonary tuberculosis cases in relation to smoking
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Introduction: Tuberculosis (TB) is a long-standing & expanding threat to public health. People with treated pulmonary tuberculosis (PTB) are left with significant changes in lung anatomy & are at higher risk of pulmonary sequelae. Smoking is the major risk factor for airflow obstruction. Recent & early studies suggest association of prior TB with development of COPD. But whether smoking modifies this relationship is unclear.
Aims: 1) To study the effect of smoking & prior PTB on airflow obstruction 2) To assess the severity of obstructive abnormality in smoker versus non smoker patients of prior PTB. Settings: Tertiary care Institute in Lucknow, India. Period: From Jan 2011 to Jan 2012.
Material & method: 100 patients who visited OPD with history of prior PTB were divided into different categories on the basis of sex, smoking history, age etc. All patients were subjected to spirometry, sputum examination for acid fast bacilli, chest X-ray & their history were also evaluated. Diagnosis of COPD was based on GOLD criteria.
Results: Out of total 100 patients 53 were smokers and 47 were non smokers.

Out of 53 smokers 38 (71.69%) had obstructive abnormality while out of 47 Non smokers 23 (48.93%) had obstructive abnormality (p<.05). Smoker with prior PTB developed more severe airflow 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 efficacy 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 prevelance 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 of chemotherapy, got ipratropium bromide and fenoterol (1 month); the second group consisted of 31 patients, who got fluticasone and salmeterol; the 3-ird 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 patients with non-obstructive pattern (p=0,01). The relative risk of detecting endobronchial pathology in patients with AO is 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 11.81% 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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Introduction: Tobacco increases the risk of pulmonary infection, especially tuberculosis.
Objective: To determine the effect of pulmonary tuberculosis on clinical expression 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 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 are 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 antituberculosis treatment was favourable 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 (F/M:21/42) 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.

P2592
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, tocilizumab - 21; 20 pts receive more then 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 administrated 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 - 33,3%).
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.