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still work to strengthen institutional support for coordinated response and involve clients in development of relevant strategies

## 242. Tuberculosis in immunocompromised hosts

### P1931 HIV/TB in Belarus

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Understanding the key role which HIV infection plays in deteriorating TB epidemic situation is crucial for implementing HIV/TB collaborating activities in the Belarusian health care system.

The following trends on TB and HIV incidence were reported during the last eight years (2002 – 2009) in Belarus: 10% decrease in TB incidence from 5 139 to 4 633 with the 17% increase in HIV incidence from 915 to 1072, and dramatic (7.5 fold) increase in TB/HIV co-infection incidence from 35 up to 265. The following trends in HIV mortality has been observed in these years: 24 cases in 2002 and 223 cases in 2009 (9.3 fold increase). In the reasons of death for HIV positive patients only 4 (16.7%) patients of all HIV patients died of TB in 2002 to compare with 123 (55.2%) of HIV patients died of TB in 2009. The following social structure of the patients with HIV/TB co-infection has been reported: intravenous drug users (63.4%), heavy drinkers/alcohol addicts (26.8%), patients with history of imprisonment (40.9%), and unemployed (67.1%). Gomel region is the most TB/HIV affected Belarus region, where 61.1% of cases were concentrated of all registered TB/HIV in the country (01.01.2010).

In order to control TB/HIV co-infection spread specific measures based on close cooperation between TB and HIV programs has been implemented in Belarus including: TB prevention, early diagnosis and adequate treatment of TB in HIV positive people.

### P1932 Experience from implementation of collaborative TB/HIV activities in Republic of Macedonia – Where did we go wrong and where do we go from here?

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Since 2004, Republic of Macedonia has implemented 3 GFATM funded grants. RM is the lowest HIV prevalence country in the SEE Region; the cumulative total number by the end of 2010 is 134, and the number of new TB cases in 2010 was 420. To date, 4 cases were diagnosed with HIV and TB.

To analyze joint HIV/TB activities in the past 6 years, identify gaps and challenges to be addressed in order to provide recommendations for policy makers.

We have performed desk analysis of reports on joint HIV/TB activities performed in the period 2004-2010, submitted to GFATM.

NGO HOPS delivers TB prevention education for high-risk groups - IDUs, psychiatric patients, Roma, refugees/asylum seekers and PLHIV. By the end of 2010, total of 7025 HRG representatives have been educated for TB, representing an extraordinary collaboration between the Government and NGO sector.

Voluntary and Confidential Counseling and Testing (VCCT) services are offered to TB patients at Lung Diseases Institute, by one trained nurse. Analyzed quarterly, the results vary significantly, ranging from 0% tested to as high as 75% tested for some of the cohorts.

Although RM has shown significant achievements in implementation of GFATM funded programs for TB and HIV/AIDS, there is still lot of work to combine services and address prevention. There is a clear need to expand VCCT countrywide, scale-up activities as to include other HRG (e.g. sex workers) and necessity for capacity building of communities to address TB in PLHIV. In addition, we have to

### P1933

**Bacteriological profile in new cases of TB-HIV coinfected patients in Romania**  
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**Background:** Tuberculosis and HIV infection are two serious problems, which associated condition is one another negative. In Romania there is an increased prevalence of tuberculosis, but proportion of TB-HIV coinfected patients remains low. Due to management issues in this group of patients, bacteriological identification and susceptibility profile are very important.

**Aims:** To identify the bacteriological profile of strains isolated from new cases of TB-HIV patients and to evaluate the management in this group of patients.

**Methods:** Descriptive retrospective analysis of new cases of TB-HIV coinfected patients reported in 2009 in the National Register of Tuberculosis.

**Results:** Were analyzed 155 patients (70.8%) representing the new cases from a total of 219 TB patients notified as seropositive. The mean age was 28 years, 68.3% males, most of them with pulmonary TB (127 patients, representing 81.9% of total cases). Bacterial confirmation rate in culture was low (48.3%), even in pulmonary TB cases (69 patients). Drug resistance was certified in six cases: mono-resistance to rifampicin in one case and MDR in 5 cases. Among the patients of our group 114 were successfully treated, 10 patients abandoned TB treatment and 6 failed. The mortality rate was 11.6% (18 patients), most of deaths in pulmonary TB cases (83.33%).

**Conclusions:** We found a low rate of drug resistance in our group, but bacteriological confirmation was possible only in 48.3% cases. Intensified efforts in bacteriological examinations are necessary to confirm the TB in HIV patients and to exclude other pathology, for a appropriate management.

### P1934

**Multidrug-resistant tuberculosis (MDR-TB) and HIV co-infection in Romania**

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**Background:** Although Romania is a country with high TB notification rate, the weight of HIV-positive patients among all TB cases is around 1%. Besides, the MDR-TB and HIV co-infected cases are only a few yearly, but they have very low chance to be successfully treated.

**Aims:** To analyze treatment outcomes of MDR-TB and HIV co-infected patients reported in Romania, from 2006 to 2009.

**Methods:** Descriptive retrospective analysis of MDR TB-HIV co infected patients reported between 2006- 2009 in the TB National Electronic Database.

**Results:** A total of 23 such cases have been notified in those 4 years. All were under 50 years old (13 even under 21 years). Gender ratio was F/M = 10/13. Only 20 patients were on antiretroviral therapy. All had pulmonary TB. As case category 11 were new cases, 3 relapses, 3 chronics, 1 retreatment after default and 5 retreatments after failure. Smear microscopy was positive in 15 patients. Drug sensitivity tests showed 12 resistances only to isoniazid and rifampin (HR), 2 extensively drug resistant TB (XDR-TB) and 9 resistances to HR and at least one additional drug. Most of them received treatment with Pyrazinamide, Ethambutol, Kanamycine, Protionamide, Ciprofloxacin and Cycloserine. Duration of treatment varied between 2 and 24 months. The treatment outcomes were: 8 had successful treatment, 5 were still continuing at the time of analysis, 4 failed, 3 died and 3 defaulted.

**Conclusions:** Treatment success rate in MDR-TB-HIV co-infected patients in Romania was 34.8% in the 4 analyzed years. Management of MDR-TB in seropositive patients need to be improved.

### P1935

**Multidrug-resistant TB in children with HIV infection in Romania**

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A retrospective study on a group of 417 children with TB and HIV/AIDS; 165 among these have had (+) culture for TB; MDR-TB - diagnosed to 73 children – 32,12%.

**Results:** Mean age – 14,5 years; Sex – M: 50,94%; F: 49%; TST positive > 5 mm – 51,5%; negative – 49,5%; associated clinical symptoms: fever, weight loss, irritability – 100%; pain throat 75%, haemoptysis 50%.

Rx abnormalities: parenchymal infiltration – 36,4%; cavitory lesions – 37%, hilar opacities – 11,3%; miliary – 7,5% bronchopneumonic opacities – 7,5%.

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Extrapulmonary TB – pleural effusion – 10,6%; meningitis – 19,43%.  
 Decreased CD4 – value <200 cells/mm<sup>3</sup> – 32%, <100 cells/mm<sup>3</sup> – 58,49%, <50 cells/mm<sup>3</sup> – 9,43%. The cultures (+) in the sputum – 42,5%; gastric aspiration – 28,3%; LCR – 9,4%.  
 BAAR presence: in sputum – 45,2%; LCR – 9,4%; gastric aspiration – 28,3%; pleural liquid – 3%, ganglionic aspiration – 13,1%. Chemo resistant forms: primary – 18,9%; secondary – 81,1%. Other resistances associated to H, R: SM – 29,5%; PZM – 24,3%; EMB – 18,9%; Km – 13,5%; CS – 8,1%; Q – 5,4%.  
 Used treatment protocol 18-24 months; 4-5 antiTB drugs. Antiretroviral treatment received – 157% children.  
 Side effects of treatment: hepatic cytolytic syndrome – 35,1%; jaundice – 18,9%; headache – 16,2%; personality disorders – 16,2%; thrombocytopenia – 13,5%.  
 Bacteriological situation of discharge last BK examination BK cultures negative – 71,4%; positive – 28,86%.

**Conclusions:** The MDR-TB prevalence is increased in the HIV/AIDS infected children; more frequent in the children with multiple hospital admittance with previously antituberculous treatments, history of inappropriate regimens drugs, preventive therapies, treatment interruptions, treatment with two drugs.

#### P1936

##### The risk of tuberculosis disease among HIV infected patients after 2 years of follow up

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**Background:** The risk of developing Tuberculosis (TB) disease is considered to be up to 7-10% each year for persons who are infected with both Mycobacterium tuberculosis (MTB) and HIV, whereas it is of 10% over a lifetime for persons infected only with MTB. The aim of the study was to assess the risk of TB disease among HIV infected persons, based on different clues for tuberculosis' positive diagnosis, in a TB burden area, Constanta County.

**Design:** Prospective study started in 01 February 2009, ended in 31 January 2011.  
**Material and methods:** Evaluation for TB disease diagnosis was done in 51 HIV patients with initiated active antiretroviral therapy (HAART) after 1996 and included medical history, physical examination, Mantoux Tuberculin skin test, chest X-ray, Bactec 9050 blood culture results, bacteriological exam (Acid Fast Stains smear and Lowenstein Jensen cultures). All 51 HIV infected patients were monitored 2 years in order to diagnose the active TB diseases.

**Results:** The study includes 51 HIV infected people, 22 male and 29 female, mean aged 20.5 yrs. The age of HIV infection range was between 6 months to 20 years. The risk of developing TB disease was of 21.5% (n=11/51). The prevalence of Pulmonary TB disease was greater (n=9/11;80%) than extrapulmonary forms. The symptoms of high fever, chronic cough, weight loss and dispnoea were more persistent and more severe for HIV infected patients. Tuberculin skin testing and chest X-ray evaluation were helpful for diagnosis. Only one case had positive bacteriological exam.

**Conclusions:** The risk of developing active TB diseases at HIV infected people is much higher than studies reported. The bacteriologic exam is less helpful for TB diagnosis.

#### P1937

##### Primary drug resistance in HIV/TB patients

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The aim of the study was to examine the frequency of MBT detection and the spectrum of primary drug resistance in HIV-positive patients with TB depending on the degree of immunosuppression.

A study of 304 HIV-positive new TB cases registered during 2006-2010 with median CD4 count 140 cells/μl was carried out in TB Hospital #7 (Moscow, Russian Federation). The mean age was 31,6±6,4 years.

Etiologic confirmation of TB was obtained in 56,9% of patients (n=173), including those from sputum (35,2%, n=107), and the rest (n=66) from other materials (exudate, urine, cerebrospinal fluid, discharge from the fistula, biopsy material). Patients with CD4+ <100 cells/μl and with CD4+>350 cells/μl were found to be smear and/or culture positive more frequently (42,7%, n=53 and 42,0%, n=18 respectively) than those with CD4+ 100-349 cells/μl (26,2%, n=36) (p<0,05).

Drug susceptibility test was conducted in 126 patients on Löwenstein-Jensen media using absolute concentration method. MBT were susceptible in 48,4% of patients (n=61). 7,1% of isolates were monoresistant, polyresistance was found in 15,1% (n=19) (in most cases to combination of streptomycin or isoniazid – 57,9%). MDR TB was detected in 29,4% of patients (n=37) (including 4 cases of XDR, 3,2%). It should be noted that MDR was recorded in 35,4% of patients with CD4 + lymphocytes <200 cells/μl (28 out of 79), whereas the level of MDR in patients with CD4+ >200 cells/μl was 19,2% (9 out of 47) (p<0,05). Resistance to fluoroquinolones was registered in 7,1%.

**Conclusion:** Primary MDR was detected in every 3rd HIV/TB patient. The results of the study suggest the frequency of MBT detection from sputum in HIV/TB patients, as well as frequency of MDR, depends on the degree of immunosuppression.

#### P1938

##### The molecular-genetic methods in the express diagnostics of tuberculous pleurisy (PTB) in HIV-infected patients

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84 HIV infected patients suffering with PTB admitted to TB hospitals. 42 had only PTB, 28 had suffered with pulmonary and PTB and 14 had multiorgan TB. All the patients had new TB cases and no one of them obtained anti-retroviral therapy prior to admission. We studied pleural fluid in 84 and pleural biopsies in 16 cases. In all the patients pleural fluid was obtained during needle aspiration in a routine fashion. In 16 cases with PTB a thoracoscopic pleural biopsy was made to verify the diagnosis. Real time polymerase chain reaction (PCR-RT) and TB-biochip (TBCh) were performed. TBCh identifies mutations in four MBT genes associated with drug resistance (DR) to rifampin (R) rpoB and to isoniazid (H) katG, inhA, ahpC. Sensitivity of PCR-RT was 55.9% (n=47) for pleural fluid and 75% (n=12) for the biopsies. Mutations in rpoB gene were found in 29 (61.7%) of cases, among them 22 (75.9%) due to replacement of the codon 531 (Ser-Leu). Other replaced codons were 511 (n=3), 516 (n=3), 526 (n=2) cases. We revealed DR to H, caused by mutations in katG gene in 25 (53.2%) cases, mostly in the codon 315 – 23 (92%). Mutations in other genes were rare: 4 (8.5%) in inhA and 1 (2.1%) in ahpC. Mutations associated with DR to both H and R were present in 22 (44.7%). High prevalence of strains with combination of rpoB531 and katG315 mutations confirms the continuing presence of the pool of DR strains of Beijing genotype at the territory of North-West region of Russia in conditions of wide application of R and H in TB treatment. Our data suggest that PCR-RT and TBCh of pleural fluid and biopsies are highly sensitive for express detection of DR TB in the patients suffering with pleurisy and HIV.

#### P1939

##### Value of third sputum specimen for microscopic detection of pulmonary tuberculosis in HIV infected patients

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**Objectives:** This study performed to evaluate sensitivity of two versus three sputum smears for diagnosis of pulmonary tuberculosis in patients with HIV co-infection.

**Methods:** The study was done in National Research Institute of Tuberculosis and Lung Disease, Tehran, Iran. Data of patients with pulmonary tuberculosis and HIV co-infection was gathered from 2006 to 2009. New cases of tuberculosis that their disease diagnosed by positive sputum smear with acid fast staining and confirmed by positive culture in Lowenstein Media were selected. Results of first, second and third sputum were assessed.

**Results:** Among 133 HIV infected patients with mean age of 40±9.5 and mean CD4 cell count of 82±122 cells/mm<sup>3</sup> sensitivity of first, second and third sputum smears for detection of acid fast bacilli was 83.5%, 84.1% and 82% respectively. First or second sputum specimens were positive among 95% of them. Extra diagnostic yield of the third sample was only 5%.

**Conclusion:** In HIV infected patients who are suspected to pulmonary tuberculosis, two sputum specimens are enough for primary evaluation.

#### P1940

##### Adverse effects of treatment in HIV-associated tuberculosis patients in Iran

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**Background:** We intend to assess the frequency of adverse effects of tuberculosis treatment in HIV patients.

**Methods:** The study was conducted at National Tuberculosis referral center in Iran, 2005-2010 including all documented TB patients with HIV co-infected. All patients received anti-TB treatment based on National TB Program. All adverse effects (AE) observed in patients were recorded in our registry.

**Results:** Of the total 151 TB/HIV patients, 81 (53.6%) developed adverse effects (AE) whether major or minor. Major AE (65) included hepatitis (46), convulsion (4), thrombocytopenia (17), rash (5) that 86.2% of them had CD4<100 (p<0.001). There were no differences between uses of HAART, outcome of treatment and major AE. Other AE did not show statistical significant in our study.

**Conclusion:** This study showed that major adverse effects do not affect to outcome of TB treatment.

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**P1941**

**Prevalence of HIV seropositivity amongst tuberculosis patients at Rural Government Medical College Yavatmal – A five year prospective study**  
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**Introduction:** A rising trend of HIV infection has been noticed among tuberculosis patients. Very few data from rural areas has been published.

**Aims and objectives:** To find out the prevalence of HIV infection amongst tuberculosis (pulmonary and extra pulmonary) patients at rural Government Medical College of Yavatmal, Maharashtra and to study their demographic profile.

**Study design:** This study was conducted in the department of Pulmonary Medicine at Government Medical College of Yavatmal, Maharashtra for four years from 2006 to 2010. All patients attending outpatient department with symptoms suggestive of tuberculosis (pulmonary and extra pulmonary) were screened from 2006 to 2010. HIV seropositivity was assessed among 3118 bacteriologically, radiologically and/or histopathologically confirmed tuberculosis patients and demographic profile of 573 HIV seropositive patients were studied.

**Results:** HIV seropositivity rate was 17.92% (119 out of 664 patients) in 2006, 19.51% (193 out of 989 patients) in 2007, 15.78% (149 out of 944 patients) in 2008, 21.49% (112 out of 521 patients) in 2009 and 21% (110 of 520) in 2010. Out of 573 seropositive patients 426 were male (74.34%) and 147 were female (25.65%). The most common age group affected was between 21-40 years i.e. 78.53%.

**Conclusions:** This study highlights increased rate of HIV infection among tuberculosis patients. Therefore, all patients with tuberculosis could be screened for HIV so that early detection and treatment of HIV could be done.

**P1942**

**Negative predictive value of TST and IGRA in anti-TNF treated patients**

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**Background:** Anti-TNF therapy is increasingly used in chronic inflammatory diseases. As it is related to increased risk of tuberculosis (TB), screening is mandatory before starting on anti-TNF. Negative predictive value (NPV) of tuberculin skin test (TST) and interferon gamma assay (IGRA) are still not well defined in these patients.

**Aim:** Determination of TST and IGRA NPV for progression to disease in patients on anti-TNF therapy.

**Methods:** Retrospective analysis of anti-TNF candidates screened for TB between Jan-2008 and Jun-2010. Screening included symptom inquiry, chest radiograph, TST and IGRA. After active TB exclusion, all who tested positive TST or IGRA or had radiological evidence of past non-treated TB or recent contact with TB started preventive therapy (PT). *Follow-up* maintained until Jan-2011. Evaluation of NPV on patients who did not start PT.

**Results:** We evaluated 158 patients. Mean age: 42.8±12.6 years; 81 males. Most frequent co-morbidities: psoriasis (34%), inflammatory bowel diseases (26%) and rheumatoid arthritis (16.4%). At screening 85 patients (53.8%) were on immunosuppressant drugs, mostly steroids; 8 were on anti-TNF.

None of the patients who started PT developed active TB.

Forty-five immunocompetent and 24 immunocompromised patients negative for TST and IGRA did not do PT and started anti-TNF. One immunocompromised patients developed active TB, 22 months after etanercept initiation.

A NPV for progression to disease (for TST and IGRA) of 95.8% in immunocompromised, and 100% in immunocompetent patients was defined.

**Discussion:** NPV of available TB screening tests is higher in immunocompetents. TB screening should be advised in an early stage of disease before starting any immunosuppressant drugs.

**P1943**

**Performance of two interferon-gamma release assays (T-SPOT.TB and QuantiFERON-TB GOLD In Tube) increase diagnostic yield of tuberculin skin testing for detection of latent tuberculosis in patients with inflammatory bowel disease**

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Screening for latent tuberculosis infection (LTBI) in patients with inflammatory bowel disease (IBD) is mandatory prior to the start of anti-tumor necrosis factor- $\alpha$  (anti-TNF $\alpha$ ). The aims of the study are to assess concordance between two IGRA with TST and the diagnostic performance of all them.

**Methods:** We aimed to evaluate the results of TST (retesting if the first one was negative) and two IGRA (T-SPOT.TB and QuantiFERON-TB GOLD In Tube) in 164 IBD patients from our hospital. Concordance between IGRA and TST was evaluated using kappa test.

**Results:** 164 patients were enrolled. TST was positive in 47 (28.7%) of 164 patients. The concordance between TST and T-SPOT.TB was low (kappa: 0.215, p: 0.004) (Table 1), the same as TST and QuantiFERON (Kappa 0.230, p: 0.001) (Table 2), and between T-SPOT.TB and QuantiFERON was moderate (Kappa 0.413, p<0.001).

	T.SPOT-TB+ (%)	T.SPOT-TB- (%)
TST+	13 (27)	34 (72)
TST-	10 (9)	98 (90)

  

	QTF-GIT+ (%)	QTF-GIT- (%)
TST+	10 (21)	36 (78)
TST-	4 (3)	110 (96)

Overall, 57 patients (34.8%) were diagnosed as LTBI (47 for positive TST and 10 more were detected by positive IGRA with TST negative result); the joint performance of two IGRA increased the percentage of patients diagnosed of LTBI (21.3% [95% CI, 8.5%-34.0%]); 8 out 10 positive-IGRA and negative-TST patients were receiving steroids therapy.

**Conclusions:** In IBD patients, concordance between TST and the two IGRA studied (T-SPOT.TB and QuantiFERON) was in general low. Performance of two IGRA altogether increases the number of IBD patients diagnosed of LTBI.

**P1944**

**The effect of anti TNF-alpha therapy on tuberculin skin test reaction**

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**Rationale:** Tuberculin skin test (TST) reaction is still widely used to diagnosis of latent tuberculous infection (LTBI) before the anti TNF-alpha therapy. We aimed to evaluate the effect of anti TNF-alpha therapy on TST reaction.

**Method:** Eighty-four ankylosing spondylitis patients (22 female, 62 male) before the anti TNF-alpha therapy were evaluated in this prospective study. TST was performed before the anti TNF-alpha therapy and on the 12 month visit. For those patients with a response of <5 mm induration at the initial evaluation, the TST was repeated to detect the booster effect.

**Results:** Of 84 patients, 18 patients (21.4%) had a negative (0-4 mm) and 66 patients (78.6%) had a positive ( $\geq 5$  mm) TST response at initial evaluation. The TST responses were converted from negative at initial visit to positive at 1-year repeat in only 4 (4.8%) patients. A significant decrease was observed in the diameters of TST that were repeated on the first year of TNF- $\alpha$  antagonist treatment ( $6.71 \pm 5.6$  mm) compared to their initial diameters ( $9.15 \pm 5.7$  mm) ( $P < 0.001$ ).

**Conclusion:** We concluded that anti TNF-alpha therapy may be associated with suppression on TST reaction.

**P1945**

**The incidence of tuberculosis in patients taking anti TNF alpha therapy**

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**Aim:** The aim of study is to investigate the incidence of tuberculosis during the treatment in patients taking anti-tumor necrosis factor alpha (anti TNF- $\alpha$ ).

**Material/Method:** The patients with rheumatoid arthritis, ankylosing spondylitis, juvenile rheumatoid arthritis or psoriatic arthritis who were planned to treat with anti TNF- $\alpha$  or taking anti TNF- $\alpha$  therapy and sent to our pulmonary diseases outpatient clinic between July 2007-February 2010 were included in this study. PPD tests and chest X-rays were evaluated. Chest x-rays were examined for tuberculous sequelea and the patients suspicious for tuberculous sequelea were asked for contact with a tuberculosis case, physical examinations were done and their sputum was examined for acid-fast bacilli.

**Results:** Two hundred and twenty patients were included in the study. Anti TNF- $\alpha$  therapy was given the first time in 168 patients. Fifty two patients were already taking anti TNF- $\alpha$  therapy and directed to our outpatient clinic for follow-up. One hundred seventy nine patients were followed up regularly. 41 patients did not continue follow-up and were excluded. Median follow-up period was 17 months (max: 31; min: 3 months). Two patients were diagnosed as tuberculosis during anti-TNF- $\alpha$  therapy.

**Conclusion:** According to the data of ministry of health, the incidence of tuberculosis is 0.0026% in our country. In our study it is established as 1.1%. When compared with the community, the incidence of tuberculosis is increased with anti-TNF- $\alpha$  therapy. The blockade of TNF which one of the fundamental cytokines in human defense system leads to an increase in tuberculosis infection. The patients who were planned to treat with anti TNF- $\alpha$  should be monitored closely for tuberculosis during the treatment.

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**Tumor nekrosis faktor-alfa blockers and tuberculosis – Analysis of the 6 years**  
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**Aim:** It is a known fact that risk of tuberculosis infection is increased with tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) blocker treatment. In this study we evaluated the last 6 years follow up data of the patients who admitted to our clinic for tuberculosis scanning before and during TNF- $\alpha$  blocker treatment.

**Method:** Total of 2335 patients' follow up datas were evaluated between February 2005 and February 2011. Statistical analysis were done by using SPSS 15.0 statistical program.

**Results:** There were 1186 (51%) male, 1149 (49%) female of total number of 2335 patients. Mean age was 40.32 $\pm$ 14.67 years. Patients with the diagnosis of rheumatoid arthritis 785 (33.6%), ankylosing spondylitis 912 (39.1%), psoriatic arthritis 193 (8.3%), Behçet disease 85 (3.6%), Chron disease 65 (2.8%), juvenil rheumatoid arthritis 142 (6.1%). 781 (33.9%) of the subjects had smoking history of an average 15.07 $\pm$ 13.57 pack-year. 792 (33.9%) patients treated with Etanercept, 725 (31.0%) Infliximab, 567 (24.3%) Adalimumab. 66 (2.8%) patients had treatment for tuberculosis in the past, 112 (4.8%) patients had diabetes mellitus. According to RAED II (The Society for Research and Education in Rheumatology) Guideline: PPD was  $\geq$ 5 mm in 1340 (57%), 101 (4.3%) had radiological fibrous lesion, 12 (0.5%) had contact history with tuberculosis. 1308 (56.0%) patients were given preventive treatment with Isoniazid. In these 6 years follow up, 4 (171/100.000) patients had tuberculosis infection; 2 were miliary tuberculosis (one of them was multidrug resistant), 1 was gastrointestinal tuberculosis and the last one was relaps patient with a history of tuberculosis.

**Conclusion:** This results supported that close follow up of patients who used TNF- $\alpha$  blocker was so important.

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**QuantiFERON-TB GOLD vs. TST methods of detection tuberculosis infection in rheumatoid arthritis patients with previously TNF  $\alpha$  inhibitors treatment**

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**Introduction:** TNF $\alpha$  inhibitors play an important role as therapeutic agents for certain chronic inflammatory diseases, but this treatment influences the subject's immune status and can lead to opportunistic infections, including the TB.

**Objective:** Assessment of the sensitivity of the QuantiFERON-TB GOLD (QFT) method versus the tuberculin skin test (TST) in detecting TB infection on a group of patients with rheumatoid arthritis previously treated with Infliximab.

**Methodology:** Selection of a group of 52 rheumatoid arthritis patients treated before with TNF $\alpha$  inhibitors, diagnosed with pulmonary or extra pulmonary tuberculosis. On these 52 subjects TST and QFT were performed, observing the outcome, particularly in the TB confirmed cases (18-bk cultures, 5 histopathologically confirmed cases).

**Results:** From the processed data we observed that in the group of 23 patients with confirmed tuberculosis infection, 14 have had TST positive results (60.87%) and 15 QFT positive results (65.22%) and from those 29 unconfirmed, 16 have had positive results on TST (55.17%) and 14 were QFT positive (48.27%).

**Conclusions:** QFT is an important method of TB infection diagnosis, but in patients undergoing chronic treatment with TNF $\alpha$  inhibitors it doesn't show a greater sensitivity than TST.

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**Pulmonary tuberculosis (PT) in patients taking the TNF- $\alpha$  inhibitor inflixinab (INF)**

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Depression of TNF- $\alpha$  functions by its inhibitors not only suppresses the immune-inflammatory process, but also results in certain depression of an organism immune protection level and in increase in its susceptibility to TB. The medical and X-ray date of 263 patients taking INF for treatment of rhematoid disease were analyzed. The features of PT in patients taking INF were studied. All the patients every 6 months undergo X-ray examination of the lungs. The PT has developed in 8 patients taking INF and was diagnosed in 4,6 $\pm$ 2,5 months of therapy, the number of infusions was from 2 to 6. The PT was diagnosed after respiratory complaints, in 5 patients the MBT was isolated from the sputum. Studying of Mantoux test with 2 TE before the INF course has shown that this method does not provide any reliable information, because all the patients before that have been taking immunosuppressive hormonal therapy for a long time. The x-ray archive analysis

has not resulted in identification of any pathological changes. In case of detection of the disease in 5 patients there were visible multiple changes in both lungs, it was mostly changes in the upper lobes of the lungs. 3 patients with focal dissimination had infiltrates with small destruction cavities. All the patients had typical expressed bilateral enlargement of all groups of lymph nodes, tumor type with polycyclicity of the contours. The lymph nodes structure was normal. Rapid development of PT affection is typical for all the patients with tendency to generalisation and expressed hyperplasia of intrathoracic lymph nodes. In order to determine the risk of TB before administration of INF it is necessary to carry out quantiferon test and SCT.