274. Tuberculous and non-tuberculous mycobacterial infections: epidemiology II

P2672

Latent tuberculosis in patients submitted to anti-TNF therapy – A retrospective study at a Santarem chest clinic

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Introduction: TNF- α plays an important role in immune defense against Mycobacterium tuberculosis and, as such, the risk of reactivation of latent tuberculosis (LTB) increases with TNF-blocking agents.

Aims: To determine the prevalence of LTB in patients undergoing TNF-blocking agents, between 2006 and 2009. To assess the type of therapy established and its complications.

Materials and methods: Review of clinical records and registration of clinical and epidemiological data, risk factors for liver toxicity and adverse effects. The used screening tests were Tuberculin Skin Test (TST), chest x-ray (CXR) and, in special cases, the QuantiFERON[®]-TBGold.

Results: One hundred and twelve patients were included in this retrospective study (50 with Rheumatoid Arthritis; 45 with Psoriasis; 12 with Ankylosing Spondylitis; 4 with Crohn disease and one with Sjögren's syndrome). TST and CXR were used in all and QuantiFERON[®] in 36 (32,1%). LTB was confirmed in 66 cases (58,9%), 38 females (57,6%). The therapeutic scheme proposed in all of them was isoniazid for nine months which was completed in 92,4% of patients. The transient elevation of liver transaminases occurred in 7,6%, however no patient developed moderate to severe hepatotoxicity. One patient developed pulmonary tuberculosis after a recent contact.

Conclusion: LTB was diagnosed in 58,9% of patients submitted to anti-TNF therapy. In 92,4% of cases the instituted treatment regimen was completed with no relevant complications. One patient developed tuberculosis after a recent contact.

P2673

A comparison of on-site versus remote physician follow up of directly observed preventive treatment (DOPT) for latent tuberculosis infection (LTBI) on completion rates

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Background: Ethiopian immigrants (EI) at absorption centers treated for LTBI by DOPT, were followed on-site from 2005 - 2007 by a physician, to supposedly enhance compliance to therapy. This strategy could not be continued and between 2008-2010, patients were followed at a tuberculosis center (TBC) 60 Km. away, while DOPT was continued at the absorption center.

Objective: To compare completion rates and cost of DOPT among EI when managed at their place of residence vs. management at a TBC.

Methodology: A retrospective cohort analysis of 547 medical records for all EI at absorption centers in Zefat who had started DOPT for LTBI and were followed up at absorption centers (2005-2006, study group -SG), compared to patients followed up at a TBC (2008-2010, comparison group – CG). Free transportation to the TBC was provided for the CG.

Findings: Altogether 495 EIs were included (263 in the SG and 232 in the CG group). Both groups had high completion rates (SG: 96.2% vs. CG: 93.1%, p=0.14). While demographic factors did not predict treatment completion side effects were significantly associated with non-completion. Costs were the same for both groups.

Conclusion: The success and cost of DOPT was not dependent on on-site physician involvement. High completion rates could be due to the congregation of immigrants in absorption centers leading to easy access to dedicated and skilled TB nursing staff.

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Part of a Thesis submitted for MPH degree, School of Public Health, University of Haifa, Israel.

P2674

Differences in the manegement of latent tuberculosis infection in patients treated with anti-TNF-α in Turkey

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Aim: Latent tuberculosis infection (LTBI) is commonly detected with the tuberculin skin test (TST) before anti-TNF-a. BCG vaccination modifies TST reaction. We use different approaches to evaluate LTBI. We aimed to evaluate different approaches to LTBI and results in our clinic.

Method: This report retrospectively evaluated data of patients treated with anti-TNF-α, including symptoms, size of TST reaction, used anti-TNF agent, treatment details and development of active tuberculosis disease.

Results: The study identified 99 consecutive patients referred for the evaluation of LTBI before starting anti-TNF therapy (54 men; mean age±SD: 44±12). The diagnosis of ankylosing spondylitis was established in 56 patients, rheumatoid arthritis in 36 and other systemic inflammatory diseases in 7. Fifty four patients received infliximab, 36 adalimumab, 41 etanercept. The median follow up was 25 months (range 9-41). Of the 56 patients who underwent LTBI treatment, 29 took isoniazid for 6 months and 20 for 9 months, 7 did not complete a 6-month course of LTBI treatment. Two took isoniazid for 12 months and one for 24 months. Three patients who had a history of treatment of tuberculosis had received anti-TNF-a agonist. Active tuberculosis developed in one of the two patients who had TST >15 mm and refused LTBI treatment after 3 month of anti-TNF- α treatment.

Conclusion: Different LTBI approaches according to threshold size of TST reaction was observed even in the same center in our country. We need a multicenter study to determine the best TST thresold value to develop national guidelines.

P2675

Particular aspects of TB endemia in Bucharest after adoption DOTS strategy Emilia Tabacu, Elmira Ibraim, Cristian Didilescu. Pneumology, Institute of

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Bucharest, Romania's capital, a great urban agglomeration with almost 2 000 000 inhabitants and a population density of 8 528 inhabitants/Km², was confronted with a rate, sometimes wery high of tuberculosis cases for a long time period. Objective: The study of the main indicators of the TB endemic in Bucharest between years 2001 and 2011.

Material and method: We used the information existing in the official documents of the information system within the National Program of Tuberculosis Control. Results: In 1963 the tuberculosis incidence reached 223%000 inhabitants, after presenting a clear tendency of reduction till 1985 (65,9%000). After last year, an

appreciable increase of the tuberculosis incidence installed, reaching 154,1%000 in 2001, after which a decrease occurred yearly, reaching 67,5%000 in 2011. The incidence for new cases decrease from 135,8%000 in 2001 to 56,9%000 in 2011 and the incidence for relapses decrease from 18,3%000 in 2001 to 10,7%000 in 2011. The tuberculosis incidence in the 0-14 year children population decrease from 60,8%000 in 2001 to 21,4%000 in 2011. The source density was reduced from 12 sources/km² in 2001 to 5 sources/km² in 2011. DOTS strategy implemented in Bucharest proved to be an important weapon for TB control, success rate increase yearly. The rate of the therapeutic success of the new source cases with pulmonary TB (M+) increased from 82,2% in the patient cohort from 2001 to 86% in those from 2009

Conclusion: The strict monitoring of the treatment is the medical key in fighting the tuberculosis.

P2676

Effectiveness of a tuberculosis screening program in rheumatic patients treated with immunossuppressants

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Background: Immunosuppressants, including new biological therapies, enhance the risk of developing active tuberculosis (TB). An effective screening program is essential

Aim: To investigate the impact of a TB screening program on the development of active TB in rheumatic patients treated with immunosuppressants.

Methods: Retrospective analysis of patients followed at Portuguese Institute of Rheumatology, screened for latent or active TB in the Pulmonology Diagnostic Center, since february 2005. The evaluation included clinical history, tuberculin skin test, chest x-ray, interferon gamma release assay and chest CT according to protocol. If any of these was positive, 9 months isoniazid (INH) and piridoxin was prescribed. If all were negative, patients remained under biannual monitoring.

Results: The study had 641 patients with 471 females and mean age 52±13 years. The average length of follow-up was 2,8±1,4 years. Main rheumatological diagnoses were rheumatoid arthritis (n=394), ankylosing spondylitis (n=104) and psoriatic arthritis (n=70). 173 were candidates to biological therapy and 468 were proposed or already treated with classic immunosuppressants. 532 patients were prescribed INH, of whom 14 refused and 10 suspended for intolerance (9 hepatotoxicity and 1 medullar aplasia). The remaining 109 were proposed only for clinical monitoring. No patient developed TB after the screening program.

Conclusion: In this population, 80% required chemoprophylaxis with INH and only 0,02% developed intolerance. The TB screening program used was effective, with no cases of TB reported, however these results did not allow calculating its impact in reducing the risk of TB.

P2677

Impact of the global economic crisis on the possible increase TB incidence in Serbia

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Introduction: Turbulence of the global economic crisis spilled over into Serbia. Serbia got the economic stability of the bond in the beggining of this millennium. The health system has also started functioning properly, DOTS was implemented 100% in Serbia, period 2004-2009. But epidemiological analysis of TB can't avoid the economic factors, as a personal standard of individual and society development are factors influencing the incidence.

Method: We used economic indicators (number of non/employees, index movements in salaries, annual price index, the movement of income per capita) and the movement TB incidence in 1990-2010 in Vojvodina (northern Serbia- 25% of the total number of population).

Results: The incidence of TB decreased from 38.28 to 17:08, but had two tops - middle of 90's and the beginning of this millennium. Continuing decline in the number of employes by 2003. (234 per 1000 population) from 2004. g. there is a slight increase in employment. But, by 2009. again saw a drop, and continues to this day. Chain index of nominal net earnings showed the highest growth at a time when "inflation is raging" - mid 90s in Serbia.

The analysis of these parameters with the movement of TB in Voivodina found low correlation between the rate of TB patients and the number of workers per 1000 population (r = 0.190). Correlation analysis revealed a strong correlation between rates of TB and the chain index of nominal net earnings (r = 0.513).

Conclusion: However, 100% implementation of DOTS strategy in Serbia hope that the economic crisis will not affect the eventual increase in TB incidence and the possibility of resistant forms of TB.

P2678

Childhood tuberculosis in Iasi County, Romania: 10 years review <u>Violeta Cojocariu</u>¹, Adriana Sorete Arbore¹, Rodica Sorete Arbore². ¹Outpatient Service, Clinic of Pulmonary Diseases, Iasi, Romania; ²Epidemiology

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TB represents a major healthcare problem in Romania.

The incidence of TB in children registered, in Iasi County, significant annual changes (47.4%000 in 2001 to 26%000 in 2010).

Aim: Analysis of TB characteristics in children in a high incidence TB County. Method: Retrospective study of TB cases in persons 0-14 years old, registered and treated 2001- 2010. WHO recommendations were used.

Demographic data, TB contact, site of TB, bacteriological status, co morbidities

and treatment results were followed up. Results: 763 children were notified in 10 years, males - 52%; 70.2% from rural area.

TB contact - 47.5%

TB meningitis - 4.8%(37), disseminated TB - 0.9% (7).

HIV positive were 5.5%.

88.3% cases were extra pulmonary TB, 11.6% pulmonary TB.

Bacteriological status: 132 Mt culture positive (19.2%). Out of 63 Mt strains with DST, 84.1% were susceptible.

Treatment results: successful 9.9%, died 2.6%.

Treatment results in 10 MDRTB cases: 70% success, 10% default and 20% in treatment.

Out of 42 HIV positive TB cases: 71.4% were successfully treated, 21.4% died, 2.3% failed, 2.3% defaulted.

Conclusions: 1. High TB incidence in childhood, important percent of bacteriological confirmation and severe TB forms point out the gravity of TB endemic in this area;

2. Death rate - 2.6% in this cohort was registered mainly in HIV co infected cases and TB meningitis;

3. Despite of co infection and MDRTB, the success rate was high: 92.9%;

4. TB in child hood is an important marker for TB endemic in Iasi area and pulmonologists need to focus on accurate diagnosis and treatment.

P2679

Molecular epidemiology of multi drug resistance tuberculosis isolates from pulmonary tuberculosis cases from Lucknow, India

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Background: Drug resistant tuberculosis (DR-TB) is a man made problem and major public health concern issue in India as well in abroad. Molecular epidemiology has become an important tool for TB transmission surveillance and it also allows to discriminate between reinfections and relapses as well as to detect crosscontamination of specimens in the laboratory.

Objective: We conducted a molecular epidemiologic analysis of 82 Multi drug resistance Mycobacterium tuberculosis isolates from patients presenting pulmonary tuberculosis in Lucknow, India.

Method: We have isolated and cultured mycobacterium on Lowenstein-Jensen medium from sputum samples, collected from patients attending OPD at CSM Medical University, UP. Those isolates which were characterized to be M. tuberculosis complex by morphological, biochemical and molecular techniques were tested for their resistance to the four first -line drugs Isoniazid, Rifampicin, Ethambutol and Streptomycin by 1% proportion method on LJ medium. We also performed DR, VNTR typing, and IS6110 on 82 MDR-TB isolates.

Results: The polymorphic data showed significant level of dissimilarities among all isolates. Out of 82 patients, a number of VNTR's were detected without show ing any standard profile. On comparing the DR and VNTR data, we could only demonstrate that polymorphism do occur among clinical isolates of MDR-TB.

Conclusion: Our results suggest that VNTR and DR typing is practically useful for application to molecular epidemiological of M. tuberculosis.

P2680

Resistance pattern to WHO category IV anti tuberculous drugs in patients suspected of multidrug resistance tuberculosis presenting to a specialist clinic in Maharashtra, India

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Rationale: Patients with suspected multi drug resistant tuberculosis (MDR TB) may be empirically started/maintained on WHO category 4 regimen. We retrospectively analyzed the drug sensitivity pattern to CAT IV anti TB drugs in patients suspected to have MDR TB.

Methods: 67 consecutive patients suspected to have MDR TB & subsequently having sputum or BAL for TB culture positive with drug sensitivity tests were retrospectively analysed.

Results: 43/67 patients (64.1%) had MDR TB. 4/67 patients (5.9%) had extremely drug resistant tuberculosis (XDR TB). 22/67 patients (32.8%) had resistance to all first line anti TB drugs. Out of the 5 drugs tested in CATEGORY IV: 4/67 patients (5.9%) had resistance to all 5 drugs, 10/67 patients (14.9%) to 4 drugs, 11/67 patients (16.4%) to 3 drugs, 17/67 patients (25.3%) to 2 drugs & 10/67 patients (14.9%) to one drug.

Drug	Resistance	2nd line drug	Resistance
Isoniazid	57/66 (86.3%)	Amikacin	03/50 (6.0%)
Rifampicin	46/66 (69.6%)	Capreomycin	04/60 (6.66%)
Pyrazinamide	36/59 (61.0%)	Kanamycin	04/64 (6.2%)
Ethambutol	31/65 (47.6%)	Ethionamide	32/64 (50.0%)
Streptomycin	45/65 (69.2%)	PAS	17/62 (27.4%)
		Ofloxacin	28/60 (46.6%)
		Moxifloxacin	14/43 (32.5%)
		Levofloxacin	04/11 (36.3%)
		Clofazimine	00/44 (00%)

Conclusion: In vitro drug resistance to CATEGORY IV anti TB drugs is high in our region in patients suspected to have MDR TB. All patients with suspected MDR TB do not exhibit resistance to rifampicin or isoniazid. This poses challenges to administering empiric anti-TB treatment in the management of MDR TB. Should empiric treatment of MDR TB (whenever administered) include rifampicin and isoniazid?

P2681

Antituberculosis drug resistance rates in patients newly diagnosed with TB in Istanbul

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Background: Our hospital serves about 70% of all patients with tuberculosis (TB) in Turkish Armed Forces

Aim: To assess drug resistance rates in soldier new patients with TB followed in our hospital

Method: Culture positive all new patients admitted to hospital between 1st of December 2006 and 1st of August 2010 enrolled into the study. 28 cases thought as relapse excluded the study. Drug susceptibilities in all patients were determined with BACTEC 460 TB.

Results: Drug susceptibility test was performed in 302 cases. Of all were men. Mean age was 21,7±2,1 years. 235 patients had smear and culture positivity. 67 had only culture positivity. 16 patients with pleural TB had culture positivity. 17,2% of all cases had at least one drug resistance. Isoniazid (H), streptomycine (S), rifampicin (R), and ethambutol (E) resistance rates were 14,3%, 1,9%, 4,6%, and 5,6% (respectively). 14 cases (4,6%) had multidrug resistance (H+R). H+S resistance was 0,7%. H+E resistance was 0,3%. H+R+E resistance was 1,5%. H+R+E+S resistance was 1,8%

Conclusion: In soldier patients, who are strongly representative of the young population in Turkey, H resistance was high. Others were acceptable levels.

P2682

Drug sensitivity pattern (first line ATT) in DOTS failure & relapse cases (Cat I & Cat II) rntcp, India

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Background: Patients with pulmonaryTB require retreatment if they fail or develop relapse following the initial treatment on DOTS (Cat I or II). Early diagnosis of such cases is important to prevent the drug resistant tuberculosis. If diagnosed as MDR TB,it should be treated aggressively, thus treatment can be rationalized and outcomes of relapse & failure cases can be improved by performing DST (drug sensitivity test).

Objective: To know the drug sensitivity pattern among DOTS failure & relapse cases by culture of sputum & drug sensitivity.

Material & methods: 60 cases who were smear or culture positive at the end of DOTS treatment were registered (cat I & cat II). 42 patients out of 60 had already completed cat I DOTS & 18 patients were of DOTS cat II. Early Morning sputum samples were collected for culture & DST in Egg based LJ media was used for AFB culture & DST, it was performed by using the proportion method. Results were obtained at the end of 6th week post culture. All these patients had clinical as well as radiological deterioration after DOTS therapy completion.Study was conducted in dept.of TB & CHEST DISEASES.IMS.

Result: 14 patients out of 42 cases of DOTS CAT I turned out to be multi drug resistant cases(33.33%.)which were resistant to H & R respectively.8 out of 18 cases of DOTS CAT II turned out to be MDR cases(44.44%.)

Conclusion: 33% of CAT I failure cases developed MDR TB which is very alarming & the result of present trial supports the performance of early culture & DST in all patients of failure & relapse cases.44%of CAT II patients developed MDR TB which is again discouraging & warrants to search the cause behind such high incidence of drug resistance.

P2683

Awareness about MDR-TB in private medical practitioners of Pune City

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Revised National TB Control Programme (RNTCP) is being implemented in Pune city since 1998 and is providing treatment under DOTS strategy. In view of increasing prevalence of MDR-TB, DOTS plus has also been recently introduced. However the fact remains that a large number of sensitive as well as MDR-TB patients are being treated by private medical practitioners. We conducted a questionnaire based KABP (Knowledge, Attitude, Beliefs and Practices) survey for private practitioners managing MDR-TB cases. The questionnaire was self filled by the participants. The answers were scored as good, average and poor considering WHO guidelines and RNTCP norms as a standard. A total of 425 private practitioners were assessed. 54.95% of practitioners were rated as average, 13.35% as poor and 31.7% as good in KABP. 405 allopath practitioners had better scores compared to 20 alternate medicine practitioners (P < 0.0001). Those who had received RNTCP modular training had better scores (P < 0.0001) but attending the seminars on TB had less impact (P < 0.005). Those with post graduation had better scores but super specialists had scores even lesser than the general practitioners. 83.53% felt that TB Sanatoria should open again. While 72.71% felt that MDR-TB is difficult to treat, only 32% were willing to notify their cases to RNTCP for further management. The survey throws light on the private practice scenario which may be an important hurdle in successful control of MDR-TB. The private practitioners need to be aggressively educated and involved in the RNTCP.

P2684

Latent tuberculosis infection among close contacts of multidrugs-resistant tuberculosis patients in eastern Taiwan <u>Chih-Bin Lin^{1,2}</u>, Jen-Jyh Lee^{1,2}, Hsu-Wen Chou³. ¹Internal Medicine, Tzu Chi

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Tuberculin skin test (TST) and QuantiFERON-TB Gold in Tube test (QFT-GIT) are diagnostic tools for detection of Mycobacterium tuberculosis infection. These tests can be used to study the rate of infection in contacts of multidrug-resistance tuberculosis (MDR-TB) patients.

We performed TST and QFT-GIT to close contacts of MDR-TB patient in eastern Taiwan to evaluate the transmission and the efficiency of such tests.

A total of 592 close contacts of 112 confirmed MDR-TB patients were included in the study. TST-positive subjects were 310 (52.4%) and QFT-GIT-positive contacts were 326 (55.1%). Both tests are positive in 217 patients (37%), TST-positive and QFT-GIT-negative in 93 (16%), TST-negative and QFT-GIT-positive in 109 (18%), and both negative in 173 (29%). People older than 50 and aborigines showed higher rates of QFT-GIT-positive than people younger than 30 (69.9% vs.39.2%) and non-aborigines (60.5% vs. 30.6%).

Both TST and QFT-GIT can be used to detect latent tuberculosis infection, and both tests should be used in conjunction with risk assessment, radiography and other diagnostic tools. High incidence of latent tuberculosis infection among close contacts of MDR-TB patients in eastern Taiwan were detected and close follow up and monitoring are mandatory for early detection of possible active MDR-TB cases

P2685

Dynamics of MBT drug resistance in a specialized urban TB hospital (Saratov, Russia)

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DR dynamics over 2006-2011 was studied in a Specialized Urban TB Hospital. Sputum from 1962 was tested for MBT DR. During the years 2006-2009, both primary (from 36.3% to 68.0%) and secondary DR (82.1% to 90.8%) was found to be increasing. But in 2011 primary DR decreased to 54.8% (a 13.2% drop). Secondary DR keeps growing: 88.7% in 2010 and 91.5% (the absolute peak over the entire study period) in 2011. Similar tendencies have been found for monoresistance

Over 2006-2009, MDR in primary DR doubled - from 16.8% to 34.2% (p<0,001), and in secondary DR it increased from 53.8% to 64.0% (2010). However, the latter parameter is showing signs of slight improvement: in 2011, MDR was 25.8% (8.4% less) for primary DR and 59.8% (-4.2%) for secondary DR.

By specific drugs: primary DR to H decreased in 2009-2011 to 32.3% (-16.4%), to R to 29.0% (-7.8%), to E to 19.4% (-8.2%), to S to 28.7% (-19.2%). Regretfully, a similar tendency was not observed for seconday DR.

Dynamics analysis of MBT resistance to various H concentrations during treatment of 44 patients showed that 11.4%% of them were and remained DR to H (10 mkg/ml) 59.1% of them remained non-DR to H (10 mkg/ml) 11.4% developed DR to this concentration during treatment, in 18.2% strains sensitive to H10 developed. At the start of treatment, 70.5% were H10 non-resistant; later on nonresistance was found in 77.3%. Non-resistance to low H concentrarion (1 mkg/ml) was 20.5% at the onset and 15.9% at follow-up test.

Conclusion: A certain primary DR improvement has been observed. Issues of DR amplification require further study.

P2686

Multidrug-resistant tuberculosis in the western region of Algeria Aissa Ouardi¹, Mourad Hadjadj², Yahia Berrabah¹. ¹ORAN, CHUO, Oran, Algeria; ²TLEMCEN, CHUT, Tlemcen, Algeria

Introduction: The MDR-TB is entirely man-made and is the result of a failure in effective implementation of anti-tuberculosis national plan (PNLT).

What assessment do we have of curing it in the western region of Algeria?

Material and method: A longitudinal descriptive study involving 97 patients followed for MDR-TB from January 2005 to December 2009 and put in 2nd line regimen with a duration of at least 21 months and including 05 drugs (Ofloxacin, Ethionamide, Kanamycin, Cycloserine and Pyrazinamide)

Inclusion Criteria: Patient with MDR-TB documented to INH and Rifampicin at least. Patient who underwent at least 02 chemotherapy regimens including one eight-month regimen that always have positive smears.

Results: Average age: 29 years

Extreme age: 15 to 61 years

45% of patients aged between 25 and 34 years. Sex ratio 1,4.

33% of patients from the wilaya of Mostaganem

07 familial cases observed 06 patients are diabetic, one patient with HIV co-infection.

96% of exclusive lung locations

92% of patients received at least 02 treatments before drug susceptibility test

Of the 97 patients, 59 are cured, 14 patients in failure, 15 died and 09 have given up treatment

82,5% of patients have benefited from a drug susceptibility test, the resistance to INH and Rif is observed in 100% of cases, streptomycin in 50% of cases and Ethambutol in 23% of cases

For patients who have finished their treatment, the cure rate is 61%

Conclusion: MDR-TB represents a threat which we must face with determination, respecting and reviving the PNLT in order to prevent the emergence of multiresistant bacilli.

P2687

Risk factors of time to sputum smear conversion in multi-drugs resistant tuberculosis patients in Iran

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Objectives: Treatment of multidrug resistant tuberculosis is difficult and expensive. Sputum conversion is a proper monitoring tool in treatment of these patients. Also reducing the time of conversion is an important infection control measure. This study was performed to evaluate the time and predictors of sputum conversion in the pulmonary MDR-TB patients.

Methods: During 2003-2011, all patients with documented MDR-TB in referral center, Tehran, Iran, were recruited. All patients received standard treatment consisted of Ofloxacin, Prothionamide, Amikacin and Cycloserine. All demographic and characteristic factors were studied. Time of sputum conversion was evaluated to predictors by conducting survival analysis (using a Cox proportional hazards model).

Results: Of 298 recruited MDR-TB patients, 171 patients were male and 178 patients were Iranian. The median age was 41 years. 60% of patients had the history of TB treatment. The median time to sputum conversion was 51 days. Diabetes mellitus, co-disease, adverse drugs reaction and male sex delayed sputum conversion.

Conclusion: Most MDR-TB patients achieved sputum smear conversion within 51 days. DM, adverse effects, male gender and co-disease were predictors of delay conversion.

P2688

The effectiveness of MDR TB treatment in children and adolescents depending on its duration

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Target: was to study the effectiveness of treatment of TB with multiple drug resistance with drugs of second line depending on duration of intensive and continuation phases.

Materials and methods: Group I - 50 patients treated by short regimens (intensive phase from 2 to 4 months, continuation phase from 12 to 16 months) up to adoption of standardized schemas and terms of treatments with DSL during 2001 to 2006. Group II - 50 children and adolescents treated with DSL according to terns of

treatment recommended by WHO (intensive phase not lesser than 6 months and continuation phase not lesser than 18 months) during 2007 to 2008. Groups to be compared were virtually identical by gender and age. During 2001 to 2006 frequency of primary forms of drug resistant TB among children and adolescents constituted 37.5% while during 2007 to 2008 - 8.1% (P?0.05).

Results: In the Group I treatment effectiveness constituted 84.0%, relapse emerged in 10.0% of patients of this group. Three adolescents (6.0%) died, one of them died diabetes mellitus, two others from progressing TB process and polyorganic insufficiency. Dynamic observation of children and adolescents showed that effective treatment was marked in 48 (96.0%). Out of 16 (32.0%) of patients with positive sputum smear outcome "cured" was stated in 11 (22.0%), outcome "treatment completed" in 32 (64.0%) patients without positive smears. Failure was marked in 2 (4.0%) children and adolescents, and further they were administrated the treatment with drugs of the third line. Thus, despite of more complicated TB structure in the Group II, durable regimen of chemotherapy led to cure MDR TB.

P2689

The comparative analysis of treatment effectiveness in children and adolescents with MDR TB with anti-TB drugs of the first and second lines Tleuchan Abildaev, Gulbadan Bekembaeva, Larisa Kastykpaeva. Department of Pediatrics of MDR TB, National Center for TB Problems, Almaty, Kazakhstan

Target: To study outcomes of treatment with anti-TB drugs of the first and second lines and follow-up results in children and adolescents with TB.

Materials and methods: Comparative retrospective cohort study was conducted among 160 children and adolescents. Group I constituted from 80 patients treated with anti-TB of the second line and Group II from 80 patients treated with anti-TB drugs of the first line.

Results: Family contact with patients with MDRTB played the great role in 71.0% of patients in the Group I, while among patients of the Group II in 47.5%. Primary TB forms occurred more frequently among patients of the Group II (61.8%), secondary TB forms did among patients of the Group I (81.4%). Frequency of complications was also higher among patients of the Group I. So, bronchial TB was diagnosed in 63.0% and 11.2%, TB pleurisy in 35.0% and 11.2% relatively, hemoptysis, lung tissue destruction and atelectasis were observed in 26.0%, 2.0% and 9% of patients of the Group II. Processes with destruction were in 81.2% of patients of the Group I, and those of the Group II did in 28.2% only. Patients with positive smear were by 2 times more (62.3%) in the Group I than in the Group II (30.0%). MDR: in 100% of both groups culturally only. Thus, analysis of outcomes and follow-up control showed that among patients with MDR TB treated with drugs of the first line 5 (6.2%) patients of the Group II died, while among patients treated with DSL one adolescent only died. Relapse emerged in 12.5% of children and adolescents of the Group II. This fact proves the necessity to administrate the therapy with DSL to the children and adolescents with MDR TB

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Development of multi-drug resistant tuberculosis among patients treated with category II regimen: A lung center of the Philippines experience

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We need to re-evaluate the use of Category II since this contradicts the principle of adding a single drug to a failing regimen.We did a retrospective chart review of patients who received category II from December 2006 until December 2009. The objective was to determined the incidence of MDR-TB among patients who received category II regimen.

There were 363 patients who received category II treatment 16 (4.4%) patients had mono-resistance, 14 (3.9%) patients had Polyresistance, 129 (35.5%) were MDR-TB. 152 (41.9%) were culture negative and 52 (14.3%) were culture positive but fully susceptible. Of the 129 patients who developed MDR-TB, 58 (45%) belonged to the Category I failure group, 46 (33.3%) belonged to the Relapse group and 25 (27.5%) belonged to the RAD group.

Incidence of MDR-TB

Indications for Category II	MDR-TB	Mono- resistance	Poly- resistance	Culture negative	Fully susceptible
Category I Failure	58 (45%)	5 (31.3%)	5 (35.7%)	56 (36.8%)	10 (19.2%)
Relapse	46 (35.6%)	5 (31.3%)	5 (35.7%)	60 (39.5%)	22 (42.3%)
RAD	25 (19.4%)	6 (37.5%)	4 (28.6%)	36 (23.7)	20 (38.5%)
Total	129	16	14	152	52

The incidence of MDR-TB among patients who received category II treatment from was 35.5%. Of these, the highest was among Category I failure at 45%, followed by Relapse 35.6% and RAD at 19.4%.

We recommend that patients with category I failure should no longer receive category II treatment. Instead, MDR-TB screening should be done and standardized treatment for MDR-TB should be started. As for RAD, and Relapse, MDR-TB screening should also be done and we need to carefully re-evaluate the use of Category II treatment regimen.

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Territorial distribution of multi-drug-resistant tuberculosis in Paraiba, Brazil

Background: Multidrug-resistant tuberculosis (MDR-TB) is a worldwide concern

but its magnitude in the state of Paraiba -Brazil has not been reported. Objective: To enroll all cases of MDR-TB in State of Paraiba and check territorial distribution

Methods: Using tabulated data collected by the MDR-TB Epidemiologic Vigilance System, in the period January 2002 to December 2010, we enrolled cities of residence of each case and provided an territorial picture o MDR-TB, regarding space distribution and city population. Population data were collected from Brazilian Institute of Geography and Statistics - IBGE, June 2008.

Results: Paraiba is the 13th Brazilian State in order of population (3,769,977 inhabitants, 1.9% of Brazilian population). Total tuberculosis cases in Paraiba were 7332 (1.4% Brazilian cases). Absolute number of MDR-TB was 39 (1,3% of total Brazilian cases). The proportion of MDR-TB and total tuberculosis cases in Paraiba was 0,53%. In concerning to territory distribution, MDR-TB cases scattered over 19 of 223 cities of Paraiba. Although most inhabited cities presented more cases, it did not happen in a proportional fashion. Some important cities (50 to 100 thousand inhabitants) presented no case. More interesting, MRD-TB occurred also in small cities, with less than 3.000 inhabitants. More than one third of cases occurred in cities with less than 50,000 inhabitants. Most cases occurred less than 200Km from capital (Joao Pessoa).

Conclusion: MDR-TB cases are scattered over 19 cities in Paraiba, including less inhabited cities. Preventive approaches, early diagnosis and the development of effective and relatively inexpensive methods of case search should be emphasized.