

patients is low. In 37% extrapulmonary TB is relapse of pulmonary TB; up to 47% alive patients have simultaneous lesion of some organs, and after death in 77% pts with pulmonary TB the lesion of the prostate was found. One reason of late diagnosis may be the absence of pathognomic symptoms of urotuberculosis. Also very often kidney TB masks under cancer, urolithiasis, and pyelonephritis, that hindering differential diagnostics too. Another reason is insufficient knowledge in people and medical workers about extrapulmonary TB. **Conclusion:** Extrapulmonary TB saves its significance. It is necessary to improve post-graduated medical education on extrapulmonary TB.

E204

The impact of mass BCG vaccination and preventive chemotherapy (PC) to the epidemiology in children

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Since 1997 to 2004 we studied the effectiveness of prophylactic TB measures among children in South region of Russia, where 580 000 children lived. Mass BCG vaccination (95,4%) and revaccination at 7 and 14 years (62,1%) was applied, about 89,2% children had post-BCG scars. The PC with Isoniazid was recommended for children, who were recently infected. Close contact persons have been given the PC depending on drug resistance of the sources. We have studied the level of infection with *M.tuberculosis* and the level of annual risk of infection (RI) in 22 580 children. We selected 840 children who did not have post-BCG scar. The Mantoux test with 2 TU of PPD-L was used, induration > 5 mm was considered as positive. The level of infection at the age of 12 years was 24,5±2,3%, at the age of 14 years was 29,3±2,9%, the average level of RI was 2,1±0,39%. Basing on the data of RI, annually 12 180 children are recently infected with tuberculosis. During the past five years 60 900 children were infected and TB may develop in 5% of them (3 045 persons). From 1997 to 2004 only 320 new cases of TB were diagnosed there. This real rate was 9,5 times lower than possible one.

BCG vaccination and PC can reduce TB disease in children by 9,5 times in the area where TB is widespread. BCG vaccination may be the major prophylactic measure in children, if the increase of drug-resistant TB in adults is growing.

E205

Child's tuberculosis in Ukraine, 10 years of epidemic

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Tuberculosis in children of Ukraine is a serious medico-sociologic and social problem, the significance of the latter greatly increased in conditions of tuberculosis epidemics.

Purpose: to study the dynamics of the main epidemiologic indexes and specific features of child's tuberculosis in Ukraine over the last 10 years.

Incidence of tuberculosis in children began to grow since 1990 (4,6 per 100,00) and increased by 100% (9,3 per 100,000, p<0,01) in 2004. Over the last 10 years the growth made up 50% (6,3 per 1000,000). Annual growth of the TB incidence took place in 15-16 regions among all of 27 regions of Ukraine. Morbidity of children from tuberculosis varies from 3,1 to 5,5 per 1000 contacted patients during 10 years.

In conditions of epidemics the structure of tuberculous clinical forms significantly worsened towards prevalent progressive forms in children. According to previous data over 9 months of 2005 the number of children with miliary tuberculosis rose by 33%, with destructive forms – by 12,5%.

Morbidity rose by 62% (from 11,9 to 24,5 per 1000,000; p<0,05). Children contingents with latent tuberculous infection grew by 200% over 10 years and made up 202375,0 or 2792,0 per 100,000 (p <0,01) at the end of the year 2004.

Conclusion: In Ukraine, already over 10 years epidemics of tuberculosis is progressing, in particular among children incidence and morbidity grows, structure of clinical forms becomes more severe. The number of registered children with a latent tuberculous infection that need preventive treatment grew by 3 times.

26. Epidemiology of tuberculosis

E203

Epidemiological tendency on extrapulmonary tuberculosis in Siberia

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Still now in Siberia there is an epidemic of tuberculosis (TB). The incidence rate was 126,1 on 100 000 population in 2003 – and in 2004 it increased up to 131,4. In the same time the incidence rate of extrapulmonary TB decreased from 4,4 in 2001 to 4,3 in 2003 and to 4,1 in 2004. So we could see “a scissor” between pulmonary and extrapulmonary TB.

The structure of the incidence of extrapulmonary TB was identical for years.

Urogenital TB is the 2nd common form of TB at whole and the first one between extrapulmonary forms (42,9% in 2001; 46,0% in 2003 and 41,5% in 2004), the next form is bone and joint TB (20,1% in 2003 and 22,6% in 2004); the next – TB of the lymphonodus (14,7% and 15,7% respectively).

There is significant difference between incidence also structure of extrapulmonary tuberculosis TB in the regions of Siberia: minimal incidence rate is 3,0 (Irkutsk) and maximal – 18,3 on 100 000 population (Tuva).

Frequency of organ-removing operation among new-revealed patients with urogenital TB remains high (up to 60%), because the share of in-time diagnosed

E206

Current TB-epidemic situation among children in Ukraine and introduction of methods of molecular epidemiology

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Last years in Ukraine are marked by steady increase in morbidity by tuberculosis both in adults and children. Thus, in 1990 the incidence of children morbidity by tuberculosis was 4,5 cases per 100,000 children's population, in 1994 – 6,0 and in 2004 – 9,3, i.e. has grown up more, than twice. The TB morbidity of adult population has increased in about twice also: 1994 - 39,7; 2004 - 80,9 cases per 100,000 adult population. For example, USA has a very low incidence of tuberculosis: 9,0-11,0 cases per 100,000 per year. The analyses of TB-epidemic

situation in Ukraine during the 90s of the past century indicated the increase of TB-children in a general tuberculosis morbidity in 2,5 times and deterioration of a structure among new detected patients. Among children the cases of tubercular meningitis and extrapulmonary forms of tuberculosis of larynx, lien, liver, bones, eyes and skin have become more frequent. The incidents of death in children from a tuberculosis has grown. Introduction of methods of molecular epidemiology and realization of clinical isolates wide-rang genotyping are of extreme necessity in Ukraine. Associate investigations of children with various forms of tuberculosis are planned to be included in the general strategy of genotyping. Spoligotyping, VNTR-typing and IS6110-RFLP-typing methods are proposed and have begun to apply for monitoring of tuberculosis infection.

E207**Quantitative assessment of tuberculosis activity using ^{99m}Tc-technetrite**

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We studied 132 TB patients using ^{99m}Tc-technetrite (Russian analogue of ⁹⁹Tc-metoxisobutylisonitrite) 25 min after intravenous injection of 370 MBq. Based on traditional assessment of radioisotope uptake in the inflammation site and comparing the results obtained with clinical manifestations of TB activity (intoxication and marked infiltration, hemogramme changes, marked blood biochemistry changes) we determined 4 degrees of radioisotope accumulation in the inflammation site during scintigraphy using ^{99m}Tc-technetrite. 0 (zero) – intensity of radioisotope inclusion below 20% (normal). I – 21-30% (light), provided pathological changes correspond to X-ray ones. II – 31-40% (moderate), III – above 41% (marked). Our study showed that patients with clinically marked TB activity demonstrate intensive accumulation of ^{99m}Tc-technetrite in the inflammation site. The correlation was rather high. Significance value varied from $p < 0,025$ to $p < 0,001$. Thus, the suggested assessment of ^{99m}Tc-technetrite accumulation from 0 to III degree correlated with clinical and laboratory data characterizing TB activity. Efficacy of ^{99m}Tc-technetrite compared to Ga-67 in patients with pulmonary tuberculosis.

E208**TB situation in Bulgaria- epidemiology, TB-HIV co-infection**

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In the period 1990-1998, TB notification in Bulgaria has almost doubled- from 25.1 to 50.1 per 100,000. In comparison to the previous 2 years, there is a decrease in the total number of TB cases. In 2004 the total number of TB cases was 3,232 and the average incidence was 41.3 per 100,000. There were 2,887 cases with pulmonary TB and 1,208 among them were smear (+). In some regions of Bulgaria tuberculosis incidence fluctuates from 60 to 108 per 100,000. TB-HIV in Bulgaria: Between 538 HIV(+) Bulgarian citizens (men- 68%, women- 28%, children - 4%); 144 were AIDS-stricken and 141 patients received ARVT. Transmission is mainly sexually (83%), 8%- blood, 9%-vertically. Active TB was found in 46 patients (31,9%)- pulmonary in 30 patients and extrapulmonary- in 16 patients. In 14 patients TB was the first clinic manifestation of AIDS. TB was the cause of death for 15 patients. TB among HIV(+) patients is 32 times higher in comparison with other population. Every new detected HIV(+) patient receive 9-month chemoprophylaxis with Hydroniazid.

E209**Pulmonary tuberculosis in children aged 0-1 year**

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Aim: To evaluate the epidemiological, clinical, radiological and bacteriological features of pulmonary tuberculosis (PT) in children aged 0-1 year.

Methods: retrospective analysis of 25 patients with PT, hospitalized during 2000-2005.

Results: This analysis revealed: history of close contact in 68% cases, 80% cases with clinical symptoms relevant to PT, 64% with radiographic findings (parenchymal and hilar involvement), 28% with positive bacteriology, 1 patient had concomitant Morb Pott, 36% cases with tuberculin test positive (76% cases with BCG scar), 16% cases with concomitant clinical, epidemiological, radiological and bacteriological features.

Conclusions: The early diagnosis of PT in children is very difficult and consist of epidemiological, clinical, radiological and bacteriological features. PPD-test interpretation is influenced by BCG vaccination.

E210**Investigation of tuberculosis prevalence in patients referred to Ahwaz TB reference centre in related to social factors and living conditions**

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The purpose of this study was to investigate different criteria such as age, sex, ethnic origin and living conditions in tuberculosis patients, that may have some epidemiological value.

A total of 180 clinical isolates belonging to patients having pulmonary and extrapulmonary tuberculosis were collected from TB reference unit, PHLIS in Ahwaz, Iran. All ages and both sexes were included in the study. Acid fast staining was performed for the isolates and they were identified as *Mycobacterium tuberculosis* by culture on Lowenstein Johnsen medium and biochemical tests comprised niacin, catalase activity and nitrate reduction.

The results showed that prevalence of TB was more significant in youth age, and in women compared to men. The significance was even more among patients with extrapulmonary disease. The prevalence was also more significant in Arab ethnics compared to other ethnic groups such as persian, turkish and kordish people. The disease was more significant among prisoners compared to common people.

The majority of TB patients were youngsters and this may be related to the fact that they comprised a significant country population. Besides they are more high risk due to their social activities and more close contacts in the community. Some of the factors that are contributed to rapid increase of the disease in the region are: family overcrowding, traditional close cultural contacts, living in limited spaces, unemployment, drug addiction, social crimes with jail sentence, refuse to refer to public health centres due to long distances from their living area and not affording the transportation fares.

E211**A method of epidemic danger evaluation for TB-pestholes with children and adolescents in contact**

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Aims: To develop a method of epidemic danger evaluation for TB-pestholes with children and adolescents in contact.

Design: As an index of risk factors danger a ratio of concrete risk factor incidence in TB-infected cohort to the latter in healthy cohort was chosen. Using results of 525 healthy and 158 ill patients with different TB-forms from TB-pestholes observation, concrete meaning of risk factors, along with the control complex index meaning, were counted. During the analyzing phase of the study, 16 risk factors showed reliability of difference in incidence between total/infected cohort, were pointed out.

Results: The mostly meaningful risk factors were BCG vaccination absence – 23,5, family migration – 3,0, multiply TB-contact – 2,6, contact with DR TB-patient – 1,9, therapy ignorance of TB-patient in contact – 1,7. Scoring procedure of complex index is as follows: $(p_1-1)+(p_2-1)+...+(p_n-1)$, where p_i – concrete risk factors meanings, n – number of revealed risk factors in concrete pesthole.

Conclusions: Meaning of complex index for pesthole epidemic danger accounts in comparison process with control meanings ($<3,0$ – moderate danger, $3,0-6,0$ – high danger, more than $6,0$ – extremely risk for TB emergence) as an additional objective criterion for preventive chemotherapy establishing.

E212**The prevalence of tuberculous pleurisy in north Syria**

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Introduction: Pulmonary tuberculosis is not uncommon disease in Syria and tuberculous pleurisy is a usual manifestation of this disease especially in youth and adolescent.

The aim of this study: To search the real prevalence of this clinical affection in the patient presenting with pleural effusion and the interest of pleural biopsy in diagnosing tuberculous pleurisy.

Materials and methods: One hundred and fifty patients with PE consulting the pneumology department of Aleppo university hospital during the period April 2002-Mars 2004 were prospectively studied, each patient had thoracentesis to determine the origin of PE transudate either exudate and a minimum of 3-7/ pleural biopsy with ABRAM's needle were done.

Results:

- The patient were between /14-83/ year old with an average (51.16) year.
- Male patients were /83/patients (55.33%) and the female patients were /67/ patients (44.67%).
- The exudative PE were present in /84/ patients (56%) as the following:
 - * Malignant pleural effusion 20%.
 - * Tuberculous pleural effusion 16%.
 - * Parapneumonic PE and empyema 10%.
 - * Other: (pulmonary Embolism ... 10%.
- The Transudative P.E: were present in (66) patients (44%) as the following:
 - * Congestive heart failure 36.67%.
 - * Liver cirrhosis 4.06%.
 - * Nephrotic syndrome 2%.

* Chronic renal failure 0.67%.

* Tumoral origin 0.60%.

Discussion: The total number of tuberculous patients was /24/ patients with a percentage of 16% of study population. The pleural biopsy yield for diagnosis was /70.83 / in our patients which was similar to other comparative studies.

E213

Social burden of tuberculosis in Belarus

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Tuberculosis is a disease with social influence on economic state of the society in much countries of the World, and, in its turn, it is reason for low social-economic life level of people. Annual increase of all the tuberculosis forms morbidity is marked in Belarus the last 5 years. This index rate reached 55.4 per 100000, tuberculosis rate of respiratory organs with bacillishedding reached 21.0. The greatest age peak of tuberculosis disease is 45-54 years in men and 25-34 years in women, it means the age groups ensuring the main labour potential of the country. Increase of tuberculosis morbidity in children and teen-agez from infection sources evokes a serious anxiety because of exceeding the common tuberculosis morbidity 30-40 times in this population group. The sources where the patients with poliresistant bacill shedding live are dangerous particularly. Besides the correlative connection between drug resistance of agent in disease source and drug resistance of contact person fell ill was determined in 80.9% cases. Tuberculosis "bacillar nucleus" is increasing also tuberculosis mortality (56 and 11.1 per 100000 accordingly). The causes of tuberculosis lethal outcomes during the 1st year of patient observation are determined. The invalidism rate in tuberculosis patient remains rather high (0.86 per 10000 population), 89.7% of them are persons of labour age. The State Program of tuberculosis social burden decrease has been elaborated and confirmed by government. The principles of this Program are original approaches for tuberculosis diagnostics, high technological methods for treatment of acute multidrugresistant tuberculosis forms, personnel training and rational use of material and technical sources of antituberculosis service.

E214

TB outbreak in a health care facility for delinquents with chronic psychiatric diseases

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Aim: to evaluate the extension of a TB outbreak in a hospital for delinquents with chronic psychiatric diseases and management of TB cases at patients and to the staff.

Method: analysis of the 14 TB cases registered in this hospital in 2004 from 203 patients.

Results: 13 cases were males, 78.5% cases were pulmonary TB, 21.4% pleurisy. 28.5% were smear and culture positive. All cases received CAT I TB treatment according to WHO recommendations. The psychiatric disorders were severe: 8 oligophrenia, 4 schizophrenia, 2 delirious psychosis. The psychiatric treatment didn't interfere with TB treatment. Treatment outcomes: 4 cases cured, 10 completed treatment.

The staff was controlled and 1 person was detected in the same time with TB pleural effusion and completed treatment.

Conclusions: 1. A TB outbreak was registered in 2004 in a hospital for delinquents with psychiatric diseases, a place with high risk for TB outbreaks because of admission of patients not investigated for TB.

2. Clinical and radiological supervision are necessary for early detection of TB cases and to reduce spreading of TB.

3. Chest x-ray is compulsory at admission in this unit.

4. The hospital staff needs special medical health care education being at high risk of getting TB as a professional disease.

E215

Tuberculosis in prisons of Belarus

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There is a stable tendency of increase in main tuberculosis epidemiological date both on the whole in Belarus and in prisons of the country from the beginning of 1991. The tuberculosis incidence rate exceeded epidemic threshold in 1997 and numbered 1658 per 100000 in 1998. Tuberculosis mortality in prisoners is also several times higher than in community. The state program "Tuberculosis" including the part " tuberculosis in prisons" was accepted by the government of Belarus in 1999. Acknowledgement of tuberculosis problem in prisons as a priority one in Public Health, close collaboration of prison physicians with civic physicians, use of main DOTS-strategy principles in conduct of antituberculosis measure in prisons, elaboration of monitoring tuberculosis detection by different methods, differentiated chemoprophylaxis, sanitary educational work, improving of financial

basis of health service in prisons and in antituberculosis entities are the main issues of this part. The conducted measures allowed to reduce tuberculosis incidence rate in prisons of Belarus by 4 times and mortality more than 5 times during the last 5 years. The number of tuberculosis patients with unestablished diagnosis before (in freedom) decreased by 27.0% thanks to cooperation of civil physicians and prison medics. However unfavorable epidemic situation with tuberculosis (incidence rate 409 per 100000 in 2005) conditioned by complex of social economic and medicine biological factors, which must be accounted in organization of antituberculosis measure in prisons, is remained in prisons of Belarus at present.

E216

Epidemic situation on tuberculosis in Republic of Belarus

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The aim of our study was to analyze epidemic situation on TB in Belarus.

In 2005 TB incidence rate achieved 54.2 per 100,000 population. TB incidence rate among the rural population has been on average 1.4 fold higher than among the urban population. In 2005 the maximal incidence of the disease was recorded in the Mahileu and Homel regions (64.4 and 62.3 per 100,000 persons, respectively). Since 1993 an upward trend in the TB mortality rate has been observed; by 2005 the mortality rate had increased in 2.6 fold (from 4.2 to 11.2/100,000). The highest incidence of the disease was observed in age 45 to 54; TB incidence among male patients reached 123 cases per 100,000. The consistently highest number of TB cases was observed in young female patients aged 25 to 34, while the incidence rate was 41.8 per 100,000. 309 patients with HIV/TB (a cumulative number) have been identified by 01.01.2006 in Belarus. The persisting unfavorable epidemiological situation due to the high TB incidence rate in prisons (409.3 cases per 100,000 in 2005) demands the further improvement of TB control in this sector. TB cases in prisons constitute 4.5% of all newly detected TB cases in the country. 77.2% of the patients identified in 2004 successfully followed their full chemotherapy treatment courses in 2005.

Our study revealed a number of problems that require immediate solutions suggesting introduction integrated program TB prevention, detection and treatment on a national scale.

E217

Aspects of effective MDR-TB treatment in the prison hospital, Tomsk (Russia)

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Since September 2000, 198 MDR-TB patients have been enrolled in the DOTS-Plus Program. Average age – 32.6 years, TB history – 5.3 years, previous treatments – 3.2. Bilateral TB was reported in 55.8%. Smear/culture positive patients at the start of treatment – 80.6%, 2 – 7 months prior to treatment – 19.4% (all patients had active TB confirmed by clinical and radiographic evidence). DST: HR–100%, S–97.5%, E–87.5%, K–30.6%, Cap–8.8%, Eth–45%, Z–38.8%, Ofi–2.5%. TB drugs received: K–52.7%, Cap–47.3%, Pas–86.8%, Z–79.8%, Ofi–100%, Cyc–99.2%, Eth–76.7%, E–29.5%. Average drug resistance is 4.2, number of TB drugs in regimen – 5.2.

Outcomes: 148 patients cured, 6 - failed, 20 - defaulted, 6 - died (of them, 1 patient died of TB), 18 patients are still on treatment (of them, 14 patients - in the civilian sector). Average duration of treatment is 20 months.

Culture conversion progress (after 1 month of treatment - 41.8%, 2 months – 63.2%. 3 months – 75.7%, 4 months – 86.1%, 5 months – 88.2%, 6 months – 89.6%); smear conversion (after 1 month of treatment – 53.8%, 2 – 69.9%, 3 – 86%, 4 – 88.2%, 5 – 89.2%, 6 - 91.2%). In three patients smear/culture converted positive in 6 months. Interim treatment efficacy is 82.2%. Clinical and radiographic data correlated with bacterioscopy changes. MDR-TB treatment with second line TB drugs shows high effectiveness.

E218

Romanian strategy for the reorganization of the national tuberculosis laboratory network according to the WHO recommendations

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Background: The Romanian tuberculosis laboratory network had at the end of 2005 year 165 laboratories for 21,623,849 inhabitants. 46 perform smear-microscopy; 51 microscopy and culture; 68 microscopy, culture and drug susceptibility test (DST). According to WHO recommendations, should be 42-50 culture, and 2-4 DST laboratories.

Material, Method. In 2004-2005 WHO performed in Romania two TB lab assessing missions, and one for TB Program Review. Main recommendations: downgrade the

labs with less than 10% positivity rate and less than 2000 cultures/year; only reference laboratories and multi-drug resistance centers should perform DST. Improve quality assurance and bio-safety in the network.

Results: Quality assurance program is already in place for 49 county labs. In 52 labs out of 165 are WHO standards are not met. NTP will: calculate the cost-efficiency of bacteriological diagnostic in place, versus transportation of the specimens to the county lab, assess the staff and equipment redistribution.

Conclusions: 1. Culturing and DST can only be performed in properly equipped laboratories applying the bio-safety regulations. 2. Finances should be used for the improvement of the labs that already fulfill the quality and workload standards. 3. Quality assurance program should be implemented in the entire laboratory network.

E219

Influence of imprisonment on epidemiological features of tuberculous pleurisy

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Design: Retrospective series of all patients admitted to F.I. Haas' Hospital for tuberculous pleurisy (TBP) between 1999 and 2005.

Data collection: We identified 146 patients, 139 (95.2%) of them were males, mean age 28.4±1.4 years. Nearly half of the patients - 71 (48.6%) had a first imprisonment (FI group), the other 75 (51.4%) were imprisoned repeatedly (RI group). As much as 77 (52.7%) patients were suspects and were held in overcrowded remand prisons (RP group), the remaining 69 (47.3%) were convicts serving term in less overcrowded correctional colonies (CC group) prior to admission.

No one of the patients previously had had pulmonary TB (PTB) history. Diagnosis of TBP was established after pleuroscopy with pleural biopsy in 44; by revealing previously absent PTB on chest X-Ray in 39; by smear- or culture positive sputum or pleural fluid in 14; by exclusion of reasons other than TB in 49 patients.

Duration of IP prior to disease onset (DI), and of disease onset prior to admission (DO) were evaluated (Table 1).

Results: We observed statistically significant decrease in DI ($p < 0.05$) and in DO ($p < 0.001$) among patients from RP group versus CC group. FI patients, more stressful but less immune-compromised overall, had reliably longer DI ($p < 0.05$) but shorter DO ($p < 0.001$) than patients in RI group.

Table 1

	All patients	RP	CC	FI	RI
DI	16.2±1.1	10.7±1.0	22.2±1.9	16.7±1.7	15.7±1.5
DO	1.6±0.2	1.4±0.2	2.0±0.4	1.3±0.2	1.9±0.3

Conclusions: Imprisonment reliably influences on epidemiological features of TB pleurisy. More harsh in-prison environment accelerates progression of TB. Overall stress increases and overall proper immune status decreases duration of TB pleurisy' development in prisoners.

E220

Extra pulmonary manifestation of tuberculosis

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Extra pulmonary tuberculosis (EPTB) is a clinical problem which has to be correctly recognised. The aim of this study was to investigate the different aspects of all cases with EPTB in Republic of Macedonia in year 2005.

Out of 659 new registered patients with tuberculosis (TB), 148 (22.45%) were with EPTB. Proportion of PTB and EPTB forms was 77%:23%. From EPTB new cases were 142 (21.55%), relapses 3 (0.45%) and treatment after default 3 (0.45%). The age of cases was between 1-81 and mean age was 39.7. Ratio males: females was 62:84. From total number of EPTB cases the age between 1-14 were 29 (19.59%) 14 males and 15 females.

EPTB affected pleura (55), peripheral lymph nodes (25), mediastinal lymph nodes (11), genitourinary tract (8), gastrointestinal tract (2), pericard (3), laryngs (1), osteoarticular system (11) and TB of the skin (3). EPTB in children of age 1-14 was following: pleural TB (11), mediastinal lymph nodes (8), peripheral lymph nodes (9) and meningitis (1). The pleuritis occurs more often in men but the other forms of EPTB appears more often in women. Bacteriological identification was reached in 12 cases of pleura and urinary TB; histological verification was performed in 32 cases of lymphadenitis, intestinal and genitourinary TB. Large number of cases don't have correctly affirmation of diagnosis of EPTB. The biggest number of cases with EPTB were treated with antituberculous regime category I (112), than with regimen category III (31) and only 5 cases with regimen category II. We concluded that EPTB must be kept in mind in differential diagnosis of infectious disease with unknown aetiology and EPTB cases diagnosed by physicians other than pulmonologists must be treated and followed by consulting with pulmonologists.

E221

Significance of close contacts examination and chemoprophylaxis for epidemiologic control of tuberculosis

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In this study we investigated retrospectively 1986 close contacts (CC) of 360 tuberculosis (TB) cases who registered Diyarbakir No.1 TB Control Dispensary. Between January 2002 and December 2004, systematic sample method was used in the selection of this TB cases within registered 916 TB cases.

In the TB cases, the mean age 31.5±16.1 years, 218 (60.6%) cases were male and 142 (39.4%) cases were female. In the CC, the mean age 20.2±16.9 years, 948 (47.8%) cases were male and 1038 (52.2%) cases were female. It was found that mean 5.51 ± 2.96 number CC per a TB case were recorded. It was found that examination was not made in the 596 (30%) number of CC. The number of examined cases of CC was 1390 (70%). Examination results in the examined cases were as follows respectively: preventive chemotherapy was applied in 264 (18.9%) CC, active tuberculosis disease were determined in 32 (2.3%) CC, BCG was applied in 92 (6.7%) CC, second control examination was suggested in 14 (1.1%) CC. The chemoprophylaxis should be applied in 631 (45.4%) of the examined CC according to indications of National Tuberculosis Guideline (NTG) of Turkey. The examined rate in the unemployed cases and uneducated cases was decreased meaningfully ($p < 0.05$). The examined rate in the absence of health insurance cases was not decreased meaningfully ($p > 0.05$).

Conclusion: The chemoprophylaxis is important for preventing of TB in the CC. This regard the CC of TB cases are evaluated carefully. Some defects were (particularly about chemoprophylaxis) established in the cares of TB control dispensary. It is thought the education activities must be increased for the defects can be corrected.

E222

HIV associated TB in Republic of Belarus

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The aim of our study was to analyze epidemic situation of HIV associated TB (HIV/TB) in Belarus.

The problem of the HIV/TB in Republic of Belarus has raised recently. The cumulative HIV/TB number achieved 309 cases by 01.01.2006 (63.4% was registered in Homel area). Incidence of HIV/TB showed constant increased for the last four year: 35 in 2002, 45 in 2003, 77 in 2004, 87 in 2005. There were the following distributions from those diagnosed in 2005: male/female - 74.3%/25.7%, aged 25-34 - 55.2%, aged 18-44 - 90.8%. TB was the most often cause of death in individuals with AIDS: 16.7% in 2001, 33.3% in 2002, 40.6% in 2003, 50.8% in 2004.

In conclusion, there was significant increase HIV/TB in Belarus; Homel region was the most problematic area, majority of affected individual where the young males. Every third (every second in 2004) of all with AIDS who died, died of TB. Our data suggest introduction of special measures for HIV/TB control in the country.

E223

Singularities of a tuberculosis among children in Ukraine at modern epidemic situation

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According to official statistic circulation in Ukraine during last 10-15 years we have been observing a permanent deterioration of epidemic situation in tuberculosis among both adult and children's population - increase the incidence by all forms and death-rate from this illness. So, the amount of sick children of tuberculosis in Ukraine has increased since 1990 to 2004 in about more, than twice: from 4,5 cases per 100,000 children's population per year to 9,3. The infrequent forms of an extrapulmonary tuberculosis of a larynx, lien, liver, bones and joints, eyes, skin have become frequent in about 2,5 times. The incidents of death in children from a tuberculosis has grown. Children die predominantly from meningo-encephalitis or generalized tuberculosis, when all organs and systems are struck. These outbreaks very much disturb, because 76 percent of children who have died from tuberculosis are younger than 3 years of age. The causes of continuous increase of a tuberculosis morbidity and death from it are: negative social-economic factors; a considerable decline in the living standards of the population - impoverishment; massiveness of a virulent TB infection contamination owing to a great many have not enough of treated patients; distribution chemoresistants among the sick children of tuberculosis; increase the quantity of cases of a tuberculosis associate with the human immunodeficiency virus (HIV); increase of the migratory flows of the population; deterioration in TB-control.

E224

Endobronchial tuberculosis. Report of 17 cases

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Endobronchial biopsy proven 17 endobronchial tuberculosis cases diagnosed in our clinic between January 2003 - January 2006 were evaluated retrospectively. There are 7 (41,2%) women, 10 (58,8%) men with mean age $38,25 \pm 18,53$ years. The most common symptoms are cough 100%, sputum production 52,9% (n=9), weight loss %41,3 (n=7), dyspnea 29,4% (n= 5). Except one patient all the cases revealed radiologic abnormalities evident on chest radiograph. Sputum smear is positive for *Mycobacterium tuberculosis* in 1 case (5,8%) and negative in 16 cases (94,1%) and 9 (52,9%) cases had positive culture on Lowenstein-Jensen medium. Bronchoscopic lavage smears are positive in 1 case (5,8%) and 6 (35,3%) cases had positive culture. The most common radiologic appearances is hilar widening 35,9% (n=6), this is followed by consolidation 29,4% (n=5), pleural effusion 23,5% (n=4), mediastinal widening 17,6% (n=3) and atelectasis 11,8% (n=2). Radiologic appearances on computed tomography are acinodular pattern 47,1% (n=8) followed by mediastinal lymphadenopathy 41,2% (n=7), hilar lymphadenopathy 41,2% (n=7), bronchial stenosis 35% (n=6) and mass 5,8% (n=1). Bronchoscopic features are: irregular mucosa 47,1% (n=8), stenosis 11,8% (n=2), submucosal tumor 11,8% (n=2), extrinsic compression 17,6% (n=3), anthracosis 11,2% (n=2) and enlarged carina 5,8% (n=1). In all of the cases histopathology of necrotising granulomatous inflammation revealed by endobronchial forceps biopsy. As a conclusion of our study, bronchoscopic evaluation of the bronchial tree is more essential for the diagnosis of endobronchial tuberculosis, that is different from pulmonary tuberculosis which is diagnosed by bacteriologic methods (sputum smear and culture) and radiologic procedures.

E225

Risk factors for TB emergence in children and adolescents, contacting with consumptive patients

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Aims: To evaluate risk factors for TB emergence in children and adolescents, contacting with consumptive patients.

Design: 525 healthy and 158 infected with different TB forms children/adolescents, contacted with consumptives, were assessed.

Results: TB emergence probability in case of BCG absence with concomitant contact was $91,7 \pm 8,0\%$. In case of TB-positive contact rate of TB morbidity was $21,5 \pm 1,9\%$, in case of double contact this ratio increased twice ($41,9 \pm 5,5\%$), and tripled in case of more than double contact ($59,1 \pm 10,5\%$), $p < 0,001$. In case of inappropriate therapy/refusal for consumptive patient TB infection probability doubled for contact persons ($15,4 \pm 2,3\%$ and $33,7 \pm 2,7\%$, respectively), $p < 0,001$. In case of high/hyperergic tuberculin test TB incidence rate reached 36,5%. Absence of preventing chemotherapy/inappropriate regimes for evaluated cohort leads to more than 7,5-fold increasing for local TB forms emergence risk ($31,7 \pm 2,1\%$) compared with patients received it ($4,2 \pm 1,4\%$), $p < 0,001$.

Conclusions: We revealed, that absence of BCG vaccination, contact with 2 or more consumptives, prominent/hyperergic tuberculin test, treatment refusal of consumptive patients and absence of preventive chemotherapy of children and adolescents are the main risk factors for TB emergence in children and adolescents, contacting with consumptive patients.

E226

Knowledge of tuberculosis patients about tuberculosis disease

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We interviewed with 44 tuberculosis (TB) patients and 30 non-TB patients, totally 74 cases diagnosed in our clinic in 2005 with respect to their knowledge about the disease by a questionnaire. The mean age of patients with TB was 38.9 years and 31.5 years with non-TB patients. Patients were classified according to their educational status, family history of TB and economic situation. 40.5% of all the patients designated that they had knowledge about the disease. Percentage of correct answers given to the questions that TB was a contagious disease, spreads with respiration, duration of treatment was at least 6 months and shouldn't have been in the same environment were as 24 (32.4%), 34 (45.9%), 37 (50%) and 18 (24.3%) respectively. 14 cases diagnosed with tuberculosis had contact within family. The contact within family in this group was statistically significant when compared to non-TB patients ($p:0.0002$). It was noticed that there wasn't statistically significant difference between TB and non-TB patients in terms of knowledge when all questions were evaluated.

In conclusion, TB patients did not have enough knowledge about the disease and we suggest that public education should have priority since public education has great importance in combating TB.

E227

How does primary health care providers' pre-knowledge on tuberculosis affect the implementation of DOTS strategy in Serbia?

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Background: Primary health care providers (PHCP) can play an important role in tuberculosis (TB) control through early detection of the disease, referral for treatment, and involvement in directly observed treatment. Education of PHCPs on TB has therefore taken a prominent place in the Control of Tuberculosis in Serbia, the project carried out under the supervision of Ministry of Health and financed by GFATM.

Objective: To establish how much do PHCPs really know about the basic features of TB; to define the improvement in PHCPs knowledge on TB obtained after the active training course on TB; and to establish the correlation between the former PHCPs' knowledge on TB and its incidence in the area of a PHSP's competence.

Methods: A pre and post-questionnaire including 15 questions on basic TB features was given to the PHCPs participating in this study. The training efficacy was assessed by increased number of true answers in the post-questionnaire. The percentage of false answers in the pre-questionnaire was also correlated to the TB incidence rate in a particular region.

Results: The study included 1300 PHCPs at the mean age of 45.7 years, coming from 10 regions of Serbia. PHCPs are found not to have sufficient up-to-date knowledge on TB and its early detection: false answers in the pre-test amounted to 29%. The active training course PHCPs received has resulted in a significant improvement of their knowledge on TB (19% on the average). The regions with a lower level of PHCPs' knowledge have a higher TB incidence rate. The positive linear correlation between the percentage of false answers and the TB incidence rate was confirmed.

E228

Analysis of 172 cases with extrapulmonary tuberculosis (EPTB)

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Aim: To determine of the characteristics of the cases with EPTB.

Method: The records of the patients, who have been treated with diagnosis of EPTB disease in Van Tuberculosis Dispensary between January 2000-July 2005, were retrospectively evaluated.

Findings: EPTB was diagnosed in 172 (28.38%) of the 606 cases. 91 of the cases (52.9%) were female, 81 (47%) were male and mean age was 30.38 (2-72). The most common sites of EPT were respectively pleura (56 cases-32.55%), lymph node (49 cases-28.48%) and gastrointestinal system (23 cases-13.37%). 42 cases had history of close contact and 5 had history of tuberculosis disease. Tuberculin skin test was positive in 33 of 36 cases who were applied. 67 (38.9%) cases had BCG scar. %1.74 of our cases had concomitant pulmonary tuberculosis.

Conclusion: In our study, proportion of EPTB was found approximately 30% and almost all of the EPTB cases had isolated lesions.

E229

Pleural tuberculosis: 10 years of experience

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Aims: To know the radiological and biochemical characteristics of the pleural fluid (PF), the method of diagnosis and the treatment followed in our patients with tuberculous pleural effusion (TPE).

Methods: We have checked the clinical history of all the patients admitted in our service with TPE between January 1996 and December 2005. In all cases we evaluated the chest x-ray, the biochemical parameters, the adenosine deaminase (ADA) levels in the PF, other tests performed and the treatment protocol followed in each case.

Table I. Radiology

Pleural effusion quantity	n	%
Massive (90% or higher)	4	6.2
Large (50 to 89%)	18	28.1
Mild (20 to 49%)	23	35.9
Small (19% or lower)	19	29.6

Often capsulated. One hydropneumothorax. Table II. Diagnostic method

	n	%
Pleural biopsy	28	43.7
- 1996-2001: 24 of 34 cases (70.5%)		
- 2002-2005: 4 of 30 cases (13.3%)		
ADA and clinical signs	33	51.5
PF bacilloscopy	2	3.1
Sputum bacilloscopy	1	1.5

One thoracoscopy was performed.

Results: 64 patients (37 males), mean age 34.7 years were diagnosed of TPE. 61 cases (95,3%) were exudates and there were 3 cases of empyema (4.7%). ADA mean value was 62.4 IU/L and was lower than 46 IU/L in 11 cases (17%). The radiological alterations found and the methods of diagnosis are specified in Tables I and II. 58 patients (90,6%) were treated with RIF-INH-PZA.

Conclusions: 1. In our sample the pleural effusion quantity is very variable. 2. The PF was an exudate with ADA levels higher than 46 IU/L in 83% of the patients. 3. The diagnosis was done by pathological or bacteriological criteria in almost a half of the patients. In the last years we have used the pleural biopsy in very few occasions. 4. In all of the cases the right treatment was applicated.

E230

Smoking behaviour profile in pulmonary tuberculosis patients

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Objective: to evaluate smoking status, nicotinic dependency and patient knowledge towards tobacco smoking.

Methods: standard questionnaires were distributed in 96 patients (21 women,75 men) hospitalised for tuberculosis.

Results: only 5 women were smokers, 3 ever tried to quit and only 1 ever heard about smoking cessation methods. In men,7 were never smokers,while 15 ex-smokers and 53 active smokers (24 moderate dependency, 29 severe dependency). Ex-smokers gave up smoking because respiratory symptoms in 9 cases. 29,3% men have no knowledge about noxious substances in cigarettes; 33,3% mentioned nicotine as main toxic and 8% know about nicotine and tar.15 men never thought to quit. 30 men had quitting attempts and reasons for failure were:nicotine dependency (13 patients), stress (4 patients). Only 92,7% of active smokers are aware of tobacco consumption's risks. Lung cancer and COPD were known by all of them. 13 patients never received brief advice to quit. 60% of our tuberculosis patients were smokers, mostly men.They do not possess minimum knowledge about toxic compounds in cigarettes but are aware of severe tobacco related diseases.They had several quitting attempts but based only on own will. Minimum cessation advice was provided especially by chest physicians.
