27. Screening and diagnosis of tuberculosis

E231
Radionuclide diagnostic of the activity of pulmonary tuberculosis
Andrey V. Perfiliev, Anatoly T. Sigaev, Rasul B. Amansakhatov, Natalya A. Glazkova. *Radiological, Central TB Research Institute, Moscow, Russia*

The aim of this study was to assess the diagnostic possibilities of ^{99m}Tc-technetrile compared to ^{67}Ga-citrate in the diagnosis of pulmonary TB activity. We performed scintigraphy using ^{99m}Tc-technetrile and ^{67}Ga-citrate in 67 patients every 5 to 14 days. The results were considered positive in case of increased uptake of radioisotopes of focal and diffuse character in the lungs and mediastinum. The comparison demonstrated that the ^{99m}Tc-technetrile uptake was observed in 97% patients. In case of ^{67}Ga-citrate detection frequency of pulmonary inflammation was 91%, i.e. somewhat lower. At the same time, detection frequency of inflammation in the mediastinum using ^{67}Ga-citrate was higher (97,1%) somewhat exceeding ^{99m}Tc-technetrile uptake in the mediastinum in the same patients (95,5%). Thus, diagnostic value of ^{99m}Tc-technetrile scintigraphy is comparable to the highly sensitive technique using ^{67}Ga-citrate.

E232
The tuberculin skin test in 11-12 year-old children 5 years after BCG vaccination
Victor Th. Aivazis[1], Polixeni P. Kirkou[3], Antigoni M. Mavroudi[2], Dimitra V. Aizazi[1], Afroditi V. Sakellaropoulou[1], Eleni A. Papadimitriou[1], Theodouli A. Papastavrou[2], Emmanouel J. Roilides[2]. *[1]1st Pediatric Clinic, Hippokration Hospital, Thessaloniki, Greece; [2]3rd Pediatric Clinic, Hippokration Hospital, Thessaloniki, Greece; [3]Tuberculosis Clinic, Papageorgiou Hospital, Thessaloniki, Greece*

Aim: The aim of our study was to evaluate the degree of positivity of tuberculin skin test (TST) in 11-12 year-old children, 5 years after their BCG vaccination.
Methods: 533 students, aged 11-12 years, from 14 elementary schools in Thessaloniki participated in the study. TST was performed with 0.1 ml (2TU) tuberculin PPD RT 23 SS1 intradermally and the transversal diameter of the induration was evaluated in 48-72 hours. 36 children (6.7%) were excluded from the study. Children were categorized according to their nationality/origin and the extent of induration. Statistical analysis was made with SPSS 12.0.
Results: From 497 evaluable subjects, 433 children (87.1%) were Greeks, while 64 (12.9%) were immigrants from Albania, former Soviet Union countries, etc. 118/497 children (23.7%) had negative TST, 99 (19.9%) had 2-4mm induration, 199 (40%) had 5-9 mm, 69 (13.9%) had 10-14 mm and 12 children (2.4%) had an induration $\geq$ 15 mm (17.8$\pm$3.8 mm). Mean indurations for the Greek children with TST $\geq$ 2 mm were 6.8 $\pm$ 3.2 mm and for the foreign-born children 7.3$\pm$5.1 mm. 81/497 children had TST $\geq$ 10 mm, from whom 69/81 were Greek and 12/81 were foreigners. In addition, 118/497 children (23.7%) had negative Mantoux and from those 104/118 (88.1%) were Greek and 14 (11.9%) were foreigners. A significantly larger proportion of foreign-born subjects presented with induration $\geq$ 15 mm than Greeks ($p<0.05$).
Conclusions: The interpretation of TST in the context of a BCG history is especially important for immigrants from countries with high prevalence.

E233
The peculiarities of histological diagnostic of tuberculosis (TB) in HIV-infected patients in Ukraine
Irina V. Liskina[1], Eygeny I. Suslov[1], Ludmila M. Zagaba[1]. *Histopathology, Institute of Tuberculosis & Pulmonology, Kiev, Ukraine; Histopathology, Institute of Tuberculosis & Pulmonology, Kiev, Ukraine; Histopathology, Institute of Tuberculosis & Pulmonology, Kiev, Ukraine*

The rate of annual prevalence of HIV-infection in Ukraine is one of the most high in Europe at last 5 years. It was established that the leading causes of AIDS-progression in HIV-infected patients (pts) are co-infection with TB or following accompanying with different types of lymphoproliferative diseases. Because special medical correction in these cases is needed it's very important to establish correct diagnosis in time.
We analyzed medical protocols of all 23 HIV-positive pts during 2005 (17 males, mean age 28,2; 6 females, mean age – 24,8). Clinical suspicion of TB was in most cases. In all cases the main clinical manifestation was similar: gradually raising of fatigability, long inexplicable increased body temperature and enlargement of regional or systemic lymph nodes. Microbiological studies had low effectiveness. For refinement of true character of pathology the biopsy of one changed lymph node was done as a rule. Histological examination allowed to detect TB-process in 10 pts, Hodgkin's disease – in 3 pts and in 10 cases was another pathology dominantly reactive hyperplasia. In HIV-positive pts there were next TB characteristic features: predominance of massive necrobiotic focuses with containing necrotic neutrophils (70%), absence of giant multinucleated cells (50%), small areas of true caseous necrosis (30%), predominance of sparse epithelioid cells without specific granulomas formations, typical epithelioid granulomas were in 3 cases. Typical histological picture of TB was in 1 case.
Conclusion: Serious difficulties in TB-diagnostics are present not only in clinical manifestation but in histological examination of tissue specimens from HIV-infected patients.

E234
The evaluation of child cases with tuberculosis
Ebru Gunes[1], Dursun Tatar[2], Ozdal Gunes[2]. *[1]Thoracic Medicine, Van Tuberculosis Dispensary, Van, Turkey; [2]Thoracic Medicine, Thoracic Medicine and Surgery Research Hospital, Izmir, Turkey*

Aim and method: 606 tuberculosis (TB) cases were followed up in Van Tuberculosis Dispensary between January 2000-July 2005; 75 of them were children. Records of 72 of 75 cases could be analysed retrospectively to evaluate the clinical aspects of childhood TB in our region.
Findings: The proportion of childhood TB was found 11.02%. 41 of cases were girl, 31 were boy and mean age was 7.18 (0-15) years. 45 (62.5%) cases had history of contact. The most common complaint were cough (55.5%), sweat night (41.7%), and weight loss (40.3%). Tuberculin skin test was performed to 54 (75%) cases and found positive in 46 (63.8%). 15(20.8%) cases had BCG skar. The drug regimen which is applied HRZ and therapy was completed in 46 (63.8%) cases. 14 (%30,4) cases were treated for 6 months, 16 (%34,8) were for 9 months and 16(%34,8) were for 12 months.
Conclusion: We showed that the most common diagnostic criteria were tuberculin skin test positivity, history of contact and clinical-radiological findings of TB and the ratio of vaccinated child with BCG was low.

E235
Diagnosis of respiratory diseases in the patients with tuberculosis of spine
Primkul H. Nazirov, Erkin A. Alikulov, Anvar A. Urazbaev. *Department of Tuberculosis, Institute of Phthisiatry & Pulmonology, Tashkent, Uzbekistan; Department of Tuberculosis, Institute of Phthisiatry & Pulmonology, Tashkent, Uzbekistan; Department of Tuberculosis, Institute of Phthisiatry & Pulmonology, Tashkent, Uzbekistan*

Ninety-five patients with tuberculosis of spine, of them 54 males and 41 females aged from 20 to 60, were examined. Clinical examinations showed that 44 (46,3$\pm$3,2%) of 95 had complains for respiration organs. Main respiratory symptom was cough, that was observed in 35 (71,4$\pm$3,8%) of patients. Cough was accompanied by mucosal phlegm in 16 (32,7$\pm$2,4%). Cough with mucosal phlegm lasted over 3 months a year during two years that meets a criterion of chronic bronchitis, recognized by WHO had a place in 9 (18,4$\pm$1,6%) of patients. Rentgenofluorography revealed changes in respiratory organs in 35 (29,6%) of patients, reliably often in the patients over 50 year. Such changes as deforma-

tions of broncho-vascular picture, pulmonary emphysema, diffuse pneumosclerosis were established in 16 (1,6±1.0%) of patients. Characteristic changes as bilateral extensions of pulmonary roots due to vascular component. Obliteration osseo-diaphragmal sinus had a place in 5 patients.
It was concluded that purposeful roentgenologic investigation allowed to revealed signs of respiration pathology in 46,3% of patients.

E236
Value of BCG test and PPD test to assist the diagnosis of childhood tuberculosis
Ayhan Cevik, Fusun Atlihan, Demet Can, Ferah Genel, Berna Cevik. *Pediatri, Dr. Behçet Uz Children Hospital, Izmir, Turkey*

Objective: According to World Health Organization (WHO) criteria we classified Turkish children with suspected pulmonary tuberculosis (TB) and tried to determine the sensitivity and specifity of PPD and BCG test in the diagnosis of childhood tuberculosis.
Study Design: In this cross-sectional study including 78 children (mean age:6.2±4.3 y) with presumptive diagnosis of TB, parameters of age, sex, weight, height, sputum samples, gastric aspirate, tuberculin skin test, BCG test, chest radiograps and thorax computed tomography were obtained. The patients were grouped in three with clinical and laboratory findings according to the provisional guidelines for diagnosis of childhood TB proposed by the WHO criteria. Sensitivity and specifity of PPD and BCG tests were determined.
Results: Group I: Bacteriologically proven cases 'confirmed tuberculosis' (27, 34.6%), Group II: Patients with probable tuberculosis (21, 26.9%), Group III: patients with negative probable tuberculosis findings (30, 38.4%). No differences in mean age and sex ratio were observed among the three groups ($p>0.05$). Sensitivity and specifity of PPD test were 44% and 80% at confirmed tuberculosis and sensitivity and specifity of BCG test were %78 and %39 at confirmed tuberculosis.
Conclusions: In our study, to assist the diagnosis of childhood tuberculosis with WHO criteria. BCG test was found more sensitive than PPD test. PPD test was found more specific than BCG. If BCG and PPD tests are applied simultaneusly, they may be more useful for the diagnosis of pulmonary TB.

E237
Is PPD still a screening diagnostic tool for tuberculosis only or for something others also
Miroslav Ilic, Gordana Popovic, Vesna Kuruc, Slobodan Pavlovic. *Department for Tuberculosis, Institute for Lung Diseases, Sremska Kamenica, Serbia & Montenegro*

Background: Very widely and successfully PPD (tuberculin skin test) is used in epidemiologic surveys. Positive test only shows that person has been infected with Mycobacterium of tuberculosis at some time in the past and tells us nothing about the activity of TB. But negative test doesn't exclude active disease on the other hand (prostration and intoxication lead to decreased immune responses).
Aim of the study was evaluation the significance of PPD test in diagnosis of active TB in adults.
Methods: There were investigation 120 pulmonary patients, divided in four groups with 30 patients: active TB, inactive TB, sarcoidosis and with other lung diseases, treated at the department for tuberculosis in our Institute in last three months during 2005. We analyzed positivity of the test and the size of induration according to the diagnose and to the age of the patients.
Results: Positive PPD test had 42% among patients with active TB comparing to 33% with inactive TB, 12% with sarcoidosis and 30% with other lung diseases. The size of scin induration was significantly bigger in active TB patients with positive PPD test (average size 12,28 mm) comparing to non-TB patients ($p<0,05$), as well as in active TB patients younger then 40 years of age comparing to the older ones ($p<0,05$).

E238
Diagnosis of tuberculosis (open lung biopsy or vats)
Alper Gozubuyuk, Onur Genc, Mehmet Dakak, Orhan Yucel, Hasan Caylak, Kuthan Kavakli, Ersin Sapmaz, Sedat Gurkok. *Department of Thoracic Surgery, Gulhane Military Medical Academy, Ankara, Etlik, Turkey*

Objectives: Open Lung Biopsy (OLB) or VATS are standard procedures for the diagnosis of specific parenchyma lung diseases.
Methods: We retrospectively reviewed 188 patients who underwent OLB or VATS for parenchyma lesions. 53 of the patients had a specific diagnosis as kazeified granulomatous inflammation. Those patients were analyzed for age, sex, symptoms, preoperative diagnostic procedures, and the type of biopsy, morbidity and mortality rates.
Results: 39 patients were male and 14 patients were female. Mean age was 32.21 years. The common symptoms were dyspnea, chest pain, and back pain. 19 patients were asymptomatic. All patients were evaluated with plain chest X-ray, computed tomography of the chest, sputum cytology and fiber optic bronchoscopy. Fine needle biopsy or transbronchial biopsy were also done for selected patient but a definitive diagnosis couldn't be established. We used diagnostic thoracotomy in 136 patients and VATS in 52 patients for diagnosis. A histopathologic confirmation of kazeified granulomatous inflammation was achieved in all of the patients. There were no morbidity and mortality.
Conclusion: Selected patients with a clinical or radiological diagnosis of lung lesions can safely and effectively undergo diagnostic open lung biopsy or VATS.

E239
Evaluation of tuberculin skin tests performed in contacts at Sivas Tuberculosis Dispensary, Turkey, between 1992 and 2001
Sefa L. Ozsahin, Omer T. Dogan, Serdar Berk, Ibrahim Akkurt. *Chest Diseases, Cumhuriyet University, Faculty of Medicine, Sivas, Turkey*

Tuberculin skin tests (TSTs) for contact tracings performed in Sivas Tuberculosis Dispensary between 1992 and 2001 were evaluated. Numbers of TSTs were matched with numbers of patients with tuberculosis (TB) and pulmonary tuberculosis (PTB) and were also matched with mean household population data obtained from Province Health Directorate for the same years.
The number of TSTs for contact tracings was 1916. Of these, 295 TSTs results (15.6%) could not evaluated because of unrecorded results of tests and/or unrecorded Bacillus Calmette-Guerin vaccination status of the contacts. Within 1621 TST results available for evaluation, 580 tests (35.8%) were detected as positive. In these ten years, TSTs performed contacts numbers per registered PTB patients for each year were vary between 0.96 and 3.21. Positive TSTs for each year per registered PTB patients were vary between 0.41 and 0.99.
The number of infected contacts per PTB patients was under one according to our regional Tuberculosis Dispensary registers.

E240
The evaluation of the relapse or treatment interrupted pulmonary tuberculosis cases
Dilek Kanmaz, Nezihe Alkan, Esin Yenturk, Esin Tuncay. *Chest Diseases, Yedikule Training and Research Hospital for Chest Diseases and Thorasic Sugery, Istanbul, Turkey*

In this study 70 cases of pulmonary tuberculosis (Male/Female: 66/4) either relapse (55/70) or treatment interrupted (15/70) aged between 20 and 69 (39, 63 ± 31, 03) were evaluated retrospectively. ARB and cultures were positive in 62 (%88, 5) of the cases where only cultures were positive in 8(%11,5) cases. Radiological findings were unilateral cavity in 8 cases, bilateral cavity in 19 cases, unilateral infiltration in 8 cases, bilateral infiltration in 11 cases and pleural effusion with infiltration in 24 cases. Drug sensitivity tests were done at the beginning of the therapy in 39 of the cases.8 (%20) of them were one drug resistant (2 INH, 2 Streptomycin, 4Rifampicin and 2 (%5) were multi-drug resistant (MDR). Both of the MDR cases were relapse and had finished their last antituberculosis treatment 12 and 3 years ago respectively. Sputum conversion time was 34, 40±13, 72 days. All the cases were retreated by 2 months INH(I), Rifampicin(R),Pyrazinamide(Z),Ethambutol(E),Streptomycin(S), 1month HRZE 5 months HRE. Cure was obtained in 35 (%50) cases and other 16 (%22) patients completed the therapy. 3 (%4) cases had died during the therapy. 10 cases interrupted the therapy and we have no information about the other 6 cases who didn't come to the controls. Successful treatment (cure + completed treatment) was obtained in 51(%71) cases. Of the 16 cases who had had not completed treatment 10(%62) were treatment interrupted and 6(%37) were relapse cases. 2 of them were MDR cases. Conclusively in retreatment cases especially the treatment interrupted cases direct observed therapy strategy (DOTS) should be used.

E241
Intensive case-finding of TB – still needed!
Traian Mihaescu. *Clinic of Pulmonary Diseases, University "Gr.T.Popa", Iasi, Romania*

Beginning with 1998 the first Romanian DOTS pilot programme started in Iasi County 5489 km^2, 813943 inh.) and from the first year the treatment success raised to 86%; stayed at this level and above for seven consecutive years (Table).
TB death rate was failing in 1998 but kept the same level for the next years, meningitis in children is still present every year and notification rates of total cases, and pulmonary M+ cases are stable (Table). A capture-recapture analysis revealed that around 16% of cases are unknown!

Year	1988	1999	2000	2001	2002	2003	2004
Sucess M+ %	86	87.1	87.8	88.1	85.8	87.1	86.3
Mortality global	8.5	7.2	6.7	6.9	7.4	7.9	7.8
Meningitis no	2	3	6	3	4	5	2
Total cases DOTS	1427	1340	1294	1427	1376	1351	1284

Conclusion: The trend in global TB incidence has been little affected, so far, by DOTS programme and we need an intensified case-finding programme for early detection!

E242
Tuberculosis unrevealed during lifetime
Larysa K. Surkova, Maryna I. Dziusmikeyeva, Aksana M. Zalutskaya.
Laboratory, Research Institute for Pulmonology and Phthisiology, Minsk, Belarus

The number of patients died of tuberculosis unrevealed during lifetime illustrates adverse tendencies in epidemiologic situation in tuberculosis.
The purpose of research was study of peculiarities of tuberculosis unrevealed during patient lifetime and causes of TB unrevealing in non-tuberculosis clinics.
We studied results of 15318 autopsies of patients died in non-tuberculosis clinics in 2000-2002 and 2003-2005. According to autopsy results, the weight of tuberculosis in compared periods was 0.76% and 0.7% respectively. The weight of TB decreased during compared periods from 55.7% up to 41.5%. Ratio of male and female patients died of TB unrevealed during lifetime was 1.2:1. Last years, we observed 80% increase of TB unrevealing in patients of elderly and senile age having multiple concomitant somatic diseases.
We found that pulmonary TB unrevealed during lifetime in clinics of non-tuberculosis profile differed from typical TB manifestations in localization, extent and forms. In structure of forms of TB unrevealed during lifetime prevailed acute progressive disseminated TB forms, including miliary tuberculosis (in 70% cases).
We concluded that main reason of TB unrevealing in patients of elderly and senile age is atypical coursing of tuberculosis on the background of decrease of immunity because of serious concomitant somatic diseases.

E243
Contribution of sputum induction to the results of sputum smears and cultures in tuberculous pleuritis
Levent A. Basaran, Gulnur Onde Ucoluk, Belgin Samurkasoglu, Ayse Gozu, Feza Ugurman, Behiye Akkalyoncu. *3rd Chest Disease Service, Ataturk Chest Disease and Chest Surgery Education and Research Hospital, Ankara, Turkey*

Aim: We aimed to determine the contribution of sputum induction to the results of smear and culture of sputum in tuberculous pleuritis.
Methods: Fortyone patients who were diagonosed with tuberculous pleuritis by pleural biopsies revealing caseating granulomas and had no parenchymal infiltrations on their X-rays, were studied. The association between the thorax CT, high resolution CT and the results of induced sputum smears and cultures of AFB, was determined.
Results: Positive staining and cultures of pleural fluids for AFB were 6% and 9%, respectively. Co-existence of positive smears and cultures for AFB of pleural fluids was 6%. Positive smears and cultures of sputum in patients with no lesions on their X-rays, were detected 7.3% and 4.8%, respectively. Co-existence of positive smears and cultures was 2.4%. Positive smears and cultures of sputum in patients with parenchymal lesions on their CT scans, were detected 6% and 6%, respectively. Co-existence of positive smears and cultures was 3%. Parenchymal involvement was detected in CT scans of 19.5% of the patients with no lesions on their X-rays. Nodular infiltrations (12%), ground glass opacities (2.4%) and consolidations (12%) associated with active tuberculosis were detected on the CT scans of the 8 patients without parenchymal involvement on the X-rays.
Conclusion: CT of thorax is a useful tool in demonstrating parenchymal lesions, hilar and mediastinal lymphadenopathies, sub-pleural nodules those cannot be visualised by X-rays in tuberculous pleuritis. Sputum induction is a reliable method for the early diagnosis and monitoring the therapy of the patients without detectible lesions on the X-rays and/or CT scans.

E244
Results of active TB screening in Roma population
Radmila V. Curcic[1], Lidija Sagic[1], Zoran Brankovic[1]. *Epidemiology & Statistics, Municipal Institute for Lung Disease, Belgrade, Serbia, Serbia & Montenegro; Pediatric Department, Municipal Institute for Lung Disease, Belgrade, Serbia, Serbia & Montenegro; Pediatric Department, Municipal Institute for Lung Disease, Belgrade, Serbia, Serbia & Montenegro*

Roma population living in slum dwellings generally is at high risk for tuberculosis. Most of Roma population in Serbia lives in Belgrade (app. 50,000). Active screening was performed in one Belgrade municipality (Cukarica).
Methods: In adults chest x-ray was done. Subjects with abnormal chest x- ray were clinically and bacteriologically investigated.
In children up to 14 yr presence of BCG scar was assessed and tuberculin test was done. Those with positive results were clinically and radiography investigated.
Results: Out of 407 registrated adults, 167 (41%) presented and did chest-x-rays; in 8 subjects were found abnormalities possibly associated with TB. Sputum smear and culture results were negative in all subjects.
Out of 224 registered, 202 children were examined. Due to various reasons 20 children were excluded. Tuberculin test: 161 negative (65 without scar, 96 with scar); 16 positive (10 without scar, 6 with scar). According to the established methodology, 4 children were vaccinated. Eleven children were referred to chest radiography. None was diagnosed with TB.
Conclusion: Our results correspond with the results in children of the same age in general population. There was no TB case among the adults.

E245
Revealing and prophylaxis of a tuberculosis at HIV-infected persons
Liubov E. Parolina, Tatyana I. Morozova, Ekaterina S. Pyatkina. *Phtisiatry Department, Saratov State Medical University, Saratov, Russia*

Development of the HIV infection contamination raises risk of tuberculosis (TB) up to 10% a year. Therefore TB revealing and prophylaxis among HIV positive patients get the special medical-social significance.
In research the circuit of actions on revealing and prophylaxis TB among HIV positive persons is developed, the evaluation of its efficiency is carried out.
In our region the basic method of diagnostics of active TB forms is a fluorographic inspection. Scheduled fluorographic inspections of HIV infected persons once in 6 months are carried out. The preference is given to the digital devices with large resolution and the minimal radial influence. The given method in 2004 surveyed 55% HIV infected, in 2005 – 77%. Among HIV infected at 5.7% has been found active TB, at 4.1% – non-tubercular lungs diseases. At presence at HIV positive complaints, suspicious on TB a triple research of a sputum on acid-resistant mycobacteria by a method of bacterioscopy and X-ray is done. By such methods TB has been revealed at 92.4% of patients. The problem of latent tubercular infection contamination revealing, when there are no signs of disease and no changes on the roentgenograms indicating on active TB, is more complex. Hyperergic assay or augmentation of the dimensions of dermal reaction after a Mantoux test can testify about tubercular infection. In such cases preventive therapy by one preparation within 6 months or by two within 3 months is appointed to the HIV positive patient.
The developed circuit of actions has allowed to improve interaction of the general medical network, antitubercular service and AIDS Center promote optimization of early revealing and prophylaxis TB at HIV infected patients.

E246
Difficulties of differential diagnostics of a tuberculosis and cancer of lungs
Tatyana I. Morozova, Liubov E. Parolina, Irina I. Zavaleva. *Phtisiatry Department, Saratov State Medical University, Saratov, Russia*

Difficulties directed by the diagnosis at initial stages of tuberculosis (TB) and cancer are caused by absence of pathognomonic (characteristic) displays.
The purpose of research was an evaluation of existing algorithms of differential TB and cancer diagnostics efficiency at persons with awake revealing disease at carrying out of prophylactic medical examination of the population.
Among 126 cases bronchopulmonary pathologies which has been revealed at fluorographic inspection TB has been determined at 66.7%, tumors - at 33.3%. The basic methods of verification of the diagnosis were morphological and bacteriological. At 19.1% the diagnosis was based on indirect attributes. The method of DNA abjection of TB pathogen sputum with the help of polymerase-chain reaction (PCR) in real time was widely applied in diagnostics. In TB diagnostics a patient belonging to social and polyclinic bunches of risk of disease TB, contact with TB patient, TB in anamnesis, young age, patient's good state of health at intoxicational complaints presence, localization of process in 1st, 2nd and 6th lungs segments, scanty physical and laboratory displays, positive Mantoux tests, immune-enzyme analysis and PCR are important. For diagnostics of cancer of lungs it is necessary to take into account: age older 50 years, a family anamnesis, long-time smoking, chronic nonspecific diseases of lungs and other organs presence, harmful production factors influence, process localization in 3rd segment and in inferior lungs lobes, negative Mantoux test are more senior.
The algorithms of diagnostics fulfilled in region allow to improve TB and lungs tumours diagnostics at persons revealed with the help of a roentgenophotography essentially.

E247
Active detection of tuberculosis in the gypsy population of Vojvodina (Serbia and Montenegro)
Slobodan Pavlovic, Vesna Kuruc, Miroslav Ilic. *Department for Tuberculosis, Institute for Lung Diseases, Sremska Kamenica, Serbia & Montenegro*

Introduction: As the disease with prominent social features, tuberculosis has been exhibiting a constantly increasing incidence in the population groups living in bad social and economic conditions. This particularly applies to the Gypsy population, who count to about 450,000 in Serbia. The spreading of tuberculosis in this population group is due to exceptionally low standard of living and hygienic conditions.
Objective: To assess the role of active detection campaign by X-ray screening in selecting TB suspected cases, who were then submitted to further diagnostic procedures to establish the definite diagnosis and treated according to DOTS protocols.
Method: An area inhabited exclusively by the Gypsies having emigrated from all ex-Yugoslavia regions was selected for this investigation. The total of 3,958 subjects was screened, including 1,829 (46.21%) males and 2,129 (53.79%) females, at the mean age of 38 yrs.
Results: Having interpreted the X-ray findings, 870 (21.98%) subjects with suspect lung lesions were selected. Of them, active pulmonary tuberculosis was confirmed in 7 (176.9/100000) and lung cancer in 11 (276.9/100000) subjects, exceeding significantly the average incidence levels in the general population.
Conclusion: The obtained results doubtlessly justify the active detection campaign in the population subgroups at high risk of developing the disease.

E248

Comparison of approaches in tuberculosis diagnosis between dispensary and chest diseases clinics and defects into practice

Abdurrahman Abakay[1], Abdurrahman Senyigit[2], Ozlem Abakay[2], Mehmet Coskunsel[2]. *[1]Diyarbakir No 1. Tuberculosis Control Dispensary, Health Minister of Turkey, Diyarbakir, Turkey; [2]Chest Diseases, Dicle University, Diyarbakir, Turkey*

In this study, comparison of diagnosis methods in tuberculosis (TB) is aimed between Diyarbakir No.1 Tuberculosis Control Dispensary (TCD) and chest diseases clinics.The data of 360 cases were investigated retrospectively in Diyarbakir No.1 TCD.Systematic sample method was used in the selection of this cases within registered 916 cases between January 2002 and December 2004.
It was found that cases were as 270(75%) pulmonary TB and 90(25%) extra pulmonary TB. Pulmonary TB cases were as 172(63.7%) of smear positive 98(36.3%) of smear negative.Bacteriological and nonbacteriological methods were used in the 117(72.2:%) cases and 45(27.8%) cases of 162 cases as diagnosed at pulmonary TB chest diseases clinics,respectively.Bacteriological and nonbacteriological methods were used in the 58(64.4%) cases and 32(35.6%) cases of 90 cases as diagnosed at pulmonary TB Diyarbakir No.1 TCD,respectively.
It was found that the diagnosis of 15(46.8%) cases that diagnosed by nonbacteriological methods at TCD was determinated to be as false by chest diseases clinics that have different diagnosis possibility.
It was determinated that the mean treatment time was 7.51 $\pm$ 2.90 month.It was found that the 56(%15.6) cases were made some errors according to treatmet regime or treatment time.
The false diagnosis rate was found to be high when used nonbacteriological methods at TCD.National TB programme of Turkey is suggested that smear negative cases are sent to health centers having different diagnosis possibility.As a result of,our study is in agreement this suggestion.

E249

Errors in the diagnostics of tuberculosis in children

Viktoria P. Kostromina[1], Olena V. Derkach[2], Vira O. Strizh[3], Olena O. Rechkina[4]. *[1]Treatment of Lung Diseases in Children, Phthisiology and Pulmonology Named by F.G. Yanovsky, Kyiv, Ukraine; [2]Treatment of Lung Diseases in Children, Phthisiology and Pulmonology Named by F.G. Yanovsky, Kyiv, Ukraine; [3]Treatment of Lung Diseases in Children, Phthisiology and Pulmonology Named by F.G. Yanovsky, Kyiv, Ukraine; [4]Treatment of Lung Diseases in Children, Phthisiology and Pulmonology Named by F.G. Yanovsky, Kyiv, Ukraine*

We inspected 68 children with pulmonary TB of 9-17 years old. The detection methods of patients have analyzed: 62,0% - at the reference(reversal) behind the medical help, 29,3% - at realization preventive fluorografics examination, 8,7% - in an outcome X-Ray examination in case of the medical indications. Have defined the illness development information. The term of disease before diagnosis the tuberculosis made: at 19,1% of children - 2-3 weeks, at 33,4% - 2-3 months, at 18,6% - 6-8 months, at 28,9% - are more than a year. These children were by error treated because had the diagnoses: acute respiratory infection, bronchitis and influenza (43,75%), inflammation of easy (18,75%), rheumatics arthritis, diabetes (till 16,5%), swelling and pathology of organs ear, throat, nose (till 6,25%). The diagnosis of a tuberculosis was installed late: 41,2% had the widespread forms, 58,3% - restrictive lung, 28,0% - sputum smear positivity.The reasons of diagnostic errors: an acute beginning of a tuberculosis (18,0%) interpreted as acute respiratory infection, bronchitis, pneumonia; at the gradual beginning of a tuberculosis (43,7%) with symptoms intoxication (drop of appetite, weight of a skew field, the functional disturbance from a leg cordial - vascular, nervous systems, organs of digestion) put the incorrect diagnoses unspecific diseases; asymptomatic incidence of a tuberculosis (38,3%) passed in patients with availability of peaking chronic unspecific diseases. Delayed and later detection of the patients by a tuberculosis easy testifies to poor quality of preventive activity and is by the factor of deterioration of a clinical structure of a tuberculosis and outcomes of its treatment.

E250

Tuberculosis screening results made at primary schools

Abdurrahman Abakay[1], Ozlem Abakay[2], Abdullah Tanrikulu[3]. *[1]Chest Diseases, Diyarbakir No. 1 Tuberculosis Control Dispensary, Diyarbakir, Turkey; [2]Chest Diseases, Dicle University Faculty of Medicine, Diyarbakir, Turkey; [3]Chest Diseases, Kafkas University Faculty of Medicine, Kars, Turkey*

Recently,the importance of tuberculosis (TB) is increased. Severity forms of TB can be seen more frequent in childhood.TB screening was made by The TB Control Eleventh Group Presidency on the primary school students in Cizre, at November 2005. The Cizre is a small town and located in southeast Anatolia of Turkey.
Total 2242 children were taken to this study. 1130 (50.4%) children were male and 1112 (49.6%) were female. The mean age of children were 6.9 $\pm$ 0.8 (5-14) years. It was found that the numbers of children were 1676 (74.7%), 536 (23.9%) and 32 (1.4%), at no Bacillus Calmette-Guerin(BCG) group, one BCG scar group and two BCG scar group, respectively. The tuberculin skin test (TST) mean diameter was 2.1 $\pm$ 2.7 mm. The connection was not found to be meaningful at between sexuality and TST mean diameter(p=0.3). It was found that the TST mean diameters were 1.5 $\pm$ 1.4 mm, 3.5 $\pm$ 4.0 mm and 11.2 $\pm$ 3.3 mm at no BCG group, one BCG scar group and two BCG scar group, respectively. TST results of all children were recorded as 2067, 101 and 76 that were negative, attributed to BCG and positive, respectively. The positive rate of TST results was 1.2%, 8.9% and 50% at no BCG group, one BCG scar group and two BCG scar group, respectively, at no BCG group, one BCG scar group and two BCG scar group, respectively. It was determinated that increasing the BCG vaccine number increased meaninfully the TST mean diameter ($p<0.05$). The BCG rapel application was thought to be useful.It was proposed to 139 children having TB doubt that turn to dispensary. The vaccine rate was found to be unsufficient at all children. Families must be educated for the increasing of BCG application rate. School screenings must be increased fort he BCG rapel application.

E251

Clinical and bronchoscopic features in endobronchial tuberculosis

Jin Y. Ahn[1], Sung S. Jung[2], Ju O. Kim[2], Sun Y. Kim[2]. *[1]Internal Medicine, Cheongju, Chungcheongbukdo, South Korea; [2]Internal Medicine, Daejeon, South Korea*

Background: The incidence of pulmonary tuberculosis has been reduced, but endobronchial tuberculosis continues to be a heath problem. We prospectively performed bronchoscopy in patients diagnosed as pulmonary tuberculosis to evaluate the frequency of endobronchial tuberculosis and its related findings. Also we performed follow-up bronchoscopy after treatment to evaluate the incidence of endobronchial complication such as stenosis, remained lesions.
Methods: From January, 1999 to December, 2003, we performed bronchoscopy in patients newly diagnosed as pulmonary tuberculosis.
Results: 458 patients were enrolled in this study, out of 699 patients with pulmonary tuberculosis from 1999 to 2003. 234(51%) of 458 patients were found to have endobronchial tuberculosis. The frequency were 40.3% in male and 66.3% in female, respectively. the most common symptom was nonspecific cough and sputum and radiologic findings was patchy infiltration. the most common subtype of endobronchial tuberculosis was edema-hyperemic form. Right lung was involved more frequently than left lung and left upper lobe was most commonly involved site. 58 patients performed follow-up bronchoscopy and most of all had been cured without major sequels. but 8 patients had been remained with stenosis of trachea and main bronchus and 6 patients had been remained endobronchial lesions.
Conclusion: Endobronchial tuberculosis of pulmonary tuberculosis has been remained of high incidence. bronchoscopic and follow-up bronchoscopy examination needs to evaluate the incidence of endobronchial tuberculosis and its related findings and major complication despite of treatment.

E252

Tuberculin sensitivity characteristics of children living in the Mogilev region of Belarus before and after Chernobyl accident

Oksana V. Povorova[1], Lyudmila G. Bortkevich[2], Anastasia S. Pozdnyakova[3]. *[1]Aducation Ministry, Mogilev State University, Mogilev, Belarus; [2]Health Ministry, Belarus Medical Postgraduate Academy, Minsk, Belarus; [3]Health Ministry, Research Institute for Pulmonology and Phthisiology, Minsk, Belarus*

Statistical data of results of the skin test with 2TU by tuberculin PPD-L at children of Chernobyl region 5 years before and 15 years after the emergency period every 5 years are analysed. Parameters of sensitivity to tuberculin among children of the first year of a life were characterized by absence of distinctions for five years before (67,9%) and five subsequent (64,4%) ones concerning reactor accident. Decrease in parameters postvaccinal immunity was found out in 1991-1995. There was a tendency to decrease in activity of the skin test which since 1996 was aggravated and totals to 39,5%. This tendency was kept in all analysed groups. The analysis has shown, that parameters of sensitivity to tuberculin sensitivity (TS) of children of first two years of life, reflecting postvaccinal BCG reaction (in Belarus BCG-vaccination is done on the 3d-4th day of the child's life) in the years before the emergency period was much more often registered positive, than in post-emergency years. It specifies decrease in specific immunity at children in conditions of constant radiation influence. TS at children in 6-7 years when postvaccinal immunity dies away, reflects postinfectious tuberculin allergy. Within the analysis it is established, that TS both in up to and in after the emergency periods it was more often equally defined positive at 6 years age, than during revaccination – 7 years. It specifies fading of specific immunity to 6 years that provides conditions for a possibility of being infected children of the given age provides.

E253

Comparison of tuberculosis infection parameters and tuberculin test results in underground coal workers and normal subjects in Zonguldak coal mining area

Yalcin Dutgun[1], Levent Kart[1], Sibel Kiran[2], Meltem Tor[1], Remzi Altin[1], Tacettin Ornek[1], Mete Kececi[3]. *[1]Pulmonology, Karaelmas University, Zonguldak, Turkey; [2]Public Health, Karaelmas University, Zonguldak, Turkey; [3]Instutituonal Physician, TTK, Zonguldak, Turkey*

It is well known that the risk of tuberculosis among miners with coal mine dust exposure is greater than that for the general population. In this study, we aimed to identify and comparison the BCG vaccination ratio, tuberculosis infection preva-

lence (TIP) and annual infection risk (AIR) in a group of coal miners (working at least 10 years) and normal population. Our study is a cross-sectional epidemiologic study made about TB infection. 5 TU PPD was injected to every person and after 48-72 hours, the results were evaluated by measuring the diameter of induration. BCG screening and tuberculin skin test were performed in 376 coal workers (mean age 43.6 ± 6.2) and 340 (mean age 44.3 ± 11.9) normal subjects. According to these data TIP and AIR for coal workers was found to be %15,4 and 1%. In normal subjects TIP and AIR was %13,2 and 1% respectively. Tuberculin test results were shown in table 1 for study and control group according to BCG scars.

Table 1. Tuberculin test results according to BCG scars

		Coal miners n:376	Control n:340
BCG+	PPD+	83 (22%)	84 (24%)
	PPD-	227 (60%)	195 (57%)
BCG-	PPD+	58 (15%)	45 (13%)
	PPD-	8 (2%)	16 (4%)

In conclusion TIP and AIR were not statistically different in coal miners and normal population. In countries which TIP is lower, tuberculosis infections parameters may be much higher in coal miners than normal population.

E254

Chest computed tomography uncovers endobronchial involvement in many cases of miliary tuberculosis

G. Daskalopoulos[1], Z. Metafratzi[2], E. Svarna[2], Ch. Katsanos[1], A. Gogali[1], D. Lepida-Ropa[1], T. Saranti[1], F. Katzioti[2], M. Vassiliou[1], S. Efremides[2], H. Constantopoulos[1]. *[1]Pneumonology Department, University Hospital of Ioannina, Ioannina, Greece; [2]Department of Radiology, University Hospital of Ioannina, Ioannina, Greece*

Aim: The observation that chest computed tomography (HRCT) in some patients with miliary tuberculosis showed enbodronchial involvement led to the retrospective evaluation of all cases with initial clinico- radiologic impression of miliary Tb between 2000 and 2005.
Results: 14 such cases were evaluated. In 9, chest X-Ray (CXR) had only shown "reticulo- nodular pattern" and in 5 reticulo- nodular pattern and parenchymal involvement. In 7/9 with only reticulo- nodular pattern in CXR, HRCT uncovered endobronchial involvement like "tree in bud" (TiB). Also among those with parenchymal involvement there were 2 (2/5) with TiB. Finally, in 5 cases there was no evidence of miliary Tb in the HRCT. It only showed endobronchial Tb. In 4 of the 6 patients with TiB tuberculosis was confirmed microbiologically (67%).
Conclusions: We conclude that HRCT frequently uncovers endobronchial Tb in cases initially considered miliary, based on clinical picture and plain CXR. This may explain the fact that a percentage of miliary Tb shows positive sputum or bronchial washings for m.tuberculosis. Alternatively it may challenge the established theory that miliary Tb is only a result of hematogenous spread of m. tuberculosis or the theory that "tree in bud" is seen only in endobronchial pathology.

E255

Changes of the tuberculin index in 6-7 year-old children in Northern Greece during a 5 year period

Antigoni M. Mavroudi[2], Dimitra V. Aivazi[1], Eleni A. Papadimitriou[1], Afroditi V. Sakellaropoulou[1], Basilios D. Thanos[3], Emmanuel J. Roilides[2], Victor Th. Aivazis[1]. *[1]1st Pediatruc Clinic, Hippokration Hospital, Thessaloniki, Greece; [2]3rd Pediatric Clinic, Hippokration Hospital, Thessaloniki, Greece; [3]Tuberculosis Clinic, Papageorgiou Hospital, Thessaloniki, Greece*

Aim of this study was to investigate the epidemiology of tuberculin (TI) index in 6-7 year-old children.
Material and methods: A 5-year retrospective study between 2001 and 2005 was conducted in 57,383 6-7 year-old children involving the evaluation of tuberculin skin test (TST) conducted before BCG vaccination. In all children, TST was performed with 0.1 ml (2TU) TI PPD RT 23 SS1 intradermally. The transversal diameter of the induration was evaluated in 48-72 hours.
Results: There were no differences between two sexes in the observed values of tuberculin skin test. Thus, TI index was evaluated annually in the total number of children. The TI index was found 0.39%, 0.33%, 0.29%, 0.33% and 0.28% respectively for the years 2001, 2002, 2003, 2004 and 2005. All children with induration ≥10 mm were treated for tuberculosis and their environment was thoroughly investigated.
Conclusions: TI index in Thessaloniki, Greece still remains high and far away from the anticipated goal of WHO, despite the observed fall during the last three decades. Three main reasons seem to contribute to this finding: a) the uncontrolled entrance of immigrants from Albania and countries of Eastern Europe, and Asia, b) the difficulty to discover, isolate and treat patients with tuberculosis and c) the loosened measurements of prevention by state and social health agents.

E256

Booster phenomenon in hemodialysis patients

Goumlkay Güngör, Bülent Çelik, Tulay Törün, Ipek Özmen, Emin Maden, Nilüfer Kapakli, Tulin Sevim, Kemal Tahaoglu. *Pulmonology, Süreyyapasa Centre for Chest Diseases and Thoracic Surgery, Istanbul, Turkey*

Aim: In this study we investigated the significance and frequency of the booster phenomenon in serial tuberculin skin test (TST) of hemodialysis (HD) patients and possible factors effecting the booster phenomenon.
Methods: 58 HD outpatients were screened for tuberculosis with TST between November and October 2004. The patients with a reaction of <10 mm induration to the initial TST (TST-1) were given a second tuberculin test (TST-2) 7 days later. The booster phenomenon was defined as positive if induration of TST-2 was ≥10 mm or measured at least 6 mm more than that for the TST-1. The relationship between booster phenomenon and factors like gender,age, BCG vaccine history, abnormal finding in chest x-ray that thought to be related to tuberculosis, sufficiency of dialysis(Kt/v), positivity of antiHBs, antiHCV, levels of serum albumin, ferritin, parathormon and hemoglobin was examined.
Results: 37(63.8%) male and 21(32.8%) female cases whose mean age was 50±13 years were enrolled to study. 28(48,2%) cases have a significant tuberculin reaction (≥10 mm) on the initial TST. The booster effect was detected in 9(30,0%) of 30 patients who had a negative reaction (<10 mm) to the TST-1. Overall 37(63,8%) patients showed a significant reaction on both tests. No significant relationship was found between the parameters that was investigated and booster phenomenon (p>0,05)

Table 1. Comparison of the changes between TST-1and TST-2

Induration	TST-1	TST-2
0	28	15
1-4	1	4
5-9	1	2
≥10	(–)	9
Mean induration (mm)	0,3	5,46**

30 patients with indurations <10 mm of initial TST had a second TST 7 days later. **(p<0,05)

Conclusion: Because of significant rates of TST positivity and the booster phenomenon in our study we recommend routine TST screening in HD patients

E257

Investigation of the level of IgG, IgM and IgA antibodies in tuberculosis patients referred to TB reference centre, PHLS, Ahwaz, Iran

Azar Dokht Khosravi Boroujeni, Roya Torabizadeh, Abdul Amir Landi. *Microbiology, Ahwaz Jundi Shapur University of Medical Sciences, Ahwaz, Khuzestan, Iran*

Since the level of antibodies is increased during the active phase of the tuberculosis, serological techniques such as ELISA are of value in early diagnosis because these are among the rapid, reliable and less costly diagnostic methods for the detection of pulmonary tuberculosis.
A total of 180 sera were examined. It consisted of 90 sera which belonged to patients with clinical and radiological signs and microscopic examination of sputum for acid fast bacilli, suggesting active tuberculosis, who were referred to TB Reference Centre, PHLS, Ahvaz and 90 sera belonged to healthy subjects. ELISA test was used to determine the IgG, IgM and IgA antibodies activity against the A60 specific antigen of mycobacteria.
Antibody levels were raised in both tuberculosis and non-tuberculosis patients, BCG vaccinated or non-vaccinated group, however, the antibodies, especially IgG and IgA were much higher in tuberculosis patients compared to healthy subjects.There was no relationship between antibody titer and sex or previous BCG vaccination, but the relevance with age and the degree of smear positivity was significant. The levels of IgG and IgA were higher in patients under 50 years old and patients with 3+ sputum smear had significant increased IgG titer. Besides, the IgG and IgA levels were higher in culture positive patients compared to those with a negative culture result and was statistically significant. The level of IgM was slightly higher in patients with no history of TB in the last few years, but in the rest of the patients, the raised IgM level was not significant.

E258

Evaluation of tuberculin skin tests in patients with atopic dermatitis

Boris E. Borodullin[1], Elena A. Borodullina[1], Alexander A. Vizel[2], Rustem S. Fassakhov[3], Elisaveta A. Vizel[2]. *[1]Phtisiopulmonology, Samara Medical University, Samara, Russia; [2]Phtisiopulmonology, Kazan Medical University, Kazan, Tatarstan, Russia; [3]Allergology, Kazan Medical Academy, Kazan, Tatarstan, Russia*

Aim: To study the tuberculin sensitivity in patients with atopic dermatitis (AD).
Material, method: We made Mantoux test 2TE in 55 children with AD at the age of 3-17 y.o. Control group consisted of 153 children. To evaluate the influence of antihistamines on tuberculin sensitivity we made Mantoux test 2 TE while using antihistamines.
Results: 25 (45.5%) children had negative Mantoux test. 2 (3.6%) had conversion of tubercular tests, test was monotonous in 20 (36.4%) patients, increasing in 7

(12.7%), hyperergic in 1 (1.8%) ($p>0.05$). In control group: 46 (30%) – negative, positive: 26 (17%), 40 (26%), 32(20.9) and 9 (5.9%), respectively. In children with AD we revealed the high rate of negative Mantoux test (45.5%), 36.4% had monotonous test, hyperergic reactions occurred 3 times less ($p<0.05$). When comparing papule size we revealed predominance of weakly negative tests 5-9 mm upon test 10-16 mm, in comparison with control group. This tendency was strongly pronounced in children with increasing results ($p<0.05$). While using antihistamines papule size decreased in 74.4% of children with AD in group with increasing year by year tests ($p<0.05$). At the time of registering at the allergologist all children with AD had high IgE rate in blood serum (350IU/ml ±90.3) ($p<0.01$). At TB contamination IgE rate in children with AD decreased 2-7 times in comparison with the initial data ($p<0.05$).
Conclusion: AD availability influence on tuberculin sensitivity. Response on tuberculin is lower, negative reactions and monotonous tuberculin tests occur more frequently, conversion of tubercular tests occur rarely. In AD children with increasing year by year Mantoux test 2TE tuberculin tests should be done using antihistamines.

E259

Comparation between micro-elisa and latex aglutination methods for determination of concentration of D-dimer at patients with wenous trombosis and pulmonary embolism

Ruzica G. Djordjevic[1], Miroljub S. Djordjevic[2], Sinisa T. Djordjevic[2].
[1]Laboratory Biochemical, Special Hospital "Ozren", Sokobanja, Serbia, Serbia & Montenegro; [2]Pulmology, Special Hospital "Sokobanja", Sokobanja, Serbia, Serbia & Montenegro

More the one decade, D-Dimmers (D-D) tests have broad application in clinical practice; to exluding of pulmo emboli or to monitoring the effect of anticoagulant therapy. In emergency situations, a latex methods is used, but with certain doubt for its sensitivity. To determinants the concentration of D-D in patients with venous thrombosis (VT) and pulmonary embolism (PE) parallel with two methods, elisa and latex agglutination method, and differentiency of methods for their sensitivity.
Results: At patients with VT, concentration of D-D was M=223 ng/ml and C.V. 152,61%; at patients with PE M=169,07 ng/ml +226 with rang 14-1311 ng/ml and C.V.130,13%. Elevated level of D-D have 18 patients (38%) with VT (438,18 ng/ml + 456; $p<0,001$), 14 patients (32%) with PE (396 ng/ml + 305; $p<0,001$). With latex agglutination method, 31 patients with VT and 32 patients with PE have normal concentration of D-D (250 ng/ml), eight patients with VT and eight PE =250 ng/ml, four patients with VT and four with PE have 500 ng/ml,one patients with VT and one with PE have 1000 ng/ml,and one with have 2000 ng/ml. Results optioned parallel with two methods, compared between self –showed disagreement for 10 patients with VT and 21 patients with PE.
Conclusion: Making comparison between two methods, the certain difference in sensitivity and discordance of obtain results were contested enclosed to mikro-elisa The small number of examinated patients looking for futher examinations. Patients with VT have more elevated concentrations of D-Dimers.