

all these cases, clinical suspicion of tuberculosis was low as symptoms and chest the X-Ray was not typical of TB. Only one patient was HIV seropositive. Other patients did not have any immunosuppression or Diabetes.

Conclusions:

- All patients with any type of radiological abnormality should undergo a sputum AFB smear examination.
- All patients with chronic cough should get sputum AFB smear done even if chest X-Ray is normal
- Pulmonary TB should be considered as a differential diagnosis in any patient with chronic respiratory symptoms.

P2710

Late-breaking abstract: Tumor marker pattern in benign pleural effusion investigation. A case report of increased pleural CA 125

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Introduction: The pleural effusion is a common occurrence in pulmonology. Measurement of tumor markers has an evolving role in diagnosis of a pleural effusion.

Methods and results: We report a case of *M.tuberculosis* pleurisy with increased level of cancer antigen (CA) 125 in pleural fluid. The patient was a 31-year-old female, presenting with right pleural effusion. Analysis revealed a lymphatic exudate with absence of malignant cells. Microbiological examinations, staining and culture of the effusion were negative except for the mycobacterial culture. Adenosine Deaminase levels were measured at 87,20 U/L. A purified protein derivative skin test was positive (16mm). Complete examination for malignancy with CT for chest and abdomen, intravaginal ultrasound and Pap smear was negative for malignancy.

Several tumor markers were measured both in serum and pleural fluid, including carcinoembryonic antigen (CEA), alpha-fetoprotein (AFP), CA 19-9, CA 125 and Neuron Specific Enolase (NSE).

Analysis revealed a great increase of CA 125 both in serum and pleural fluid (CA 125 serum 126,9 U/ml (reference value <35 U/ml) vs CA 125 pleural fluid 357,6 U/ml.) The increase between serum and pleural fluid values was 182%.

NSE was also increased between serum and pleural fluid by 48% (serum 8,72 ng/ml vs pleural fluid 12,91 ng/ml). AFP showed a decrease by 15%. CA19-9 also showed a decrease by 25%. CEA was measured under <0.50 ng/ml.

Conclusion: We report a tuberculous pleurisy case with a remarkable increase of CA 125 both in serum and pleural fluid. In conclusion CA 125 could be an indicative marker for the diagnosis of tuberculous pleurisy.

P2711

Late-breaking abstract: Cough aerosol: Significant basis to design innovative control strategies in tuberculosis transmission in smokers

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Introduction: Smoking progressively alters the properties of airway mucus. Altered mucus responds differently to airflow interaction when coughing and may modify bioaerosol production.

Objective: Characterize the cough bioaerosol in smokers to understand its relation to the transmission of tuberculosis (TB).

Method: Cough aerosol was assessed in seven long-term smokers and compared with the aerosol of 44 non-smokers. Measurement of the size and number of cough droplets was accomplished using a laser diffraction system.

Results: Long-term smokers emitted up to two orders of magnitude more droplets of all sizes than non-smokers when coughing.

Average sum of cough droplets emitted by non-smokers and long-term smokers

Subject	Droplets size					
	N<0.5µm	0.5<N<1µm	1<N<2.5µm	2.5<N<10µm	10<N<100µm	>100µm
Non-Smokers						
(44)	1.33E+07	2.39E+05	2.78E+04	3.21E+04	1.76E+03	0
Smoker 1	2.15E+09	5.03E+09	9.93E+03	1.72E+05	3.34E+03	35
Smoker 2	8.75E+07	1.80E+07	1.91E+07	2.09E+06	1.10E+04	0
Smoker 3	5.47E+07	2.23E+07	8.86E+08	1.49E+07	2.24E+05	0
Smoker 4	4.31E+09	1.4E+08	4.80E+05	1.09E+05	3.75E+05	1.52E+04
Smoker 5	3.67E+06	6.90E+06	1.48E+05	1.46E+05	1.60E+03	0
Smoker 6	4.80E+08	2.29E+07	3.84E+06	4.04E+06	1.26E+05	1.03E+04
Smoker 7	0	0	2.57E+05	3.72E+05	1.64E+04	0

#/cc/one second.

Conclusions: The number of droplets emitted by smokers when coughing could help to better understand the etiological association between smoking and TB. Optimal control of bioaerosol in smokers with TB, especially those with multiple and extreme drug resistance TB, might strengthen existing core TB control strategy. Acquired knowledge would lead to the development of informed public health policies, more effective practices and/or products to optimize TB control.

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Late-breaking abstract: Atypical chest X-ray manifestations in pulmonary tuberculosis – A case series

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Background: Majority of patients with pulmonary tuberculosis show radiological abnormalities. Atypical manifestations in the chest X-Ray can occur in some patients with pulmonary tuberculosis. Knowledge and awareness about the atypical radiological manifestations will help in early diagnosis of these cases.

Aims and objectives: To find the atypical radiological manifestations in patients with pulmonary tuberculosis.

Material and methods: We compiled our data for 5 years from January 2005 to December 2010 of patients with proven pulmonary Tuberculosis with atypical chest X-ray. Patients without definitive diagnosis of Tuberculosis were excluded from the study. Diagnosis of pulmonary Tuberculosis was made when sputum AFB smear examination, Sputum AFB culture, Bronchoscopic washings for AFB showed the tubercle bacilli or when Bronchoscopic biopsy showed histopathology typical of tuberculosis.

Results: Atypical radiological manifestations in our study showed cavities in mid zone, lower zone, lower lung field tuberculosis, endobronchial tuberculosis, tubercular broncho pneumonia, sub pulmonary effusion and normal chest X-Ray. In

P2712**Late-breaking abstract: A case of miliary TB presenting with large pneumothorax**

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A 30y old male presented to A&E with sudden onset of right sided pleuritic chest pain and acutely SOB.

Background: Previously fit and well, Asian, born in UK, no medical problems. Smoker 10-15 cigarettes, occasional use of alcohol, lives alone and work in a printing factory. No recent contact with ill person and no family history of lung diseases.

He has been complaining of dry cough for last two months since he returned from holidays in Spain, but did not seek any medical advice. Denies any h/o weight loss, hemoptysis, fever or rigors.

This time presented with sudden onset of sharp right sided pleuritic pain and could not breathe, so brought to A&E.

Examination/Investigations: On arrival sat was 90% on 15l O₂, tachypnic, RR30/m, clearly in respiratory distress and absent air entry on right lung, and enlarged right supraclavicular lymph node.

Emergency chest X-ray was arranged which showed large (75%) R sided pneumothorax. An emergency chest drain was inserted after failed aspiration and repeat CXR showed good expansions of the right lung and patient was referred to the medical team.

When seen by medical team his CXR showed reticulonodular changes on both lung fields, on top of the Pneumothorax, which was latter reported as pattern of miliary TB.

A sputum sample was sent for AFB, had a CT head and lumbar puncture done and there was no meningeal involvement. His HIV test came back as negative and was started on anti TB treatment and so far has been doing well and making good recovery.

Learning point: Learning point was that military TB can present with pneumothorax and one should not focus on the main abnormality on CXR which was pneumothorax in this case, but also look for other abnormalities which may be relevant to the presentation.

P2713**Late-breaking abstract: Contact investigation in management of newborns after exposure to Mycobacterium tuberculosis from a health care worker**

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Aims: We report the investigation and management of a group of newborns who were exposed to active tuberculosis from a health care worker.

Setting: In September 2010, a nurse midwife working in a maternity hospital was diagnosed with sputum smear positive pulmonary tuberculosis. She had been working for 1 month and during that period she had been in contact with 103 newborns.

Methods: Contact investigation was conducted in 100 of the newborns hospitalized in the nursery at that time. Infants were assessed by a pediatrician and tested with tuberculin skin test (TST) and Interferon Gamma Release Assay - Quantiferon-TB Gold in tube (QFT-IT) to detect tuberculosis infection. The first evaluation was conducted 3 to 6 weeks after diagnosis of the index case, followed by the second in October and November 2010 and the third assessment was carried out 6 months after last exposure.

Results: All infants were TST negative in all three visits. QFT-IT was positive in one child at first and second visit but were interpreted as unreliable due to high values of the test's negative control. The results of QFT-IT were inconclusive in 5 additional patients. No case of latent TB infection or active TB was detected. Prophylaxis was recommended during the "window-period" to all patients. 70 parents reported full compliance. Mild adverse effects were reported in 36 children, in 2 cases we detected mild elevation of transaminases.

Conclusions: Our results suggest that transmission of tuberculosis in maternity hospital setting is very low and that the results of TST and QFT-IT correlate well in infants. In contrast to published data QFT-IT results were undetermined in very few cases.

P2714**Tuberculosis in hemodialysis patients**

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Because of the immunity depression, patients with chronic renal failure undergoing haemodialysis are at increased risk for developing tuberculosis (Tb). The authors propose to review the clinical features of tuberculosis in hemodialysis patients and to underline the diagnostic difficulties.

Tb was seen in seven dialysis patients. Four patients were females, their mean age was 58 years and the mean duration of symptoms was 2,7 months. Revealing symptoms were fever (4cases), cough (2cases), hemoptysis (2cases), asthenia and

weight loss (6cases), chest pain (2 cases) and dyspnea (2cases). The Tb localizations were pulmonary in 3 cases, pleural in 3 cases and pleural pulmonary in 1 case. The positive diagnosis represents a real problem: only one patient have a bacteriological confirmation. The diagnosis was posed by anatomopathologic specimen or culture of mycobacterium tuberculosis in 5 cases.

Standard anti TB therapy (isoniasid, rifampin, pyrazinamide, and ethambutol) were performed in 5 patients, two patients were treated by (isoniasid, rifampin, pyrazinamide). IT was success full in four from seven cases, one patient died.

Despite prevention programs, tuberculosis still remains a major international health problem. Prognosis appears to be closely related to therapic precocity, thus specific chemotherapy started sometimes without diagnostic confirmation.

P2715**C-reactive protein in differentiation between tuberculous and malignant pleural effusions**

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Although several studies have investigated the levels of C-reactive protein (CRP) in various diseases states, few have focused on its role in pleural effusion.

The aim of this study was to evaluate the value of pleural fluid and pleural/serum CRP in segregation between tuberculous and malignant pleural effusions.

CRP was measured in both pleural fluid and serum among 2 groups of patients, the first included 15 with tuberculous effusion diagnosed by Abram's needle biopsy, while, the second incorporated 15 with malignant effusion diagnosed by either thorascopic or Abram's biopsy.

A highly significant difference was demonstrated between pleural fluid CRP in tuberculous (29.07±9.32) and malignant (19.30±4.35) effusions. Moreover, serum CRP was significantly higher in tuberculous effusion (52.24±8.55) compared to malignant one (30.65±5.08). Furthermore, CRP pleural/serum ratio was significantly higher in malignant effusion.

In conclusion, CRP is a useful and cheap marker for differentiation between tuberculous and malignant pleural effusion.

P2716**The first case of mycobacterium shimoidei infection in the UK**

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Case report: We present the first case of Mycobacterium shimoidei infection in the UK. The patient is 68 years old heavy smoker with known emphysema. He was first treated for pulmonary TB in 1967 and had further 6 months of empirical therapy in 2007 for night-sweats, productive cough and new cavitating lesion. All cultures were negative at that time. He re-presented in 2009 with weight loss, night sweats, productive cough and arthralgia. His chest X-ray and CT scan showed new left upper-lobe cavitating consolidation. He was not immunocompromised and sputum specimens were smear negative. However all sputum cultures and a bronchial lavage were positive for Mycobacterium shimoidei, confirmed using a PCR reverse hybridisation technique. He was treated with ciprofloxacin, ethambutol, clarithromycin, streptomycin and rifabutin based on in-vitro sensitivities and previous case reports. After 12 months of treatment he is now well with negative sputum cultures. The CT scan changes have also resolved.

Discussion: Mycobacterium shimoidei was first isolated by H Shimoide in 1975 and was described and named by M Tsukamura. Only a few cases have been reported worldwide. It is a distinct species of slow growing Mycobacteria which is usually identified by molecular techniques though some reported cases have been smear positive as well. The presentation is similar to other Mycobacteria and all isolates in reported cases were from pulmonary samples with radiographic evidence of cavitation, consolidation or scarring. We used in vitro sensitivity profile and previous case reports to guide choice of anti-tuberculosis therapy with good result. The patient recovered well despite late presentation and significant frailty on presentation.

P2717**The incidence of adverse reactions in anti-tuberculosis chemotherapy in S-W Romania**

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Introduction: Although anti-tuberculosis chemotherapy is the fundamental therapeutic element, it is also accompanied by significant, sometimes potentially lethal adverse reactions.

Aims and objectives: This study aims to determine the incidence of the main adverse reactions to anti-tuberculous chemotherapy among patients diagnosed with active tuberculosis, HIV negatives, in S-W Romania.

Methods: The descriptive, cross-sectional, retrospective study was performed by investigating the observation sheets of all 1,138 cases hospitalized with this diagnosis in the Clinical Hospital of Infectious Diseases and Pneumophysiology, Timisoara, between 01.01.2008-31.12.2010.

The statistical processing was performed using the EPI-INFO vers. 6.04, the dichotomous variables being analysed using the χ^2 test and the Fisher correction.

Results: A sample was identified consisting of 78 cases (age average: 46.10 years) with adverse effects occurring, on average, after 9.38 days of anti-tuberculosis treatment. The incidence remained constant – 5.92% in 2008 [95% confidence interval (95% CI): 3.56-8.28%], 7.84% in 2009 [95% CI: 4.93-10.71%], and 6.89% in 2010 [95% CI: 4.42-9.37%]. Most occurrences were among new cases (69.23% vs. 30.77%, $p < 0.001$). The most frequent were digestive intolerance, drug-induced hepatitis and cutaneous pruritus; among the preparations responsible, the most frequent was rifampicin, followed by pyrazinamide and isoniazid.

Conclusions: The constant incidence of adverse reactions to anti-tuberculosis chemotherapy during the 3 consecutive years studied, among new cases as well as relapses, require rigorous patient monitoring and treatment customization, so as to minimize the therapy drop-out risk.

P2718

Pulmonary diseases due to non-tuberculous mycobacteria in TB referral clinical center

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Background: Due to similar manifestation and detection of acid-fast bacilli in sputum, substantial part of patients with pulmonary nontuberculous mycobacteria (NTMB) diseases may be considered as pulmonary tuberculosis (TB).

Methods: In 2008-2010 28 pts (1.5%) from referred in Moscow TB Center as TB-suspected were identified as pulmonary NTMB diseases by ATS/IDSA criteria [Am J Respir Crit Care Med Vol 175 pp 367-416, 2007]. For NTMB identification cultivation (on liquid and solid media), biochemical testing, high-performance liquid chromatography and molecular methods were used. In 9 pts surgical specimens were obtained.

Results: All 28 pts (19-73 y.o., 50% male) were immunocompetent. In 22 cases were detected slow (MAC - 9, M.kansasii - 9, M.xenopi - 4) and in 6 - rapidly (M.fortuitum - 4, M.chelonae - 2) growing NTMB. In 26 pts (92.9%) various complains were obtained. X-ray pattern included cavities (75%) and/or nodular dissemination (78.6%) with multifocal bronchiectasis (60.7%), with some variations due to NTMB species. The treatment was complicated by drug resistance: in 60.7% (17 pts) was detected MDR (especially MAC - 8 and rapidly growing NTMB - all 6 pts), including 28.6% XDR (5 - MAC, 2 - M.xenopi and 3 - rapidly growing NTMB). The best treatment outcomes obtained in M.kansasii: in spite of resistance in all pts to H, susceptibility to R and Fq give an opportunity to create the adequate regimens (3-5 drugs). In 15 pts other antibacterial drugs (claritromycin, azithromycin etc) were used.

Conclusion: TB clinics must be concerned about NTMB, especially in MDR and XDR cases. For adequate treatment all NTMB must be tested with all TB-drugs and maximum available other antibacterial drugs.

P2719

Screening and monitoring of tuberculosis in patients on tumor necrosis factor antagonist therapy

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Background: The tumor necrosis factor antagonists (TNF-ant) are high effective agents, but their essential effect is to increase the risk of tuberculosis (TB) development (Solovic I. et al., Eur Respir J 2010; 36:1185-1206).

Aims: To develop the procedure of TB infection screening and monitoring in patients on TNF-ant, adapted to Russian TB situation and feasible.

Methods: 208 adult pts (rheumatoid arthritis - 69, ankylosing spondylitis - 114, psoriatic arthritis - 18, Behcet's disease - 7) before and on TNF-ant were examined. Clinical exam, X-ray (additional CT in any abnormalities), tuberculin skin test (TST) and interferon-g release assays (IGRA) were performed.

Results: In all cases by primary screening active TB was rejected. In 18 pts residual TB changes were obtained, latent TB infection (by TST) was detected in 82 pts. These 100 pts received preventive TB treatment (PT) - isoniazid 0,3 daily for 12 weeks. During the TNF-ant treatment (exam every 6 months) the active TB was excluded by clinical and X-ray exam, apart from 2 pts with passive-detected active pulmonary TB. In both cases active or latent TB was rejected after screening, PT was not administrated and TB look like primary infection. Another problem was to monitor latent TB, when positive TST (in 51 pts) can not be strong argument for re-PT. Positive IGRA were obtained in 12 of these pts (23,5%) and reduced the number of PT quarter.

Conclusion: In countries with high and medium prevalence of TB not only screening before TNF-ant administration is essential. It is necessary to follow up all pts with regular (every 6 months) IGRA, which only can show the initial exacerbation of latent TB infection or new exogenous infection.

P2720

Outcome results of antituberculous treatment in latent or manifest tuberculosis patients featuring granulomatous uveitis

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Ocular tuberculosis is a rare disease. The most common form of ocular tuberculosis is granulomatous uveitis. It is often a result of haematogenous spread or hypersensitivity reaction to the mycobacterium tuberculosis antigen from distant foci in the absence of any infectious agent in the eye. We describe an antituberculous treatment for patients with granulomatous uveitis non-responsive to other treatments in this prospective study. In this clinical trial, 50 patients (32 women, 18 men) with granulomatous uveitis (2 granulomatous uveitis and coroiditis, 2 intermediate uveitis, 1 anterior scleritis and granulomatous uveitis, 1 multifocal uveitis, 1 multifocal uveitis and bilateral panuveitis, 43 granulomatous uveitis) were studied. Mean age of the patients was 45.34±13.71. Patients (7.1%) had been previously treated due to pulmonary tuberculosis. 9 (21.4%) of the patients had a history of tuberculosis contact. Tuberculin skin test (TST) was positive in 45 patients (96%) and Quantiferon – GOLD test was positive in 43 patients (89%). 41 (82%) patients with latent tuberculosis who were non-responsive to all treatments were considered as tuberculosis and treated with antituberculous agents. 19 patients (46%) responded well to anti tuberculous treatment. 15 patients (37%) were non-responsive to the treatment and in follow-up granulomatous uveitis recurred. 5 patients were out of follow-up.

This study indicates that antituberculous treatment is an option which must be considered for patients with latent tuberculosis who were determined to be granulomatous uveitis and also who were non-responsive to other treatments.

P2721

Pulmonary mycobacterial infection in allogeneic hematopoietic stem cell transplanted (HSCT) patients: A study of 7 cases

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Rationale: Allogeneic HSC transplantation is being used to treat a wide spectrum of diseases. Opportunistic infection remains an important factor determining outcome. However, information about frequency and presentation of mycobacterial infections is limited.

Methods: Records from all allogeneic HSCT patients admitted in our institution for mycobacterial infection from January 1, 2003 to December 31, 2010 were reviewed.

Results: During the eight years of study, 178 HSCT patients have been admitted

Abstract P2721 – Table 1

Disease / Age (y) / Sex	Species / Organ involved	Diagnosis	Time from HSCT to infection (M)	Treatment	Outcome
ALL / 39 / M	M. kansasii / lung	Culture	6	Ansatisipin + CE	Dead*
AML / 57 / M	M. tuberculosis / pleura	Biopsy	9	RHEZ	Alive / NED
CLL / 56 / M	ND / lung	Biopsy	7	RCEM	Dead
CML / 29 / M	M. tuberculosis / lung	Culture	30	RHE	Alive / NED
CLL / 35 / F	ND / lung	Biopsy	4	RHEZ	Alive / improvement
HL / 40 / F	M. intracellulare / lung	Biopsy + culture	6	RCE	Alive / improvement
ADCL / 36 / M	M. tuberculosis / lung	Culture	4	REM	Dead*

Legend: ND, not determined; *Deceased unrelated to mycobacterial infection; NED, no evidence of disease; ALL, Acute lymphoid leukemia; AML, Acute myeloid leukemia; CLL, chronic lymphoid leukemia; CML, chronic myeloid leukemia; HL, Hodgkin lymphoma; ADCL, acute dendritic cell leukemia; R, rifampicin; H, isoniazid; E, ethambutol; Z, pyrazinamid; C, clarithromycin; M, moxifloxacin

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for pulmonary complications. 7 patients have had a diagnosis of mycobacterial infection.

Conclusion: Mycobacterial infection is rare (4%) in French HSCT patients with pulmonary complication. The infection is lung limited. It usually occurs in the first post-transplantation year. The clinical course under treatment is favorable in most cases.

P2722

Spinal tuberculosis in South London Hospital – A 5 year review of our experience

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Introduction: The incidence of tuberculosis (TB) in southeast London has risen by 25% over the last 10 years and is 4 times greater than the national average. Extra pulmonary involvement is seen in 47% and spinal TB accounts for 2-3%. Diagnosis of spinal TB can be delayed due to nonspecific nature of symptoms. This study evaluates our experience of managing spinal TB at Queen Elizabeth Hospital in Woolwich, UK.

Aim: Determine the local incidence of spinal TB at Woolwich. Analyse delays in referral and diagnosis of spinal TB.

Methods: A retrospective case note review of recorded data was performed of all the spinal TB patients referred to QEH over 5 years (Jan 2006- 2011). 27 of total 33 patients had case notes available for review. Mean age at diagnosis was 47 years (range 29-78 years). 88% of patients presented with back pain, with or without neurological compromise.

The overall incidence of spinal TB was 5.6% (national average 2-3%).

The mean delay was 81 days (3-439) from onset of symptoms to first presentation and 99 days (3-552) from onset of symptoms to referral. There was an average delay of 33 days (12-303) from initiation of referral to diagnosis.

47% had confirmed histological diagnosis with culture. 15% had paravertebral abscesses with no bony involvement seen on imaging.

Combination chemotherapy was the main modality of treatment. 24 (88%) patients were managed with combination chemotherapy alone.

Further details into the delays and consequences were looked into.

Conclusion: This study highlights fact that awareness of demographic and local incidence, together with high index of clinical suspicion in areas with relatively high incidence would facilitate early diagnosis and treatment of spinal TB.

P2723

Immunological status of TB/HIV dual infection patients in Latvia in year 2009

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In the world tuberculosis (TB) is main cause of illness and death for human immunodeficiency virus (HIV) patients. Situation among TB/HIV dual infection patients in Latvia is relatively unexplored.

Aims: To analyse: incidence of various TB clinical forms among HIV patients; incidence of resistant TB among TB/HIV patients; medium immunological parameters for TB/HIV patients at the moment of TB diagnosis; anti-TB therapy results for HIV/TB patients.

Materials and methods: In retrospective study case histories for 61 from 73 patients diagnosed in year 2009 with TB/HIV dual infection were analysed.

Results: For 72% (43) patients HIV was diagnosed before TB diagnosis, 28% (17) patients HIV and TB were diagnosed simultaneously. In 80% (49) TB was diagnosed for first time, in 20% (12) relapse. In 40% (25) multiorgan TB infection was diagnosed, in 30% (18) infiltrative pulmonary TB, in 25% (15) disseminated pulmonary TB and in 5% (3) extra pulmonary TB. In 60% (37) cases TB was sensitive to all anti-TB drugs, in 35% (21) resistant cases. Medium CD4+ cell count at the moment of TB diagnosis was 294 cells/mm³ (min-6, max-2003). 67% (41) patients received full, 18% (11) disrupted therapy and 13% (9) cases were lethal.

Conclusion: In year 2009 significant number of TB and HIV were diagnosed simultaneously. Pulmonary TB dominates among TB/HIV patients, but there is also high number of patients with TB multi-organ infection. There is high number of resistant TB among HIV/TB infected individuals. High CD4+ cell count could indicate high incidence of TB among HIV/TB individuals. There is significant number of cases where TB is cause of death in TB/HIV dual infection patients.

P2724

New biomarkers for LTBI in IGRAs supernatants

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Background: Commercial in vitro T-cell interferon gamma (IFN- γ) release assays (IGRAs) including the QuantiFERON[®] tests have been introduced into clinical practice for the diagnosis of Mycobacterium tuberculosis. However, the sensitivity

of the IGRA may not be as high as expected in patients with immunodeficiency patients.

Aim and objectives: To assess whether alternative biomarkers could be used in future developments for diagnosis of TB.

Methods: We recruited twenty-four latent TB patients and 46 healthy controls at National Center for Geriatrics and Gerontology in Japan and performed the QFT test. To investigate the ability of new host markers to differentiate between LTBI and controls, levels of IL-10 and ITAC as Th1 chemokines, TARK and MDC as Th2 chemokines, and IL-8 as a neutropenic chemotactic factor in QFT supernatants were evaluated using an enzyme-linked immunosorbent assay.

Results: Levels of IP-10, ITAC and MDC were significantly increased in LTBI patients compared with controls. Levels of TARK and IL-8 were not different between two groups. The levels of IP-10, ITAC and MDC were not correlated with levels of IFN- γ .

Conclusion: IP-10, ITAC and MDC had diagnostic potential as they could differentiate between the LTBI patients and the controls. IP-10 seemed most promising as they were expressed in high levels in the LTBI patients and were low in the control samples. Further studies are needed to explore the potential of these highly expressed novel biomarkers individually and in combination.

P2725

Mouse model of pulmonary disease after aerosol infection with mycobacterium xenopi

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Rationale: Opportunistic respiratory infections due to *M. xenopi* are on the rise in industrialized countries and current therapies are inadequate. Only two experimental studies with the beige and Swiss mouse models iv-infected have been performed so far. As aerosol inhalation is the probable route of infection in humans, we hypothesized that aerosol infection of mice would better recapitulate human infection and permit better assessment of the response to antibiotic treatment. Our first objective was to determine which strain of mice was the most susceptible to aerosol infection.

Methods: Four strains of mice were tested: BALB/c, C57Bl/6, Beige, and athymic nu/nu (Nude). For each strain, thirty 6-week-old females were simultaneously aerosol infected with 4.7 log₁₀ of *M. xenopi* ATCC # 19971. At 1, 2, 3, 4, 8, 12 and 23 weeks post-infection, three mice per group were sacrificed for gross lung lesions, spleen weight, and lung and spleen CFU counts. From week 4 to 12, 9 mice of each group were treated with clarithromycin 100 mg/kg/d 5 days a week. Three treated mice per group were sacrificed at week 8 and 12.

Results: In BALB/c, C57Bl/6, Beige and Nude mice infected with *M. xenopi*, the lung CFU counts steadily increased to reach 5.57, 5.92, 5.99, and 5.75 log₁₀, respectively at week 4; 6.35, 6.72, 6.60 and 6.93 log₁₀, respectively at week 8; 6.51, 6.43, 7.69, and 6.63 log₁₀, respectively at week 12; and 6.59, 6.72, 8.16, 7.32 log₁₀, respectively at week 2. In all mice, *M. xenopi* disseminated to the spleen. Clarithromycin treatment reduced significantly, by 2 log₁₀, the lung CFU counts in all strains of mice.

Conclusion: Nude mice were the most susceptible to aerosolized *M. xenopi* infection.