levels of anti ET IgA, anti ET IgM, anti ET IgG in the HD patients did not change.

Conclusion: Increased C reactive protein and decreased anti ET IgM, anti ET IgG predicted a lethal outcome in 7 HD patients. Four years of monitoring chronic kidney disease hemodialysis patients showed a 4.6 fold increase in C reactive protein ($P < 0.001$) but no change in indi cators of humoral anti endotoxin immu nity.

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Content and immunophenotype of antigen presenting cells in patients with multiple drug resistant pulmonary tuberculosis

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Background: Functional impairment and improper maturation of the antigen pre senting cells (APC) may lead to severe pul monary tuberculosis (TB). This study investigates the content and immunophe notype of APC from the patients with severe multiple drug resistant pulmonary tuberculosis (MDR TB).

Method: Peripheral blood samples were obtained from patients with MDR TB ($n = 15$) matched by age. The control group (C) included 15 healthy subjects. Analysis of content and immunophenotype of blood monocytes, and monocytic and plasmacytoid dendritic cells (mDC, pDC) was performed by flow cytometer using four color antibody panels.

Results: Increase in absolute number and relative content of monocytes in the peripheral blood of patients with MDR TB compared with the C ($P = 0.001$ and $P = 0.02$ respectively) was observed. The monocyte population was characterised by significantly decreased expression of CD80 in the MDR TB patients group compared to the C ($P = 0.000041$). The absolute number of pDC in patients with MDR TB was significantly decreased vs the C ($P = 0.0001$) while mDC number was unchanged ($P = 0.087$). Numbers of mDC were greater than pDC in the MDR TB patients, while in the C numbers of pDC were more than mDC. However relative numbers of both mDC and pDC were decreased in the patients with MDR TB compared to the C ($P = 0.005$ and $P = 0.0006$ respectively). The decrease of CD80 expression by mDC (MDR TB 2.17(0.71 4.73)%; C 14.2(2.7 37.4)%; $P = 0.0004$) and reduction of the intensity expression of co stimulatory molecules CD86 by mDC and pDC ($P = 0.03$ and $P = 0.0005$ respectively) were noted in MDR TB patients. There were no changes in the expression of CD54 molecules by either pDC and mDC in MDR TB patients.

Conclusion: The increased number of monocytes and mDC in the peripheral blood in association with decreased expres sion of co stimulatory molecules on their surface probably reflects damage not only in functional ability, but also in migration DC from the blood into the regional lymph nodes and lungs of MDR TB patients.

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Serum adenosine deaminase activity and T cell IFN-gamma production in patients with tuberculosis

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Background: Adenosine deaminase (ADA) is important enzyme for immunoinflamma tory responses and serves as a marker of activated leukocytes. ADA is required for proliferation and differentiation of T lym phocytes Its deficiency mainly affects T cell activation and cell mediated immunity. This investigation assesses serum ADA activity and IFN gamma production *in vi tro* by T cells in patients with tuberculosis.

Method: Serum adenosine deaminase levels were measured with a colorimetric method described by Giusti in patients with tuber culosis ($n = 22$) and healthy controls ($n = 20$). For *in vitro* stimulation PBMCs (1×10^6/ml) were cultured in RPMI 1640 medium with L glutamine and 10% serum in the presence of 20 μg/ml PHA using 96 well plates. Culture supernatants were har vested after 1 day of cell culture. IFN gamma levels were determined by enzyme immunoassay kit (Vector Best, Russia).

Results: Patients with tuberculosis had sig nificantly higher levels of ADA in serum (25.2 ± 3.7 U/l) than healthy controls (13.2 ± 0.9 U/l), ($P < 0.05$). Patients with tuberculosis were divided into two groups: Group1 ADA level in the normal range or was moderately increased (up to 23 U/l), the Group 2 ADA activity signifi cantly above normal (>23 U/l). *In vitro* IFN gamma production by lymphocytes of tuberculosis patients in these two groups was investigated. In Group1, spontaneous levels of IFN gamma were less compared with Group 2 (8.8 ± 3.2 vs 18.3 ± 4.8 pg/ml). After PHA stimulation the same ten dency was noted 267.7 ± 102.8 pg/ml in the Group 1 and 418.4 ± 196.5 pg/ml in Group 2. In Group 2, 30% of patients had decreased IFN gamma production after PHA stimulation, that significantly differ ent from Group1 (30% vs 0%, $P < 0.05$).

Conclusion: Elevated levels of ADA activ ity occur in the serum patients with tuber culosis and indicate an association between ADA activity and T cell function.

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Characterisation of mucosal immunity are correlated to inflammation in infertile patients with chronic abacterial prostatitis

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Background: Cytokines and other immune factors are intrinsically involved in repro ductive physiology with local or systemic perturbation of these factors due to inflam mation or infection negatively affecting fer tility.

Method: Semen samples from 20 healthy males as well as 136 infertile patients with chronic prostatitis/chronic pelvic pain syn drome (CP/CPPS) were assessed by ELI SAs to determine the levels of sIgA, SLPI, PSA, IL 8, TNF α, IL 17, and TGF β1. After liquefaction, semen microscopy was performed to analyze sperm concentration and percentage of motility using WHO classification. Smears of neat semen were also prepared for sperm morphology assessment. Spearman rank correlation analysis was performed to assess interrela tions between morphological abnormalities of sperm as well as cytokines and other immunologic factors in the seminal plasma from infertile men with chronic abacterial prostatitis.

Results: CP/CPPS patients had higher con centrations of sIgA, SLPI, IL 8, TNF α and reduced levels of TGF β1 in ejaculate, compared to healthy subjects. A direct cor relation between PSA (rK = 0.09), SLPI (rK = 0.116) and percentage of motile sperm in category 'a' ($P < 0.05$) was noted in the healthy group; in CP/CPPS patients such correlation ($P > 0.05$) was absent. CP/CPPS patients had an inverse correla tion ($P < 0.05$) between concentrations of TGF β1 in the ejaculate and the relative