ORIGINAL ARTICLE

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Level of cytokines in patients with pulmonary drug susceptible and resistant tuberculosis

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Abstract

Background: Cytokines are the regulators of the immune response in tuberculosis: TNF-alpha and CXCL8 (IL-8) are involved in the granuloma formation, IL-10 inhibits the inflammation; some chemokines increase the liver production of the acute phase proteins (APPs). The aim of the research was to assess the serum level of IL-8, TNF-alpha, IL-10, C-reactive protein (CRP), ceruloplasmin and fibrinogen in patients with drug-sensitive and multidrug resistant tuberculosis (MDR-TB).

Material and methods: A prospective case-control study, which included 51 patients, distributed in 2 groups: the 1st study group (N=24 new cases with drug-sensitive TB) and the 2nd study group (N=27 new cases with MDR-TB) according to sex and age were compared with the control group (N=36 healthy individuals).

Results: Serum concentration of IL-8 was elevated up to 13 times, TNF-alpha up to 4 times and IL-10 up to 2 times in study groups, compared with the reference value of the control group. Fibrinogen concentration was elevated up to 2 times in study groups compared with the control group and CRP up to 3 times compared with conventional value. Ceruloplasmin was statistically higher in the drug-sensitive TB and mildly elevated in MDR-TB group.

Conclusions: Proinflammatory biomarkers are more elevated than the anti-inflammatory response, without differences among groups regarding drug sensitiveness.

Key words: tuberculosis, immunity, biomarkers.