

## **CONCENTRATION OF CYTOKINES INTERFERON GAMMA IN PATIENTS WITH PULMONARY TUBERCULOSIS**

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Cytokines have a significant role in protecting of the human body against tubercular infection. Interferon-gamma (IFN- $\gamma$ ) play an important role in the mechanism of anti-tuberculosis immunity. IFN- $\gamma$  increases antigen-presenting function of macrophages and cytokine responses reactions mediated by T-lymphocytes. Insufficient production of IFN- $\gamma$  leads to the inability to limit the growth and multiplication of intracellular Mycobacteria tuberculosis. Cyclopheron is a low molecular weight inducer of the interferon synthesis.

The aim of the study: to investigate the influence of Cyclopheron on the concentration of IFN- $\gamma$  in serum and clinical efficacy of antitubercular therapy in the hospital.

Material and methods. A total of 125 patients with disseminated forms of pulmonary tuberculosis. The main group (MG) - 71 patients, with Cyclopheron treatment according scheme. Comparison group (CG) - 54 patients with antitubercular chemotherapy only. Examined patients in both groups did not differ significantly by age and sex composition, characteristics of the tubercular process and antitubercular treatment regimes. Among patients males dominated, respectively - 68% and 81%,  $p > 0,05$ . The average age of the patients was  $36,5 \pm 4,2$  years, about half of them (49%) was in the age less than 40 years. The following clinical forms of pulmonary tuberculosis were diagnosed: infiltrative, disseminated, caseous pneumonia. 76% of patients had sputum positive smear. The drug resistance of MBT was detected in 72% of cases. Multidrug-resistant TB exceeded 46% among them. Destructive forms of TB were detected in 74% of cases. Cyclopheron was administered intramuscularly for the scheme (15 injections). All performed clinical, radiological and laboratory investigations. The concentration of IFN- $\gamma$  in serum by ELISA was determined before treatment and after 2 months of treatment. Statistical processing was carried with using of the software package "Statistica 6.1", nonparametric methods.

Results. It was established: IFN- $\gamma$  concentration in serum of patients of MG and CG before treatment was 2.5 times lower than in healthy. Different growth rates of concentration IFN- $\gamma$  were marked on the background of chemotherapy in the groups. After 2 months of antitubercular treatment IFN- $\gamma$  concentration was increased by 9 times in the MG, and by 4 times in the CG. Analysis of the individual dynamics of the IFN- $\gamma$  concentration in MG and CG revealed that its increase was observed in 60% of patients of the MG and in 24% of cases in the CG. The elimination of clinical manifestations of intoxication syndrome during less than one month was established in the MG 44% and only in 23% of patients if the CS. During the period of hospitalization conversion of sputum smear was observed in 86% and 69% of patients, respectively.

Conclusion. IFN- $\gamma$  concentration in patients with disseminated forms of TB and MDR-TB is low. Using of Cyclopheron increased the level of IFN- $\gamma$ .