INFLUENCE OF CYCLOFERON ON THE CYTOKINES LEVEL IN PATIENTS WITH PULMONARY TUBERCULOSIS

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Cycloferon is low molecular weight inducer of the interferon synthesis. The aim of study was to investigate the influence of Cycloferon on the concentration of interferon-gamma (INF-γ) and interleukin 4 (IL-4) in blood serum in patients with pulmonary tuberculosis. 279 persons were examined: 45 healthy persons, 32 patients with small forms (SF) of tuberculosis and 202 patients with widespread forms (WF) of pulmonary tuberculosis were randomised on the main group (MG) and comparison group (CG). 65 patients of MG received antitubercular chemotherapy only. 137 patients MG were treated with Cycloferon and antitubercular drugs. Significant difference in initial INF–γ concentration in serum in patients with SF of tuberculosis and at healthy it is not revealed. At the same time INF-γ level was in 1,2 times more low in patients with WF than at healthy (p=0,02). Simultaneously INF–γ concentration in this patients has appeared in 1,9 times lower than in patients having the limited process (p=0,006). It was the indication to administration of Cycloferon, as inducer of the interferon to patients with widespread forms of pulmonary tuberculosis. Analysis of the initial IL-4 level in blood serum revealed that in SF initial concentration IL-4 in 6,5 times lower, than at healthy (p=0,0002), and in SF - only in 1,6 times lower (p=0,01). Dependence of initial level IL-4 from prevalence of tubercular process in lungs where is established: its level in patients with WF was in 4 times above, than in patients with SF (p=0,001). At a comparative estimation of INF–γ concentration after 2 months of treatment in patients MG and CG various rates of its growth are established. In 2 months its level in MG has significantly increased (p=0,004), and in CG statistically significant difference is not revealed (p> 0,05). After 2 months of therapy medians of IL-4 concentration both in MG, and in CG at initially identical value decrease synchronously and slightly. In onclusion, the study found an imbalance between Th1- and Th2-types of the immune response in patients with WF of pulmonary tuberculosis. Using of Cycloferon in treatment of patients with WF of tuberculosis increases INF-γ concentration significantly and decreases IL-4 level and allows to activate the Th1-immune responce.