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COMPOSITION OF FATTY ACIDS OF PLASMA LIPIDS IN PATIENTS WITH CASEOUS PNEUMONIA

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Topicality. The reactions of lipid peroxidation constantly pass in humans. The main substrate for lipid peroxidation are phospholipids membranes that form during the hydrolysis fatty acids.

Objective: the study was aimed at studying and evaluating fatty-acid composition of plasma lipids in patients with caseous pneumonia.

Problem: determine the composition of fatty-acid of plasma lipids in patients with caseous pneumonia.

Material and methods. It examined 103 (62,42 % of 165) healthy persons aged 18-65 years (group I) and 62 (37,58 % of 165) of patients with caseous pneumonia of the same age (group II). Fatty-acid composition of lipids plasma to study by the biochemical method using a gas-liquid chromatograph "Cvet – 500".

Results and discussion. In patients with caseous pneumonia the amount of palmitic fatty acid (C16:0) reduction up 1,45 times that ($p < 0,001$), of stearic fatty acid (C18:0) reduction up 2,48 times that ($p < 0,001$) as compared with the control group. In control group amount of palmitic fatty acid was (37,1 ± 1,6) %, amount of palmitic fatty acid – (13,4 ± 0,7) %.

In patients with caseous pneumonia in plasma appeared myristic fatty acid (C14:0) ($p < 0,001$), the amount of which was (39,0 ± 3,0) %; in healthy individuals myristic fatty acid is missing. The amount of arachidonic fatty acid (C20:4) grows up 1,33 times that ($p < 0,05$), of linoleic fatty acid (C18:2) and of oleineic (C18:1) fatty acid reduction up 3,63 times and up 2,01 times ($p < 0,001$) as compared with the control group.

Changes in the composition of fatty acids in the blood plasma of patients with caseous pneumonia leads to a decrease in the total content of polyunsaturated fatty acids to (14,4 ± 2,0) % ((33,3 ± 1,5) % in the control group) and a decrease in the total content of unsaturated fatty acids to (22,4 ± 2,3) % at a rate of (49,5 ± 1,6) %, $p < 0,001$. The total level of saturated fatty acids in the blood plasma of patients with caseous pneumonia increased to (77,6 ± 2,3) % at (50,5 ± 1,6) % in healthy subjects, $p < 0,001$.

Conclussions:

1 Our results show the importance of lipid metabolism in the development of caseous pneumonia

2 Significantly pronounced changes the spectrum of fatty acids in plasma determine their susceptibility to lipid peroxidation, which allows to evaluate the nature of the metabolic processes and establish the severity and consequences of the disease in patients with pulmonary tuberculosis (by determining the fatty acid composition of plasma), which is also in the long term of our research.