PROCESSES OF LIPIDS PEROXIDATION AND ACTIVITY OF ANTIOXIDATIVE ENZYMS IN ERYTHROCYTES OF PATIENTS WITH ACUTE PIELONEPHREAT

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It is known, that under different diseases the balance in prooxidative and antioxidative processes is destroied and oxidative stress is realized. The development of oxidative stress is connected with production of oxygen active forms [1, 2]. Today we have much dates about that under some diseases erythrocytes are involved in pathological process as demonstrated by biochemical changes occuring in them [3, 4].

In this regard, it is interest to examine the state of processes of lipids peroxidation and antioxidative system in erythrocytes of patients with pielonephreat. The materials for the study were the erythrocytes of healthy subjects (control group) and patients with acute pielonephreat (20 persons, middle age 42,0 years). The blood of patients with diseases was taken before treatment for an illness.

The erythrocytes were hemolisated by distilled water. The membranes of erythrocytes were separated from hemolysate by centrifugation. In membranes of erythrocytes the content of total lipids [5] and lipids peroxidation products was determined [6, 7].

The activity of catalase [8], superoxidedismutase (SOD) [9] and glutation-reductase [10] was determined in hemolisates. All indexes were studied by spectrophotometric methods of biochemical analyses.

It has been shown, that in membranes of erythrocytes the level of total lipids is lowed: at 1,45 times as compared with control group; the level of primary and secondary products of lipids peroxidation is rised: at 7,2 and 3,6 times, accordingly.

At the same time, the activity of antioxidative enzyms is changed also. The activity of glutation-reductase was lowed at 1,6 times, activity of SOD and catalase was rised: at 1,5 times as compared with control group.

The obtained dates evidence about development of oxidative stress under acute pielonephreat and about mobilization of adaptative reactions in erythrocytes under this pathology.

***Keywords*:** erythrocytes, lipids peroxidation, catalase, superoxidedismutase, glutation-reductase, acute pielonephreat.

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