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INFLUENCE OF THE OXIDATIVE STRESS ON THE SECRETION OF THE ENDOGENOUS ANTIMICROBIAL PEPTIDES IN HEREDITARY BLOOD DISEASES

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Among the diseases of the blood, thalassemia occupies a special place, associated with a reduction or complete absence of synthesis of globin chains of hemoglobin. Azerbaijan is considered as an endemic zone of these inherited blood diseases, which makes conducted researches relevant. The aim of this work was to study the relationship between the thiol status of blood and the secretion of endogenous antimicrobial peptides. The blood of 57 patients aged 6-17 years was studied. All patients depending on the pathology were divided into the following groups: group I-20 children with a homozygous form of β -thalassemia, group II-37 children with G6PD deficiency. To assess the degree of oxidative stress of the body, carbonylated proteins (CP) and thiol status (TS) of blood were chosen as markers. To assess the level of secretion of endogenous antimicrobial peptides, a quantitative analysis of defensin and endotoxin in blood plasma

was performed using the ELISA method. The research was carried out with the financial support of the Science Development Foundation of Azerbaijan. As a result of research, it was revealed that in group I patients, the amount of CP increased by 11%, in the group II patients CP increased by 1.6% and TS decreased by 1.5%. The level of defensin in group I increased by 2%, and endotoxin by 1.7%. In group II, these indicators increased by 1.7% and 2.3%, respectively. With the change of the body's TS, the secretion of α -defensin was increasing. In β -thalassemia, carbonylated proteins increase in the blood, thiol status decreases, which indicates at the increase of the influence of oxidative stress associated with frequent infectious complications and activation of neutrophils.

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