Influence of the oxidative stress on the secretion of the endogenous antimicrobial peptides in hereditary blood diseases

Azizova G I
Azerbaijan Medical University, Azerbaijan
E-mail: galib18@mail.ru

Among the illnesses of the blood, thalassemia occupies an extraordinary place, related with a reduction or whole absence of synthesis of globin chains of hemoglobin. Azerbaijan is considered as an endemic sector of these inherited blood diseases, which makes conducted researches relevant. The aim of this work was to study the relationship between the thiol repute of blood and the secretion of endogenous antimicrobial peptides. The blood of 57 sufferers aged 6-17 years was studied. All patients depending on the pathology have been divided into the following groups: crew I-20 children with a homozygous structure of β-thalassemia, group II-37 kids with G6PD deficiency. To investigate the degree of oxidative stress of the body, carbonylated proteins (CP) and thiol reputation (TS) of blood had been chosen as markers. To investigate the degree of secretion of endogenous antimicrobial peptides, a quantitative analysis of defensin and endotoxin in blood plasma was carried out using the ELISA method. The lookup used to be carried out with the financial support of the Science Development Foundation of Azerbaijan. As a result of research, it used to be revealed that in group I patients, the amount of CP multiplied through 11%, in the crew II patients CP improved by 1.6% and TS decreased by way of 1.5%. The stage of defensin in crew I multiplied via 2%, and endotoxin through 1.7%. In crew II, these indicators elevated by using 1.7% and 2.3%, respectively. With the trade of the body’s TS, the secretion of α-defensin was increasing. In β-thalassemia, carbonylated proteins enlarge in the blood, thiol repute decreases, which shows at the amplify of the affect of oxidative stress related with widespread infectious issues and activation of neutrophils. Reactive oxygen species (ROS) are generated as by-products of everyday mobile metabolic activities. Superoxide dismutase, glutathione peroxidase, and catalase are the enzymes involved in protecting cells from the unfavourable outcomes of ROS. ROS are produced in response to ultraviolet radiation, cigarette smoking, alcohol, nonsteroidal anti-inflammatory drugs, ischemia-reperfusion injury, chronic infections, and inflammatory disorders. Disruption of ordinary cell homeostasis by means of redox signaling may additionally end result in cardiovascular, neurodegenerative diseases and cancer. ROS are produced within the gastrointestinal (GI) tract, however their roles in pathophysiology and sickness pathogenesis have now not been nicely studied. Despite the protecting barrier supplied by using the mucosa, ingested substances and microbial pathogens can result in oxidative harm and GI inflammatory responses involving the epithelium and immune/inflammatory cells. The pathogenesis of quite a number GI illnesses such as peptic ulcers, gastrointestinal cancers, and inflammatory bowel disorder is in section 2.3. Among the illnesses of the blood, thalassemia occupies an extraordinary place, related with a reduction or whole absence of synthesis of globin chains of hemoglobin. Azerbaijan is considered as an endemic sector of these inherited blood diseases, which makes conducted researches relevant. The aim of this work was to study the relationship between the thiol repute of blood and the secretion of endogenous antimicrobial peptides. The blood of 57 sufferers aged 6-17 years was studied. All patients depending on the pathology have been divided into the following groups: crew I-20 children with a homozygous structure of β-thalassemia, group II-37 kids with G6PD deficiency. To investigate the degree of oxidative stress of the body, carbonylated proteins (CP) and thiol reputation (TS) of blood had been chosen as markers. 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