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THE PATTERNS OF OXIDIZED PROTEINS IN THE BLOOD OF PATIENTS WITH ACUTE ACETIC ACID INTOXICATION OF DIFFERENT SEVERITY

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Acute acetic acid intoxication may cause severe burns, metabolic disabilities and even death. The main purpose of our study was to study the patterns of oxidized proteins in the blood of patients with acute acetic acid intoxication of different severity. There were 3 groups: 14 patients with acetic acid intoxication of moderate severity, 8 patients with severe acetic acid intoxication and 14 healthy ones. All patients underwent a detailed clinical examination. The study was approved by the local Ethical Committee at the Medical University of Karaganda. The concentration of reactive carbonyl derivatives of proteins in erythrocytes and blood plasma was measured following the protocol of R L Levine et al. (1990). The concentration of membrane–bound hemoglobin in erythrocytes was measured following the protocol of Toktamysova ZS, Birzhanova RK (1990). In the erythrocytes of the 2nd group patients, significant decrease of membrane–bound hemoglobin (median 5.88, range 5.49-6.79) compared with control ones (median 9.30, range 6.90-10.95) ($p<0.05$) was observed. The reactive carbonyl derivatives of proteins were significantly higher in erythrocytes of the 2nd group patients (median 17.95, range 15.51-21.65) and in erythrocytes of the 3rd group patients (median 19.15, range 15.03-21.64), compared with control ones (median 9.43, range 7.88-10.49) ($p<0.05$). At the same time the reactive carbonyl derivatives of proteins were significantly lower in plasma of the 2nd group patients (median 0.46, range 0.40-0.53) and in plasma of the 3rd group patients (median 0.64, range 0.55-0.74) compared with control ones (median 1.26, range 1.19-1.34) ($p<0.005$). Results of our research showed different patterns of oxidized proteins in erythrocytes and blood plasma of patients with acute acetic acid intoxication of different severity. It can have an importance in pathogenesis of acute acetic acid intoxication.

Biography

L Muravlyova has a Doctor of Biology degree. She is a Professor and also the Head of the Biological Department of Karaganda State Medical University (Kazakhstan). She has published more than 100 papers in different reputed journals and has been serving as the Editorial Board Member of repute.

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