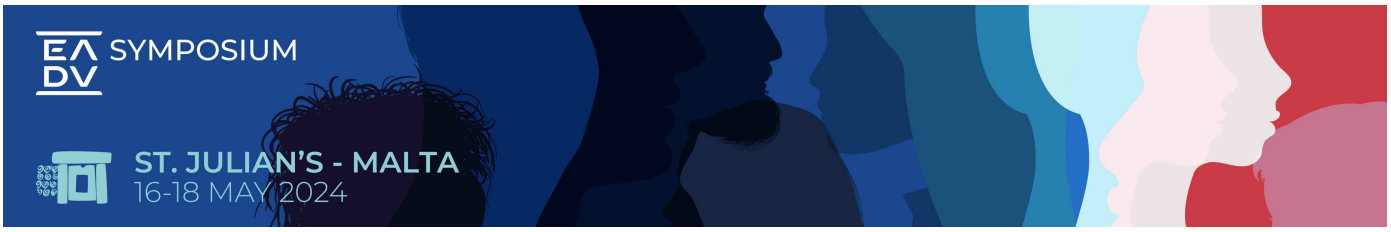

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The relationship between metabolic changes in the body and the area of skin damage in toxic epidermal necrolysis in patients with COVID-19

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Introduction & Objectives: The COVID-19 pandemic has made adjustments both in the general life of people and in the medical practice of doctors of many specialties. In addition, doctors - dermatovenerologists at daily appointments increasingly consult users with drug-induced rashes that occurred after treatment of COVID-19. Medicinal lesions of the skin with a viral coronavirus infection are necessarily associated with a large number of drugs of various pharmacological groups prescribed to the patient, which, interacting, can have a toxic effect on human protection. One of the most important manifestations of the toxic effect of drugs on the human body is toxic epidermal necrolysis (TEN).

Purpose The research method was to analyze the anamnestic data from TEN and characterize the amino acid composition of the blood serum of such patients with damage to more than 50% of the skin area.

Materials & Methods: 6 used TENs were under our observation, during periods of various diseases (initial, acute) that had undergone COVID-19, the area of the affected skin was determined by the rule of “nines”, the amino acid composition of blood serum was determined by the method of thin-layer two-dimensional chromatography.

Results: Study of blood AK (amino acids) profiles in patients with TEN with more than 50% damage to the skin surface, in the initial period the content of arginine, asparagine, aspartic acid, glutamic acid, isoleucine, lysine, taurine, tyrosine, tryptophan, valine, glycine, histidine, leucine decreased. , methionine, threonine, phenylalanine, cysteine. In the midst of TEN, most of the parameters in the patients showed small reliable deviations from those in the control group - an increase in the content of alanine, cysteine, valine, isoleucine, leucine, lysine, threonine, phenylalanine, a decrease in aspartic acid, GABA (gamma-aminobutyric acid), histidine, ornithine, proline, serine, arginine, asparagine, glycine, glutamine, glutamic acid, tyrosine. Significant changes in the metabolic fund of AK have been established in patients with different areas of skin damage during TEN. A comparison of the amino acid spectrum of blood in patients with different areas of lesions shows several differences. This trend is especially clear in the midst of the disease, when patients with damage to more than 50% of the skin area have an increase in the content of irreplaceable AKs by 2.1-3.7 times. We pay attention to the dynamics of some indicators in different periods of TEN, in the case of use with more than 50% of the skin indicators affected, the following amino acids decrease: argin by 1.18 times, glycine by 1.21 times, ornithine by 1.40 times, taurine by 2.46 times and tyrosine 1.48 times.

Conclusion: After analyzing the obtained research data, we believe that a decrease in the level of glutamine, tyrosine and ornithine in the blood serum of patients with TEN is prognostically unfavorable. This condition requires metabolic correction for a prognostically favorable course of toxic epidermal necrolysis.