

## DYSMETABOLIC PHENOMENA IN THE LIVER AND THERMAL INJURY

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**Annotation.** The paper presents an analysis of data on the course of a severe degree of thermal injury and its effect on liver function. In case of burn disease as a result of toxic damage to the liver, dystrophic changes in hepatocytes develop, almost all hepatic functions are disturbed, clinical and biochemical manifestations of functional liver disorders constitute the essence of the hepatargia syndrome, pathognomonic for toxic hepatitis and acute liver dystrophy.

**Keywords:** burn disease, thermal injury, liver condition, hepatargia, acute liver dystrophy.

**Relevance.** In the pathogenesis of hepatocellular damage in thermal injury, the leading role is given to systemic hemodynamic disorders, which cause blockage of the hepatic circulation, ischemia and subsequent reperfusion of the organ [6,11,12]. Clinical manifestations of functional and morphological liver failure during burn disease can be divided into early: hepatomegaly, cytolysis, fermentemia and late: intrahepatic cholestasis, parocholia, jaundice. Pathology at the cellular level, according to modern concepts, is realized through the induction of apoptosis of liver cells and their subsequent depletion.

Literary sources of the last century reported severe acute parenchymal and viral hepatitis in burned patients, cases of hepatic coma, but in scientific publications of recent decades there is no mention of liver failure in burned patients. It is known that the functional state of the liver plays a colossal role in the formation of the body's response (adaptation) to a severe injury. Stressful restructuring of metabolism, exogenous and endogenous intoxication, premorbid pathology cause suppression of the functional activity of the liver.

The aim of the work was to study the functional state of the liver in patients with severe thermal injury.

**Material and research methods.** In the conditions of the city of Samarkand for 5 years in 125 patients with deep burns IIIB-IV degree with an area of 15 to 55% of the body surface (b.t.) studied the function of the liver in the dynamics of the disease. The content of total protein, protein fractions and fibrinogen, as well as nitrogen-containing metabolites of urea and creatinine in the blood was determined. In parallel, the concentration of 17 free amino acids in the blood was studied.

**Results.** It was found that in patients with deep burns more than 40% b.t. from the 5th-7th day of the disease, protein metabolism disorders are observed: moderate hypoproteinemia, hypoalbuminemia, an increase in the content of  $\alpha_1$  and  $\alpha_2$ -globulins, hypergammaglobulinemia and a decrease in the albumin-globulin coefficient, an increase in the  $\beta$ -globulin fraction was noted, the content of fibrinogen in the blood was reduced. An increase in the content of urea and creatinine in the blood is observed only on the 5-7th day of

the disease. The results obtained indicate significant violations of the protein-forming function of the liver.

In the blood serum of 55 patients with burn disease (OB), the concentration and percentage of 17 protein amino acids were studied. OB revealed disorders of amino acid metabolism, which are more or less specific and are associated with a decrease in the functional activity of hepatocytes due to their blockade by toxins. The thrombogenic function of the liver in 90% of them was moderately reduced.

With extensive burns, moderate hyperglycemia was noted, which persisted during the 1st week of the disease. With OB, the content of total bilirubin was at the upper limit of normal, and indirect bilirubin was 2 times increased. With extensive burns, an increase in the activity of all enzymes was noted, on average 2 times compared to the norm.

**Conclusion.** In case of burn disease as a result of toxic damage to the liver, dystrophic changes in hepatocytes develop, almost all hepatic functions are disturbed, clinical and biochemical manifestations of functional liver disorders constitute the essence of the hepatargia syndrome, pathognomonic for toxic hepatitis and acute liver dystrophy.

### References:

1. Амирзода Т. С., ШОПУЛОТОВ Ш. А. НЕДЕРЖАНИЕ МОЧИ И НЕУДЕРЖАНИЕ МОЧИ: КАЧЕСТВО ЖИЗНИ ПАЦИЕНТОВ //ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ. – 2022. – Т. 7. – №. 5.
2. Тохилов Х. и др. ХИРУРГИЧЕСКИЙ АБОРТ И ЕГО ПОСЛЕДСТВИЯ //Центральноазиатский журнал образования и инноваций. – 2023. – Т. 2. – №. 6 Part 4. – С. 21-23.
3. Худоярова Д., Юсупов О. ОСОБЕННОСТИ ТЕЧЕНИЯ БЕРЕМЕННОСТИ У ЖЕНЩИН С РАЗЛИЧНОЙ ФОРМОЙ ВАРИКОЗНОЙ БОЛЕЗНИ //Естественные науки в современном мире: теоретические и практические исследования. – 2023. – Т. 2. – №. 4. – С. 45-48.
4. Худоярова Д. Р. и др. Ведение беременных с преэклампсией тяжелой степени //Достижения науки и образования. – 2020. – №. 7 (61). – С. 29-30.
5. Ризаев Ж. А. и др. Анализ активных механизмов модуляции кровотока микроциркуляторного русла у больных с пародонтитами на фоне ишемической болезни сердца, осложненной хронической сердечной недостаточностью //Вісник проблем біології і медицини. – 2019. – №. 4 (1). – С. 338-342.
6. Шопулотов Ш., Абсаматов Ш., Холдоров И. ГИПЕРАКТИВНОСТЬ ДЕТРУЗОРА: СОВРЕМЕННЫЕ ВОЗМОЖНОСТИ ТЕРАПИИ //Eurasian Journal of Medical and Natural Sciences. – 2022. – Т. 2. – №. 6. – С. 409-411.
7. Askarova F., Homidova S. PLACENTAL INSUFFICIENCY: BLOOD AND BIOCHEMISTRY PARAMETERS DEPENDING ON THE METHOD OF TREATMENT //International Bulletin of Medical Sciences and Clinical Research. – 2023. – Т. 3. – №. 2. – С. 74-78.
8. ISKANDAROVNA T. N., RAKHIMOVNA K. D. RISK FACTORS FOR THE DEVELOPMENT OF ENDOMETRIAL HYPERPLASTIC PROCESSES IN PREMENOPAUSE //БИОМЕДИЦИНА ВА АМАЛИЁТ ЖУРНАЛИ. – С. 72.
9. Rakhimovna K. D., Abdumuminovna S. Z. THE ROLE OF STAPHYLOCOCCAL INFECTION IN THE STRUCTURE OF INFLAMMATORY DISEASES //Web of Scientist: International Scientific Research Journal. – 2022. – Т. 3. – №. 6. – С. 1180-1183.

10. Rakhimovna K. D., Shomurodovich Y. O. VARICOSE DISEASE AND PRECNCANCY //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 04. – C. 50-54.
11. Shopulotov S. et al. GIPERAKTIV QOVUQ SINDROMINI TASHXISLASHDA ZAMONAVIY YONDASHUVLAR //Молодые ученые. – 2023. – Т. 1. – №. 9. – С. 38-42.
12. Sherbekovna, Eltazarova Gulnara, and Khudoyarova Dildora Rakhimovna. "ASSESSMENT OF THE SIGNIFICANCE OF POLYMORPHISM WNT3 GENE IN ANOMALIES OF FETUS DEVELOPMENT IN PREGNANT WOMEN OF THE SAMARKAND POPULATION." Art of Medicine. International Medical Scientific Journal 2.1 (2022).
13. Yakubovich S. I., Abdumuminovna S. Z. OTORHINOLARYNGOLOGY THROUGH THE EYES OF A FORENSIC EXPERT //International Journal of Medical Sciences And Clinical Research. – 2023. – T. 3. – №. 01. – C. 29-32.
14. Yakubovich S. I., Abdumuminovna S. Z., Batiobekovna A. N. Analysis of the Effectiveness and Errors of Medical Care //Eurasian Journal of Research, Development and Innovation. – 2023. – T. 20. – C. 1-4.
15. Yakubovich S. I. et al. Morphofunctional Changes of the Adrenals at Chronic Exposure to Magnesium Chlorate //Central Asian Journal of Medical and Natural Science. – 2022. – T. 3. – №. 6. – C. 178-185.