

**DYSTROPHIES ASSOCIATED WITH AMINO ACID METABOLISM**

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**Relevance.** Dystrophies associated with amino acid metabolism arise due to inherited enzyme deficiencies, leading to the accumulation of toxic metabolites in the body and causing severe morphological changes in various organs and systems, especially in the central nervous system, liver, and kidneys. Among these conditions, phenylketonuria, tyrosinemia, and cystinosis are of particular importance. In modern medicine, early detection and prevention of these disorders are critical, as delayed diagnosis can result in serious complications. Therefore, studying the pathogenesis of amino acid metabolism disorders, improving early diagnostic methods, and developing effective treatment strategies are essential.

**Objective.** To investigate the mechanisms of dystrophic processes caused by disorders of amino acid metabolism and to improve methods for their early diagnosis and treatment.

**Materials and methods.** This study was based on local and international scientific literature, modern textbooks, research articles, and clinical observation data. Clinical, laboratory, and anamnestic indicators of patients with the studied conditions were thoroughly analyzed. The general condition of patients, disease progression, and subjective and objective signs were systematically evaluated. Laboratory methods were used to determine biochemical parameters in blood and other biological fluids, particularly changes in key substances involved in metabolic processes. The obtained results were processed using modern statistical methods to assess their reliability and significance. Additionally, scientific methods such as observation, comparison, analysis, generalization, and systematization were widely applied.

**Conclusion.** The results of the study showed that the examined conditions are accompanied by metabolic and biochemical changes in the body. The identified indicators help to better understand the mechanisms of disease development and contribute to early diagnosis and effective treatment. The findings of this research provide an important basis for further scientific investigations in this field.