ASSESSMENT OF FERROKINETIC AND HUMORAL IMMUNE PARAMETERS IN WOMEN WITH IRON DEFICIENCY ANEMIA

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Background. Iron deficiency anemia (IDA) remains one of the most widespread nutritional and hematological disorders among women of reproductive age. Iron plays a crucial role not only in hematopoiesis but also in the normal functioning of the immune system. Disturbances in iron metabolism may lead to significant changes in both humoral and cellular immunity, increasing susceptibility to infectious and inflammatory diseases. Despite numerous studies, the relationship between ferrokinetic parameters and immune status in women with iron deficiency anemia requires further investigation.[1,2]

Research Objective: To assess the characteristics of ferrokinetic parameters and humoral immune status in women suffering from iron deficiency anemia.[3]

Materials and Methods: The study involved women diagnosed with iron deficiency anemia. The control group consisted of practically healthy

women with normal hematological and immunological parameters. Ferrokinetic indicators, including serum iron, ferritin, total iron-binding capacity, and transferrin saturation, were evaluated. Humoral immunity was assessed by determining serum levels of immunoglobulins (IgA, IgM, IgG). Laboratory investigations were conducted using standard biochemical and immunological methods.[4]

Research Results: The results demonstrated a significant decrease in serum iron and ferritin levels in women with iron deficiency anemia, accompanied by increased total iron-binding capacity. Immunological analysis revealed alterations in humoral immunity, characterized by changes in immunoglobulin levels, particularly a decrease in IgA and IgM, indicating weakened mucosal and systemic immune defense. These findings suggest a close relationship between impaired iron metabolism and immune dysfunction.[5]

Conclusion: Women with iron deficiency anemia exhibit pronounced disturbances in ferrokinetic parameters and humoral immunity. These changes may contribute to increased vulnerability to infectious and inflammatory conditions. The results highlight the importance of comprehensive assessment of iron metabolism and immune status when developing diagnostic, therapeutic, and preventive strategies. The implementation of individualized ferrotherapy and immunomodulatory approaches is considered clinically significant [6].

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