

Materials and Methods. We study some indicators of iron metabolism in pregnant women in anaemia. The venous blood of 85 pregnant women with anaemia was examined. Serum iron, ferroportin, transferrin, serum ferritin and hepcidin were investigated. The comparison group consisted of 19 pregnant women without anaemia, as well as control group consisted of 15 non-pregnant practically healthy women.

The haemoglobin concentration was measured by using "Mythic-18" haematological autoanalyzer. The serum transferrin level was established by using an immunoturbidimetry method with "Cormay" (Poland) reagent kits. The concentrations of hepcidin and ferroportin were determined by using "Cloud-Clone Corp." (USA), and ferritin concentrations were determined by using "Pishtaz teb" (Iran) reagents through enzyme-linked immunosorbent assay (ELISA) method.

Results. The study revealed a significant decrease in the level of lactoferrin, ferritin level. The study also revealed a significant decrease in the level of hepcidin in the blood serum of pregnant women with IDA. There was a tendency to increase the concentration of hepcidin in the third trimester. An increase the hepcidin level in the blood can be a natural reaction of the body to an increase in intestinal absorption of iron. In this period, an increased content of this protein leads to a lack of iron for the synthesis of Hb. A change in hepcidin level in anemia can be mediated by tissue hypoxia, an increase in erythropoietin, or a decrease in serum and tissue iron level due to its consumption by red blood cell precursors. The synthesis of hepcidin is suppressed by erythropoietin, which ensures the supply of a sufficient amount of iron to the bone marrow and active erythropoiesis. An increase in hepcidin level in the third trimester of pregnancy can be caused by changes in the cytokine profile that occur during preparation of the body for childbirth.

According to the results of our study, in the blood serum of pregnant women with IDA there is a significant increase in the content of ferroportin compared with the data of pregnant women without anemia. A comprehensive definition of various indicators of iron metabolism provides important information not only for understanding the pathogenesis of iron deficiency anaemia in pregnancy but also for early diagnosis of the disease and the appointment of the correct treatment.

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COMPARATIVE MONITORING OF THE ENZYME ACTIVITY OF BONE METABOLISM IN PATIENTS AFTER DENTAL IMPLANTATION

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The balance of bone regeneration processes helps to reduce the resorption and increase mineralization. The imbalance mechanism of bone recovery depends on which process is currently the leading: increased bone resorption or decreased bone regeneration. Comparative monitoring of the activity of bone metabolism enzymes is important for predicting the results of treatment and reduction the inflammatory process. The aim is to carry out a comparative analysis of enzymes activity in bone metabolism in patients after dental implantation.

Materials and Methods. 230 patients were at the stage of clinical observation, in which the activity of acid phosphatase (AcP) and alkaline phosphatase (AlkP) in the oral fluid before surgery and on the 30th day after surgery were investigated. The enzymes activity level before the operation were AcP 5.1 U / l (4.8–5.2) and AlkP of 10.4 U / l (10.1-10.8).

Results. Depending on the results, the patients were divided into two groups, the 1st group included 193 patients whose level of activity of acid phosphatase on the 30th day was normalized and had values comparable to the baseline values of acid phosphatase 5.2 U/l (4.8–5.3), and the value of alkaline phosphatase exceeded the indicators before surgery twice, alkaline phosphatase (24.3 U/l (24.1-24.7), $p < 0.05$). The 2nd group included 37 patients, whose indicator of the AcP level activity did not return to normal and remained significantly high on the 30th day (39.08 (35.7-41.2) $p < 0.05$), AlkP values remained high and amounted to 24.0 (23.8-24.7). After 6 months at the stage of installing the healing abutment, in the 1st group, all patients had osseointegrated implants. In the 2nd group, where the level of activity of the AcP exceeded the norm values by four times, and the level of AlkP remained unchanged in all patients and noted periimplantitis implants were removed. From the results obtained it can be concluded that bone metabolism markers reflect the overall process of bone remodeling in the situation after the dental implantation and development of postoperative inflammation. Acid and alkaline phosphatase in various stages of healing processes reflects the dominance of the formation or resorption of bone tissue. Because the resorption process is more short-term compared to the formation of bone tissue, the resorption markers (in our study AcP) respond more quickly to changes in remodeling compared to the markers of bone tissue formation (in our study of AlkP).

Conclusion. The mechanism of imbalance in the processes of resorption and regeneration may be predicted with the aim of correcting treatment and stopping the inflammatory process.

Prospects for further research. Implantologist can use the enzymes activity indicators level in dynamics. In connection with the obtained results it is important to develop a comparative monitoring of enzyme activity in bone metabolism.

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