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PREDICTOR OF HYPOTHYROIDISM IN NEWBORNS AND PREGNANTS

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Actuality. Kazakhstan is a country with moderate endemic iodine deficiency disorders. Iodine is required during the development of the fetus, newborns of mothers with iodine deficiency can have irreversible changes. In pregnant women living in areas of iodine deficiency increases sharply probability of miscarriage, stillbirth or premature birth.

Aim of the study: to find out the diagnostic value of accompanied changing activity of the enzyme tricarboxylic acid cycle (TCA) - malate dehydrogenase (MDH) in leukocytes and peripheral blood at hypothyroidism in newborns and pregnant women.

Objectives:

1 Establish correlation of MDH with hypothyroidism in leukocytes and peripheral blood.

2 Reveal direction of changes in the activity of the MDH enzyme in pregnant women and newborns and its predictive value in antenatal period.

Materials and methods. The object of the study was: overall 45 "mother - child" pairs: 16 pairs in control group - without hypothyroidism, 29 pairs in main group - with hypothyroidism. In the blood were determined thyroid stimulating hormone (TSH), triiodothyronine T3, thyroxin T4, free thyroxin (FT4), free triiodothyronine (FT3) by ELISA using enzyme immunoassay analyzer -Olympus‖. Also, in the peripheral blood and leukocytes of our “pairs” was found out MDH.

Results and discussion. The average activity of MDH in lymphocytes of pregnant women in control group exceeded the corresponding figures of the main group. In newborns of the control group MDH activity was significantly higher than in the main group. MDH activity in neonates of main group in the first 30 minutes of life on a 16% lower than in control group. On a first day of life the enzyme activity is increased, the difference with the control group = 9%. On the third day the enzyme activity is significantly increased in comparison with the first 30 min. of life, but the difference with the control group still remains = 7%. The determination of the activity of MDH will help to diagnose hypothyroidism in pregnant women choose the right treatment at the early stages of the disease, and subsequently avoid complications for women and newborns.

Conclusions: based on the results of the research, we can conclude that:

1 Development of hypothyroidism is accompanied by a decrease in the activity of MDH in leukocytes and peripheral blood;

2 Direction of changes in the activity of this enzyme in pregnant women and newborns is the same, which allows to predict the development of hypothyroidism in antenatal period.