

**COBALT EXCHANGE IN THE SYSTEM “MOTHER-PLACENTA-FETUS”  
IN CASE OF INTRAUTERINE GROWTH RETARDATION**

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Cobalt plays an important role in metabolism necessary for proper development and growth of the fetus and newborn. Compounds of cobalt stimulate erythropoiesis, cause change in physical-chemical properties of red blood cells, as part of vitamin B12 (cobalamin). This trace element is a growth factor that affects the function of reproduction and development. It takes an active part in haematopoiesis, so in case of its deficiency may develop anemia. However, the literature has highlighted the issue of direct participation of cobalt on a current pregnancy, the processes of adaptation, growth and development of infants with IUGR.

Investigation of cobalt content in the system “mother-placenta-fetus-newborn” found that the content in erythrocytes of mother who gave birth to babies with IUGR was 47,4% higher than in the comparison group, while in red blood cells of newborns with IUGR content hardly from the comparison group. It should be noted that the difference in cobalt content in erythrocytes of newborns with IUGR compared with their mother was more than 2-fold in women with physiological pregnancy and their newborns.

Quantitative determination of cobalt in the placenta showed that in cases of IUGR content was greater than 10 times, transplacental migration rates were significantly higher than in the comparison group. Index for the accumulation of cobalt in the case of IUGR was higher in 8,9 times.

These data suggest the existence in the placenta of certain mechanisms of protection and preservation of trace elements that are active in blood formation and growth retardation.

Given the particular importance of cobalt as a growth factor, and provide the function of many enzyme systems should conclude that its deficit and the imbalance is important in causing IUGR.