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# P192. Vitamin D deficiency and pregnancy outcomes.

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From 50 to 86% of pregnant women have a level of vitamin D below normal values. Nutrition does not completely compensate for hypovitaminosis D. The presence of an insufficient level of calcidiol in the serum can lead to undesirable consequences, such as interruption of pregnancy in the 1st and 2nd trimesters, development of placental insufficiency, preeclampsia, violations of uterine contractile activity, increased frequency of cesarean delivery section. On the basis of Federal Almazov North-West Medical Research Center, Saint-Petersburg, Russia conducted a cohort study to assess the level of 25-hydroxycholecalciferol (25 (OH) D) in the serum in pregnant women in the first trimester (N = 800). Depending on the level of 25 (OH) D, women are divided into 3 groups: deficiency (less than 20 ng/ml) 38,8% (n = 311), insufficiency (21-29 ng/ml) 55,6% (n = 445), the norm (more than 30 ng/ml) of 5.6% (n = 44). A further study involved 113 pregnant women (level 25 (OH) D of less than 30 ng/ml) in the 12-14 week period at the age of 20-40 years. Patients were divided into 3 subgroups, depending on the daily dose of cholecalciferol: 500 IU, 2000 IU, and 4000 IU. During pregnancy, the level 25 (OH) D in the serum was determined in terms: 12-14, 24-26, 34-36 weeks. When 500 IU of cholecalciferol was used, in no case was the target vitamin D level achieved to childbirth. The results of examination of patients using 2000 IU indicate a successful (in 95,55%) achievement of the normal value of 25 (OH) D, but only by 34-36 weeks. The use of cholecalciferol in a daily dosage of 4000 IU during pregnancy increased the concentration of 25 (OH) D by 24-26 weeks in 82.6% of women before the "norm" criterion and 100% of women completely compensate for vitamin D deficiency. By 34-36 week, 100 % of women reach the norm. In newborns born to mothers taking 4000 IU daily, the level of calcidiol is higher, and it correlates more strongly with the level of calcidiol in the mother's blood than those who took 2000 and 500 IU daily. In the analysis of pregnancy outcomes, it is established that when the vitamin D-deficient pregnant body is not saturated at an early stage, the ratio of the chances of development of preeclampsia increases 9-fold, 4.3-fold more frequent preterm delivery, 5.4-fold increase in the rate of delivery by cesarean section, in 1,8 times - anomalies of patrimonial activity. The data obtained demonstrate the need to compensate for hypovitaminosis D at the pregravid stage.

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