Vitamin D deficiency is currently widespread in the world: from 30 to 50% of people in the population live in conditions of deficiency of vitamin D. Insufficient level of vitamin D is positioned as a factor affecting the main indicators of public health and it may cause various complications during pregnancy, including miscarriage and infertility.

The purpose of this study was to investigate the prevalence of deficiency and insufficiency of vitamin D in women with threatened miscarriage in I trimester and in infertile women living in St. Petersburg.

We examined 48 pregnant women aged between 18 and 35 years with the threat of miscarriage in I trimester, 20 women with infertility (10 patients with endocrine, 10 with tuboperitoneal infertility factors). The control group consisted of 35 women of reproductive age with spontaneous, normal pregnancy.

Determination of the concentration of 25-(OH)-D in serum and in follicular fluid was carried by immunoelectrochemiluminescent (CMIA) analyzer Abott «Architect 2000».

Taking of follicular fluid for definition of level of 25-(OH)-D was produced during transvaginal puncture of the follicles and aspiration of oocytes.

Evaluation of the level of vitamin D in the blood serum was carried out according to the classification of the European Society (Guideline Endocrine Society, 2011) in which the norm is (> 32 ng/ml), insufficient is (20-32 ng/ml), deficiency is (< 20 ng/ml).

The study revealed that at the threat of miscarriage in I trimester vitamin D deficiency in serum was in 47.9%, insufficiency - 22.9%, rate - 29.2%.

Insufficiency and deficiency of vitamin D were found in 100% of women with infertility (in follicular fluid - in 80% of patients, in the serum - in 100%). At physiological pregnancy, the vitamin D deficiency was identified in 11% of patients. It was found, that in all women the level of vitamin D in follicular fluid correlates with its content in the blood serum, and slightly exceeds it. The average value of 25-(OH)-D in of follicular fluid is (25.34 ± 4.08) ng/ml , which is (3.95 ± 0.03) ng/ml higher than in serum.

Thus, these results allow to assume a possible role for vitamin D in miscarriage, because the prevalence of vitamin D deficiency in the group with threatened miscarriage in I trimester is 4.3 times higher than in women with physiological pregnancy. Insufficiency and deficiency of vitamin D is found in 100% of women with infertility, while at physiological pregnancy - in 11% of patients.