At present, it was found that vitamin D is essential for normal insulin secretion in response to changes in glucose levels in the body and maintaining tolerance to it. Vitamin D is deposited in the subcutaneous tissue, after which it is biologically unavailable as those with obesity there is a chronic shortage of vitamin D, as a result, pregnant women with obesity include risk of developing gestational diabetes.

The aim was to identify relationships between body mass index, levels of vitamin D and the development of gestational diabetes.

The study involved 30 pregnant women aged 21 to 38 years. According to body mass index (BMI) before pregnancy pregnant divided in three groups: BMI 20-26 kg/m² - normal, BMI 27-29 kg/m² - pre-obesity and BMI 29-35 kg/m² - obesity.

Parameters studied complete blood count, coagulation, urinalysis, glucose levels and 25 (OH) D in the venous blood.

Gestational diabetes was diagnosed in 20% of surveyed pregnant women, including patients with normal BMI accounted for only 10%. Insufficiency (29-20 ng / ml) or deficit (less than 20 ng / ml) vitamin D was found in 80% of examined patients, but among them pregnant women with a normal BMI before pregnancy accounted for only 8.3% of patients. At the same time, 50% of pregnant women with a BMI of 27-29 kg/m² had a deficiency of vitamin D, and 8.3% - pronounced deficit. With increasing BMI (29-35 kg/m²) saw an increase the number of patients with a deficiency of vitamin D, share amounted to 33.3%.

This study confirms the relationship between overweight, lack of vitamin D and risk of gestational diabetes.

Further study of the mechanisms of the metabolism of vitamin D in obese women allow to justify and elaborate new methodological approaches to the prevention and treatment of hypovitaminosis D in pregnant women and may reduce the incidence of gestational diabetes.