**Background**

Vitamin D deficiency and diabetes mellitus (DM) are two common conditions and they are widely prevalent across all ages, races, geographical regions, and socioeconomic conditions. Epidemiologic studies have shown association of vitamin D deficiency and increased risk of chronic diseases, such as cancer, cardiovascular disease, type 2 diabetes, and autoimmune diseases, such as multiple sclerosis and type 1 DM. The identification of 1,25(OH)2D receptors and 1-α-hydroxilase expression in pancreatic beta cells, in cells of the immune system, and in various others tissues, besides the bone system support the role of vitamin D in the pathogenesis of type 2 diabetes. Observational studies have revealed an association between 25(OH) D deficiency and the prevalence of type 1 diabetes in children and adolescents.

**Aim of the study:** an analysis of data concerning the problem of vitamin D deficiency in adolescents with diabetes type 1.

**Materials and Methods**

It was inspected 54 children in age from 12 to 18 years (26 guys, 28 girls), patients with type 1 DM without the signs of delay of physical and sexual development, hepatosis and without concomitant diseases. Research took place after the signature of the informed consent of parents on realization of these inspections for their children. Children divided after the level of vitamin of D on 3 groups: the first group (n=4, middle age 13,1±0,58 years) is patients with type 1 DM with an optimal level 25(ОН)D (over 30 ng/ml), the second group (n=28, middle age 14,7±1,2 years) is patients with type 1 DM with an insufficient level 25 (OH) D (21-29 ng/ml), the third group (n=22, middle age 15,1±2,1 years) is patients with type 1 DM with vitamin D deficiency (level 25(OH)D less after 20 ng/ml).

**Results**

At the analysis of indexes of vitamin of D level in adolescents with type 1 DM appeared, that only four patients had an adequate level of vitamin D, that
laid down from the inspected patients 7.4%. At the inspection of children of control group (n=11) the normal level of vitamin of D is set for three children (27.2%).

**Conclusions**

Results demonstrate the decline of vitamin D indexes (deficiency or deficit) in blood of children with the type 1 diabetes mellitus. A presence is set statistically significant connection between a deficit or insufficiency of vitamin D with DM indemnification and duration of disease. Determination of blood content of level of general calcium in patients with DM does not represent the problem of exchange processes with participation of vitamin D. Influence of correction of maintenance of vitamin D on indemnification of disease for adolescents with type 1 DM needs a further study.