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THE VITAMIN D IN PATIENTS WITH OSTEOARTHRITIS AND TYPE 2 DIABETES MELLITUS

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The aim of the study is to determine the level of vitamin D in patients with osteoarthritis (OA) and with the combination of OA and type 2 diabetes mellitus (T2DM) and its effect on the course of T2DM and OA.

Materials and methods. In total, 40 patients were examined at the Kharkiv Regional Clinical Hospital". All patients were divided into 2 groups. Group 1 - 20 patients with OA, group 2 - 20 patients with combined course of OA and T2DM. The mean age of the patients was 56.08±0.71. The survey plan included anthropometric data, indices of carbohydrate exchange (insulin, glucose, HbA1C, HOMA-IR), C-reactive protein (CRP). All patients with OA were made X-ray examination of knees. Determination of vitamin D level was done by ECLIA.

Results and discussion: Statistically significant decrease the level of vitamin D was observed in group of patients with comorbid pathology (29.05□5.18) compared to the patients with isolated OA (36.2□5.21, $p<0.05$). In the study of relationships between vitamin D and carbohydrate metabolism indices, statistically significant correlation in 1st group of patients was not found. Moderate negative associations between vitamin D level and glucose level ($r=-0.43$; $p<0.05$), HbA1C ($r=-0.35$; $p<0.05$) were determined in the 2nd group. We found moderate significant negative correlation between level of CRP and vitamin D in both groups of patients ($r=-0.43$; $p<0.05$, $r=-0.35$; $p<0.05$ respectively). We didn`t find any statistically significant correlations between the radiological changes and the level of vitamin D in both group of patients.

Conclusions: The study indicates that changes in bone metabolism are observed in groups of patient with OA and the combined course of OA and T2DM, in particular a significant decrease in vitamin D level. A reliable low level of vitamin D in patients with comorbid pathology can indicate an effect carbohydrate metabolism disorders

on bone metabolism changes and the possible progression of OA in patients with comorbid pathology.