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Effect of additional antioxidant therapy in patients with combine course of osteoarthritis and type 2 diabetes mellitus

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Aim. The aim of the present study to learn the influence of antioxidant therapy on the condition of patients with osteoarthritis (OA) in combination with type 2 diabetes mellitus (T2DM).

Material and methods. 54 patients with OA and its in combination with T2DM were examined (30 male and 24 female). The mean age of patients was 45 ± 3.1 . All patients were divided into 2 groups. The first group – 20 patients, with standard therapy - short course of non-steroidal anti-inflammatory drugs (NSAID) and structure-modifying medications. Second group – 34 patients, with standard therapy plus vitamin E as an addition to it. The course of treatment was 3 months. X-ray examination of joints was performed for all patients, the severity of pain syndrome and joint function were determined by the index of WOMAC, the level of C-reactive protein (CRP), fasting glucose test and level of glycosylated hemoglobin level (HbA1C) were determined.

Results. As a result of the therapy, a significant decrease of the WOMAC index in both groups of patients was determined: in the 1-st group of patients the pain score decreased by 29.5%, in the 2nd group - by 32.8% ($r < 0.05$). There was also a statistically significant reduction of the level of CRP in both groups: in the 1st group by 30.1%, in the 2nd group - by 33.3% ($r < 0.05$), which may indicate a decrease of inflammatory response. The use of vitamin E does not negatively affect the course of T2DM, therefore, in the 1st group, the level of HbA1C was $9.62\pm 0.3\%$, glucose levels in serum of 9.95 ± 0.38 mmol/l, after treatment 8.33 ± 0.2 and 7.8 ± 0.38 mmol/l respectively. In the 2nd group the HbA1C level was before treatment - $9.64\pm 0.27\%$, glucose levels in serum was 9.97 ± 0.24 mmol/l after treatment 8.1 ± 0.21 and 7.8 ± 0.38 mmol/l respectively.

Conclusions. We noted that adding vitamin E to standard therapy showed more positive effect on the course of OA in combination with T2DM.