

*Materials of Conferences***STUDY OF STATUS OF VITAMIN D IN CASE OF DEGENERATE AND DYSTROPHIC DISEASES OF JOINTS**

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Osteoarthritis (OA) takes a leading place in the structure of diseases of locomotor organs. Roentgenological symptoms of OA manifest themselves at more than 85% people older than 60 years and clinical ones are evident at 12 (1,2). Studies of this aspect of osteoarthritis in Kazakhstan were not conducted.

The aim of the given research is study of the content of vitamin D at patients affected by osteoarthritis.

**Materials and Methods**

Research was conducted at the arthrology department of Astana Research Institute of Traumatology and Orthopedy. Forty six patients were examined, their average age being  $58,4 \pm 3,6$  years. OA was diagnosed on the basis of unified criteria worked out at the Institute of Rheumatology RAMN. Roentgenological criteria according to Kellgren J. H. and Lawrence J. S. were used.

Patients were divided into 3 groups. The first group consisted of women with OA disease still having menstrual cycle (n=8). The second group was presented by women with OA disease in menopause (n=24). The third group consisted of men with OA disease at the age from 40 to 72 years (n=14). Control group consisted of practically healthy people (n=10). Vitamin D was defined by the method of immunofluorescent analyses. Research was conducted at the laboratory of clinical immunology according to instructions of the producing company.

**Results and Discussion**

As it is known, involutive changes in bones and joints seriously affect the course of OA and there is a direct correlation between the age of a patient and heaviness and prognosis of a disease. The total number of patients was 46, more than a half of them being older than 60. According to assessment of functional defect of joints patients having II and III stages dominated.

Average value of vitamin D concentration in patients having menstrual cycle was  $38,1 \pm 5,8$  nmol/l, it was 49% lower than in a control group ( $66,6 \pm 15,5$  nmol/l;  $p < 0,02$ ). It was stated that 19 patients in postmenopause group had  $35,01 \pm 7,5$  nmol/l, which was lower than in a control group ( $p < 0,001$ ). In the third group 9 male (64%) showed reduction of vitamin D, average value of vitamin D concentration for men was  $34,9 \pm 21,5$  nmol/l which differed statistically from the control group ( $p > 0,5$ ). Deficit of D vitamin manifesting clearly for elderly people may be explained proba-

bly by insufficient exposure to sunshine and decreasing skin ability of synthesis of vitamin D (2,6). Anomalies of this kind are not compensated by the substances entering inside with the food, as dairy products do not contain sufficient quantity of vitamin D. Deficit of vitamin D accompanies and complicates the deficit of calcium which is also common for a large number of elderly patients. It is evident, that a category of patients under observation does not reflect condition of all patients in a full degree, however it represents some kind of a "model" of a high risk group, exposed to not only osteoporosis but osteoarthritis as well (3,4,5).

Thus, it was stated that the majority of examined patients with degenerate and dystrophic diseases of joints had deficit of vitamin D which speaks in favour of conducting substituting therapy, caused by vitamin D deficit.

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**BIOCHEMICAL MARKERS OF THE BONE METABOLISM UNDER OSTEOARTROSIS**

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A problem of osteoarthritis (OA) has got a special medical and social significance due to the growth of this disease (1). Nevertheless, condition of bone metabolism at OA is not properly studied. It is known that osteocalcin (OCC) is synthesized by osteoblasts. OCC is growing in the period of menopause. It is correlated with the decrease of mineral density of osseous tissue in a lumbar section of a spinal cord.

**Materials and Methods**

The given research was conducted at the arthrology department of the Research Institute of Traumatology and Orthopedy. The group under research consisted of 46 patients with OA. Their average age was 58,  $4 \pm 3,6$  years. Patients were divided into 3 groups: female patients still having menstrual cycle (the first group; n=8); female patients in postmenopause (the second group; n=24) and male patients with OA (the third group; n=14). Control group included practically healthy people (n=10). Studies of OCC content were conducted in laboratory of clinical immunology of NIITO according to producer's instructions.

**Results and Discussion**

The levels of serum OCC were evaluated at 32 women (8 with menstrual cycle and 24 in postmenopause, not treated with glucocorticoids) and at 14 men.