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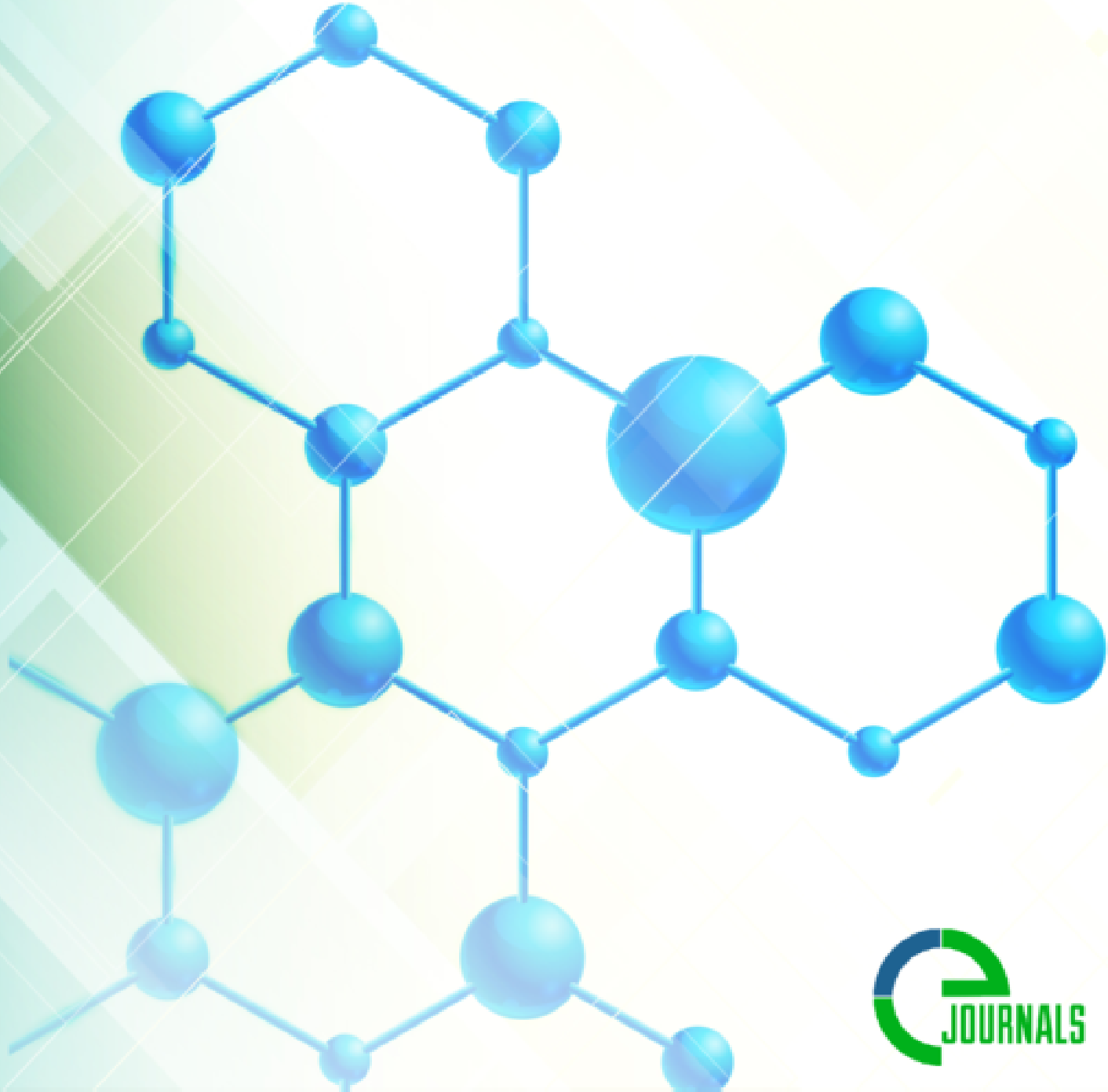

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EFFECTIVENESS OF VITAMIN D IN THE TREATMENT OF BONE REMODELING IN ANKILOZING SPONDYLOARTHRITIS

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Objective: To study the effectiveness of vitamin D (alphacalcidol) in the treatment of osteoporosis (OP) in patients with ankylosing spondylitis (AS).

Results. 52 patients with OP identified AS were divided into 2 groups: group 1 - 24 patients receiving alphacalcidol 0.5-1 mcg "Mineralf", group 2 - 28 patients receiving 1000 mg of calcium. All indications were re-examined before and 6 months after treatment. When patients were treated with alphacalcidol for 6 months, bone and spine pain decreased by 27.2% (P <0.001) and muscle strength increased by 16.1% (R <0.05). In the control group, no positive clinical results were observed. Patients responded well to alphacalcidol. Side effects were almost non-existent. Only 1 patient had hypercalcemia at a dose of 1 mcg per day, and another had a headache.

Key words: ankylosing spondylitis, osteoporosis, calcium supplement, vitamin D.

Ankylosing spondylitis (AS) is one of the brightest and most pronounced manifestations of seronegative spondyloarthritis (CNSA), a chronic inflammatory disease of the ileosacral adhesions, spinal joints and peripheral joints, leading to ankylosis of the joints, calcification of the spinal joints [2.4]. The proportion of occurrence of this disease among other illnesses of the SNSA group is higher, injuring human life, especially men at an early age. This disease deprives them of the opportunity to live fully, the ability to work, worsening quality of life, leading to early disability. Given that 36% of disability associated with rheumatic diseases (RD) accounts for AS. There is no doubt that this disease is not only a medical but also a social problem which plays an important role among RD [5]. Chronic and severe AS leads to deterioration of quality of life in patients and the development of mental problems. Most of these consequences are due to osteoporosis (OP) [8,9]. In recent years, OP has been considered as one of the current problems of modern rheumatology. The study of OP in patients with AS is of theoretical and practical interest. According to the literature, OP is one of the most common complications of this disease [1,6]. According to many authors, the development of OP in AS is associated with an inflammatory process in the disease. However, disability and limited physical activity in patients with AS also lead to OP, and pharmacotherapy in this disease, in turn, affects bone marrow as well. The prevalence of OP occurrence in AS patients has not been fully pathomorphologically studied [7,10].

Objective: To study the effectiveness of vitamin D (alphacalcidol) in the treatment of OP in patients with AS.

Materials and Methods: The study involved 52 patients with AS and OP identified. Patients in whom OP was not detected with AS disease, patients who took medications that caused the development of OP were not included in the study. Only patients aged 24 to 66 years participated. The mean age of the patients was 38.52 ë 1.41. The study involved patients in the department of specialized arthrological outpatient treatment of the multidisciplinary clinic in the Tashkent medical academy.

The following examinations were performed in patients before and 6 months after treatment to determine the level of disease activity, joint functional insufficiency (BFE),

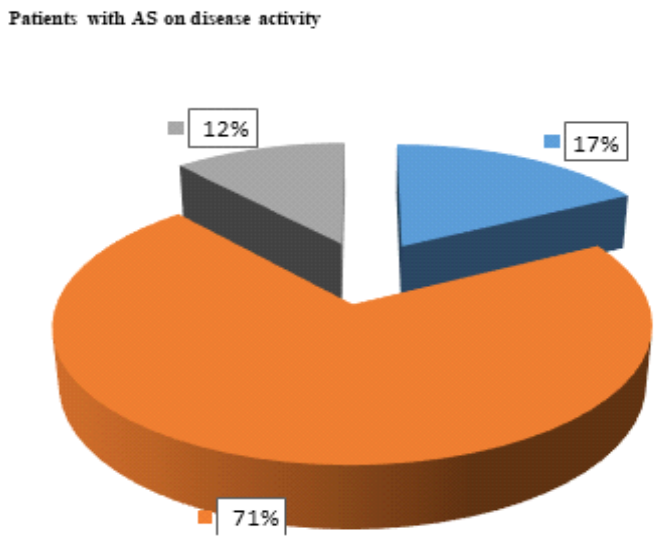
radiological stage. The effectiveness of the treatments performed:

- Clinical examinations (collection of complaints, duration of morning numbness (min), medical history);
- Objective examinations (Tomayer, Otto, Shober, thoracic interval, "thread" test, chest excursion, and BASDAI, BASFI indices, health assessment criteria The truth has been established).

Clinical signs of osteoporosis are characterized by bone pain, muscle pain, and frequency of fractures, in which bone pain is assessed on a 3-point scale: 1 no pain; 2 weak pain; 3 Severe pain.

Patients underwent general and biochemical blood tests (leukocyte count, ECG, serum calcium, alkaline phosphatase, urea content), acute phase inflammation tests (S-reactive protein), immunological tests (HLA-B27), instrumental examination of the pelvis and X-ray of the pelvis. Osteodensitometry was also used.

Research results. In terms of activity level, patients with AS were distributed as follows (Figure 1) - minimal (I) activity level of the disease in 9 patients (17.3%), moderate (II) activity in 37 patients (71.2%) and 6 (11,5%) noted a high (III) activity level of the disease in the patient.



The distribution of patients under observation by clinical forms of AS was as follows: the largest proportion of patients - 26 (50%) patients had a central form of the disease (with a predominance of lesions of the spine and lumbar-lateral adhesions). Rhizomelic (spherical, i.e., with damage to the shoulder, pelvic joints) and peripheral (with damage to the spine and peripheral joints of the limbs) forms were 24% and 26%, respectively.

X-ray examination of the patients on examination revealed bilateral sacroileitis in all patients. Radiological stage II of sacroileitis was diagnosed in 21 patients (%), radiological stage III in 20 patients (%), and radiological stage IV in 11 patients (%).

Visceral changes were detected in 9.16% of patients. Symptoms of cardiac damage (myocarditis) and iritis were detected in 5.8% of patients with articular-visceral form of the disease.

The main indications for ultrasound osteodensitometry:

- VMS is an indicator of the mineral status of bone tissue, measured in grams.
- VMD is the mineral density of the tissue, measured in g / cm2.
- T - criterion: the ratio of the obtained bone density to the normal density.
- Z - criterion: the ratio of the obtained bone density to the average of a group of

people of this age and sex.

Typically, the T-criterion indicates the normal state of bone tissue when it is -0.9 to +2. When the first signs of bone tissue pathology, ie osteopenia, begin to appear, the T-criterion decreases from -1.5 to -2.5, when this criteria decreases to -2.5, OP can be considered.

Out of 52 patients were involved in our study, 30 were diagnosed with osteopenia and 22 with osteoporosis.

Patients with AS diagnosed with OP were divided into 2 groups and assigned the following course of treatment: Group 1 - 24 patients with OP who received the drug alfacalcidol "Mineralf", Group 2 - 28 patients who received calcium supplements. At the same time, patients of group 1 were prescribed 0.5-1 mcg of mineral per day, and group 2 - 1000 mg of calcium per day. All parameters were re-examined before and 6 months after treatment (Table 1).

Table 1

Clinical indications	**1 group (alphacalcidol 0.5 - 1 µg / day) n = 24**		**2 groups (calcium preparation 1000mg / day) n = 28**	
	before treatment	**after treatment**	**before treatment**	**after treatment**
Pain in the bones (in points)	2,44 ± 0,08	1,8±0,061*	2,46±0,07	2,39±0,05*
Muscle strength (kg)	54,6±2,8	63,4±2,62*	53,1±2,0	53,9±1,8*

Note: * P <0.05 is the difference between pre- and post-treatment readings

As can be seen from the table above, bone and spine pain decreased by 27.2% (P <0.001) and muscle strength increased by 16.1% (R <0.05) in patients after treatment. In the control group, compared with the main one, treatment efficiency was relatively weaker. Patients responded well to alphacalcidol. Side effects were almost non-existent. Only 1 patient had hypercalcemia at a dose of 1 mcg per day, and another had a headache.

Conclusion: Based on the results of the study, we can say that Vitamin D deficiency is one of the main risk factors for the development of OP. We know that Vitamin D ensures the normalization of the process of adsorption of calcium from the intestines and metabolism in bone tissue. In addition, vitamin D is involved in maintaining muscle and nerve function in the body. Vitamin D shortage leads to an increase in bone metabolism, which in turn leads to an increase in bone mass loss and the occurrence of fractures. In addition, vitamin D scarcity leads to loss of muscle mass, leading to fractures. So, for

another reason, like OPs, vitamin D, especially the mineral drug, is effective in the treatment of OP developed in AS.

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