

MODERN CRITERIA FOR ASSESSMENT OF BONE DENSITY STATUS IN PATIENTS WITH RHEUMATOIDARTHRITIS

Tuychiyev Sardor Azamatovich

Trainee-researcher at Karshi State University

Annotation:

This article presents methods of research on the causes of bone loss in patients with rheumatoid arthritis and the factors that increase it, as well as the criteria for its early detection and diagnosis.

Keywords: Osteoporosis, osteopenia, malabsorption, densitometry, rheumatoid arthritis, menopause, osteonecrosis, matrix.

Rheumatoid diseases (RK) are one of the most common forms of human pathology. The problem of RK is considered one of the most important not only medically, but also socio-economically. Epidemiological data show that according to the X revision of the international classification of diseases, up to 15% of the population suffers from musculoskeletal system and connective tissue diseases (MSDS). It is also known that degenerative changes are significantly increasing in these diseases, especially in the elderly. About 85-90% of people over 70 years old have these diseases [6]. At the same time, many CKs (mainly systemic inflammations) begin at a young age and, as a result of their chronicity and continuous exacerbation, lead to loss of working capacity. The life expectancy of patients with chronic RK is lower than the average population. In view of the high importance of CK for health worldwide, the World Health Organization (WHO, January 13, 2000, Geneva) decided to hold an international decade dedicated to the study of CKD - The Bone and Joint Decade 2000-2010 [15].

These conditions led to the selection of research objects (patients with RA, SKV, OA, AS), in which various aspects of osteoporosis were studied.

Bone mass status in patients with rheumatoid arthritis

Determination of bone tissue hardness was performed in 143 patients with RA using an ultrasound bone densitometer Achilles +S0I0 (Lunar, USA). When describing the examined group, its main classification parameters (systemicity, activity, stage, functional insufficiency of the joints, nature of progression), as well as heterogeneity in terms of age, duration of the disease should be noted (table 1). The control group consisted of 214 healthy women aged 30 to 79 years.

Table 1 Clinical characteristics of patients with RA who underwent densitometric examination (t±SO)

Rated indicators	Indicators
Age	56,63±12,7
Duration of the disease, years	8,77±7,1
Number of premenopausal patients	37
Average age of premenopausal patients, years	42,1±8,26
Number of postmenopausal patients	106
Average age of postmenopausal patients, years	61,0±10,19
Duration of menopause, in years	12,5±9,1
Disease activity:	
- I degree	43
- Level II	55
- Level III	45
Radiological levels:	
- I degree	11
- II degree	43
- III degree	53
- IV degree	36
Functional impairment of joints:	
- Lever I	37
- Level II	79
- Level III	27
Systematic (yes/no)	94/49

Patients with stage 1 RA were divided into 2 groups: low bone mass (BM) (T-score <-1) and normal bone mass (T-score >-1). It was found that 77% of patients with RA had low SM, i.e., osteopenic syndrome, compared with healthy controls, the differences were reliable (p<0.01) (Table 2).

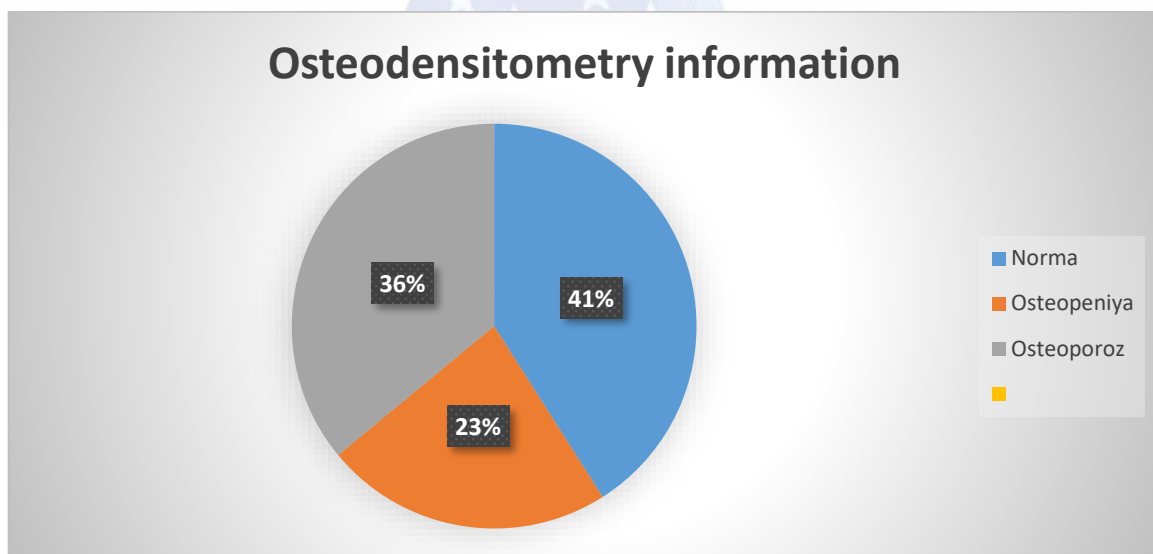
Table 2 Frequency of occurrence of osteopenic syndrome in patients with RA

Bone density status (by T-criterion)	RA patients (n=143)	Control patients (n=214)	P
T<-180	77%	64%	<0,01
T>-180	23%	36%	

Then, according to the table of comparison of the proportions of signs of connection between patients with RA and healthy individuals, the T-score was evaluated in cases where the T-score was less than -2.5, that is, the OP with the diagnosis of OP also had RA. more reliably identified among patients with.

Bone density status (by T-criterion)	RA patients (n=143)	Control patients (n=214)	P
T<-2,5	41%	20%	<0,001
T> -2,5	59%	80%	

Then, according to the table of comparison of the ratios of signs in the groups of patients with RA and healthy individuals, the T-score was less than -2.5, that is, the diagnosis of OP was made. OP was also more reliably detected among patients with RA.



Taking into account the differences in the development of bone tissue in women, depending on the reproductive age, we considered it appropriate to consider separately the group of women with RA in the post- and premenopausal periods.

A group of women with premenopausal RA was formed, this group consisted of 37 people, their average age was 42.1 ± 8.26 years. A group of 79 healthy women was selected as a control group, their average age was 42.15 ± 5.69 years.

Table 3 Frequency of osteopenic syndrome in premenopausal women with RA

Bone density status (by T-criterion)	RA patients (n=37)	Control patients (n=79)	P
T<-1	43,2%	24,1%	<0,05
T> -1	56,8%	75,9%	

Comparative analysis of bone mass status again showed a significant predominance of osteopenic syndrome among premenopausal women with RA (Table 3). The number of patients diagnosed with OP was also higher in the RA group (Table 4).

Table 4 Incidence of osteoporosis in premenopausal women with RA

Bone density status (by T-criterion)	RA patients (n=37)	Control patients (n=79)	P
T<-2,5 80	8,1%	0%	<0,05
T> -2,5 80	91,9%	100%	

In postmenopausal women with RA, decreased bone mass (T<-1) was detected in 87.7% of cases, which was reliably higher than in the control group, and osteopenic syndrome was detected in 71.7% of cases in the control group (p<0.05). (table 5).

Table 5 Frequency of osteopenic syndrome in postmenopausal women with RA

Bone density status (by T-criterion)	RA patients (n=37)	Control patients (n=79)	P
T<-2,5 80	8,1%	0%	<0,05
T> -2,5 80	91,9%	100%	

In postmenopausal women with RA (rheumatoid arthritis), a decrease in KM (T<-1 BI) was found in 87.7% of cases, which is much higher than in the control group, which had osteopenic syndrome in 71.7% of cases. observed (r<0.05) (table 6).

Table 6

Bone density status (by T-criterion)	RA patients (n=106)	Control patients (n=166)	P
T<-1	87,7%	71,7%	<0,05
T> -1	12,3%	28,3%	

In postmenopausal women with RA (rheumatoid arthritis), OP (osteoporosis) was diagnosed based on bone densitometry in 54.7% of cases, and only in 25.9% of cases in the control group (mean age 62±9.17 years) (table 7).

Table 7 Rate of occurrence of osteoporosis in postmenopausal women with RA

Bone density status (by T-criterion)	RA patients (n=106)	Control patients (n=166)	P
T<-2,5	54,7%	25,9%	<0,001
T> -2,5	45,3%	74,1%	

Thus, BMD (bone mass) status in women with RA (rheumatoid arthritis) shows significant differences by reproductive age (Figures 2 and 3).

Clearly, women with RA (rheumatoid arthritis) have a significantly increased rate of bone loss in the postmenopausal period, leading to the development of osteoporosis in more than half of

the patients examined, whereas in an age-matched control group, osteoporosis was only It was found in 25.9% of cases. At the same time, osteopenia was observed in one third of patients with RA in premenopausal and postmenopausal groups.

In this regard, we consider it important to emphasize the need for bone densitometry in all patients with RA, including those who develop the disease at a young age. The dynamic assessment of densitometric parameters allows to determine the rate of bone loss and to carry out secondary prevention of osteoporosis before the development of osteopenic syndrome.

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