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THE STATE OF BONE MINERAL DENSITY OF WOMEN IN THE PERIMENOPAUSAL PERIOD

Nazirova M.U
Kattakhodzhaeva M.Kh.
Asilova S.U.
Tashkent State Dental Institute
Tashkent Medical Academy, Department of Traumatology and Orthopedics

Abstract: With the increase in life expectancy, the problem of dislocations and fractures in women is becoming increasingly important. These pathologies are directly related to the state of bone mineral density. Studies were carried out on 68 women in the perimenopausal period.

Group 1 was aged 45 to 55 years, group 2 was aged 56-65. It was revealed that out of 38 women of the 1st group of patients, normal parameters were the norm in 18 (47%) patients, OT in 14 (37%) patients and OP in 6 (16%) patients. In group 2, there was a decrease in normal values by 3 (10.0%) and an increase in the number of OA10 (30.5%) and OP 17 (56.6 5%), i.e. there is a decrease in bone density with age. Age dynamics of BMD by SOS depending on age in the first group was noted T-score, SD- 1.80 and SOS-3685; in the second group, T-score, SD-2.2 and SOS-3839 were noted. The dynamics of the decrease in BMD depends on the increase in the age of patients, which is associated with compensatory mechanisms.

Keywords: ultrasound densitometry, BMD, T-score, perimenopausal women, ultrasound (SOS), Osteopenia (OA), Osteoporosis (OP).

Introduction. Osteoporosis_ is a progressive systemic disease in which the human skeleton is affected, the density decreases and the structure of bone tissue is disturbed. Postmenopausal osteoporosis is associated with a decrease in the production of female sex hormones. Senile osteoporosis is associated with the general aging and wear and tear of the body, a decrease in the mass and strength of the skeleton after 65 years. Corticosteroid osteoporosis - occurs with prolonged use of hormones (glucocorticoids). Secondary osteoporosis - occurs as a complication of chronic diseases: diabetes mellitus, lung diseases, chronic renal failure, hypothyroidism, hyperparathyroidism, cancer, rheumatoid arthritis, Bechterew's disease. The disease is often diagnosed already in the presence of a fracture. In this case, diseases can occur with minimal trauma, lifting weights. Currently, one of the urgent problems is bone injuries due to osteoporosis (1, 3,7). And, undoubtedly, such conditions are associated with a decrease in bone mineral density in women of the older age group, postmenopause (7, 9, 12). Aspects of the influence of social status, living in urban or rural areas, and various environmental factors were also studied (3.7, 13.17). Osteoporosis, with its consequences, is one of the main causes of women's disability. The International Osteoporosis Association claims that "every third woman over 50 suffers from osteopenia, osteoparosis and its consequences." This situation requires the development of therapeutic and diagnostic measures to prevent osteoporotic fractures and other complications.

A number of studies are being carried out in the world on the problems of bone metabolism disorders and bone tissue resorption processes, in particular, methods for studying bone tissue using light and atomic force microscopy are being developed, methods for studying OP by studying the dynamics of BMD are being actively developed (10,14). However, despite the fact that the developed methods for diagnosing osteoporosis

are quite wide, the pathogenetic mechanisms have been little studied and require a special modern approach to the diagnosis of this disease. It is logical to assume that bone density disorders begin long before the onset of postmenopause. Questions arise about the impact of reproductive function, the hormonal status of the number of pregnancies in history and other conditions associated with the reproductive system. In our country, research is underway to develop methods for early diagnosis, prevention and treatment of osteoporosis and its complications. Programs are being implemented to improve the social protection of the population and healthcare, to improve the quality of medical care provided to patients, and high-tech diagnostics. including such important tasks as "... supporting a healthy lifestyle of the population and increasing physical activity ...", early diagnosis of associated diseases in women in PHC (2,3,10). To improve the prevention of osteoporosis and improve the quality of medical services, especially for women in PHC, it is important to predict and diagnose OP in premenopausal and earlier periods, prevent complications such as bone fractures, reduce disability and mortality, and improve the quality of life of women in PMP.

The aim of the study was to develop a system for optimizing existing methodological approaches aimed at improving the quality of diagnosis and prevention of osteoporosis in perimenopausal women in Uzbekistan by studying the relationship between the structural and functional state of bone tissues and obstetric and gynecological status.

Research methods. Ultrasonic densitometric studies were carried out using an MSLBD01 sonodensitometer (China) using an ultrasonic linear probe. The studies were carried out at the level of the distal radius. The obtained data were interpreted according to the WHO classification according to the T-criterion and the speed of ultrasound (SOS).

Research results. We conducted a study in 68 sick women in the perimenopausal period. At the age of 45 to 65 years. Patients are divided into 2 groups. The first group is from 45-55 years old, the second group is from 56-65 years old. The perimenopausal form of osteoporosis refers to primary osteoporosis, so the severity of its manifestation is closely related to lifestyle. The main link in this goal is the dynamics of the increase in bone mineral density until adolescence and its subsequent decrease due to increased bone resorption in the menopausal period. This process can proceed both naturally and in a disturbed variant. Risk factors affect the course of osteoporosis not only during the manifestation of the disease, but also throughout the life of the patient, from the first years of life.

It is generally accepted that the bones of a child at birth contain within 25 grams of calcium. In the process of development, by the age of 18 in the skeleton, this mass increases to 1000 grams. It is known that with the onset of menopause, bone mass decreases annually by up to 1% per year (5,6). This rule is valid if:

- the child was born from normal childbirth in compliance with the optimal period of childbearing;

-at birth, there are no malnutrition and other signs of severe somatic diseases;

- there are no errors in the nutritional factor, the child consumes the recommended amount of calcium and other ingredients with food;

- the absence of diseases such as rheumatism, diabetes mellitus, diseases of the genitourinary system, diseases of the gastrointestinal tract and other diseases and bad habits related to risk factors for osteoporosis;

- as an adult, a woman observes the optimal timing of childbearing and gives birth to the optimal number of children.

The nutritional factor and other somatic diseases are the dominant risk factors for the development of osteoporosis from the early years of a patient's life (4,17). The main reasons for the alimentary factor were having many children, the use of monotonous

and low-calorie food with insufficient calcium content. Moreover, this took place throughout the life of the patient, from childhood to the menopausal period.

According to the literature data, gastrointestinal diseases take the second place in the structure of risk factors for osteoporosis (2,4,18). Among them, the most common are nonspecific colitis, in which the processes of calcium absorption in the intestine are disturbed.

Iodine deficiency diseases also belong to the category of common pathology in Uzbekistan, which are often found in women.

According to our surveyed women, back pain was observed in 30 women, convulsions and pain in the lower extremities in 8, a fracture of the ulna in 3 (aged 25, 42, 48 years). It should be noted that 81% of the examined women suffer from anemia. Chronic adnexitis in 14 women (29.8%), chronic pyelonephritis in 12 women (26.7%), menstrual dysfunction in 22 women (34.8%). Diabetes mellitus in 4 women (with a course duration of 3-10 years). Diseases of the thyroid gland in 12 women, diseases of the gastrointestinal tract in 16 women. Intolerance to dairy products in 12 women, in 6 women obesity of the second degree. Of the 68 women, five underwent amputation of the uterus with appendages at the age of 35-42 years. The studies were carried out at the level of the distal radius. The obtained data were interpreted according to the WHO classification according to the T-score and the speed of ultrasound (SOS).

According to the recommendations of the WHO expert group on osteoporosis (WHO, 1994), the standard deviations of T- and Z-score are above -1.0 SD as a norm, below -1.0 SD as a decrease in BMD.

Z-score - the number of standard deviations in the difference between the average in persons of the corresponding gender and race;

T-score - standard deviation, which calculates how much the result differs from the average result of a healthy 30-year-old person.

The patients were divided into 2 groups, as mentioned above, depending on age: the first group of 45-55 years old, the second group of 56-65 years old.

Distribution of patients depending on the BMD in the first and second group before and after treatment

WHO criteria	I group 45-55 years old	II group 56-65 years old
Norm	18 (47%)	3 (10,0%)
OA	14(37%)	10 (30,5%)
OP	6 (16%)	17 (56,6%)
Total	38 (100,0%)	30 (100,0%)

The table shows that out of 38 patients in the first group there was a norm in 18 (47%) patients, OA in 14 (37%) patients and OP in 6 (16%) patients. In the second group of 30 patients, the norm was in 3 (10%) patients, OA in 10 (30.5%) patients, and OP in 17 (56.6%) patients.

When studying patients in women in the perimenopausal period, a noticeable decrease in BMD was observed in the second group.This indicates aclose relationship between Osteopenia and Osteoparosis, which contribute to the development of each other. BMD in women in the perimenopausal period decreases with age and duration of the disease, which is observed in the first and second groups, i.e. there is no such sharp rate of

decline in the digital indicators of the first and second groups. In the correlation analysis of data between BMD with the age of patients and the duration of the disease, a dynamic decrease in BMD is observed with an increase in the age of patients and the duration of the disease. When examining patients, it was found that the greater the age and duration of the disease, the lower the IPC. Indicators of ultrasound densitometry showed a similar correlation in the age aspect and duration of the disease in relation to the risk of fracture, a positive correlation was determined between age, duration of the disease and densitometric risk of fracture. Thus, by increasing the age of patients and the duration of the disease, a deterioration in the condition of the bone tissues of the radius and the development of OA and OP were noted, which confirms the comparative and correlation analysis of the study data. At a late stage of the disease, a correlation and comparative analysis of the dependence of BMD according to the T-criterion on age shows a direct correlation.

Age dynamics of BMD according to SOS depending on age

Groups and IPC	SOS indicators in the age aspect distal forearm	
	the first group is 45-50 years old	The second group is 56-65 years old
T-score, SD	-1,80	-2,2
SOS	3685	3839

In the age aspect, the patients showed the dynamics of the decrease in the BMD, depending on the increase in the age of the patients.

PC determined the level of mineral density of the distal part of the radial bone tissue. Z-score - the number of standard deviations in the difference between the average in persons of the corresponding gender and race;

When analyzing the results of densitometry, it was noted that the level of BMD decreased depending on the age of the patients and the duration of the disease. BMD in patients of the study group aged 56-65 years was significantly lower than in women 45-55 years old BMD deviation from the norm was less common.

Thus, the results of densitometric studies allowed us to draw the following conclusions:

A study of women in the perimenopausal period revealed a decrease in BMD, which was more often observed at the age of 56-65 years (T-score and Z-score on average = -1.6) in 78% of cases. treatment was markedly reduced depending on the stage of the disease and the age of the patient.

Thus, we noted that the statistical analysis of the obtained densitometric data between the first and second groups, depending on age, revealed a decrease in BMD, respectively, with an increase in age, duration and stage of the disease. This indicates that the decrease in Bone Mineral Density in perimenopausal women decreases with age and duration of the disease.

Conclusions:

1.The dynamics of the decrease in BMD depends on the increase in the age of patients and the duration of the disease.

2.The relationship between BMD and PMP was revealed.Bone tissue resorption is intense in the first group (average T-Score = - 1.90), compensated with age (average T-Score = - 2.0), which is associated with compensatory mechanisms.

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