

Osteoporosis is a metabolic bone disease characterized by a decrease in the bone mass and density what makes them prone to fractures. As defined by the World Health Organization (WHO), osteoporosis is diagnosed if the bone mineral density measured with the osteodensitometer is 2.5 or more SD (standard deviations) below the average for young healthy adults.

Approximately 10% of human population suffers from osteoporosis, although it is seen most commonly in women. It is estimated that one of four women and one of eight men older than 50 years have this disease. It is assumed that, in next few decades, osteoporosis is likely to become a medical problem and social and economic burden to a much greater extent.

Actual aims include creation of optimal body density during the young age, genetic risk factors identification, optimization of glucocorticoid therapy while synthesizing those who are not affecting the bones. Majority of actual medications decreases bone mineral density while only a few incites a creation of new bones. Many studies aim at developing new anabolic drugs also giving a large attention to secondary osteoporosis prevention.

MMA CLINIC FOR RHEUMATOLOGY

Military insured and patients with civilian health insurance coverage and GP's referral can seek an appointment scheduled via the Appointment Lines, every day from 07.30 a.m. to 03.30 p.m.

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OSTEOPOROSIS



How does it occur?

The bone mass peaks between the ages of 25 and 30 years and declines gradually until the age of 50 at a rate of 0.5-1% per year. After the menopause, the bone loss rate in women may amount up to 10 % per year. Its particularly rapid increase is seen in the first five to ten years after their menopause. The age-related osteoporosis, also called senile osteoporosis, may occur in both women and men after the age of 70 years due to the vitamin D deficiency. The non-modifiable genetic risk factors account for 80 % of variance in the bone mineral density. Everything else depends on the factors that can be controlled.

What are the common factors for osteoporosis?

The proper nutrition plays the crucial role in ensuring an adequate calcium and vitamin D intake. Regular physical activity is important as well. Tobacco smoking and the excessive alcohol and coffee intake affect the bone mineral density.

Does it mean that osteoporosis can be prevented?

Yes, it does. With a regular nutrition and physical activity, avoidance of smoking, alcohol and coffee consumption, the young will reach the maximum and genetically predisposed mineral density of their bones.

Do certain diseases and medications increase the osteoporosis risk?

Yes, they do. Such diseases include thyroid and parathyroid gland disorders, some digestive diseases, rheumatoid arthritis and some neuropsychiatric diseases. As for the drugs, glucocorticoids, antidepressant and antiepileptic drugs pose the greatest risk for triggering osteoporosis.

How to detect and recognize early signs of

osteoporosis? Osteoporosis is a symptom-free disease because most patients do not experience any problems until a fracture occurs, and it can happen even during the regular physical activities. The most common fractures occur to the segments of the vertebral column, the neck of the thigh-bone and the bones of the forearm in the wrist region. These fractures, particularly those to the hip, can result in the permanent invalidity and a poor quality of life. The lethal outcomes are seen in even one quarter of hip-fracture patients during the first year after the fracture event, while the other such cases require a long-term medical and social help and support. Therefore, timely detection of the decreased bone density is most important. By classical X-ray examination, osteoporosis can be diagnosed only when the bone mineral density is less than 25-40 percent. The most accurate method for measuring the bone mineral density is the dual-energy x-ray osteodensitometry (Dual-energy X-ray absorptiometry (DXA) method), and the definition of the World Health Organization refers to the bone mineral density level measured using this method. Normally, it is always necessary to examine and evaluate the possible secondary causes of osteoporosis. Body density measuring is carried out routinely on lumbar part of the spine and hip, also possible on hand and complete body. It does not require special preparation for the examination. It is important mentioning that barium, used for this method disrupts lumbar spine examination. Scanning lasts about 5 minutes while the radiation received by the patient is negligible.

How to supervise the treatment effects?

Each increase of bone mineral density for 5-8 % reduces the fractures risk for about 50 %. Concerning the medication use and densitometer technical characteristics, bone density should be controlled at least one year after the treatment.

You have said that the DXA represents a golden standard, does it mean that there are other methods too?

Medicine used more and more X-Ray Osteodensitometry. It is mobile and relatively cheap. X-Ray Osteodensitometry is so called »screening method« although large number of finding is showing the same results. Lack of DXA apparatuses in our country imposed the use of X-Ray Osteodensitometry and its relevance and the findings received this way are completely relevant in therapy.

Who decides patient should make x-ray osteodensitometry?

General recommendation is osteodensitometry for women older than 65 years, women in the stage of menopause having at least one risk factor for osteoporosis, then all female patients having bone fractures with unknown reason, persons who decreased their altitude for at least 2.5 cm when classical X-ray diagnosed osteoporosis as well as for the persons who are taking glucocorticoids for a long time.

What to do when an osteoporosis is diagnosed?

Evaluation of the risk factors for fractures and beginning of the therapy for their prevention are necessary measures. Fracture risk calculators assess the risk of fracture based upon several criteria, including age, previous fractures, glucocorticoid therapy, family history, low body weight, smoking, immoderate alcohol usage, rheumatoid arthritis, secondary osteoporosis and falls. Making a choice between the medications, treatment method is adapted to patient. Base of treatment are sufficient intake of calcium and vitamin D as well as physical exercise. Majority of actual medications decreases bone mineral density while only a few incite a creation of new bones.

