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UNDERSTANDING OSTEOPOROSIS AND MEASURES TO PREVENT THE DISEASE.

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Abstract: The human body is in a constant state of repair. When you are young, repair and renewal are faster than wear and tear, but in old age, the opposite is true. The average healthy person develops peak bone mass around the age of thirty, and from that point on, it gradually declines, leading to weakening of the bones. In addition, other factors also determine how likely you are to develop osteoporosis . The article provides information about osteoporosis and the factors that cause it.
Keywords: Osteoporosis , clinical syndrome , bone fracture, stress , drugs , thyroid hormones, glucocorticoids , hereditary predisposition, lifestyle , physical activity , endocrinological status .

Introduction. The development of social life poses a number of extremely important and urgent tasks for the healthcare system of the Republic of Uzbekistan. In particular, the increasing incidence of osteoporosis among people today is evidence of our opinion.

Osteoporosis (Latin : *osteoporosis*) is a chronic progressive systemic metabolic (metabolic) disease of the skeleton or clinical syndrome , which manifests itself in other diseases and is characterized by a decrease in bone density and increased fragility due to a violation of their microarchitecture. Bone tissue metabolism This definition refers to osteoporosis as a disease of the musculoskeletal system and connective tissue (ICD-10) and supplements it with the concept of “metabolic or exchange disease ” [1] .

Every year, October 20th is World Osteoporosis Day.

Osteoporosis is a polyetiological disease, the development of which depends on genetic predisposition, lifestyle , physical activity , endocrinological status, the presence of concomitant diseases, medications, human aging, and individual life expectancy [3] . Osteoporosis is a condition characterized by weak and brittle bones. This condition often develops over a long period of time. It is found at a stage where the bones are so brittle and weak that even the slightest pressure or stress causes severe and severe fractures. Such fractures occur mainly in the spine, wrist, or hip, but breaks can also be seen in other bones in the body.

In humans, peak bone mass is reached between the ages of 20 and 30. Bone mass then remains relatively constant until the age of 35 to 40, after which it gradually begins to decline, with women losing bone mineral density (BMD) at a faster rate than men , likely due to estrogen deficiency during the peri- and postmenopausal period . [3] .

The level, quality, and strength of bone mineral density depend on the balance of bone formation and bone resorption processes that occur simultaneously during the constant renewal of bone tissue. The causes of bone mineral density loss, in addition to estrogen deficiency, are phosphorus - calcium metabolic disorders, parathyroid hormone levels, vitamin D , growth hormone, calcitonin, thyroid hormones, glucocorticoids , aging and its associated secretory phenotype, etc. [3] .

Today, it is common to assess the level of osteoporosis risk based on a number of objective data obtained from the anamnesis and results of a medical examination.

Classification of risk factors for osteoporosis
Genetic

- the Caucasoid or Mongoloid race;
- the presence of osteoporosis, pathological fractures and/or fractures of the femoral neck and spine in close relatives;
- old age and senility;
- female gender (the risk of osteoporosis for men is three times lower than for women);
- underweight (Asian women up to 57 kg, Caucasian women up to 56 kg, men of both races up to 60 kg);
- critical height (above 178 cm for women, above 181 cm for men);
- bone mass low point (objectively calculated);
- greater length of the femoral neck relative to the diaphysis ;
- generalized osteoarthritis ;

Endocrinological

- any hormonal imbalance;
- infrequent sexual activity ;
- early menopause (including post-oophorectomy);
- late menstruation;
- amenorrhea periods in the anamnesis before menopause ;
- of infertility ; Lifestyle-related

- smoking tobacco;
- alcohol consumption (alcoholism);
- adynamia , insufficient physical activity (decreased stimulation of bone mass growth by the muscular system);
- excessive physical exertion;
- long-term parenteral nutrition;
- dietary calcium deficiency (lack of the mineral in food or impaired absorption);
- Hypovitaminosis D (lack of vitamin D in food or living in northern regions).; Associated pathologies

- endocrine (hyperparathyroidism, thyrotoxicosis , hyperprolactinemia, diabetes mellitus , Cushing's syndrome, primary hypogonadism , Addison's disease);
- blood systems and hematopoietic organs (leukemia , multiple myeloma, lymphoma, pernicious anemia);
- systemic autoallergies (rheumatoid arthritis, Bekhterev's disease, polymyositis, systemic lupus erythematosus, etc.);
- digestive system (malabsorption);
- chronic circulatory failure;
- chronic renal failure ;
- condition after organ transplantation .
- depression [4] ; caused by long-term use of medications

- glucocorticoids (prednisolone ≥ 7.5 mg per day for six months or more);

- thyroid hormones (L-thyroxine, etc.);
- anticoagulants (direct, indirect);
- anticonvulsants (phenytoin, etc.);
- lithium;
- for the treatment of tumors (cytostatics, cytotoxins);
- methotrexate, cyclosporine A;
- tetracycline antibiotics;
- phosphate-binding antacids;
- of gonadotropic hormone and its releasing factor.

Bone is a living tissue that is constantly breaking down and being replaced. Osteoporosis occurs when the formation of new bone does not keep up with the loss of old bone. Men and women of all races are affected, although white and Asian women are at higher risk of developing the condition than most. A healthy diet, exercise, and medication can help reduce the weakening of bones. Osteoporosis is often asymptomatic and sometimes only becomes apparent when a fracture occurs. However, there are some signs that you can look for and treat early. These include:

- Bent position
- Loss of height
- Broken vertebra due to back pain
- Breaking bones easily

Many variables increase the risk of developing the disease. These can be classified as follows:

1. **Pre-defined risks**
   1. gender
   2. young
   3. race
   4. Family history
   5. Body frame size
2. **Nutritional risk**

   1. Eating disorders
   2. Gastrointestinal surgery
   3. Low calcium intake

3. **Hormonal risk**

   1. Decreased levels of sex hormones
   2. Thyroid problem
   3. Overactivity of the parathyroid and adrenal glands

4. **Taking medication** – Certain medications taken for a long time due to certain conditions, such as seizures , cancer, transplants, and gastroesophageal reflux disease, may increase the risk.
5. **Medical conditions** – Certain medical conditions, such as cancer, inflammatory bowel disease, lupus, celiac disease, multiple myeloma, and rheumatoid arthritis, significantly increase the risk of arthritis .

6. **Lifestyle** - Certain habits that shape your lifestyle can also increase your risk **of osteoporosis** . These include:

1. Excessive alcohol consumption
2. Tobacco use

Complications from a sedentary lifestyle especially concentrated in the spine or hip region of the skeleton. Fractures in these bones can also cause disability and even death. Spinal fractures can also occur without a fall. back pain , stooped posture, and loss of height. A healthy lifestyle, including adequate exercise and a healthy, balanced diet, can significantly reduce the risk of developing . To prevent the onset of serious illness, the following should be included in your diet or routine.

- Protein-rich diet
- Maintaining optimal body weight
- Regular intake of calcium and vitamin D
- Regular exercise, including strength training

Conclusion : This is an age-related disease that can be controlled with a balanced diet and a healthy active lifestyle. Prevention of this disease can be achieved by consuming plenty of calcium, proteins, and vitamin D. Finally, it is important to consult a doctor as soon as symptoms begin to prevent further damage and disability.

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