

THE EFFECT OF VITAMIN D ON THE MUSCULOSKELETAL SYSTEM OF WOMEN DURING MENOPAUSE

Ochilova Nusratoy Ismoil qizi

2nd year master's resident of SamDTU

Indiaminova G.N.

Scientific supervisor: PhD.

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Objective: Almost every cell in the body has a specific binding site for vitamin D on its surface - the VDR receptor (vitamin D receptor). Such receptors are present in almost all organs and tissues, with the highest concentrations observed in cells of the central nervous system, adipose tissue, cells of the immune system, muscles, tissues of the pancreas and the reproductive system.

Materials and methods of research. As a result of hypovitaminosis in childhood, the formation of the bone tissue peak is disrupted, which affects the strength of bone tissue throughout life. The problem of vitamin D deficiency is relevant for both children and adults (especially in old age). Thus, D-hypovitaminosis is observed in 73.7% of women and 61.7% of men. Severe, long-term vitamin D deficiency leads to hypocalcemia and secondary hyperparathyroidism, which leads to phosphate loss in the urine, bone demineralization, and ultimately osteomalacia (a condition in which the bones become thin, deformed, and easily broken).

Vitamin D deficiency is especially dangerous for women during menopause, as the level of sex hormones decreases at this time, which leads to bone loss. Hypovitaminosis accelerates this process and, as a result, osteoporosis develops (a disease associated with the loss of calcium in the bones, which makes the bones more fragile and easily damaged). This condition is accompanied by joint pain, large bones and frequent fractures, which can be critical in old age and are not fully reversible.

As mentioned above, vitamin D has regulatory activity on a large number of genes, including those affecting cell cycle, immunity, and metabolism. Recently, new information has emerged about the association between an increased risk of developing cancer and reduced blood levels of vitamin D.

Any other proliferation without differentiation, such as uncontrolled cell division and mutations, can lead to oncology. Vitamin D inhibits proliferation and stimulates cell differentiation, preventing the growth of cancer cells, which makes it effective in the prevention and treatment of breast, ovarian, prostate, rectal, stomach, bladder, esophagus, kidney, lung, pancreas, brain cancer, leukemia, myeloma, lymphoma.

Research results. All possible dosage options for vitamin D are presented in the D3-CAPS line, manufactured by the Minskintercaps unitary enterprise. The entire line (D3-CAPS ULTRA 500 IU, D3-CAPS 2000 IU and D3-CAPS 5000 IU, IU, D3-CAPS MAXIMA 50000 IU) is designed for the treatment and prevention of vitamin D hypovitaminosis in adults and children, taking into account international national recommendations with the participation of leading health experts. For the treatment of vitamin D deficiency, it is recommended to use preparations containing a higher content of cholecalciferol, for example, D3-CAPS, available in two dosages: 2000 IU and 5000 IU. Use of D3-CAPS 2000 ME Treatment of vitamin D deficiency in adults and adolescents over 12 years of age: 1 capsule per day for moderate D deficiency (25 (OH) D - 10-20 ng / ml) for a high course. To decide on the transition to prophylactic doses, laboratory monitoring of 25 (OH) D in the blood for 6-8 weeks. For the prevention and complex treatment of osteoporosis for people over 60 years of age: D3-CAPS 2000 ME , 1 capsule per day. D3-CAPS 2000 IU - a daily dose in one capsule for the prevention of low-traumatic fractures in the elderly in the complex treatment of osteoporosis. If the amount of calcium from food is insufficient, calcium preparations should be used to meet the daily need for this element. Use of D3-CAPS 5000 IU Treatment of vitamin D deficiency in adults and adolescents aged 12-18 years: take 1 capsule of D3-CAPS 5000 IU per day, then every 3 months with laboratory monitoring of 25 (OH) D in the blood to decide on the transition to prophylactic doses or continuation of treatment. D3-CAPS 5000 IU - a daily dose of vitamin D in one capsule for patients at high risk of vitamin D deficiency (malabsorption in the gastrointestinal tract, obesity, chronic liver and kidney diseases). It should be taken into account that for diseases/conditions accompanied by impaired absorption of vitamin D, daily intake of vitamin D is preferable to optimize absorption. The recommended dose of cholecalciferol for the treatment of vitamin D deficiency should be 2-3 times higher than the daily requirement of the age group (minimum 6000-10000 IU / day). D3-CAPS MAXIMA 50,000 IU Treatment of vitamin D deficiency in adults (from 18 years of age): - Treatment of severe vitamin D deficiency (level 25 (OH) D < 10 ng/ml) – 1 capsule per week (laboratory control of serum 25 (OH) D once every 3 months).

Conclusion: Vitamin D is a potent immunomodulator that strengthens innate immunity and prevents the development of autoimmune diseases. There is a direct link between low vitamin D levels and frequent acute respiratory infections. Vitamin D protects against respiratory infections by increasing the level of antimicrobial peptides in the lungs. The immunomodulatory activity of vitamin D is confirmed by data from large clinical trials showing the high efficacy and safety of topical vitamin D drugs in the treatment of psoriasis. Also in this literature there is a link

between low vitamin D levels and atopic dermatitis, severe bronchial asthma, rheumatoid arthritis, autoimmune thyroid diseases and multiple sclerosis.

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