

VITAMIN D DEFICIENCY IN PATIENTS WITH OSTEOPOROSIS

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Objectives. Vitamin D is important for calcium absorption and bone mineralization which is positively associated with bone mineral density. There is a direct relationship between BMD and fracture risk, with a decrease in bone strength and density associated with an increased incidence rate of fractures. Given the relationship between vitamin D and bone mineralization, optimal vitamin D status is essential for minimization of fracture risk.

Aim. The aim of study was to determine the frequency of vitamin D-deficiency and insufficiency in patients with osteoporosis.

Materials and methods. There were examined 283 patients with systemic osteoporosis aged 40-94 years who were treated

in department of age-related changes of musculoskeletal diseases D.F. Chebotarev Institute of gerontology. The average age of women – 65.26 ± 0.60 yrs, men – 65.25 ± 2.12 yrs. 25(OH)D and iPTH level was evaluated by electrochemiluminescence method (Elecsys 2010, Roche). Vitamin D deficiency was defined as level of 25(OH)D below 50 nmol/l, and vitamin D insufficiency as concentration of 25(OH)D of 50–75 nmol/l. Bone mineral density was measured by DXA.

Results. The study shows that vitamin D deficiency was diagnosed in 80.7% patients with systemic osteoporosis, insufficiency – in 11.5% examined. Secondary hyperparathyroidism was diagnosed in 13.9% cases. It was found significant correlations between 25(OH)D amount and bone mineral density at the level of Ward's zone ($r=0.14$, $p<0.04$), trochanter ($r=0.18$, $p<0.01$), proximal femur ($r=0.16$, $p<0.02$), lower extremities ($r=0.14$, $p<0.04$), forearm 33% ($r=0.13$, $p<0.05$). 82.2% patients with low-energy fractures has got vitamin D deficiency. In examined with vertebral fractures deficiency of vitamin D was registered in 86.5%.

Conclusions. The revealed high frequency of vitamin D deficiency in patients with systemic osteoporosis make doctors to pay attention to 25(OH)D status and update the doses of vitamin D supplements in Ukraine.

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NIEDOBORY WITAMINY D U PACJENTÓW Z OSTEOPOROZĄ

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Słowa kluczowe: witamina D, osteoporoza, kość, złamanie