LONG TERM TREATMENT OF POSTMENOPAUSAL OSTEOPOROSIS WITH ZOLEDRONIC ACID

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Aim: to study efficacy of Zoledronic acid (Zol) in the treatment of postmenopausal osteoporosis within 3 years. Methods: Clinical, DEXA (L1-L4, Neck); biochemical; immunoenzyme assay of bone turnover markers (BTM) - osteocalcin (OC) β-C-terminal telopeptides of type 1 collagen (b-crosslaps). Results: We studied 225 patients with postmenopausal osteoporosis using T-score DEXA. Mean age was 59.2 ± 6.8 years, mean menopause duration - 14 years (2 to 37). BMI= 27.2 ± 2.4 kg/m². 107 (47.5%) of patients had previous osteoporotic fractures: distal radius-40 (17.8%), vertebrae -12 (5.3%) and femoral neck- 5 (2.2%), peripheral - 50 (22.2%). The patients were treated with Zol 5 mg as a once-yearly infusion within 3 years and 1000 mg of calcium + 800ME vit.D3 daily. In all the patients the assessed mean values of BTM were in postmenopausal reference ranges at baseline. Most significant decrease in b-crosslaps (88% from baseline) was observed in 1 month after Zol infusion, in OC- after 6 months (28%) and to a lesser extent than b-crosslaps. After the 2-nd and 3-rd infusions the changes of BTM were similar, but to a lesser extent after each subsequent infusion of Zol (p<0.001). There were no significant hypocalcaemia registered after the infusions of Zol. After 36 months of therapy bone mineral density (BMD) increased by 7% in the Lumbar spine (L1-L4) and by 5.9% in the Neck (p<0.05). Conclusions: Zol has powerful antiresorptive effect on bone turnover. The prevalence of bone resorption suppression provided positive balance of bone remodeling and increase in BMD. Monitoring of bone turnover markers in first months after infusion allow to estimate the individual response to therapy with Zol.