de acção dos fármacos anabólicos e dos fármacos anti-reabsortivos e os estudos farmacológicos e clínicos efectuados apontam para um provável benefício para os doentes em usar ambos os agentes de forma complementar, isto é, iniciar o tratamento com um anabólico e seguidamente fazer um anti-reabsortivo.

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PP03. HYPERTHYROIDISM AND BONE

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Overt hyperthyroidism is a clinical condition caused by exaggerated levels of circulating thyroid hormones. Some of its main etiological factors are the hyperfunction of the thyroid gland and the iatrogenic cause, like the ministration of excessive doses of thyroid hormones. Some studies have shown that the prevalence of hyperthyroidism in women aged 65 or more, varies between 5 and 15%. The potential risks of hyperthyroidism are diverse and can vary from patient to patient; however, heart and bone complications are relatively common, especially among the elderly. Regarding the adult skeleton, several anomalies were described, namely reduced bone mineral density (BMD) and a higher osteoporotic fracture risk. Indeed, hyperthyroidism has been recognized to be an important cause of secondary osteoporosis and a risk factor for hip fracture in women. Moreover, these osteoporotic fractures are associated with a risk of precocious mortality, namely in the elderly. In adult life, after the acquisition of the peak bone mass, the excess of circulating thyroid hormones can lead to an increase in bone resorption, however, the mechanisms involved in their skeletal action are far from totally clarified. While T_3 is considered an important regulator of the bone tissue integrity and of the bone formation, T_4 can stimulate directly or indirectly the activity of osteoclasts. Bone remodeling accelerates while the bone formation period is decreased, originating an incomplete substitution with new bone cells and loss of mineralized bone. It is estimated that about 10% of mineralized bone is loss per cycle. Furthermore, TSH is a negative regulator of bone remodeling, inhibiting the formation, the survival of osteoclasts and the differentiation of osteoblasts. Recent studies have shown that low TSH levels, *per se*, can lead to osteoporosis and fragility fractures. Hypercalcemia, hypercalciuria and a negative balance of calcium were also described. The weight loss and the gastrointestinal changes (decrease in intestinal calcium absorption and modified vitamin D metabolism) are also associated to the reduction of the body lean mass, thus inducing a higher risk of fragility fractures. In old and young Portuguese patients with endogenous hyperthyroidism, both men and women, significant decreases in the BMD in several skeletal regions and an increase in the prevalence of osteoporosis/low BMD were observed. Moreover, in young Portuguese men with hyperthyroidism, we found a trend for an increase in the prevalence of osteoporotic vertebral fractures detected by VFA. In a group of postmenopausal women with hyperthyroidism compared to a control group, we detected a significantly higher prevalence of reduced BMD at all skeletal sites and also of osteoporosis. Regarding subclinical hyperthyroidism in postmenopausal women, we found already significant correlations not only in bone turnover markers but also in some of the hormones implicated in bone metabolism.

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PP04. OSTEOPOROSIS IN MEN

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Introduction: The bone strength and fracture risk depend on several parameters: macrogeometry of cortical bone, BMD, trabecular bone microarchitecture, bone microdamage, bone mineralization, and bone metabolism. The trabecular bone score (TBS) of the Ukrainian men with osteoporotic vertebral fractures has not yet been studied.

Objectives: To evaluate TBS and BMD in men with osteoporotic vertebral fractures.

Methods: We've examined 243 men aged 30-89 years, divided according to the gerontologic classification: 30-44 yrs (n = 46), 45-59 yrs (n = 83), 60-74 yrs (n = 86), 75-89 yrs (n = 28). The basic group consists of 52 men with osteoporotic vertebral fractures in the anamnesis (mean age – 59.8 ± 13.7 yrs; mean height – 1.73 ± 6.98 m; mean weight – 79.0 ± 14.9 kg) and control group. of 191 men without fractures (mean age – 57.4 ± 13.7 yrs; mean height – 1.74 ± 6.89 m; mean weight – 76.5 ± 9.3 kg). BMD of PA lumbar spine and proximal femur were measured by the DXA method (Prodigy, GEHC Lunar, USA) and PA spine TBS were assessed by the TBS iNsight® software package installed on DXA machine (Med-Imaps, Pessac, France).

Results: We have observed a significantly lower TBS in the basic group (30-44 yrs – 1.083 ± 0.187, 45-59 yrs – 1.025 ± 0.248, 60-74 yrs – 1.084 ± 0.170, 75-89 yrs – 0.951 ± 0.170) as compared to the control group (30-44 yrs – 1.276 ± 0.121, 45-59 yrs – 1.226 ± 0.156, 60-74 yrs – 1.150 ± 0.175, 75-89 yrs – 1.183 ± 0.174); $F = 1.56$; $p < 0.001$. We also found the lower BMD of lumbar spine in the basic group of patients – 30-44 yrs – 0.981 ± 0.125 g/cm^2, 45-59 yrs – 1.028 ± 0.184 g/cm^2, 60-74 yrs – 1.014 ± 0.158 g/cm^2, 75-89 yrs – 0.970 ± 0.183 g/cm^2 ($F = 1.52$; $p < 0.001$) and of the proximal femur – 30-44 yrs – 0.854 ± 0.149 g/cm^2, 45-59 yrs – 0.873 ± 0.139 g/cm^2, 60-74 yrs – 0.823 ± 0.136 g/cm^2, 75-89 yrs – 0.716 ± 0.107 g/cm^2 ($F = 1.10$; $p < 0.001$) compared to the control group.

Conclusions: Subjects with vertebral fractures have TBS and BMD parameters significantly lower than the healthy men.

PP05. DIABETES MELLITUS AND BONE MASS

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The complications of diabetes mellitus (DM) and osteoporosis may cause severe morbidity and decreased longevity. Osteoporotic fractures are common in patients with low bone mineral density or with osteoporosis, but in DM the blindness and other eye problems, the hypertension, the cardiovascular disease, the amputations and other late complications such as chronic renal disease and neuropathy are also common. Bone is a multifunctional tissue with mechan-