

## ENDOCRINE OSTEOPOROSIS

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Osteoporosis is a systemic skeletal disease characterized by low bone mass with microarchitectural deterioration of the bone tissue, leading to an increment in the fracture risk.

The evaluation of a patient with suspicious of osteoporosis includes the clinical history, physical examination and further laboratory tests to exclude potential causes of secondary osteoporosis.

Precocious diagnosis of osteoporosis is important to initiate the prevention of the fractures; at this moment, the osteoporosis diagnosis based on a low impact trauma fracture is unacceptable. The BMD T-score  $\leq -2.5$  SD and Z-score  $< -1.5$  SD or 2.0 raises the feeling of a secondary osteoporosis etiology, including some endocrine diseases, hormonal treatments or/and endocrine tumors that can cause bone loss or osteoporosis development.

The clinical history may be informative or the clinical signs may be sufficiently florid to allow an easy diagnosis, or conversely the diagnosis may be delayed by the absence of symptoms and/or clinical signs of a subclinical endocrine disease.

Pituitary tumors are associated to osteoporosis by several mechanisms: hypogonadism, hypercortisolism or hyperthyroidism, but the surgical therapy of some these tumors may cause a marked bone mass loss, above all when sex steroid replacement is contraindicated.

Hyperthyroidism increases the bone turnover with or without mild hypercalcemia and increased fracture risk.

Primary hyperparathyroidism, may induce cortical bone loss and other bone tissue lesions.

Osteomalacia, is also a main cause of accelerated bone mass loss in elderly people.

Cushing's disease (ACTH-dependent) and syndrome (due to adrenal cortex adenomas) originate hypercortisolism, consequent bone loss and doubling the vertebral and hip osteoporotic fracture risks.

Hypogonadism acquired after puberty is associated with an increased bone resorption and consequent decrease in the bone mass.

Diabetes mellitus type 1 and type 2 are also recognized etiologies of bone mass loss and osteoporotic fractures. Some therapies are associated with osteoporotic fractures.

Treatment. Precocious therapy of an endocrine disease inducing osteoporosis is important. The preventive non-pharmacological and therapeutic measures of osteoporosis, should be implemented and associated with the etiological therapy, such as increasing calcium ingestion or calcium and/or vitamin D supplements. There are no studies with the empirical therapy medications used for osteoporosis, and such drugs should be used carefully in such patients.