

## ACTH-independent Cushing's syndrome (CS) and multiple bone lesions

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**Background:** Cushing's syndrome is a rare disease with a prevalence of 1–2 cases/100,000 people in the population. Only 10% of patients have Adrenocorticotrophic hormone ACTH-independent Cushing's syndrome (CS) and a majority of those are women. We describe a case of a CS caused by bilateral adrenal micro nodular hyperplasia in patient with bone lesion suggestive of tumor.

**Case presentation:** A 51-year-old woman with history of papillary thyroid cancer and breast nodule was admitted in the hospital for multiple vertebral fractures that have already undergone stabilization. Bone scintigraphy was suggestive of malignant disease, but CT evidenced just a bilateral adrenal hyperplasia. At the visit, the patient presented with central obesity, moon face and plethora, abdominal striae, hump and mild axillary acanthosis. During hospitalization, the patient underwent neck

US, thyroglobulin evaluation, total body CT scan with contrast media, abdomen MRI, bilateral mammography, bone medullary biopsy and FDG-PET/CT. All these exams were negative for active malignancy. Bone Mineral Density was diagnostic for severe osteoporosis. ACTH and urinary free cortisol were suggestive of CS; dexamethasone test confirmed the diagnosis and the patient started medical therapy for CS and secondary osteoporosis (ketoconazole, denosumab calcium and calcitriol).

**Conclusions:** (ACTH-independent CS is an important cause of secondary osteoporosis)

Careful consideration for the possibility of both malignant disease and Cushing's syndrome will be necessary in case of patients with spontaneous multiple fractures.