

Adrenal Tumors in Menopause: Bone Assessment

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Introduction

Menopause correlates endocrine dysfunctions; whether an adrenal incidentaloma represents one of these it is difficult to establish since an age-dependent pattern of incidence has been described. Bone assays are necessary according to years since last menstruation but also if persistent hypercortisolemia is confirmed.

Material & Methods

This is a series of cases incidentally found with an adrenal tumor (AT) and osteopenia while evaluation of their menopausal status.



Abdominal CT scan (case 2): left adrenal tumor- stationary aspect 2 years after diagnosis

Abdominal CT (case 2): left adrenal tumor of 3.7 by 2.5 by 3.4 cm.



Results

66-year female accuses intermittent hot flushes and recurrent urinary infections. The menopause's age is 49. She associates lupus erythematosus, diabetes mellitus, an episode of stroke, and high blood pressure. A right AT was accidentally discovered at ultrasound.

CT scan confirmed a mass of 1.6/1.9cm. The endocrine assay revealed non-secretor pattern: normal aldosteron/rennin ratio, suppression of plasma morning cortisol (of 1.8 μ UI/mL) after 2 days \times 2mg Dexametasone (DXM) with low-normal morning ACTH of 15pg/mL(N:3-66pg/mL), plasma metanephrines and normetanephrines within normal ranges (of 29.2pg/mL,N:10-90pg/mL, respective of 51.4pg/mL,N:15-180pg/mL). Bone profile pointed low 25-hydroxyvitamin D=8.52ng/mL(N:30-100ng/mL), and lowest DXA BMD at femoral neck=0.879g/sqcm, T-score=-1.1SD, Z-score= -0.1SD.

83-year female is diagnosed since menopause (at age of 50) with calcified myomas. An ultrasound (and later CT scan) revealed a left AT of 3.7/2.5/3.4cm. She presented normal medullo-adrenal function, as well as aldosteron/rennin ratio. However, a subclinical hypercortisolemia was confirmed and persisted for more than a decade (a value of plasma cortisol of 3 μ g/dL after 2 days \times 2mg DXM, ACTH of 3.15pg/mL). Adrenalectomy was refused. Bone profile was also investigated since the diagnosis of AT: osteopenia was stationary during follow-up (lumbar BMD of 0.789g/sqcm, T-score= -1.8SD, Z-score=-0.1SD) in association with vitamin D deficiency.

Conclusion

Adrenal tumors- related bone anomalies are more pronounced in menopause correlated with physiological lack of estrogens. Mild persistent cortisol levels may play a role in low BMD; however the exact component is difficult to establish in this particular population.

