

CLINICAL IMAGE

Adrenal oncocytoma of uncertain malignant potential: a rare etiology of adrenal incidentaloma

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Question

What is an important consideration for a rapidly enlarging adrenal mass that cannot be distinguished from adrenocortical carcinoma by imaging?

Answer

Adrenal oncocytoma of uncertain malignant potential is a rare cause of rapidly enlarging adrenal mass and should be an important consideration.

Discussion

A 68-year-old female presented to the hospital with hypertensive emergency with a blood pressure of 210/100 mmHg. CT revealed a solid left-sided adrenal mass: 8.4 × 5.8 × 5.7 cm, Hounsfield Units (HU) of 75 and diffuse heterogeneous enhancement with scattered central and peripheral calcifications with no necrosis (Fig. 1A).

Key Clinical Message

A rare cause for rapid adrenal enlargement is adrenal oncocytoma of uncertain malignant potential. A full biochemical evaluation is warranted to screen secreting adrenal adenomas as well as to evaluate adrenal cortical carcinoma. Careful pathologic evaluation is required as the diagnosis of AOC cannot be made by imaging.

Keywords

Adrenal cancer, adrenal incidentaloma, hypertension, oncocytoma.

This mass had increased since 2005 when measured as 2.7 × 1.9 × 2.0 cm with a HU of 22 and similar imaging characteristics (Fig. 1B). Plasma metanephrine, aldosterone, renin activity, dehydroepiandrosterone sulfate, androstenedione, and 24 h urine cortisol levels were normal. She underwent adrenalectomy for concern of malignancy due to rapid enlargement. Pathology revealed adrenal oncocytoma (AOC) of uncertain malignant potential (Fig. 1C). AOC is composed of cells with atypical nuclei and oncocytes that are rich in granular eosinophil cytoplasm and mitochondria [1]. AOC is a rare tumor with less than 150 cases reported, of which only 14 are classified as AOC of uncertain malignant potential [2].

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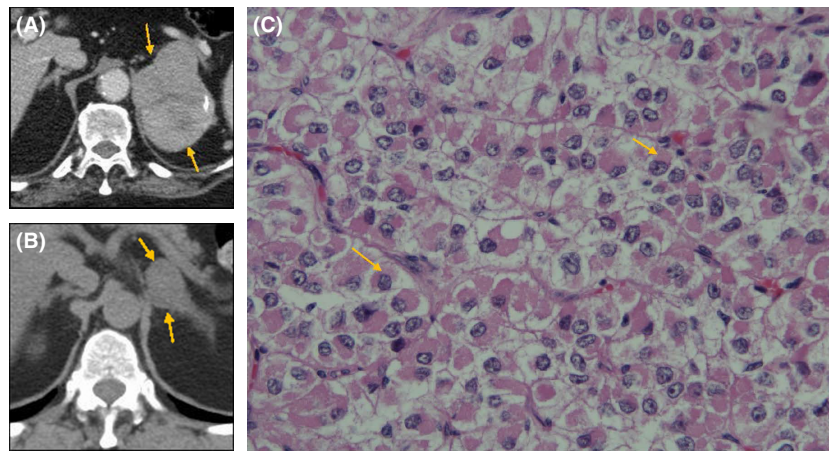


Figure 1. (A) Contrast-enhanced abdominal CT scan, arrow: adrenal nodule (2015). (B) Contrast-enhanced abdominal CT scan, arrow: adrenal nodule (2005). (C) Hematoxylin and eosin stain; original magnification *200 of pathologic specimen, arrow: bright oncocytic pink cytoplasm.

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Conflict of Interest

None declared.

References

1. Mearini, L., R. Del Sordo, E. Costantini, E. Nunzi, and M. Porena. 2013. Adrenal oncocytic neoplasm: a systematic review. *Urol. Int.* 91:125–133.
2. Peppas, M., E. Karamitopoulou, P. Nikolopoulos, G. Peros, T. Economopoulos, S. A. Raptis, et al. 2010. Large adrenal oncocytoma with uncertain malignant potential: case report and review of literature. *Endocr. Pract.* 16:641–645.