Renal juxtaglomerular cell tumor

Tumor renal de células yuxtaglomerulares

Dear Editor:

Juxtaglomerular cell tumor or reninoma is a benign, rare tumor located in the renal cortex and generally associated with high blood pressure (HBP) by hypersecretion of renin (primary hyperreninism). Macroscopically, they are usually lesions smaller than 3 cm located in the renal cortex, well circumscribed, and they should be considered in the differential diagnosis of HBP in young patients. We report the case of a 52-year-old woman with a history of hypercholesterolemia, HBP treated with atenolol, and frequent headaches. In the study of pain in the left renal flank that was treated primarily as muscular process, unresponsive to standard analgesia, there is urine sediment in which microhematuria is observed, and in the renal ultrasound, simple cysts are reported in the left kidney and small solid lesion suggestive of left renal angiomyolipoma. Given these findings, she was referred to our clinic.

The physical examination did not evidence any signs of interest. CT was performed (Fig. 1) showing an hypodense nodule (−6 UH) and slightly uptaking cranial to the right kidney of about 2 cm x 3.5 cm which may correspond with adrenal adenoma, and with lower probability with renal angiomyolipoma, and it shows another 13-mm right posterior inferior renal nodule, slightly hyperdense and hypocaptating with respect to the renal parenchyma, suggesting tumor character (possible renal cell carcinoma, oncocytoma, etc.). We decided to study, by endocrinology, the possible adrenal hyperplasia, which indicates no treatment. For our part, given the suspected lesion of right renal tumor origin, we indicated laparoscopic lumpectomy that is performed on a scheduled basis. The patient did not have any incidence


Figure 1  CT showing right posterior inferior renal nodule of approximately 13 mm, slightly hyperdense and hypocaptating with respect to the renal parenchyma.
during or after the surgery, being discharged at 3 days after surgery.

The pathological report of the surgical specimen revealed a nodular fragment of grayish-white tissue of approximately 1.5 cm × 1.5 cm, of firm consistency and smooth surface with a final diagnosis of juxtaglomerular cell tumor (reninoma). The histopathological examination shows polygonal cells uniformly arranged with eosinophilic cytoplasm and perinuclear halo (Fig. 2A). For immunohistochemistry, there is positivity for actin and diffuse cytoplasmic positivity for renin (Fig. 2B).

Currently, 3 months after the initial diagnosis, the patient is asymptomatic and with better pharmacological control of her previous HBP.

The juxtaglomerular cell tumor or reninoma is a benign tumor, of exceptional appearance and secreting renin, presenting as a result secondary hyperaldosteronism and hypokalemia. They are usually small lesions smaller than 3 cm, well-defined and located in the renal cortex. Clinically, it may present with severe HBP associated with headaches, nausea, vomiting, and possible severe hypokalemia. The surgery (open or laparoscopic) is usually curative.\(^1\)\(^2\) This type of tumor should be considered in the differential diagnosis of hypertension in young patients as a treatable cause of HBP.

The accurate diagnosis is performed by measuring plasma renin by selective catheterization of the renal vein.

After the surgical removal, the blood pressure and plasma levels of renin and aldosterone levels usually return to their normal values.\(^3\) Given the small size with which it is usually presented in the clinic, and the benign nature of the lesion, conservative surgery should be considered first choice.\(^1\) In patients at high surgical risk, radiofrequency ablation may be a less aggressive alternative to surgery.\(^2\)

References


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