

PHOTO QUIZ

What is your diagnosis?

A 65-year-old man was presented with intermittent hematuria and non-specific right-sided abdominal pain.

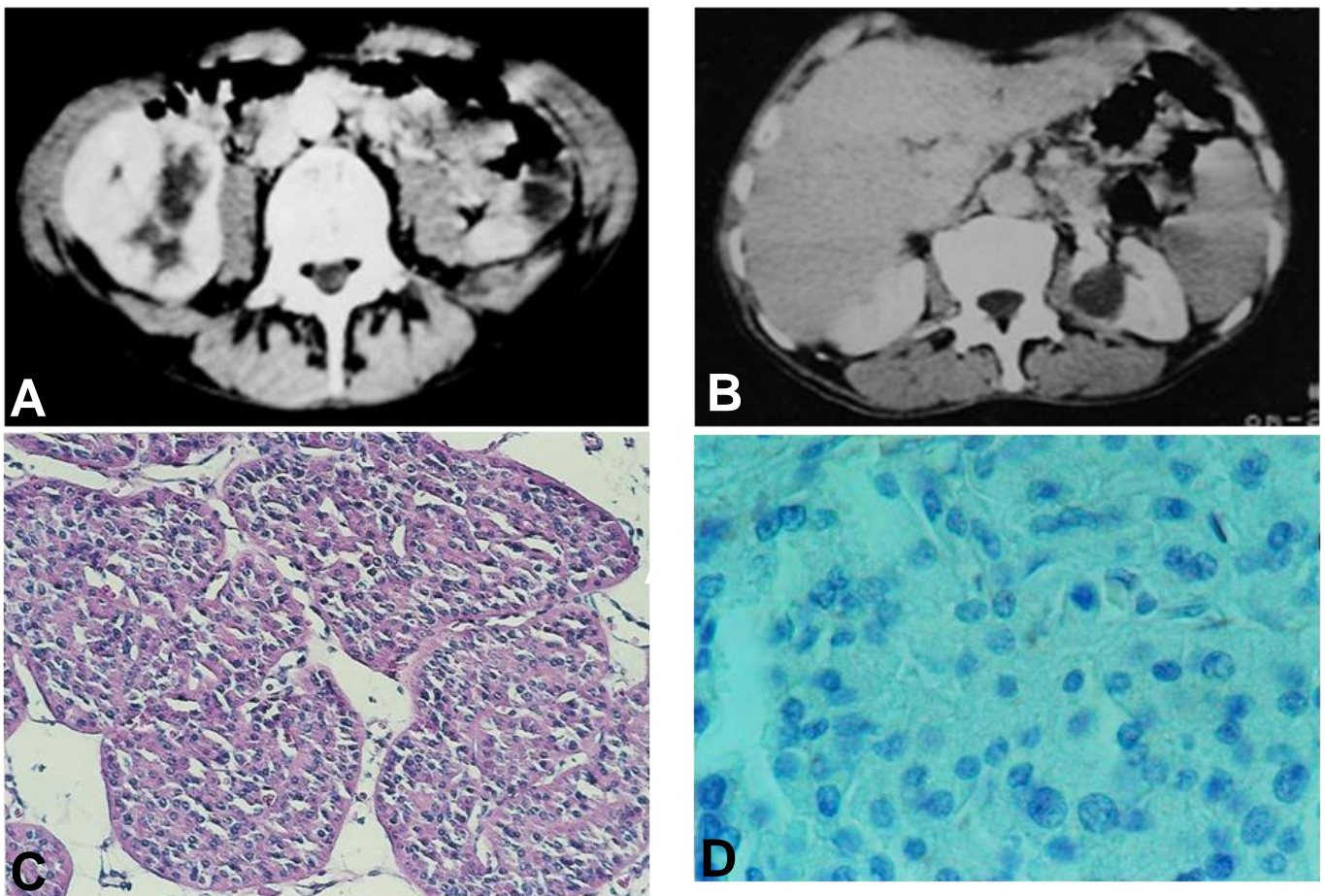


Fig. 1.A&B. CT scan of the kidneys showing a heterogeneous mass in the lower pole of the right kidney (A) and two cysts in the left kidney (B).

C. Hematoxylin and eosin staining of the mass ($\times 100$).

D. Vimentin-negative stained microscopic section of the mass ($\times 400$).

What is your diagnosis?

Diagnosis: Renal Oncocytoma and Multiple Cysts

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The term “oncocyte” was introduced by Hamperl. He identified oncocytes by their abundant and finely granular acidophilic cytoplasm found most often in various organs and organ systems including the adrenal, salivary, thyroid and parathyroid glands as well as the kidney.¹ In 1976, Klein and Valensi described it as a subgroup of renal cell carcinoma.² The renal oncocytoma accounts for 3%-7% of solid renal tumors. Men are affected twice as often as women and the peak age is between 40 and 60 years.³

This case was a 65-year-old man that presented with intermittent hematuria and non-specific right-sided abdominal pain. He reported no other gastrointestinal or genitourinary symptoms. Clinical evaluations revealed a soft mass in the left hypochondrium. No abnormality was reported in the laboratory tests. Ultrasonography of the abdomen showed a 7 cm rounded mass with smooth and distinct margins arising from the postero-inferior aspect of the lower pole of the right kidney. CT scan of the abdomen confirmed this sonographic finding (Fig. 1. A&B).

The central stellate low-density scar in CT-scan was similar to oncocytoma. The fat planes surrounding the renal fascia appeared intact. The left kidney had some simple cysts (Fig. 1.A&B). No para-aortic lymph node was evident.

We surgically explored the right kidney via a lumbar approach. Therefore, we confronted with the well-encapsulated red brown mass at the lower pole of the right kidney. According to the existence of some cysts in the opposite kidney and the life expectancy of this relatively old patient, we decided to per-

form partial nephrectomy (nephron-sparing surgery). Histologic sections of formalin-fixed paraffin embedded material stained for hematoxylin-eosin (Fig. 1C), and common histochemistry staining showed positive reaction for cytokeratin but negative for vimentin (Fig. 1D). Histologically, the tumor was found to be a renal oncocytoma. Post-operative recovery was uneventful and the patient was discharged after 7 days. At the 6-month follow-up, the patient was in excellent health with no evidence of recurrence and urinary symptoms.

Since the initial case report of CT features of a renal oncocytoma,⁴ extensive studies with CT have failed to reliably differentiate oncocytomas from renal cell carcinomas.⁵⁻⁶

The lesion would be assumed to be typically hypervascular and homogeneous, with a characteristic central stellate scar (in CT-scan) and a “spoke-wheel” pattern with the vessels radiating towards the center of the lesion on angiography. We have to emphasize that typically these imaging features are found in only a small proportion of these tumors. So the imaging characteristics alone are unreliable when differentiating between oncocytoma and renal cell carcinoma. Consequently, tissue diagnosis remains the reference standard of solid renal lesions. Besides, for uncertainties of histological classification, possibility of sampling errors and the high risk of biopsy tract seeding in renal cell carcinoma, the radiologically guided aspiration biopsies are not recommended.

Our report almost displays the features of a typical oncocytoma seen on CT, and other signs of a benign tumor (central stellate scar). With these imaging characteristics and according to the patient's age and the pathologic findings in the opposite kidney (cysts), we performed partial nephrectomy (nephron-sparing surgery) to preserve the renal function and prevent the risk of requiring dialysis in case of total nephrectomy. We suggest this approach was the best treatment choice.

References

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