Renal Leiomyoma – A Surprise Diagnosis!!

Dear Editor,

Renal leiomyomas account for 1.5% of the benign lesions and 0.29% of all treated renal tumors, with autopsy evidence of 4.2–5.2%.[1]

A 60-year-old female presented with pain in the abdomen for 10–15 days. She was a known case of hypertension. Renal function tests showed urea 19 mg/dl, creatinine 0.96 mg/dl, sodium 132 mmol/L (135–145), potassium 4.28 mmol/L, and chloride 100 mmol/L. On ultrasonography (USG) abdomen, the possibility of the multicystic dysplastic left kidney was considered. Diethylenetriamine pentaacetate (DTPA) scan revealed nonvisualized (nonfunctional) kidney. On CT scan, the left kidney was enlarged with gross hydronephrosis with abrupt narrowing at the pelviureteric junction suggestive of complete Pelvi-ureteric junction (PUJ) obstruction. The right kidney was normal. In the delayed phase, no contrast excretion into left renal calyces was seen.

Left laparoscopic nephrectomy was done in which per-op dense perirenal adhesions were present. On gross examination, multiple solid, tan-yellow tumor foci were seen ranging from 3.4 × 1.4 × 3 cm to 1 × 1 × 1 cm [Figure 1a]. The tumor is abutting the renal capsule. On histopathological examination, the tumor was leiomyoma displaying spindled cells arranged in fascicles with elongated nuclei and blunt ends (cigar-shaped). Mitotic figures were sparse [Figure 1b and 1c]. On immunohistochemistry, these spindle cells showed diffuse smooth muscle action (SMA) positive [Figure 1d]. Post-op, the patient was stable and is now on follow-up.

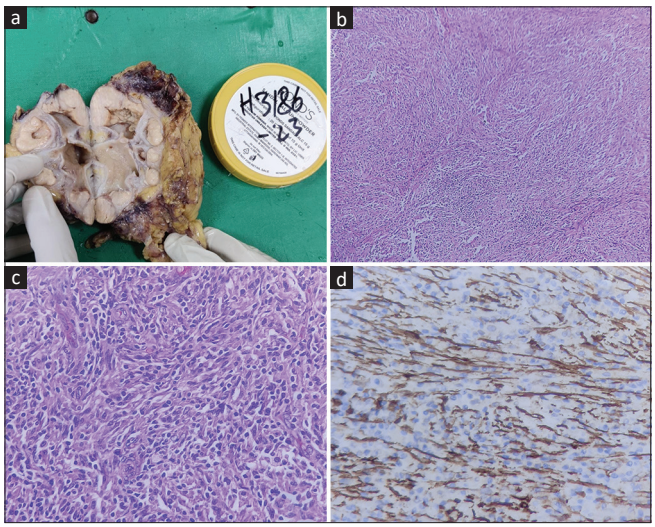

Figure 1: (a) Gross image of laparoscopic left nephrectomy showing multiple tumors abutting the renal capsule. (b) Microscopically, low power view showing leiomyoma composed of spindled cells arranged in fascicles (H and E, 10×). Hematoxylin and Eosin (c) Microscopically, high power view shows spindle-shaped cells with elongated nuclei, blunt ends (cigar-shaped), and a moderate amount of cytoplasm (H and E, 40×). (d) Immunohistochemistry marker SMA showing diffuse strong cytoplasmic staining of tumor cells (IHC-SMA, 40×) Immunohistochemistry. IHC: Immunohistochemistry, H and E: Hematoxylin and Eosin

Renal leiomyomas originate from smooth muscle cells of the renal capsule, pelvis, calyces, and blood vessels.[2,3] Average age is 40–50 years with female preponderance.[4,5]

These neoplasms are not only rare but also usually present as asymptomatic conditions or complaints like flank pain or hematuria in some cases. However, in our case, the patient presented with a nonfunctional kidney and a renal multicystic mass on radiology, which in elderly patient usually point toward a malignant etiology.

Surgery remains the treatment of choice. The gold standard investigation for confirmatory diagnosis is always histopathological examination. A close differential diagnosis is an angiomyolipoma (with spindle cell predominance) and adult mesoblastic nephroma. In such cases, immunohistochemistry plays a key role in confirming diagnosis. These patients have an excellent prognosis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms.

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Conflicts of interest

There are no conflicts of interest.

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