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Case Report

Renal angiomyolipoma with renal vein extension ☆,☆☆

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ARTICLE INFO

Article history:

Received 9 May 2021

Revised 22 May 2021

Accepted 23 May 2021

Editor: Dr. F.S. Chew

Keywords:

Angiomyolipoma

Computed tomography

Renal vein

ABSTRACT

Renal angiomyolipomas are uncommon benign tumors containing fatty tissue. Only a few cases of infiltrating angiomyolipomas have been reported. We aimed to describe a case of a 65-year-old woman presenting a peripheral angiomyolipoma of the left kidney with CT evidence of involvement of the renal vein. The lesion has been found incidentally during abdominal CT for an unrelated reason. The patient underwent surgical treatment considering the vascular extension of the lesion and the risk of thromboembolic complications. The pathological analysis confirmed the diagnosis of renal AML in the upper pole of the left kidney invading the renal vein without malignancy. No post-operative complications and the evolution was favorable.

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Introduction

AML is the most common benign renal mesenchymal neoplasm. In most cases, they are asymptomatic and diagnosed incidentally with Ultrasound, CT or MRI done for unrelated reasons. Rarely, they might be aggressive and show extension into the renal vein. We describe the case of a peripheral left kidney angiomyolipoma invading the renal vein.

Case report

A 65-year-old woman without any significant medical history was admitted to our hospital for investigation of abdominal pain. Physical examination was unremarkable.

During this admission upper gastrointestinal endoscopy was normal. Routine laboratory tests were also normal. Ultrasonography of the abdomen revealed a hyper-

☆ Funding: This study was not funded.

☆☆ Competing Interests: The authors declare that they have no conflict of interest.

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<https://doi.org/10.1016/j.radcr.2021.05.056>

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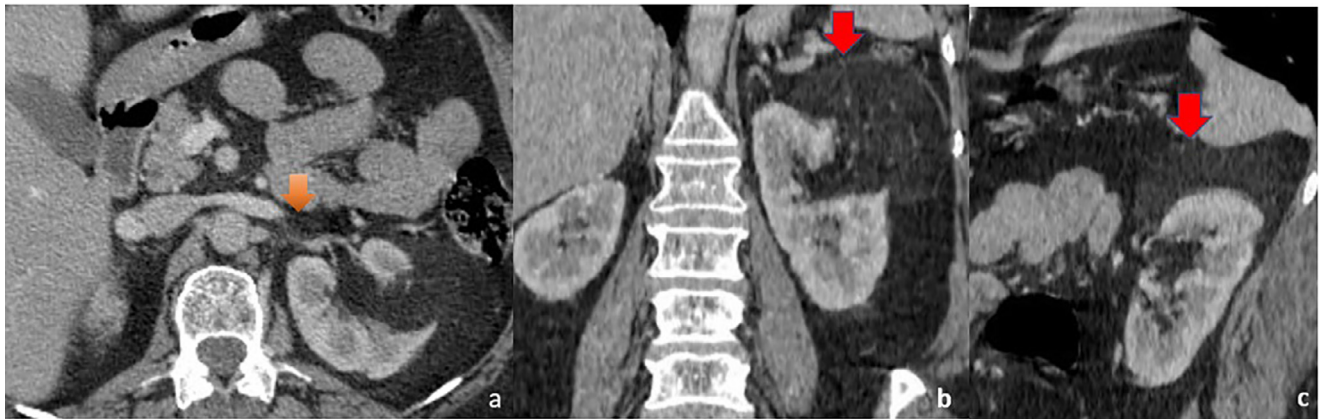


Fig. 1 – Renal angiomyolipoma. Contrast-enhanced CT Axial (a), Coronal (b), and sagittal (c) images showing peripheral fatty mass (70 x 77 x 67 mm) in left kidney (red arrows), expanding into the renal vein (orange arrow). (Colour version of the figure is available online.)

echoic lesion involving the upper pole of the left kidney. The lesion was further characterized with computed tomography (CT). The CT confirmed a peripheral hypodense lesion (-32 Hounsfield units) in the upper pole of the left kidney suggesting a fat-containing tumor and invasion of the left renal vein. Tumor markers such as CEA, CA 125, CA 19-9, and CA 153 were negative. The extension of the lesion, the risk of thromboembolic complications, and the risk of potential malignancy were attentively considered to decide the surgical treatment. The patient underwent laparoscopic left adrenal sparing radical nephrectomy. The pathological analysis demonstrated a renal AML in the upper pole of the left kidney invading the renal vein with negative hilar nodes and normal left renal parenchyma. No post-operative complications. The patient was discharged from the hospital on postoperative day 10 and resumed daily activities after 20 days. At one month after the operation, the patient was asymptomatic, the abdominal CT scan was normal and the blood tests were normal.

Discussion

AML is an infrequent mesenchymal tumor constituted of smooth muscle, fat, and vascular elements [1]. In the majority of cases, they are asymptomatic and it is an incidental finding during an Ultrasound scan or CT scan done for other reasons.

They have a slow growth rate. Rarely AML may reveal potentially aggressive behavior, including renal vein invasion. Even though an invasion of the renal vein is a known complication, it does not imply malignancy. The central location and the location on the right kidney are contributing factors to the invasion of the renal vein [2].

Central location facilitates the accessibility of the tumor to major veins, the location on the right kidney may be explained by the shorter and direct track of the right renal vein. Our case is unique as it is peripherally located in the upper pole of the left kidney Fig. 1.

Different imaging techniques can positively diagnose them, especially a CT scan [3]. AML is a fat-containing tumor of the kidneys, with areas of fat attenuation (less than -20HU) within the mass.

It is extremely vascular, with tumor vessels distinctively extending into or through the renal cortex.

AML has a renal parenchymal defect with a border of normal renal tissue interfacing with the lesion. This imaging finding is helpful to distinguish AML from liposarcoma considered as the main differential diagnosis [4]. AML invading the renal vein carries the risk of thromboembolic complications. The prognosis for such uncommon renal angiomyolipoma is not well documented [5]. The indications for surgical treatment are controversial; the majority of studies support surgical treatment for large tumors (more than 4cm), even if they are benign. Moreover, AML with renal vein invasion independently of size must be surgically removed even if it is asymptomatic [6]. Further follow-up postoperatively for these tumors may depend on the histology. Our case underlines the previously reported potentiality of angiomyolipoma to invade the renal vein, but the particularity in that is the left and peripheral location.

Learning points

- Renal angiomyolipoma is a rare benign tumor of the kidney that may rarely extend into the renal vein.
- AML invading the renal vein does not imply malignancy but carries the risk of potentially thromboembolic complications.
- Surgical treatment is necessary even in asymptomatic patients.

Availability of data and material

Data available within the article.

Code availability

(N/A)

Patient consent

Obtained from patient.

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