Renal haemangioma
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Section: Uroradiology & genital male imaging
Area of Interest: Kidney
Procedure: Diagnostic procedure
Imaging Technique: CT
Special Focus: Pathology Case Type: Clinical Cases
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Patient: 56 years, male

Clinical History:
A 56-year-old man presented with fever and left flank pain. He had a history of horseshoe kidney and urolithiasis. He had no other relevant medical history. Emergency abdominal ultrasound was performed.

Imaging Findings:
US (Fig. 1) shows a lobulated predominately cystic mass with thick wall and internal septa located in the left renal sinus. Dynamic 64-MDCT of the lesion was performed in order to further characterize the lesion.

Non-enhanced axial CT image (Fig. 2) shows a lobulated isoattenuating mass occupying the left renal sinus. Arterial phase axial CT image (Fig. 3) shows a peripheral nodular enhancement of the lesion with early venous drainage (coronal CT image Fig. 5). Persistent peripheral enhancement in the portal venous phase was observed (Fig. 4). Multiple phleboliths are an uncommon finding (salt and pepper sign).

Discussion:
Renal haemangioma is a rare benign mesenchymal neoplasm that consists of multiple endothelium-lined, blood-filled vascular spaces [1-5]. Most renal haemangiomas occur as single unilateral tumours without any sex predilection; the peak age group for diagnosis is young to middle-aged adults. The most common locations of haemangiomas in kidney are the medulla and the renal pelvis and most of them are smaller than 2 cm [2, 4]. Larger lesions may cause displacement of the renal vessels and collecting system [2].

Haemangioma is usually asymptomatic and discovered incidentally. Symptomatic cases usually present recurrent episodes of haematuria and colicky abdominal pain, hypertension by segmental renal ischaemia and less frequently haematoma (subcapsular or intraparenchymal) [1- 4].

Haemangioma is seldom diagnosed before surgery because of its small size and nonspecific imaging findings. Haemangiomas show variable echogenicity on sonography [2]. At nonenhanced CT, renal haemangioma may appear as a lobulated hypo- to isoattenuating soft-tissue mass in the region of the renal medulla or pelvis. Multiple phleboliths are an uncommon finding. At nonenhanced MR imaging, haemangiomas are homogeneously hypointense on T1-weighted images and hyperintense on T2-weighted images. After intravenous administration of contrast material, renal haemangiomas demonstrate intense arterial
enhancement, persisting into the venous phase at CT and MR imaging. Persistent contrast enhancement on delayed images is fairly characteristic of renal haemangiomas.

Haemangioma may rarely masquerade as a cystic renal tumour, with an enhancing solid component, mimicking a cystic renal cell carcinoma [2, 4].

At gross pathologic examination, renal haemangioma is an unencapsulated tumour with a spongy red appearance. Histologically, two distinct types of renal haemangioma are recognized: the capillary and cavernous variants. In the kidney, cavernous haemangiomas are more common than the capillary type [1, 2, 5].

Treatment options include observation, partial nephrectomy, papillectomy, embolization, and total nephrectomy; the choice of treatment depends on the size of the tumour, its location, and the patient's symptoms [2, 3].

**Differential Diagnosis List:** Renal haemangioma, Cystic renal cell carcinoma, Oncocytoma, Renal abscess, Angiosarcoma

**Final Diagnosis:** Renal haemangioma

**References:**


Ana Sánchez ; García-Santos; Asunción Chave ;Pablo Luis Guzmán (2003) Hemangioma renal: una causa rara de hemorragia retroperitoneal espontánea. Radiología 45(2):95-97


Description: US shows a lobulated predominately cystic mass with thick wall and internal septa located in the left renal sinus. Origin: Department of Radiology. Guadalajara Hospital. Spain.
**Description:** Axial unenhanced CT image shows a lobulated isoattenuating mass occupying the left renal sinus (arrow). **Origin:** Department of Radiology. Guadalajara Hospital. Spain.
Description: Arterial phase axial CT image shows a peripheral globular enhancement of the lesion (arrow). Origin: Department of Radiology. Guadalajara Hospital. Spain.
Description: Axial contrast-enhanced CT image obtained during the portal venous phase shows persistent peripheral enhancement of the lesion (arrow). Origin: Department of Radiology. Guadalajara Hospital. Spain.
Description: Coronal CT image shows a horseshoe kidney (arrow) and the lesion (asterisk) with peripheral nodular enhancement with early venous drainage. Origin: Department of Radiology. Guadalajara Hospital. Spain.