

## Müllerian cyst: A rare cause of retroperitoneal cystic mass

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**Section:** Genital (female) imaging

**Area of Interest:** Retroperitoneum

**Imaging Technique:** CT

Case Type: Clinical Cases

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**Patient:** 33 years, female

### Clinical History:

A 33-year-old woman was referred to our institution due to left lumbar pain. Past medical history included a cholecystectomy and an appendectomy. The patient had taken oral contraceptives for menstrual irregularities. No previous history of trauma or pancreatitis was reported. The physical examination was normal and the routine laboratory tests were unremarkable.

### Imaging Findings:

CT scan was performed and showed a well-defined hypoattenuating cystic mass on the left retroperitoneum (Figures 1 and 4), measuring 93 x 58 x 31 mm (longitudinal x anteroposterior x transversal diameters). There were no calcifications, and non-significant contrast-enhancement was observed.

The lesion embedded and displaced anteriorly the left renal artery and vein without invasion (Figure 2). It also caused compression of the renal pelvis with mild dilatation of the calyces, inducing a junctional syndrome (Figure 3).

The patient underwent a partial resection and histological analysis revealed a Müllerian cyst. Total resection was not possible because the cyst embedded the renal vessels, but dilatation of the renal pelvis was reverted.

### Discussion:

Müllerian cyst of the retroperitoneum is a rare disease that is thought to arise from urogenital cysts. They occur generally in women from 19 to 47 years of age [1]. The incidence in men is extremely rare [2]. The size ranges from 8 to 25 cm in diameter [3]. Urogenital cysts arise from vestiges of the embryonic urogenital tissue and can be categorized based on their embryonic lines into pronephric, mesonephric, metanephric, and müllerian types [1].

The retroperitoneal tissue may contain an aberrant Müllerian duct remnant, which might grow in the response to abnormal hormonal stimuli. Certain hormonal estrogenic stimulation for menstrual irregularities has been associated with the development of Müllerian cysts [1]. Müllerian cysts are usually discovered in obese women with menstrual irregularities [1]. The patients could be asymptomatic or presenting abdominal pressure, nausea, and vomiting [3]. On CT, the Müllerian cyst appears as a well-circumscribed unilocular or multilocular cyst with fluid attenuation. After the administration of intravenous contrast, enhancement was not valuable. These findings are not specific enough to allow the differentiation of Müllerian cysts from other retroperitoneal cystic masses, such as cystic mesothelioma or lymphangioma [1,3].

It is a benign disease that can be treated with complete resection[1]. Surgical excision is necessary to establish the diagnosis and avoid complications [1,2].

Aspiration of the contents may reveal a cytologic diagnosis but presents a high rate of recurrence. Partial resection increases the risk of local recurrence once remnants of the cyst are left in the retroperitoneum[3].

In a woman with menstrual irregularities and with a cystic retroperitoneal mass, Müllerian cyst should be considered in the differential diagnosis.

**Differential Diagnosis List:** Müllerian cyst, Cystic mesothelioma , Cystic lymphangioma, Bronchogenic cyst, Pancreatic pseudocyst

**Final Diagnosis:** Müllerian cyst

#### **References:**

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**Figure 1**

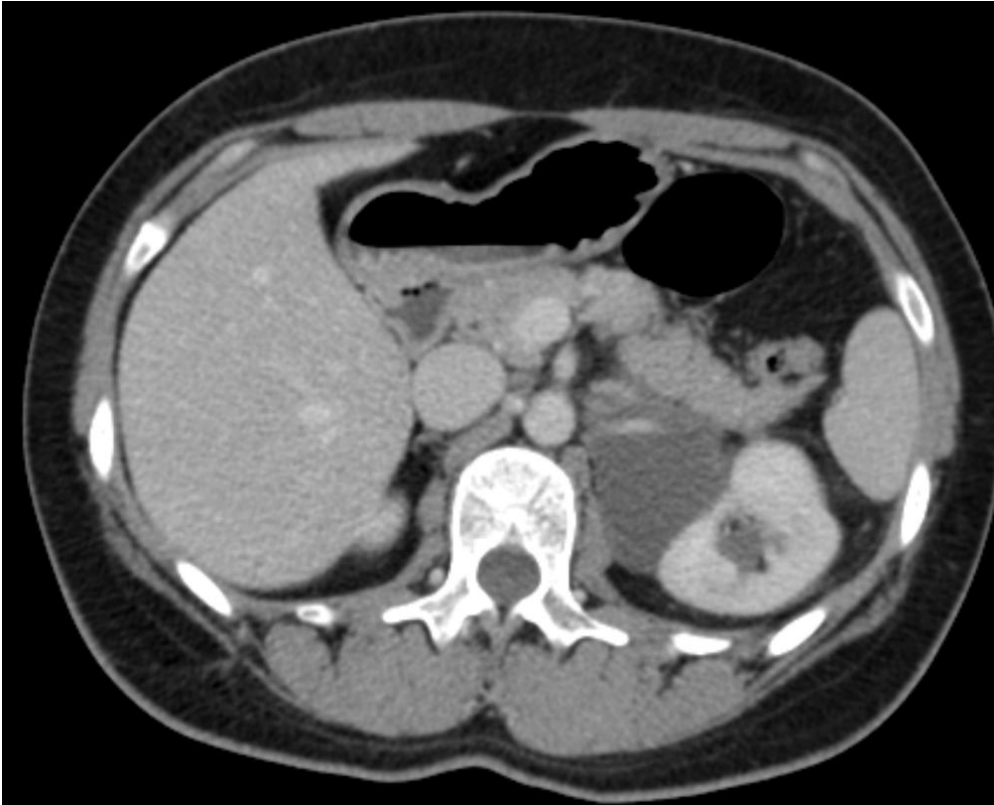
**a**



**Description:** Axial non-enhanced CT image shows a well-defined homogeneously and hypoattenuating (13 HU) mass on the left retroperitoneum between the left suprarenal gland and the homolateral kidney. Calcifications were not present. **Origin:** © Department of Radiology, Hospital de Braga, Portugal, 2023

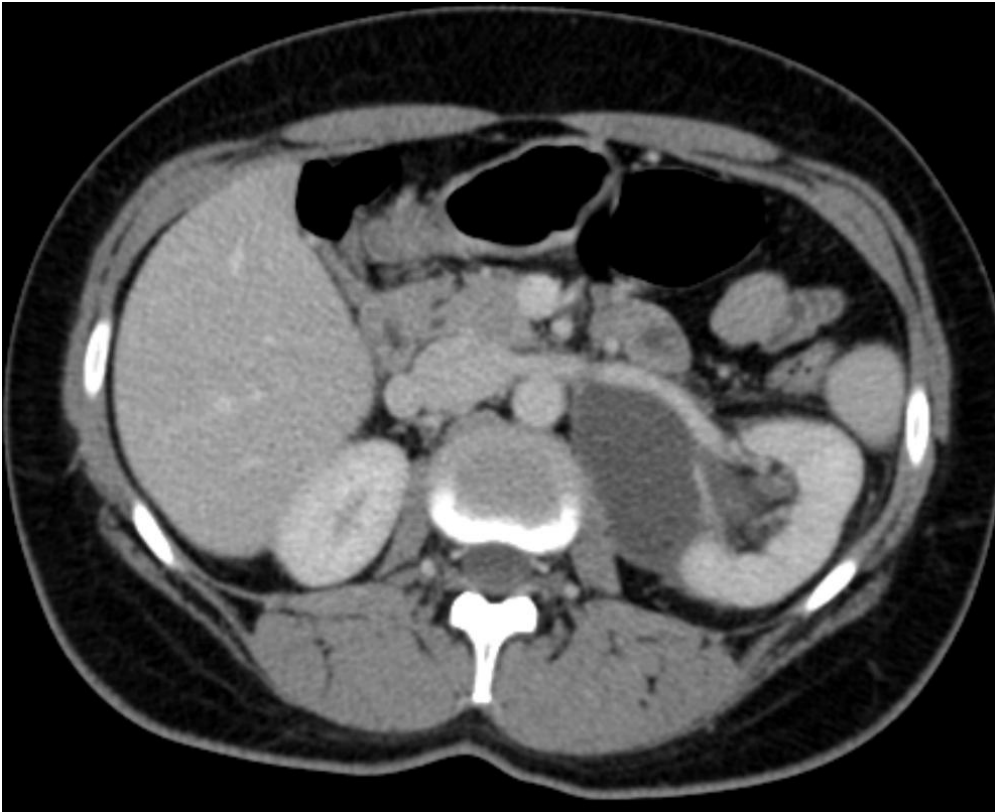
**Figure 2**

**a**



**Description:** Axial CT images in the venous phase demonstrate the cystic mass embedding and displacing anteriorly the renal artery (a) and the vein (b) without invasion. **Origin:** © Department of Radiology, Hospital de Braga, Portugal, 2023

**b**



**Description:** Axial CT images in the venous phase demonstrate the cystic mass embedding and displacing anteriorly the renal artery (a) and the vein (b) without invasion. **Origin:** © Department of Radiology, Hospital de Braga, Portugal, 2023

**Figure 3**

a



**Description:** Coronal CT image in the venous phase depicts the cystic mass compressing the renal pelvis with mild dilatation of the calyces, inducing a junctional syndrome. **Origin:** © Department of Radiology, Hospital de Braga, Portugal, 2023

**Figure 4**

a



**Description:** Sagittal CT image in the venous phase shows a cystic retroperitoneal fusiform mass.

**Origin:** © Department of Radiology, Hospital de Braga, Portugal, 2023