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Incidentally Discovered Retroperitoneal Mass: A Case Report and Literature Review: Clinical Case Report

A. Benkerroum[1*], Y. Ouzidane[1], M. Bennani[1], A. Moataz[1], M. Dakir[1], A. Debbagh[1], R. Abouateib[1]

[1]Urology Department, CHU Ibn Rochd-Casablanca Morocco

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***Corresponding author:** A. Benkerroum
Urology Department, CHU Ibn Rochd-Casablanca Morocco

Abstract | **Case Report**

Retroperitoneal masses are rare and often asymptomatic, posing a diagnostic challenge due to their nonspecific clinical presentation and deep location. We report the case of a patient with an incidentally discovered retroperitoneal mass, detail the diagnostic approach, surgical treatment, and discuss the clinical, radiological, and therapeutic aspects of this condition.

Keywords: Retroperitoneal mass, Surgical resection, Ureterohydronephrosis, Diagnostic imaging, Psoas muscle infiltration.

INTRODUCTION

Retroperitoneal masses represent a heterogeneous group of lesions, including benign tumors, malignancies, and cystic formations. Their incidence is low, and diagnosis is often delayed due to absent or nonspecific symptoms. Evaluation relies on imaging, and treatment generally involves surgical resection. The prognosis varies depending on the etiology, highlighting the importance of a multidisciplinary approach.

CLINICAL OBSERVATION

36-year-old woman, with no significant medical history.

Reason for consultation: Diffuse abdominal pain and a feeling of heaviness that appeared gradually over three months.

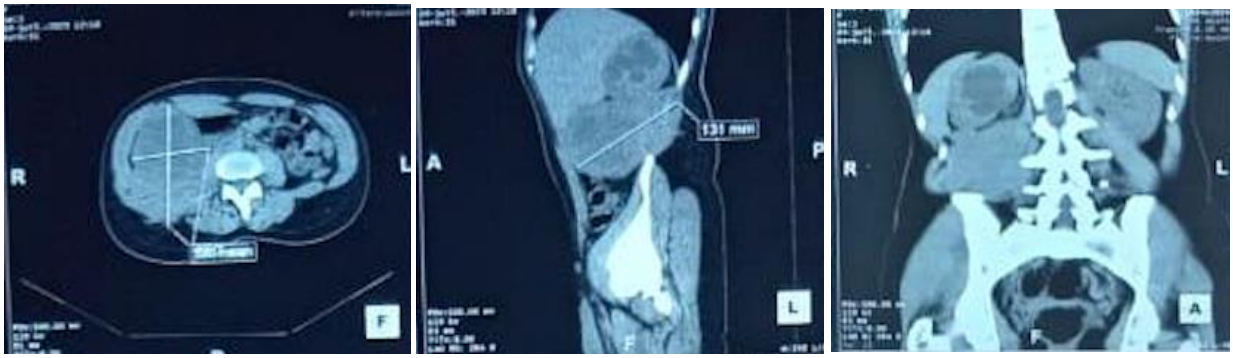
Physical examination: A palpable, firm mass in the right lumbar fossa, mobile relative to the skin but fixed to the deeper tissues. No signs of vascular or urinary compression.

Laboratory tests: Normal complete blood count, renal and hepatic function tests. No elevation of tumor markers (AFP, CEA, CA 19-9).

Imaging:

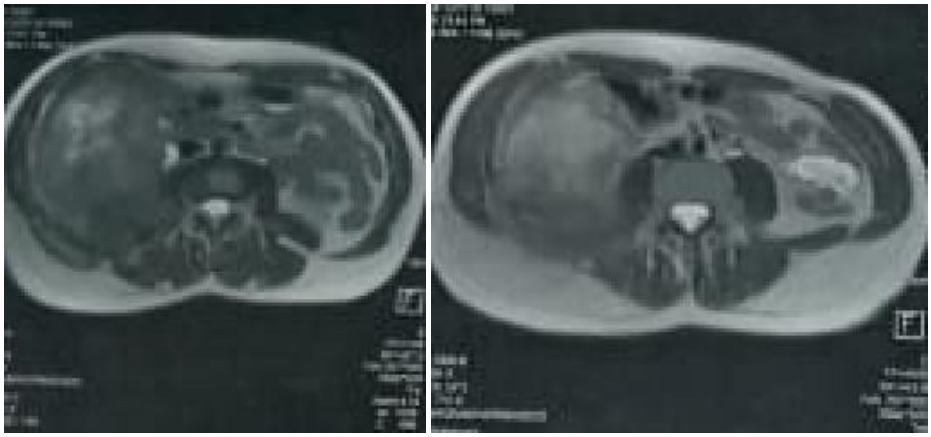
Abdominal ultrasound: Right retroperitoneal hypoechoic mass, well-defined.

Abdominopelvic CT scan:** Right retroperitoneal mass measuring 136*88*131 mm compressing the lumbar ureter, causing major ureterohydronephrosis, muscular infiltration of the psoas and posterior lumbar wall

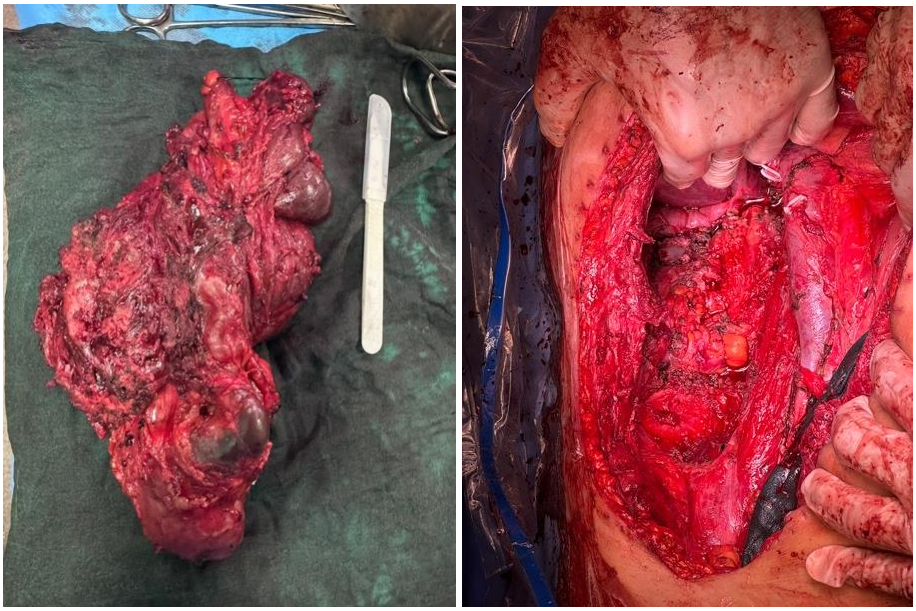


Uro-MRI:

Partially necrotic retroperitoneal tissue mass measuring 98*93*128 mm, with massive infiltration of the quadratus lumborum muscle and partial extension to the psoas and right paravertebral muscles responsible for a major right ureterohydronephrosis, hypointensity on T1, heterogeneous and hyperintensity on T2, enhanced after gadolinium injection.



A complete surgical resection was performed after multidisciplinary discussion. The procedure was carried out without complications, involving a right nephrectomy, right hemicolectomy, and resection of part of the diaphragm.



Anatomopathological results:

Retroperitoneal mass: Tumor proliferation with spindle cells, without atypia, measuring 122cm in its longest axis, infiltrating the adjacent soft tissues, the colonic subserosa and the perirenal fat, with incomplete excision at the level of the soft tissues, initially suggesting desmoid fibromatosis.

Colonic, renal hilum and ureteral boundaries: Non-lesional.
Diaphragm: No lesions.
Psoas: No lesion.
Colon: Nonspecific chronic fibro-inflammatory changes. No evidence of malignancy.

DISCUSSION

Retroperitoneal masses represent a diagnostic challenge due to their rarity, deep location, and pathological diversity. They can be benign (lipomas, schwannomas, fibromas) or malignant (liposarcomas, leiomyosarcomas, lymphomas) [1-2].

Symptoms are often insidious and nonspecific, ranging from lower back pain to the incidental discovery of a mass. Palpation is rarely helpful except for large lesions (>5–6 cm). Tumor markers are generally nonspecific [3].

Imaging: Ultrasound, CT scans, and MRI are complementary:

Ultrasound identifies the mass and its consistency.

CT scans assess the size, location, relationship to organs, and density of tissues.

MRI better characterizes tissue composition and tumor extension to adjacent structures, which is essential for surgical planning [4,5].

Differential diagnosis:

*Liposarcoma: the most frequent, often asymptomatic, sometimes presenting cystic areas [1].
*Lymphoma: homogeneous mass associated with lymphadenopathy [6].
*Extra-gastrointestinal stromal tumor: rare, solid and well-defined [7].
*Schwannoma / neurofibroma: benign mass, sometimes cystic [8].
*Retroperitoneal cysts: generally asymptomatic, more common in women [9].

Support provided:

Complete resection with clear margins remains the standard treatment, especially for solid or suspicious masses. Surgery must be carefully planned to avoid injury to adjacent organs [2-10].

Prediction and monitoring:

The prognosis depends on the histological nature. For benign masses, recurrence is rare after complete resection. For malignant masses, close clinical and radiological follow-up is essential. Surveillance is based on CT or MRI every 3–6 months for the first year, then annually [10].

Perspectives:

Improvements in imaging techniques and the use of image-guided percutaneous biopsy allow for better differentiation between benign and malignant lesions before surgery, thus reducing operative risks and unnecessary interventions [5].

CONCLUSION

Retroperitoneal masses present a diagnostic challenge due to their often silent clinical presentation and deep location. Complete surgical resection remains the treatment of choice, and postoperative radiological follow-up is essential, especially in cases of malignancy or uncertain surgical margins.

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