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Giant Retroperitoneal Liposarcoma: Case Report

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Abstract **Case Report**

Retroperitoneal liposarcoma is a rare, primitive, mesenchymal malignant tumour. It develops quietly in the retroperitoneal region due to the complacency of the space, with a huge mass compressing neighbouring organs being discovered at the time of diagnosis. We report the case of a retroperitoneal liposarcoma in a 36-year-old female patient who presented with abdominal distension and pain. The diagnosis was made on imaging and confirmed by pathology.

Keywords: Liposarcoma, retroperitoneal, case report.

INTRODUCTION

Liposarcoma is a rare primary mesenchymal malignancy. Retroperitoneal location is rare [1]. Incidence is approximately 2.5 per million individuals. It generally occurs between the ages of 40 and 60. The large volume of the retroperitoneal space allows liposarcoma to develop without compressing neighbouring organs, making its diagnosis late due to its rarity and the absence of symptoms. By the time clinical symptoms appear, the retroperitoneal liposarcoma has generally reached a very large size, oppressing or invading the surrounding organs [2].

Imaging plays an essential role in characterisation, anatomical reports, extension assessments and scannoguider biopsy.

Objective

The aim of this study is to report the case of one patient and to support the role of imaging in the diagnosis of this entity.

PATIENT AND METHODICAL

Patient information: We report the case of a 36-year-old female patient with a history of hemorrhoid who was admitted for abdominal distension 1 year previously, with progressive onset in the hypogastric and gradually becoming generalised. The presentation was complicated by the appearance of abdominal pain associated with chronic constipation and digestive haemorrhage consisting of melena and small amounts of rectal bleeding. All of this developed in a context of apyrexia and without any change in general condition.

Clinical findings: On physical examination, the patient presented with a large, hard, mass with pseudo lumbar contact and tenderness of the right iliac fossa.

Diagnostic Approach: Abdominal ultrasound showed a large hyperechogenic mass displacing the right kidney. The abdominal CT scan performed on our patient revealed a large right retroperitoneal multi-loculated mass, fairly well limited with bumpy contours in places, mixed with double compensation of solid and fat, site of thick septal, pseudo-cystic areas and calcification in places, not enhancing after injection of PDC measuring 20 x 24 x 33 cm. It includes the right kidney with its vascular pedicle discreetly in the median position (Figure 1).

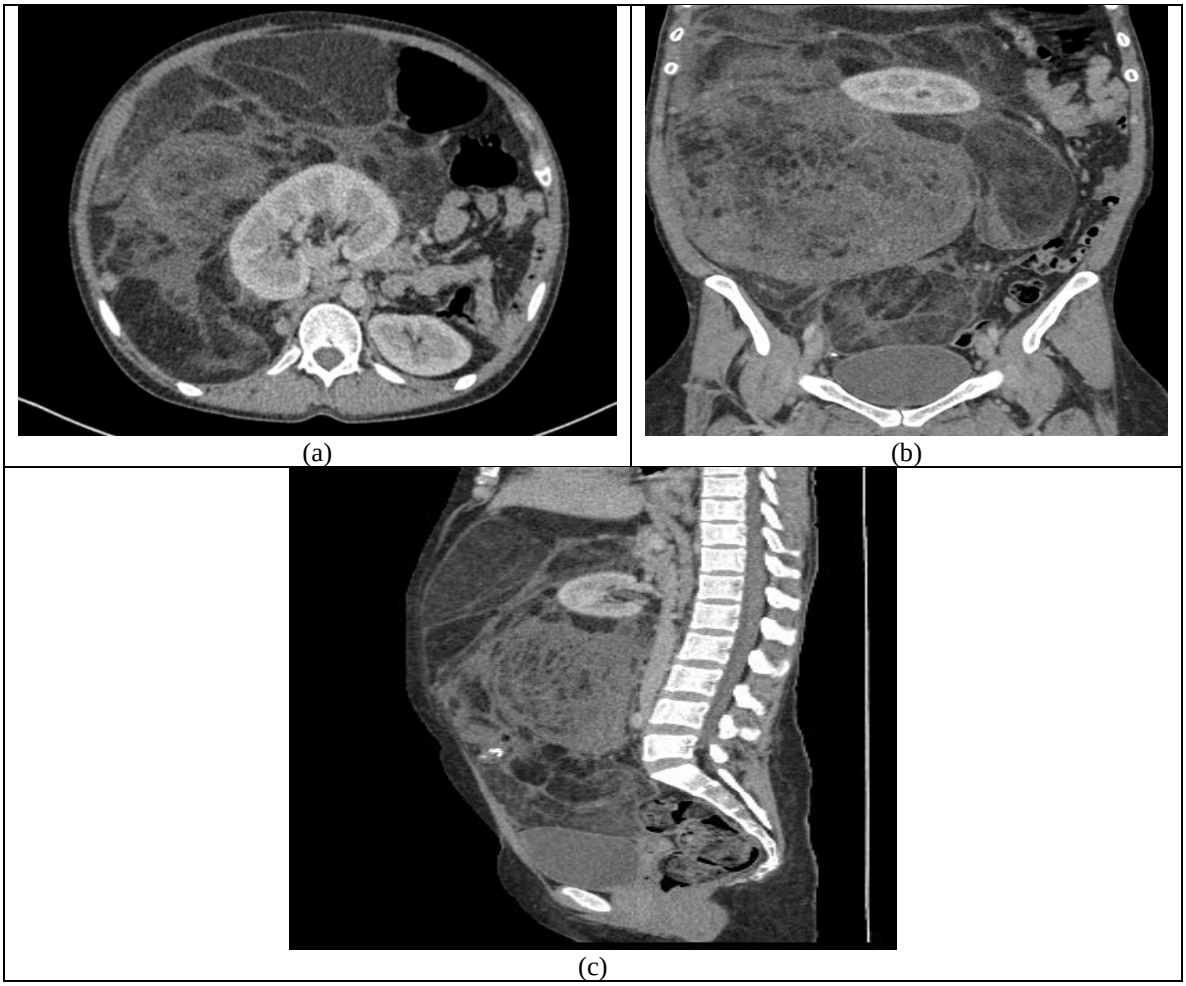

Figure 1(a, b, c): Voluminous multi-loculated right retroperitoneal mass, fairly well limited with bumpy contours in places, mixed with double solid and fat compensation, site of thick septal, pseudocystic areas and calcification in places, not enhancing after injection of PDC measuring 20 x 24 x 33 cm (AP x T x CC). It includes the right kidney with its vascular pedicle discreetly in the median position

Treatment and Follow-Up: The patient underwent surgery with resection of the tumour, including the right kidney and right ovary. Pathological examination with immunohistochemistry confirmed the diagnosis of well-differentiated liposarcoma.

Patient Perspective: The patient stated that she was satisfied with the quality of the treatment and care provided.

Informed Consent: The patient has given her consent.

DISCUSSION

Sarcomas are rare primary mesenchymal tumours representing less than 1% of all malignant tumours [1]. Retroperitoneal liposarcoma is the most frequently observed subtype of retroperitoneal tumour, with an incidence of approximately 2.5 per million individuals [3]. It usually occurs between the ages of 40 and 60, and the sex ratio is approximately 1:1 [3, 4].

The large volume of the intra-abdominal space allows liposarcoma to grow without compressing vital organs, hence the rarity of early diagnosis. By the time clinical symptoms appear, the retroperitoneal liposarcoma has generally grown to a very large size, compressing or invading the surrounding organs [3, 5]. The clinical manifestation occurs through compression of adjacent organs or structures, and is dominated by abdominal pain or heaviness and the perception of an abdominal and/or pelvic mass (70-80%). More rarely, these signs are associated with urinary and/or digestive disorders, a change in general condition and fever secondary to tumour necrosis [3, 5, 7].

To differentiate it from other soft tissue tumours, ancillary examinations are required, including ultrasound, CT scan and magnetic resonance imaging. These examinations provide information on the position and size of the tumour, as well as an appropriate staging of the extent of the tumour and the structures involved, which greatly facilitates the design of a surgical plan.

Abdominal ultrasound is often indicated as the first line of defence, mainly as part of a "troubleshooting" investigation for an ill-defined

abdominal or pelvic symptomatology. It confirms the retroperitoneal location of the mass and possibly the organ of origin, which may be difficult to identify in the case of large tumours, and determines the structure of the mass (solid, cystic or mixed). It identifies one or more tumour components by showing a homogeneous hyperechoic content, in favour of a fatty contingent. It is used to assess abdominal extension, in particular by systematically exploring the liver and kidneys, and to locate the site for an ultrasound-guided biopsy. Its limitations include poor access to the retroperitoneal cavity, limited study of the anatomical relationships and boundaries of the tumour, and its operator-dependent nature, which means that it must be supplemented by other imaging methods [9].

CT is the reference radiological examination for the characterisation, histological classification and prognosis of liposarcoma. It identifies the presence of a predominantly fatty component (of negative density), measures its size, assesses tumour resectability by looking for invasion of vascular structures, in particular the superior mesenteric vessels and bilateral renal vessels, which determines tumour resection. It is also used to assess tumour extension and for follow-up [10].

Radiological findings should also be taken into account to determine whether these fatty tumours are well- or dedifferentiated: presence of areas of nodular density, calcification, intra-lesional septa, necrotic areas, hyper-vascularisation with late lavage [11].

It seems difficult to formally identify the histological type on imaging. Although the fatty component may point towards the diagnosis of liposarcoma, it is not possible to distinguish it from other benign tumours (myelolipoma, angiomyolipoma) or to confirm whether it is well-differentiated or dedifferentiated [12, 13].

MRI is indicated for patients allergic to iodinated contrast products, as a complement to a non-injected CT scan, or in cases where CT is difficult to analyse in the context of invasion of the abdominal aorta, IVC and mesenteric artery. The MRI protocol includes conventional T1 and T2 sequences, sequences with fat saturation, diffusion sequences and dynamic sequences after injection of Gadolinium.

In the pelvis, MRI may be useful for delineating the lesion (pelvi-trochanteric muscles and floor of the perineum, ischial foramen, vascular and nerve connections). Given the absence of infiltration of the abdominal aorta or the IVC and the well encapsulated appearance of the tumour, MRI was not performed in our case [14, 15].

Interventional radiology is used for biopsy, which must be directed at fatty and non-fatty areas, systematically via a percutaneous retroperitoneal approach. However, a definitive diagnosis is only possible after surgical resection and macroscopic and histological examination, in our case, the biopsy was not performed [16, 17].

CONCLUSION

Retroperitoneal liposarcoma remains a rare malignant tumour, with a long asymptomatic course and late diagnosis. Imaging is important in the diagnostic work-up of this entity, being necessary not only for tumour detection, staging and surgical planning, but also to guide percutaneous biopsy of this tumour.

Conflicts of Interest: The authors declare no conflicts of interest.

Authors' Contributions: All the authors contributed to the diagnostic and therapeutic management of the patients and to the writing of this work. They also declare that they have read and approved the final version of the manuscript.

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