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Dual Location Dedifferentiated Liposarcoma (Intraperitoneal and Right Inguino-Scrotal): A Case Report

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Abstract | **Case Report**

Liposarcoma is one of the most common sarcomas of mesenchymal origin in adults, accounting for 16-18% of malignant soft tissue tumours. It is classified into five histological types: well-differentiated liposarcoma (LBD), dedifferentiated liposarcoma (LDD), myxoid liposarcoma (LM), round cell liposarcoma (LGC) and pleomorphic liposarcoma (LP). LDD is a rare variant with increased aggressiveness compared with other liposarcomas, and many metastases are found at the time of diagnosis. It is usually found in the retroperitoneum and extremities; intraperitoneal localization is rare and inguino-scrotal localization is exceptional. CT is the examination of choice for the positive and differential diagnosis of this type of bimorphic liposarcoma, with a very poor and aspecific clinical picture, but without the precision of histology or immunohistochemistry. We present an LDD of unusual and exceptional intraperitoneal and inguino-scrotal location.

Keywords: Liposarcoma, soft tissue tumours, inguino-scrotal localization.

INTRODUCTION

Liposarcoma is a common sarcoma in adults, frequently occurring in the retroperitoneum and extremities. It accounts for 16-18% of soft tissue sarcomas [1]. Dedifferentiated liposarcoma (DLL) is a rare variant of liposarcoma with a poor prognosis. It develops in the retroperitoneum and extremities, and accounts for 50% of dedifferentiated soft tissue sarcomas [2]. In most cases, imaging helps to orientate the diagnosis by demonstrating the fatty component of this type of sarcoma. We report a case of dedifferentiated liposarcoma (LDD), a rare variant of liposarcoma of mesenchymal origin with a poor prognosis and multiple exceptional locations (inguino-scrotal and intra-peritoneal), in a 66-year-old patient treated for ischaemic heart disease on Sintrom.

OBSERVATION

This is a 66 year old married patient with 04 children, treated for mitral valve disease on Sintrom, who presented for two (02) years with a right inguino-scrotal swelling, painless and irreducible, prompting the patient to make an initial consultation where the diagnosis of an inguinoscrotal hernia was made. Given the embarrassing and gradual increase in volume to its current size (Figure 1), he decided again to seek treatment. All this was happening in a context of good general health.

On clinical examination, the patient was conscious, cooperative and in good general condition, haemodynamically and respiratorily stable (blood pressure 12/7 cmHg, heart rate 90 beats/minute, respiratory rate 18 cycles/minute), GCS 15/15, WHO score 0, no oedema of the lower limbs, normal-coloured conjunctivae and integument, weight 76 kg, height 166 cm, BMI 27.58; presence of a painless and irreducible right inguino-scrotal mass with no palpable intra-abdominal mass. The rest of the somatic examination was unremarkable.

Biologically, the patient had a CBC (haemoglobin 14.2 g/dl), Plq 338, normal renal and liver function tests, a normal blood ionogram and blood cell count, C-reactive protein CRP 4 mg/l, blood glucose 1.4 g/l, positive blood group B, and normal tumour markers.

On imaging, abdominal ultrasound performed at the onset of symptoms revealed a right inguino-scrotal hernia (Figure 2), supplemented by an abdominal CT scan which showed a right inguino-scrotal hernia without digestive content associated with calcified mediastinal lymph nodes (Figure 3).

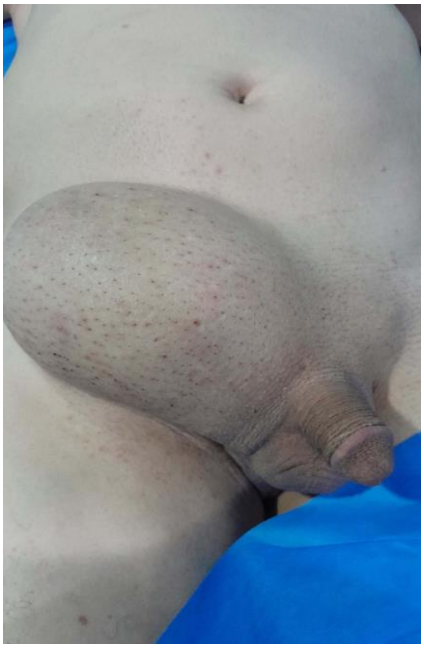

Figure 1: Painless and irreducible right inguinoscrotal mass

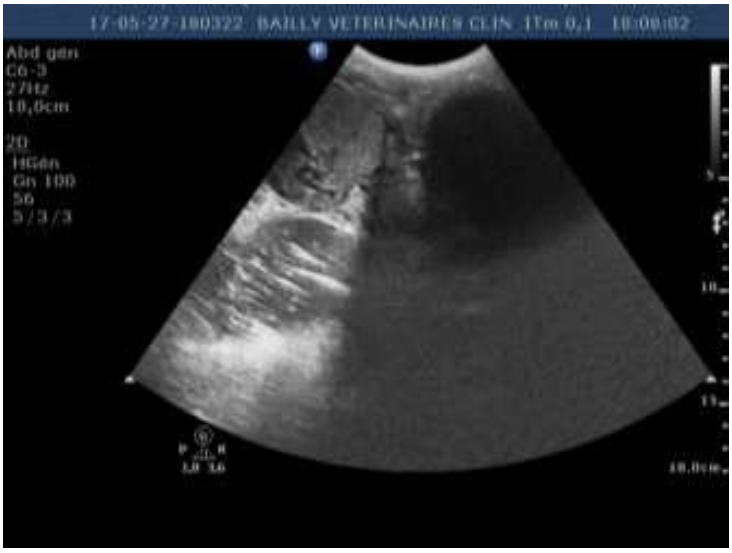

Figure 2: Abdominal ultrasound showing a right inguinoscrotal hernia. HMMI-Meknes Imaging Department

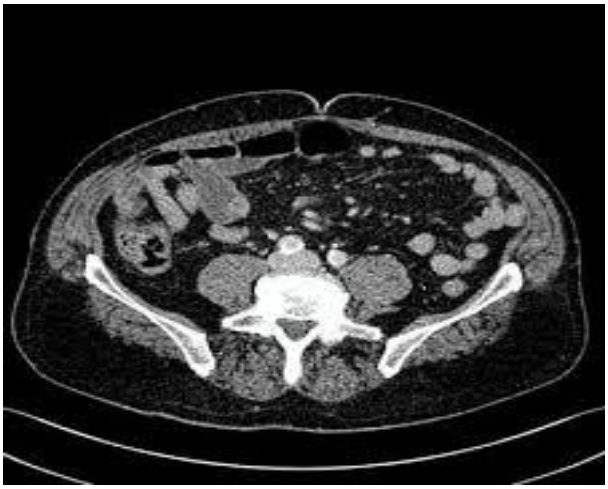

Figure 3: Abdominal CT scan showing a right inguinoscrotal hernia. HMMI-Meknes Imaging Department

Two years later, a new abdominal CT scan revealed a liposarcomatous abdominal mass in the right iliac fossa (124×90 mm) and right inguinoscrotal fossa (154×94 mm) containing a feeding vascular pedicle (Figure 4).

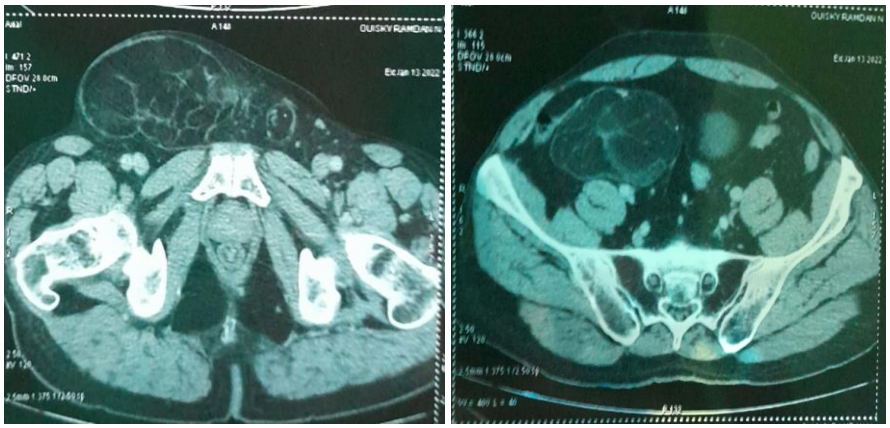

Figure 4: Abdominal CT scan performed after two years shows an abdominal mass localised in the right inguinoscrotal (124×90 mm) and right inguinoscrotal (154×94 mm) of liposarcomatous appearance containing a feeding vascular pedicle. HMMI-Meknes Imaging Department

The diagnosis of a liposarcomatous right intra-abdominal and inguinoscrotal mass was made in this patient, who was admitted to the Visceral Surgery Department for removal of the mass.

Preoperatively, the patient was advised to stop taking Sintrom and to start taking lovenox 60mg every 12 hours, 24 hours after the last dose of Sintrom and finally to stop lovenox the day before surgery.

He was admitted to the operating theatre for removal of the mass. He was placed on the operating table supine under general anaesthetic with a bladder and nasogastric tube.

Right inguinal incision extended to the right iliac fossa. Investigation revealed a right inguino-scrotal mass invading the vas deferens and the right testis, with its associated vascular pedicle extending into the right iliac fossa, pushing back the colon and coecum without any signs of invasion, and coming into contact with the external iliac artery and vein of the pelvic urethra, the homolateral psoas muscle and the bowels without any signs of invasion.

We proceed with:

- Detachment of the edges of the aponeurosis of the oblique major muscle medially as far as the conjoint tendon and laterally as far as the crural arch,
- Externalisation of the inguino-scrotal mass, initially removing the testicle, the right vas deferens and the vessels,
- Release of the adhesions of the mass to the contact organs (colon, coecum, small bowel and posterior parietal wall) in the second stage, followed by extraction of the mass,
- Careful haemostasis
- Placement of a right inguino-scrotal drain (Figures 5, 6, 7 and 8).

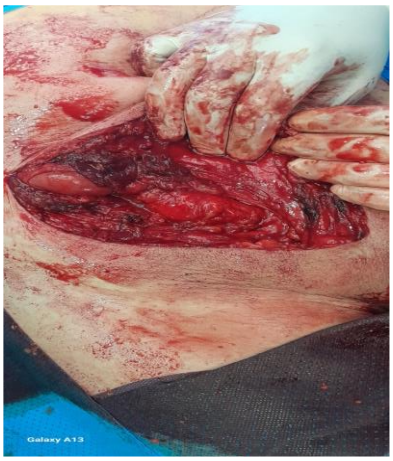

Figure 5: Inguino-scrotal mass after incision. HMMI Visceral Surgery Department

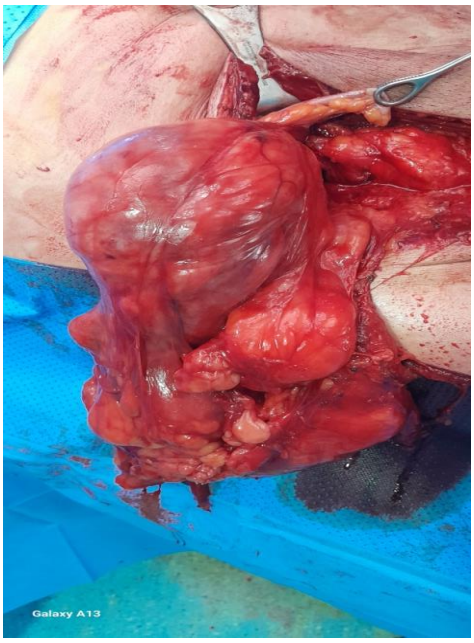

Figure 6: Inguino-scrotal and intra-peritoneal mass after removal. Department of Visceral Surgery HMMI

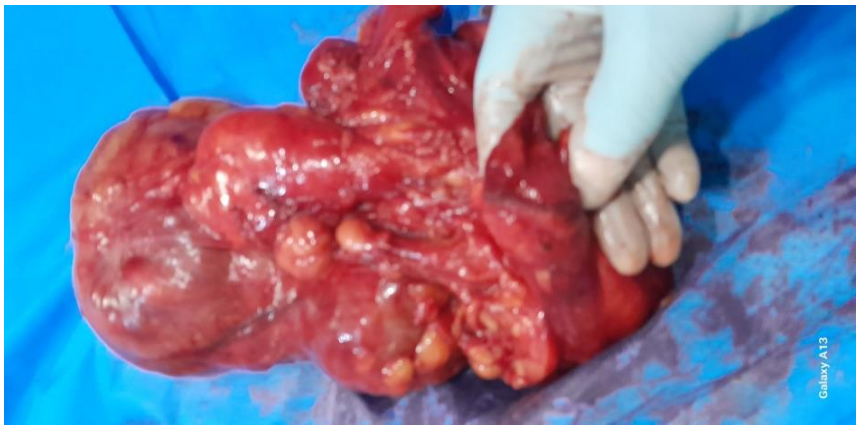

Figure 7: Inguino-scrotal and intra-peritoneal mass after removal. Department of Visceral Surgery HMMI

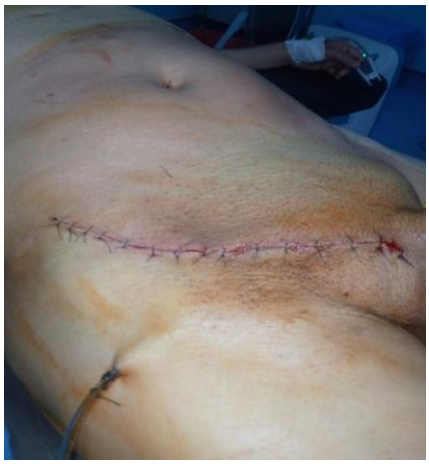

Figure 8: Image of a right inguino-scrotal drain after removal of the mass and parietal closure. HMMI Visceral Surgery Department

Post-operatively, the patient went into haemorrhagic shock with the drain bringing back bright blood with a haemoglobin level of 5.5 g/dl, platelets at 160 and a prothrombin level of 21%. He received a transfusion of 04 packed red blood cells and 06 packed fresh frozen platelets (PFC), followed by a CBC check (haemoglobin 9.4 g/dl, platelets 133).

On postoperative day 6, the same picture emerged with the drain bringing back blood; haemoglobin 6.5 g/dl; platelets 160; prothrombin 30%; white blood cells 29,000; CRP 30 and dyspnoea.

A new thoraco-abdomino-pelvic CT scan was performed, which revealed a large intraperitoneal haematoma with no sign of pulmonary embolism (Figure 9).

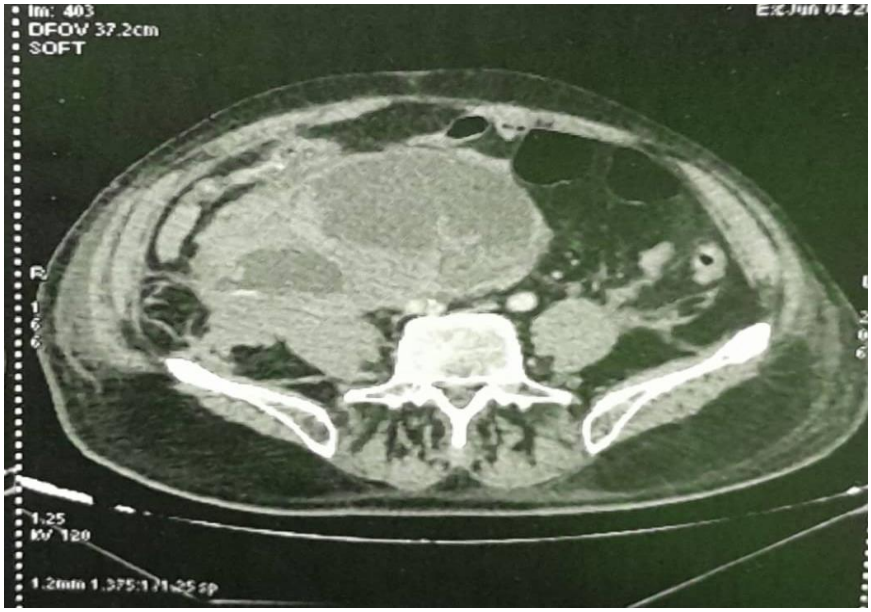

Figure 9: Thoraco-abdomino-pelvic CT scan showing a large intraperitoneal haematoma with no sign of pulmonary embolism. HMMI-Meknes Imaging Department

The pathology report showed a dedifferentiated liposarcoma.

DISCUSSION

Liposarcoma is a rare malignant tumour of mesenchymal origin and accounts for 9-16% of all soft tissue sarcomas [1]. It occurs mainly in patients with an average age between 50 and 70 years, but the disease can affect all age groups [3, 4], with a slight male predominance [5]. They are most often found in the retroperitoneum and extremities. We report a case of dedifferentiated liposarcoma (LDD), which is a rare variant of liposarcoma of mesenchymal origin, with a poor prognosis and exceptional multiple localisations (inguino-scrotal and intra-peritoneal), in a 66-year-old patient treated for ischaemic heart disease on Sintrom.

Clinically, most patients are asymptomatic. However, when it is large, liposarcoma can cause pain and a sensation of abdominal heaviness. Other symptoms may include fever, nausea and vomiting, in a context of altered general condition. These clinical signs are mainly caused by compression of nerve structures, visceral structures and neighbouring organs. However, in our series, it was marked by inguino-scrotal swelling.

Biological tests were non-specific in our patient. Liposarcoma is usually diagnosed using commonly used imaging techniques. Ultrasound remains the 1st-line examination for the abdomen, in most cases showing a single mass of variable size with an echogenic and heterogeneous appearance, but unable to locate the epicentre of the mass. On CT scan, liposarcoma is hypodense with fat density [6]. On the other hand, in our series, the two imaging examinations (ultrasound and CT scan) performed at the onset of the symptoms revealed a right inguino-scrotal hernia, and it was not until two years later that a new CT scan was performed to confirm the diagnosis of liposarcoma.

Histologically, the World Health Organisation classifies liposarcoma into four subtypes: myxoıde liposarcoma: the most common type in the paediatric population. Of high grade with risk of metastasis; well-differentiated liposarcomá: accounts for 50% of liposarcomas. Low-grade with minimal risk of metastasis but high risk of local recurrence; dedifferentiated liposarcoma: most often locates retroperitoneally. High-grade form, most often containing well-differentiated areas; pleomorphic liposarcoma: rarest form, representing only 5-10% of liposarcomas, with high risk of local recurrence and distant metastasis. Myxoıde, dedifferentiated and well-differentiated forms in the liver have been described in the literature [6-8]. Our reported case was a dedifferentiated liposarcoma with intraperitoneal and inguino scrotal localisation.

Liposarcoma biopsy poses the risk of dissemination. For this reason, our patient did not undergo a biopsy. The treatment for liposarcoma is still complete surgical removal with respect for safety margins, and palliative treatment if metastases are present [9].

The oncological benefit has yet to be confirmed [10]. Unlike our study, which did not receive chemotherapy or radiotherapy.

The role of radiotherapy is not well studied given the rarity of liposarcoma in the literature. Chemotherapy was tried in high-grade subtypes but without significant results.

Patient prognosis depends on the histological type of liposarcoma, its grade as well as its necrotic component. The 5-year survival rate for patients who have undergone complete excision or radiotherapy is estimated at 50% [9].

CONCLUSION

Intraperitoneal and inguino-scrotal liposarcoma represent extremely rare locations of liposarcoma. Diagnosis is essentially based on imaging. Histological grade and subtype must be obtained to determine prognosis. Wide resection of the tumour remains the best treatment. Radiotherapy and chemotherapy appear to be reserved for recurrences and advanced lesions.

REFERENCES

1. Hasegawa, T., Seki, K., Hasegawa, F., Matsuno, Y., Shimoda, T., Hirose, T., ... & Hirohashi, S. (2000). Dedifferentiated liposarcoma ofretroperitoneum and mesentery: Varied growth patterns and histological grades—A clinicopathologic study of 32 cases. *Human pathology*, *31*(6), 717-727.
2. Association of Directors of Anatomic and Surgical Pathology Recommendations for reporting soft tissue sarcomas (Recommandations de l'Association des directeurs de pathologie anatomique et chirurgicale pour la notification des sarcomes des tissus mous). *Am J Clin Pathol*, 1999 May; *111*(5), 594-598.
3. Antinori, A., Antonacci, V., & Magistrelli, P. (2002). Giant retroperitoneal liposarcoma. *Am J Surg*, *184*(1), 56-57.
4. Stoeckle, E., Coindre, l. M., & Bonvalot, S. (2001). Groupe sarcome de la Fédération française des centres de lutte contre le cancer. Facteurs pronostiques des sarcomes rétropéritonéaux : analyse multivariée d'une série de 165 patients du Groupe Sarcome de la Fédération Française des Centres de Cancérologie. *Cancer*, 92, 359-368.
5. Ensinger, F. M. Liposarcomes.
6. Shin-Chun, F., Cheng-Kuang, C., Yu-Chun, L., Chih-Yung, Y., Chang-Hsien L., & Guo-Shu, H. (2011). Primary hepatic liposarcoma diagnostiqué par tomographie dynamique. *J Radiol Sci*, *1*(36), 113-117.
7. Wolloch, Y., Dintsman, M., & Garti, I. (1973). Tumeurs malignes primaires du foie. *Isr J Med Sci*, *9*(1), 6-11.
8. Kim, J. L., Woo, J. Y., Lee, M. J., Kim, K. R., Jung, J. P., Lee, N. J., ... & Chung, S. Y. (2007). Imaging findings of primary well-differentiated liposarcoma of the liver: a case report. *Acta Radiologica*, *48*(10), 1061-1065.
9. Nelson, V., Fernandes, N. F., Woolf, G. M., Geller, S. A., & Petrovic, L. M. (2001). Primary liposarcoma of the liver: a case report and review of the literature. *Archives of pathology & laboratory medicine*, *125*(3), 410-412.
10. Truant, S., Baillet, C., Millet, G., Ernst, O., Huglo, D., Boleslawski, E., & Pruvot, F. R. (2015). ALPPS: a new technique of major liver resection for non resectable colorectal liver metastases. *Hépato-Gastro & Oncologie Digestive*, *22*(6), 506-512.