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GIANT SPERMATIC CORD LIPOSSARCOMA: A CASE REPORT

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Abstract: Liposarcomas are malignant neoplasms that originate from fatty tissue. In this article, we report the case of a 74-year-old patient who presented with a mass in the left inguinal region, suspected of having an inguinal hernia, progressing to a diagnosis of liposarcoma of the spermatic cord suspected by imaging tests and confirmed in the anatomopathological study.

INTRODUCTION

Intrascrotal tumors can be testicular or paratesticular (Figure 1). The majority of paratesticular masses are benign, with primary malignancies being rare in adults, accounting for less than a third of these. [1] These are, for the most part, made up of sarcomas, of which less than 10% are represented by liposarcomas, malignant neoplasms originating from primitive mesenchymal cells of the spermatic cord that usually affect male patients between 5th and 6th decades of life. [2,3,4]

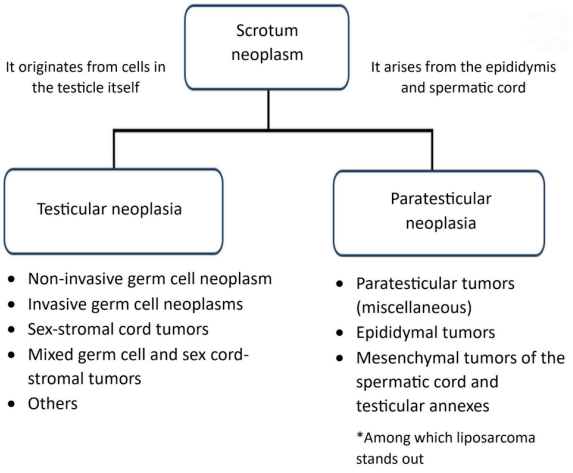

Figure 1: Simplified diagram of scrotum neoplasms.

Liposarcomas arising in the spermatic cord, without an intra-abdominal component, are called primary spermatic cord/inguinoscrotal liposarcomas. [4] This condition corresponds to only 0.03% of all urological tumors according to the literature. [5]

The most recent studies based on molecular biology and genetic mapping suggest the designation of liposarcomas into 3 categories: atypical lipomatous tumor, well-differentiated liposarcoma (subdivided into myxoid and round cell) and dedifferentiated liposarcoma (pleomorphic), as shown in Figure 2. [6]

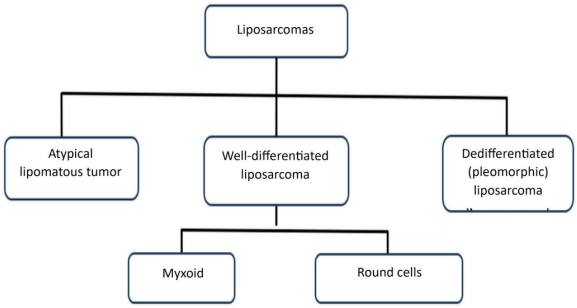

Figure 2: Subtypes of liposarcomas.

REPORT

We present the case of a 74-year-old male patient, resident in Fortaleza-CE, who arrived at the imaging department for an ultrasound examination of the left inguinal region, with clinical suspicion of an inguinal hernia. He reported a non-painful bulging/hardened mass in the left inguinal region, with a progressive increase in size over the last 6 months.

On ultrasound study, a heterogeneous expansive lesion was noted, with predominantly hyperechogenic content, with vascularization on color Doppler, sometimes assuming a nodular appearance, extending to the ipsilateral scrotal hemipouch, without apparent communication with the intra-abdominal portion that would suggest a hernia (figure 3).

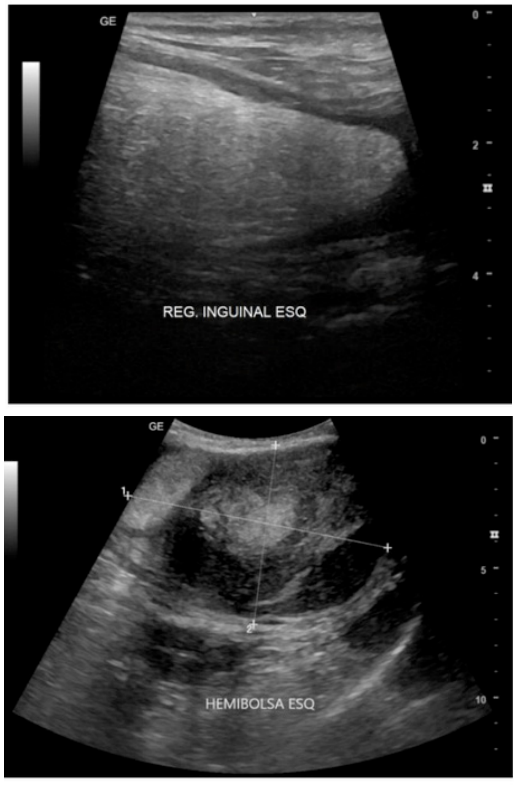

Figure 3: Ultrasound images showing a heterogeneous expansive lesion, with predominantly hyperechogenic content, sometimes assuming a nodular appearance, extending from the left inguinal region to the ipsilateral scrotal hemipouch.

The patient was advised to continue investigation and five days later returned to the service for magnetic resonance imaging (MRI) with contrast, with a protocol directed to the testicular sac, which showed heterogeneous hypovascularized lesions, with foci of fatty tissue and thick septations in between, located in the left inguinal region, juxtaposed, infiltrating the spermatic cord and extending to the ipsilateral scrotum, causing moderate local bulging, including posterior displacement of the testicle. The lesions also extended to the rectus abdominis muscle on the left. In this context, mesenchymal etiology was admitted as a differential, with liposarcoma of the spermatic cord as the main diagnostic hypothesis (Figures 4 to 7).

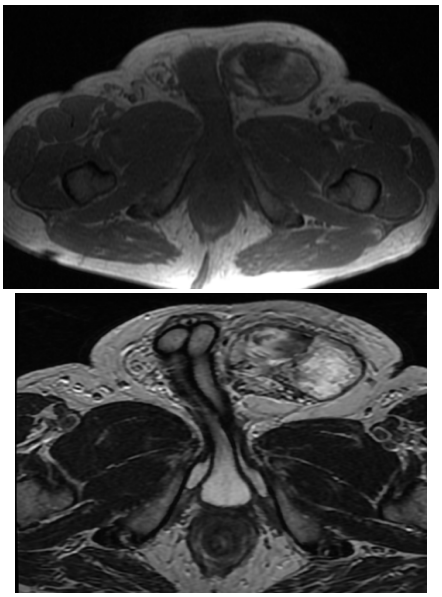

Figure 4: Magnetic resonance images, axial, T1 and T2 weighted, respectively, showing a voluminous heterogeneous expansive formation with foci of fatty tissue and thick septations located in the left inguinal region extending to the ipsilateral scrotum, determining posterior displacement of the testicle.

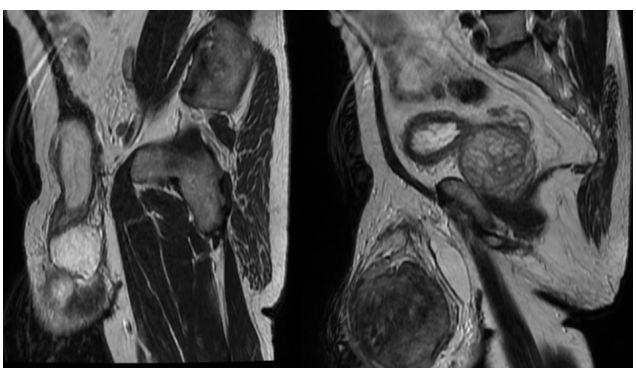

Figure 5: Sagittal, T2-weighted magnetic resonance images, showing a voluminous heterogeneous hypovascularized expansive formation, with foci of fatty tissue and thick septations in between, located in the left inguinal region, infiltrating the spermatic cord and extending to the ipsilateral scrotum.

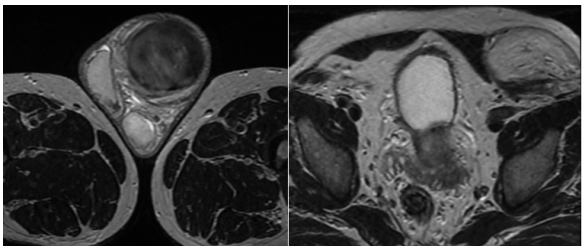

Figure 6: Axial, T2-weighted magnetic resonance images, showing a heterogeneous lesion with foci of fatty tissue located in the left inguinal region, extending to the ipsilateral scrotum, causing posterior displacement of the testicle and compromising the rectus abdominis muscle on the left.

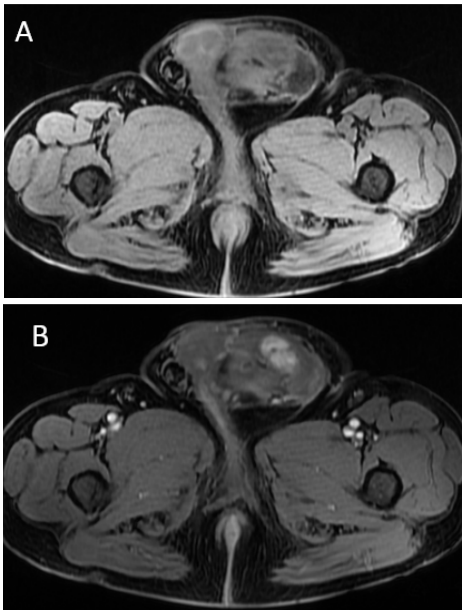

Figure 7: Axial, T1-weighted magnetic resonance images before (A) and after (B) administration of contrast medium, showing a heterogeneous hypovascularized lesion with foci of fatty tissue and thick intervening septations located in the left inguinal region, extending up to the ipsilateral scrotum.

The patient underwent radical orchiectomy, with wide tumor resection, which was uneventful (Figure 8). The anatomopathological analysis confirmed the hypothesis of liposarcoma of the spermatic cord (Figures 9 to 11), in this case, high grade, with areas ofpleomorphic liposarcoma. The patient subsequently underwent adjuvant chemotherapy.

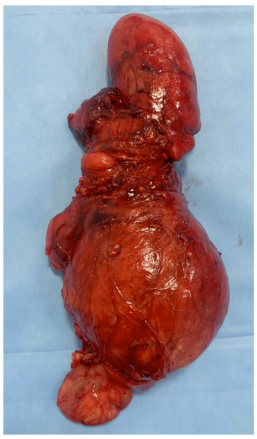

Figure 8: Radical orchiectomy product on the left, weighing 1,050g.

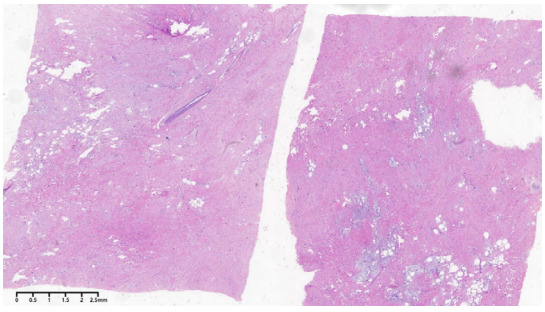

Figure 9: Low-power photomicrograph shows scattered proliferation among mature adipocytes, atypical spindle cells, and lipoblasts. Note the variation in fat cell size, with some gigantocellular and multinucleated cells seen even at this magnification (arrows).

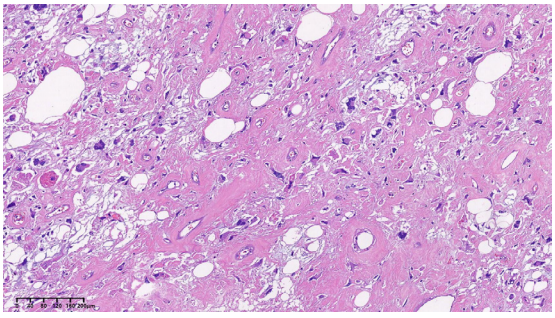

Figure 10: Proliferative spindle-shaped and gigantocellular cells containing elongated nuclei with blunt ends and eosinophilic fibrillar cytoplasm with scattered enlarged and irregular nuclei. The presence of a better differentiated component shows adipose tissue with a mature appearance and fibrous bands with irregular nuclei (arrows).

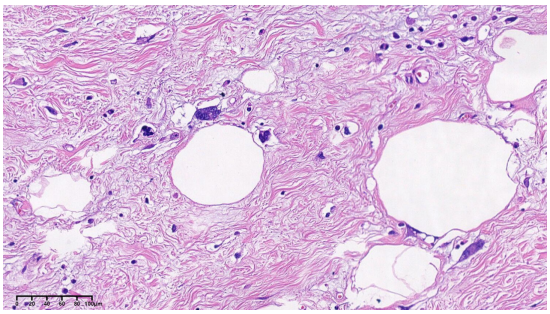

Figure 11: High magnification photomicrograph showing spindle cell and gigantocellular proliferation with typical lipoblasts (arrows).

DISCUSSION

Spermatic cord liposarcoma (SCL) manifests as a slow-growing and painless inguinal or inguinoscrotal mass, differentiating it from inguinal hernias, lipoma, hydrocele or chronic epididymitis. [7] For this reason, the clinical diagnosis of these inguinal masses is challenging. In this context, imaging exams, such as ultrasound and sectional methods, emerge as an important tool in diagnostic guidance, in order to determine the precise location of the lesion, as well as its characteristics. [8]

The presence of intratumoral adipose tissue detected in tomographic or magnetic resonance imaging studies may suggest the diagnosis of LSC. However, in some subtypes, macroscopic fat is not easily detectable. In pleomorphic liposarcoma, for example, imaging features may be indistinguishable from other aggressive soft tissue sarcomas. [6] For this reason, pathological examination and immunohistochemical analysis are essential in confirming the diagnosis of paratesticular neoplasms. [9]

The definitive treatment for LSC consists of radical inguinal orchiectomy and wide excision with high ligation of the spermatic duct, aiming to obtain free margins. In case of compromised margins, the patient must undergo a new surgical procedure. Treatment can be complemented, in specific cases, with radiotherapy or adjuvant chemotherapy, which must always be performed with a combination of Ifosfamide and Doxorubicin, being indicated, if necessary, according to the assessment of risk factors after resection. [10]

In cases in which the possibility of liposarcoma was not considered in the preoperative evaluation and conservative surgery was performed, there is a greater morbidity and mortality for the patient, both due to the need for subsequent surgical interventions to expand margins, and due to the greater chance of using therapies adjuvants, with these patients having a worse prognosis. [11]

CONCLUSION

LSC is a rare soft tissue malignancy with aggressive behavior and poor prognosis. [9] The survival rate of its carriers is approximately 75% in 5 years. Due to the high rates of locoregional recurrence, including late ones, which can reach 50%, prolonged follow-up for at least 10 years is recommended. [12]

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