

Case Report

# Well-differentiated “lipoma-like” giant paratesticular liposarcoma: a case report

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**Abstract:** Few cases of paratesticular liposarcomas have been described in literature and they are considered as rare tumors, especially when they are larger than 10 cm, called giant tumors. We describe the case of a 52-year-old patient diagnosed with a painless mass in the scrotum, initially submitted to magnetic resonance imaging, which revealed a large paratesticular mass. Subsequently, he underwent left radical orchiectomy, which revealed a well-differentiated, “lipoma-like,” “giant” paratesticular liposarcoma. We discussed the workup and current management of this pathology.

**Keywords:** Liposarcoma; Paratesticular; Giant; Lipoma-like.

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## 1. Introduction

Testicular tumors are considered rare neoplasms, but they are more relevant when considering the population of young adults and are the most common solid tumors in this age group. Making a differential diagnosis with these tumors and presenting themselves much less frequently, are the paratesticular tumors [1]. Paratesticular tumors are a group of very rare neoplasms that develop within the scrotum, adjacent to the testicle, and originate from the epididymis, spermatic cord, or tunica vaginalis [2].

Paratesticular sarcomas represent only 1% of all sarcomas in the human body; however, they are the most common sarcomas of the genitourinary tract. Among them, liposarcomas are the most common; and tumors larger than 10 cm, called giants, are considered very rare tumors, and few cases have described them in the literature [3, 4].

We describe a case of a 52-year-old patient who underwent radical orchiectomy, diagnosed with a well-differentiated “lipoma-like” paratesticular liposarcoma, considered giant (larger than 10 cm). A few similar cases have been described in literature.

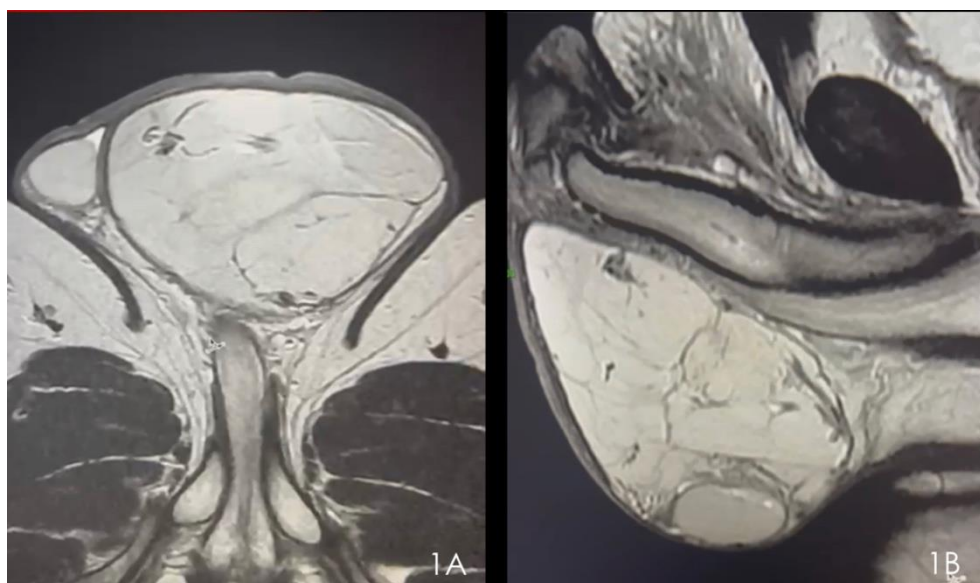
## 2. Case Report

In April 2022, a 52-year-old male patient sought medical attention because of an increase in scrotal volume. He denied experiencing pain or any other signs or symptoms. Upon examination, a voluminous paratesticular mass was identified on the left side, caudally rejecting the testicle. He underwent magnetic resonance imaging of the pelvis, which confirmed the presence of a solid paratesticular mass approximately 10 cm to the left, caudally displacing the testicle (Figures 1A and 1B).

In June 2022, he underwent left radical inguinal orchiectomy. Frozen biopsy performed during surgery revealed a lipomatous neoplasm. The anatomopathological study revealed a well-differentiated liposarcoma, histological grade I, of the “lipoma-like” subtype, measuring 12.0 x 10.0 x 6.0 centimeters (Figures 2A and 2B).



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**Figure 1.** Magnetic resonance imaging of the pelvis in axial (A) and sagittal (B) sections.



**Figure 2.** Radical Orchiectomy product – Open (A) and Whole (B) piece.

Distant disease staging was performed using computed tomography (CT) of the abdomen, pelvis, and thorax. No signs of disease were observed beyond the primary site. Due to the absence of metastatic disease or lymph node enlargement, and considering the liposarcoma subtype, adjuvant systemic treatment with chemotherapy was not indicated.

Owing to the complete resection with a safety margin and the possible local complications of radiotherapy, we decided not to use this adjuvant treatment, keeping the patient in follow-up with physical examination and imaging tests with no evidence of recurrence until the conclusion of this case report.

### 3. Discussions

Sarcomas are rare tumors that originate from mesenchymal cells. The most common subtypes include, in descending order, liposarcoma, leiomyosarcoma, fibrous histiocytoma, and rhabdomyosarcoma. They mainly affect the limbs and retroperitoneum [5]. Paratesticular sarcomas include tumors that develop within the scrotum and may involve the epididymis, spermatic cord, and/or tunica vaginalis. They account for only 1% of all sarcomas in the human body; however, they represent the most common type of sarcoma of the genitourinary system [3].

Paratesticular liposarcoma is considered a very rare neoplasm. Considering that tumors larger than 10 cm are called giant liposarcomas, the number of cases described in the world literature are less than 10 [4]. Typically, these tumors occur in patients aged > 50 years. They usually present as painless scrotal masses. The serum markers of testicular tumors are typically negative [6].

Imaging tests for the primary tumor usually include Doppler ultrasound of the scrotum as an initial imaging test and magnetic resonance imaging for a more detailed evaluation, which can more accurately distinguish paratesticular tumors from tumors of testicular origin [7]. Patients were staged using abdominal and chest imaging.

The classic spread of these tumors occurs in retroperitoneal lymph nodes and lungs [7]. Most of the experience that currently dictates the management of these patients comes from studies with a small number of patients. No randomized studies have compared and evaluated the efficacy of radiotherapy and systemic treatment in neoadjuvant or adjuvant settings. Commonly, treatment principles for sarcomas are implemented [8].

Resection of the primary tumor usually involves an inguinal approach similar to radical orchiectomy, with wide resection of the tumor mass with negative margins. Some authors advocate biopsy prior to surgical resection when the suspicion of paratesticular tumor is high, with the aim of submitting the patient to neoadjuvant treatments with radiotherapy and/or chemotherapy [9].

Retroperitoneal lymphadenectomy should normally be offered only to patients with no distant metastatic disease and to those with paratesticular sarcoma, with the exception of liposarcoma. For liposarcoma cases, in the absence of retroperitoneal lymphadenopathy, monitoring the retroperitoneum with serial imaging tests is sufficient [10, 11].

Some authors have proposed the use of adjuvant radiotherapy after resection of paratesticular sarcomas, especially liposarcoma. However, evidence for this therapy is low and questionable in the setting of complete resection with negative margins. Adjuvant radiotherapy should be considered when resection with negative margins is not possible. If the possibility of incomplete tumor resection is foreseen, there is a superior oncological benefit from the use of neoadjuvant radiotherapy but with a higher rate of surgical complications and local healing [12, 13, 14].

Adjuvant systemic treatments with chemotherapy are questionable and controversial because of the lack of robust studies in this scenario, which is consistent with the rarity of this pathology. Adjuvant chemotherapy may be offered to patients undergoing retroperitoneal lymphadenectomy with evidence of metastasis to resected lymph nodes. Theoretically, chemotherapy in the neoadjuvant setting would be more advantageous, but the associated toxicity and lack of studies proving its efficacy limit its use [8, 10].

In this case, the patient underwent surgical resection with free margins, and we chose not to use adjuvant radiotherapy. Considering that the staging imaging tests did not reveal metastatic disease, we did not propose retroperitoneal lymphadenectomy or adjuvant chemotherapy. The initial proposal for the patient was follow-up with serial imaging of the chest, abdomen, and pelvis.

### 4. Conclusions

We describe a diagnosis of paratesticular liposarcoma after an initial presentation of an increase in scrotal volume in a 52-year-old male patient. The patient underwent radical

orchiectomy and based on current evidence, did not undergo any adjuvant treatment, remaining in clinical follow-up with no evidence of disease recurrence.

Paratesticular liposarcomas are very rare tumors, with greater relevance in patients aged > 50 years. They should always be suspected in elderly patients with scrotal masses. Adjuvant treatments with radiotherapy, chemotherapy, and retroperitoneal lymphadenectomy are controversial due to the rarity of the pathology and lack of studies with an adequate number of patients. There is little evidence in the literature to justify the routine use of these treatments. More studies, in reference centers, with collaboration between hospitals, are needed to better understand this pathology and to define the best management for these patients.

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**Research Ethics Committee Approval:** We declare that the patient approved the study by signing an informed consent form and the study followed the ethical guidelines established by the Declaration of Helsinki.

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**Conflicts of Interest:** The authors declare no conflict of interest.

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