Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Urological Surgery

The Liposarcoma of the Spermatic Cord: A Rare Tumor

Y. Staouni Benabdallah[1*], S. Sidki[1], G. Fallouh[1], R. Al Sabbagh[1], R. Aboutaeib[1]

[1]Urological Surgery Department, Moulins Yzeure Hospital Center, Moulins, France

DOI: 10.36347/sjmcr.2024.v12i02.026 | **Received:** 11.01.2023 | **Accepted:** 18.02.2024 | **Published:** 28.02.2024

***Corresponding author:** Y. Staouni Benabdallah
Urological Surgery Department, Moulins Yzeure Hospital Center, Moulins, France

Abstract **Case Report**

Liposarcoma of the spermatic cord is a rare tumor, with only 60 cases reported in the literature, constituting 7% of malignant tumors of the spermatic cord. We present a new case of an unusual liposarcoma of the spermatic cord, characterized by its necrotic and myxoid variant, occurring in a 66-year-old man in good general health. The primary treatment involves the widest possible surgical excision, with adjuvant radiotherapy sometimes proving effective against local recurrences. Despite its slow progression, extended surveillance is necessary due to the high risk of late recurrence.

Keywords: Liposarcoma, spermatic cord.

INTRODUCTION

Liposarcoma is a relatively infrequent and unusual mesenchymal tumor of the spermatic cord. Its clinical diagnosis is challenging, and its course is marked by a high risk of local recurrence. In light of a specific case, a literature review is conducted.

CASE REPORT

R.C...., a 66-year-old individual with no significant medical history, presented with a painless enlargement of the right scrotum persisting for 3 to 4 years. Clinical examination revealed a substantial swelling of the right hemiscrotum, which was painless, firm, irregular, and non-reducible. The testicle and epididymis were not distinguishable within this non-transilluminable mass. Hernial orifices were free, and examination of the left scrotum was normal (Figure 1). The remainder of the somatic examination was unremarkable.

The ultrasound examination (Figure 2) reveals a tissue mass that is heterogeneous with calcifications, highly vascularized on color Doppler, and causing displacement of the right testicle, which appears sonographically normal. The left testicle appears normal as well.

Tumor Markers:

- LDH (Lactate Dehydrogenase): 173 IU/L (Normal Range: 160-320 IU/L)
- βHCG (Beta-human Chorionic Gonadotropin): 2.5 IU/L (Normal: <10 IU/L)
- Alpha-fetoprotein: 2 ng/mL (Normal: <5 ng/mL)

The thoraco-abdomino-pelvic computed tomography (CT) scan reveals a heterogeneous testicular mass with some calcifications, measuring up to 22 cm (Figure 3).

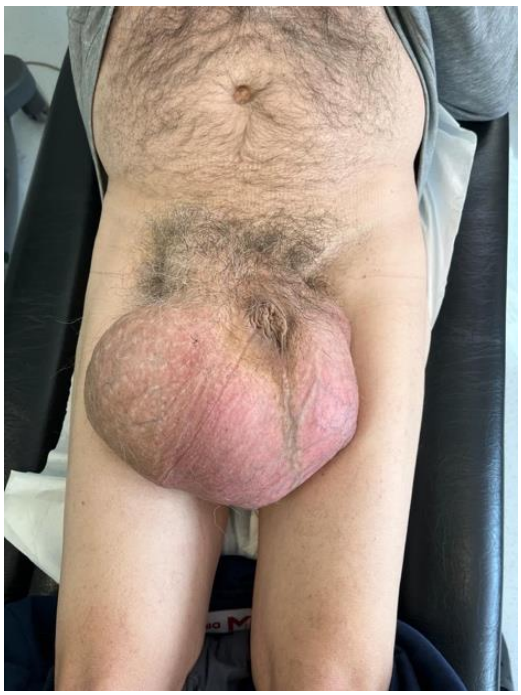

Figure 1: Image illustrating a large right scrotal mass exceeding 20 cm in size

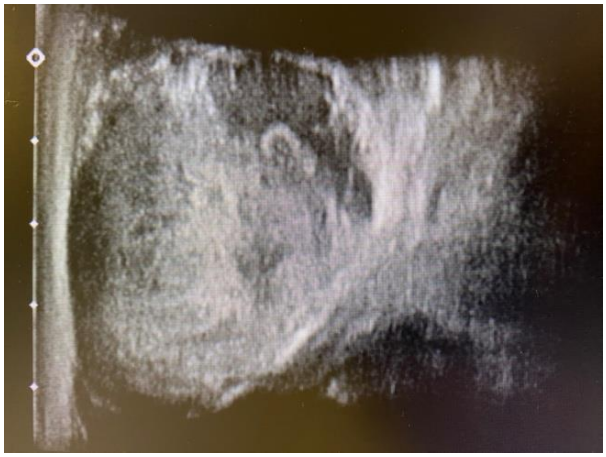

Figure 2: Image illustrating a tissue mass that is heterogeneous with calcifications

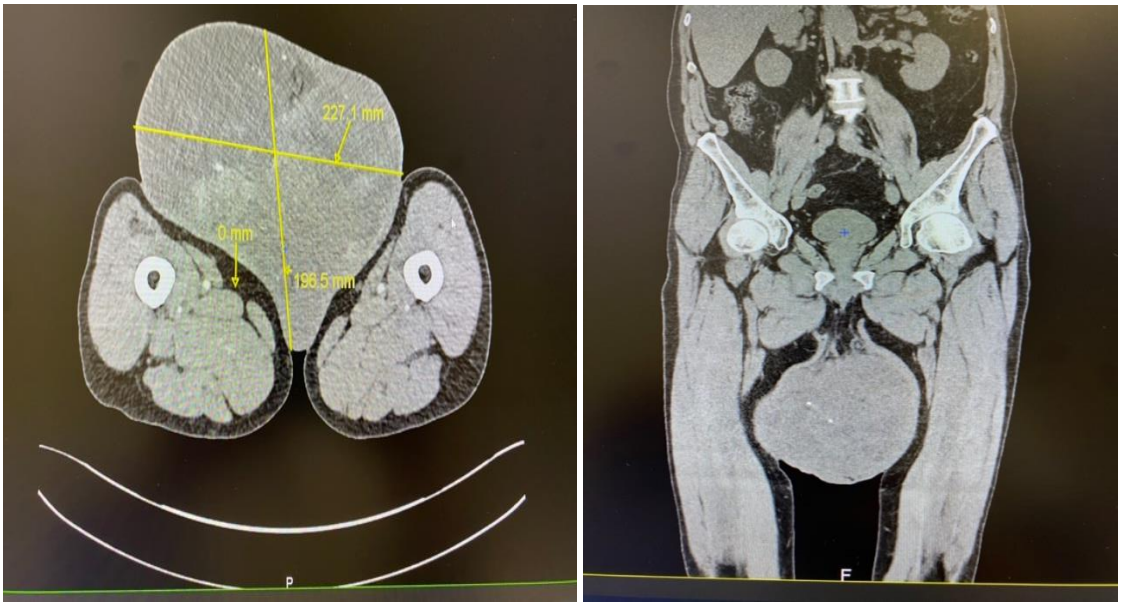

Figure 3: Axial and Coronal CT Scan Sections of a Heterogeneous Necrotic Testicular Mass with Calcifications measuring 227*198 mm

A right inguinal orchidectomy is performed. The entire specimen weighs 3484 grams and measures 252315 cm. The testicular parenchyma appears normal. The cord and epididymis are massively infiltrated by a spindle cell tumor alternating with areas of fibrosis, necrosis, and myxoid regions containing small adipocytic vacuoles. Immunohistochemical analysis reveals negative MDM2 staining and positive KI67 staining (20%), highlighting atypia and occasional mitoses. These histological and immunohistochemical results suggest a diagnosis of liposarcoma of the spermatic cord with myxoid or dedifferentiated areas, necessitating molecular classification. The sample was sent to the Jean Perrin center, confirming the diagnosis of Liposarcoma. Postoperative course was marked by a greenish discharge at the scrotal incision, with a positive culture for Pseudomonas Aeruginosa, sensitive to Ciprofloxacin 500 mg *2 per day. Follow-up is currently 10 months, with normal serological markers and thoraco-abdominal computed tomography.

DISCUSSION

Liposarcomas represent 7% of spermatic cord tumors [15]. They are rare, with only 60 cases reported in the literature to date. They appear more frequently in individuals over 50 years old [13, 4, 11]. Cord locations are exceptional in children, accounting for only 0.7% of liposarcomas [9]. These tumors are more common on the right side. Macroscopically, the lesion is often large, lobulated, yellowish, firm, or elastic, with areas of hemorrhagic necrosis and cystic degeneration.

Histologically, the tumor contains mature adipose tissue foci, sarcomatous areas with polymorphic giant cells, and sclerotic zones. Hajdu's histological classification [11] is often used, describing four categories based on the predominant cell type: well-differentiated, myxoid, pleomorphic, and round cell. This classification seems to have prognostic value, as well-differentiated and myxoid forms tend to remain localized, while round cell and pleomorphic forms appear more aggressive, with a higher risk of local

recurrence and metastatic potential. Metastatic spread usually occurs hematogenously, with lymph node involvement being rare and mainly found in undifferentiated forms.

Clinical presentation is often insidious, evolving over several months to years, causing a sense of heaviness or pulling. The lesion is firm, irregular, painless, located near or distant from the testicle, either intrascrotal or in the inguinal region, or involving both [2]. It can be confused with inguinal hernia or hydrocele. Scrotal ultrasound is useful for determining tissue nature and extratesticular tumor location [1]. Computed tomography confirms the fatty nature of the mass but does not predict the benign or malignant nature of the lesion. It is mainly used to assess possible lymph node extension [6, 12, 16]. No imaging study provides diagnostic certainty.

The primary treatment for spermatic cord liposarcoma is surgical excision with radical inguinal orchidectomy [10, 15]. Hemiscrotectomy may be justified for extracapsular tumors with invasion of adjacent structures. The need for additional treatment depends on histological grade, infiltration degree, and the presence of metastases. Indications remain debated. Lymph node dissection is systematic for some, as the risk of retroperitoneal lymph node recurrence is 29%. For others, it is not indicated as metastatic dissemination occurs hematogenously, and it has not been proven that dissection improves survival [15]. It may be considered for undifferentiated forms with a high metastatic potential [14]. Radiotherapy has been proposed as a complement to surgical excision for large tumors. Doses of 50 Gy in fractionated doses over 5 weeks, directed at the inguinal and scrotal region, ilio-obturator and lumbo-aortic lymph nodes, have been suggested. Although radiotherapy appears to reduce the local recurrence rate, its overall results on survival are disappointing [5]. Reported trials of chemotherapy have not been conclusive [15].

The evolution of liposarcomas is slow, with very frequent local recurrences (50%). Prolonged local surveillance is necessary due to the risk of sometimes late recurrences (up to 16 years) [15]. Local recurrences should be treated with extensive excision, potentially requiring partial scrotectomy and adjuvant radiotherapy [3, 5]. Recurrences can also occur in the retroperitoneum or lungs. Recent studies have shown the effectiveness of PET-Scan in detecting recurrences after surgery and radiotherapy [7].

Spermatic cord liposarcomas are tumors with low malignant potential, conferring a favorable prognosis [8]. Prognostic factors are dominated by tumor size and local extension. In our case, despite the tumor's large size, the RCP Staff decision led to proposing simple surveillance.

CONCLUSION

Spermatic cord liposarcoma is a rare tumor, diagnosed anatomopathologically. Inguinal orchidectomy is the essential treatment. Although prognosis is generally favorable, prolonged surveillance is necessary due to occasional late local recurrences.

SUMMARY

Spermatic cord liposarcoma is an infrequent tumor, with only 60 reported cases in the literature, constituting 7% of all malignant spermatic cord tumors. The authors present a new case of spermatic cord liposarcoma in an 83-year-old man with poor general health, notable for its uncommon inflammatory and fibrotic characteristics. Treatment involves extensive surgical resection whenever possible. Adjuvant radiotherapy is occasionally effective in addressing local recurrences. Despite the tumor's slow progression, prolonged surveillance is necessary due to the heightened risk of later recurrence.

REFERENCES

1. Cardenosa, G., Papanicolaou, N., Fung, C. Y., Tung, G. A., Yoder, I. C., Althausen, A. F., & Shipley, W. U. (1990). Spermatic cord sarcomas: sonographic and CT features. *Urologic radiology*, *12*, 163-167.
2. Catton, C. N., Cummings, B. J., Fornasier, V., O'Sullivan, B., Quirt, I., & Warr, D. (1991). Adult paratesticular sarcomas: a review of 21 cases. *The Journal of urology*, *146*(2), 342-345.
3. Catton, C., Jewett, M., O'sullivan, B., & Kandel, R. (1999). Paratesticular sarcoma: failure patterns after definitive local therapy. *The Journal of urology*, *161*(6), 1844-1847.
4. Certo, L. M., Avetta, L., Hanlon, J. T., & Jacobs, D. (1988). Liposarcoma of spermatic cord. *Urology*, *31*(2), 168-170.
5. Fagundes, M. A., Zietman, A. L., Althausen, A. F., Coen, J. J., & Shipley, W. U. (1996). The management of spermatic cord sarcoma. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, *77*(9), 1873-1876.
6. Haller, J., Tscholakoff, D., Gundry, C., Wittich, G., Mostbeck, G., & Gritzmann, N. (1989). Sonography of unusual extratesticular lesions. *Urologic radiology*, *11*, 190-193.
7. Kosuda, S., Wahl, R. L., & Grossman, H. B. (1997). Demonstration of recurrent dedifferentiated liposarcoma of the spermatic cord by FDG-PET. *Annals of nuclear medicine*, *11*, 263-266.
8. LeVay, J., O'sullivan, B., Catton, C., Bell, R., Fornasier, V., Cummings, B., ... & Quirt, I. (1993). Outcome and prognostic factors in soft tissue sarcoma in the adult. *International Journal of Radiation Oncology* Biology* Physics*, *27*(5), 1091-1099.
9. Pozza, D., Masci, P., D'Ottavio, G., & Zappavigna, D. (1987). Spermatic cord liposarcoma in a young boy. *The Journal of urology*, *137*(2), 306-308.

10. Rabbani, F., Wright, J. E., & McLoughlin, M. G. (1997). Sarcomas of the spermatic cord: significance of wide local excision. *The Canadian journal of urology*, *4*(2), 366-376.
11. Reyes, C. V. (1980). Spermatic cord liposarcoma. *Urology*, *15*(4), 416-417.
12. Russo, P., Brady, M. S., Conlon, K., Hajdu, S. I., Fair, W. R., Herr, H. W., & Brennan, M. F. (1992). Adult urological sarcoma. *The Journal of urology*, *147*(4), 1032-1036.
13. Senoh, K., Osada, Y., & Kawachi, J. (1978). Spermatic cord liposarco-ma. *Brit J Urol*, 50, 429-432.
14. Torosian, M. H., & Wein, A. J. (1987). Liposarcoma of the spermatic cord: case report and review of the literature. *Journal of surgical oncology*, *34*(3), 179-181.
15. Vorstman, B., Block, N. L., & Politano, V. A. (1984). The management of spermatic cord liposarcomas. *The Journal of urology*, *131*(1), 66-69.
16. Zhang, G., Chen, K. K., Manivel, C., & Fraley, E. E. (1989). Sarcomas of the retroperitoneum and genitourinary tract. *The Journal of urology*, *141*(5), 1107-1110.