Urology Case Reports 55 (2024) 102761

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr

Oncology

A case of liposarcoma of the spermatic cord

Kays Chaker [a,*], Yassine Ouanes [a], Alia Zehani [b], Wassim Ben Chedly [a], Boutheina Mosbahi [c], Yassine Nouira [a]

[a] Department of Urology, LA RABTA Hospital, University of TUNIS EL MANAR, Tunis, Tunisia
[b] Department of Pathology, LA RABTA Hospital, University of TUNIS EL MANAR, Tunis, Tunisia
[c] Department of Anesthesia, LA RABTA Hospital, University of TUNIS EL MANAR, Tunis, Tunisia

ARTICLE INFO

Keywords:
Liposarcoma
Orchidectomy
Spermatic cord

ABSTRACT

Para-testicular liposarcoma develops from the fatty tissue surrounding the spermatic cord and covers the testicle and epididymis. It is an extremely rare pathological entity. We report the case of a 58-year-old african man who presented with a tumor mass developed from the right spermatic cord. Right orchidectomy with wide excision of the tumor was challenging due to the significant size of the mass. The histological examination of the surgical specimen favored a paratesticular liposarcoma.

1. Introduction

Liposarcomas account for 5.75 % of all tissue subtypes.[1] Atypical liposarcoma/well-differentiated liposarcoma (ALT/WDLPS) is the most common type of liposarcoma. ALT/WDLPS is mostly distributed in the retroperitoneum and deep tissue of the extremities and mediastinum, but rarely in the scrotum,[2] with fewer than 200 similar cases reported to date in the literature.[3] We report a rare case of paratesticular liposarcoma in which the patient were treated with radical orchidectomy. Considering the rarity of cases, we review the literature regarding the application of surgical treatment.

2. Case presentation

A 58-year-old african patient, wearer of a pacemaker for rhythm disorder, with no significant surgical history, presented with a spontaneous right scrotal swelling evolving for three months, without history of trauma. Physical examination revealed a firm and well-defined mass was appreciated within the right hemiscrotum. The mass was non-tender to palpation and exhibited no fluctuations in size or consistency. It was adherent to the underlying structures and appeared to be separate from the testis. Transillumination test was performed using a light source, revealing no significant changes in illumination within the mass. This suggests a solid nature rather than a cystic lesion. The left testis appeared normal in size, shape, and consistency. Bilateral inguinal regions were examined for the presence of any lymphadenopathy. No enlarged or tender lymph nodes were appreciated bilaterally. Based on these findings, further diagnostic evaluation. Serum human chorionic gonadotropin level was 3.2 ng/mL, alpha-fetoprotein level was 7.18 ng/mL and Lactate dehydrogenase level was 137 ng/mL. The patient initially underwent a testicular doppler ultrasound, revealing a normal-sized right testicle with regular contours and homogeneous echostructure. However, a voluminous intrascrotal mass with a dual fleshy and fatty component was identified, measuring approximately 11 cm. The computed tomography showed a large inguino-scrotal mass, measuring 12*10 cm, extending into the right inguinal canal, suggesting a liposarcoma of the spermatic cord and prompting surgical exploration (Fig. 1). The patient underwent an enlarged right inguinal orchiectomy. Operating time was 40 minutes. The right spermatic cord was indurated, and spermatic cord ligation was performed at the deep inguinal orifice. No post-surgical complications were observed in the aftermath of the surgery. Pathological analysis showed that the tumor was composed of relatively mature adipocytes, single vesicular adipoblasts in the focal area, fibrous tissue with mucus deformation in the stroma and an intact tumor capsule (Figs. 2 and 3). Immunohistochemical analysis revealed S100+, cluster of differentiation 34 (CD34), $CD34^{+}$, vimentin-positive (Vim+), smooth muscle actin-positive (SMA+), CD68, and Ki67 < 1 %+, which supported the diagnosis of ALT/WDLPS. The surgical margin of the excised specimen was negative. The patient received adjuvant external beam radiotherapy at a dose of 50 Gy. Furthermore, no metastasis was identified from post-operative imaging and testicular tumor marker was within normal limit. The 2-year postoperative

* Corresponding author. La RABTA Hospital, Department of Urology, BAB SAADOUN, Tunis, 1006, Tunisia.
E-mail address: chakerkays@gmail.com (K. Chaker).

https://doi.org/10.1016/j.eucr.2024.102761
Received 3 May 2024; Received in revised form 16 May 2024; Accepted 21 May 2024
Available online 22 May 2024

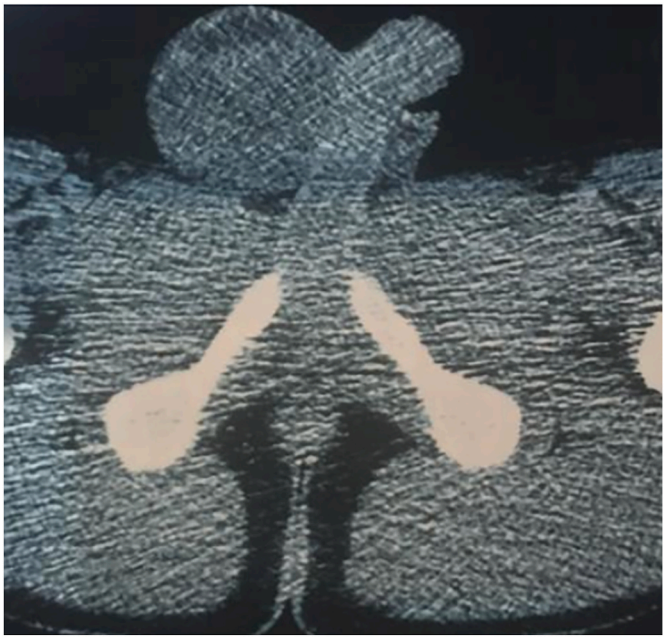

Fig. 1. Computed Tomography showed a scrotal mass measuring approximately 10 cm in largest axis, with tissue density and areas of fatty tissue displacing the right testicle extending to the deep inguinal canal.

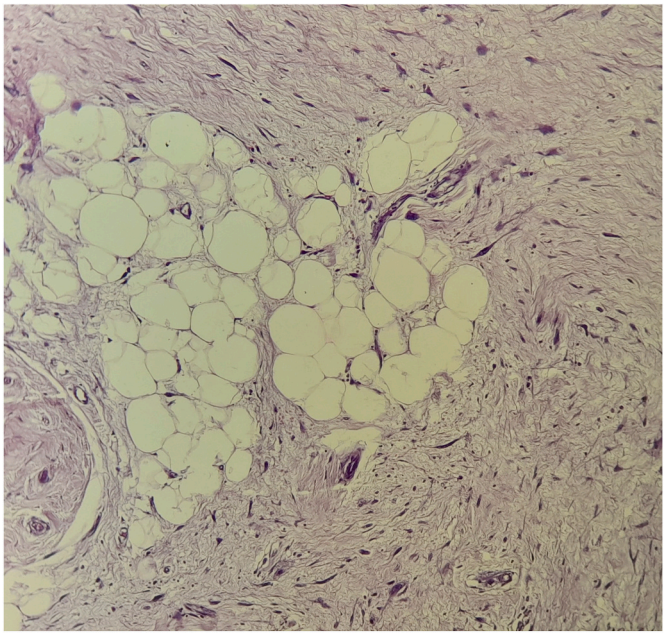

Fig. 2. Liposarcomatous proliferation with a sclerotic component (Haematoxylin-Eosin x 10).

surveillance, including computed tomography and clinical examinations every 3 months, has been unremarkable. Our patient is still alive at the time of writing this case report.

3. Discussion

The liposarcoma represents 20 % of adult paratesticular tumors and ranks third after leiomyosarcoma (32 %) and rhabdomyosarcoma (24 %).[4] The paratesticular region is the most common site for adult urological sarcomas. Paratesticular liposarcoma affects individuals aged between 50 and 60 years,[4] with an age range of 16–85 years. It more commonly occurs on the right side, as in the case of our patient. Radical orchiectomy, with high bone marrow ligation and large tumor resection, without positive microscopic margins is the essential element in the surgical management of primary spermatic cord neoplasms. Inguinoscrotal ultrasound typically reveals solid, hyperechoic, and heterogeneous lesions, although they may present as small indurated nodules within adipose tissue with a consistency close to normal, thus not allowing the distinction between benign and malignant lesions. Computed Tomography and magnetic resonance imaging are superior diagnostic imaging tools useful for assessing the exact size, location, and tissue characterization of the tumor, as well as for assessing the condition of the spermatic cord and testis.[5] Considering the high risk of local recurrence after surgery, it is increasingly recommended that all spermatic cord tumors, regardless of their type and histological grade, be treated with adjuvant external radiotherapy, as they are often resistant to chemotherapy.[5]

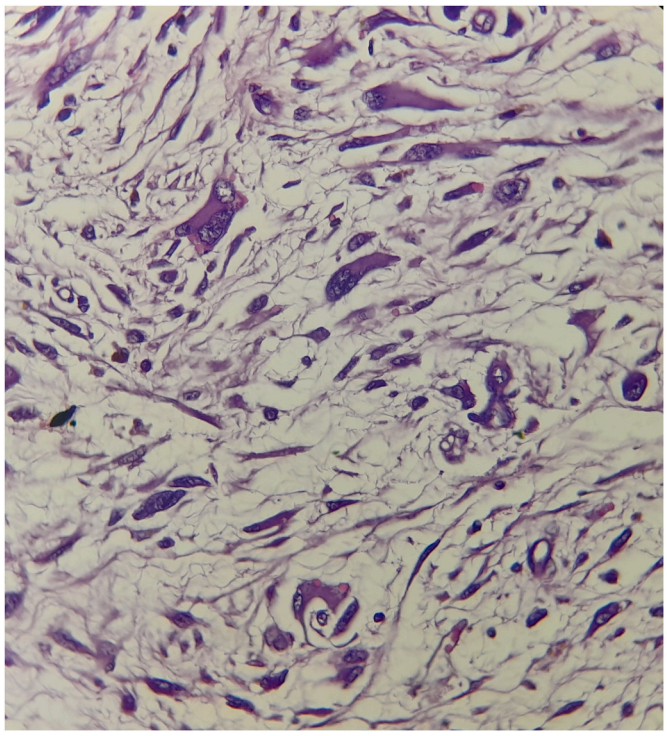

Fig. 3. Large-sized tumor cells with hyperchromatic atypical nuclei (Hématoxyline Eosine x40).

4. Conclusion

Spermatic cord liposarcoma is such a rare malignant growth that fewer than 200 cases are reported worldwide in the literature. Diagnosis is generally made postoperatively. Since relapses are frequent, the role of adjuvant radiotherapy and chemotherapy remains to be defined. Close postoperative clinical and radiological follow-up is indicated to prevent recurrence, which is very common.

CRediT authorship contribution statement

Kays Chaker: Writing – original draft, Data curation, Conceptualization. **Yassine Ouanes:** Writing – original draft. **Alia Zehani:** Writing – original draft, Data curation, Conceptualization. **Wassim Ben Chedly:** Writing – original draft. **Boutheina Mosbahi:** Writing – original draft, Visualization. **Yassine Nouira:** Validation, Supervision.

Declaration of competing interest

The authors declare that they have no competing interests.

References

1. Vos M, Boeve WC, Van Ginhoven TM, Sleijfer S, Verhoef C, Grünhagen DJ. Impact of primary tumor location on outcome of liposarcoma patients, a retrospective cohort study. *Eur J Surg Oncol.* 2019;45:2437–2442.
2. Jo VY, Fletcher CD. WHO classification of soft tissue tumours: an update based on the 2013 (4th) edition. *Pathology.* 2014;46:95–104.
3. Mouden K, Wakrim S, Semmar A. Paratesticular liposarcoma: a case report. *Pan Afr Med J.* 2019;33:282.
4. Fahsi O, Kallat A, Ouazize H, Dergamoun H, Sayegh HE, Iken A. Al. Metastatic paratesticular liposarcoma. *Pan Afr Med J.* 2017 Jun 8;27:101.
5. Di Pilla MA, Capuano MA, Rossi M, Di Pilla G, Minelli R, Pizzicato P. Liposarcoma of the spermatic cord: the state of art and our experience. *Radiol Case Rep.* 2023 Aug 30; 18(11):3941–3944.