CASE REPORT

Spermatic cord liposarcoma: organ-sparing surgery

J P Peralta,¹ R Godinho,¹ C Rabaça,^{1,2} M Reis¹

¹Department of Urology, Portuguese Institute of Oncology, Coimbra, Portugal
²Faculty of Medicine, University of Coimbra, Coimbra, Portugal

Correspondence to

Dr JP Peralta,
 joaopedroperalta@gmail.com

SUMMARY

The authors report a case of a 53-year-old male patient who came to the urologic clinic with symptoms of a left-sided testicular mass with 4 years of evolution. A left inguinal approach was decided for scrotal exploration. High clamping of the spermatic cord was performed with complete excision of the lesion, which was sent for pathology, preserving the spermatic cord and the testicle. The peroperative result was a well-differentiated liposarcoma of the spermatic cord. We then chose to preserve the ipsilateral testis (organ-sparing surgery). Postoperatively, the final pathology confirmed a well-differentiated spermatic cord liposarcoma, revealing negative surgical margins and no signs of local invasion, namely of the underlying structures. The patient is currently doing well, with no signs of recurrence after one and a half year of follow-up.

BACKGROUND

This represents a different approach to an uncommon disease, usually addressed in a radical way, but for which there is a small experience and evidence-based medicine. We consider that any strategies to attempt an organ-sparing surgery should be encouraged, specially nowadays.

CASE PRESENTATION

A 53-year-old patient came to the urologic clinic with symptoms of a left-sided testicular mass with 4 years of evolution. It first presented as a painless soft tissue mass, with well-defined limits, showing a slow and steady growth. The initial plan offered to him was watchful waiting, which led to a visit to our institution, with the intent to get a second opinion.

INVESTIGATIONS

An ultrasound was performed, revealing a poorly-defined left testicular mass, deeply connected to the left epididymis. This result suggested an adipose tissue mass, but a malignant neoplasm could not be excluded. The serum tumour markers were negative for germ cell tumours.

TREATMENT

The patient agreed on scrotal exploration (figure 1). A left inguinal approach was performed, with high clamping of the spermatic cord and a complete excision of the lesion (figure 2), preserving the spermatic cord and the testicle. The perioperative pathology analysis revealed a well-differentiated liposarcoma (LPS) of the spermatic cord. We then chose to preserve the ipsilateral testis.

Figure 1 Surgical exploration in the operating room—mobilization of the tumour after clamping the spermatic cord.

OUTCOME AND FOLLOW-UP

Postoperatively, the final pathology result was well-differentiated LPS of the spermatic cord with negative surgical margins and no signs of local invasion, namely of the underlying structures.

He is currently doing well with no signs of recurrence after 1.5 year of follow-up.

DISCUSSION

The paratesticular region is a complex anatomical area that includes the seminiferous tubules, epididymis, efferent ducts, testicular tunics and spermatic cord. The tumours in this anatomical compartment are rare and usually defined as paratesticular tumours. They are mostly benign (70%),¹ lipomas being the most common. Rhabdomyosarcomas are the most common malignancy, followed in frequency by leiomyosarcomas, LPS, malignant fibrous histiocytomas and fibrosarcomas.²

Besides paratesticular tumours, a mass can frequently originate from derivatives of the spermatic

Figure 2 Well-defined tumour. No invasion of the surrounding tissues.

To cite: Peralta JP, Godinho R, Rabaça C, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-009926

cord, usually of mesodermal origin.³ Most of these are also benign tumours, with lipomas as the commonest finding. However, because of the origin of the spermatic cord (Wolf ducts), most malignant masses are sarcomas. While rhabdomyosarcomas are the most frequent tumours in children, leiomyosarcomas and well differentiated LPS are the commonest in adults.⁴

LPS (reported for the first time in 1952) are more common in the fifth and sixth decade of life. Usually the patients present with symptoms of a scrotal or inguinal mass, and the differential diagnosis includes inguinal hernia, hydrocele or testis tumours.⁵ They may be classified into four groups: well-differentiated, myxoid, round-cell type or pleomorphic. The first two are more cited in literature and have a better prognosis. Some authors advocate the theory that a liposarcoma may arise by degeneration from a previous lipoma, but other reports say the opposite.^{6 7}

Preoperative diagnosis may be hard, because when they are large, testicular solid masses can become difficult to distinguish. For diagnosis, ultrasound, CT scan and MRI can be useful. Usually, when there is a small, well-delimited, homogeneous and hypoechoic mass on ultrasound, a benign tumour should be suspected. Nevertheless, in the end, surgery is the ultimate form to get the correct image of the tumour, its relations to underlying structures and get a definitive diagnosis.

The tumours' size can range from 3 to 30 cm in diameter and tend to be grey-white or yellow-tan in colour. Most of them are lobulated or nodular, and in some cases, a certain degree of necrosis can be present.

Current standard treatment strategies for these tumours include radical orchiectomy with wide local excision of surrounding structures and with high ligation of the spermatic cord. Even in well-differentiated liposarcomas, local recurrence is high. In that case, a wide excision of the inguinal canal, with or without orchiectomy if not executed previously, should be performed. Adjuvant radiation or chemotherapy are not well established, although some evidence exists on chemotherapy for high grade LPS and especially for rhabdomyosarcomas.^{8 9}

Some studies report a 75% overall 5-year survival for well-differentiated tumours. A few risk factors for recurrence have been defined and they include tumour grade, size, depth of invasion and, most importantly, surgical margin status.^{10 11}

Although this is an infrequent pathology and consequently few cases have been reported in the literature, some authors report that the simple complete tumour excision, if feasible, can be performed with the intent to preserve the testis. That was the

case in our report, with a well-differentiated tumour, with a high rate of success.¹²

Learning points

- Paratesticular tumours should be considered in the differential diagnosis for all inguinal or scrotal solid masses.
- The majority of these are benign, but high grade lesions with high recurrence rates may appear.
- Radical surgery is the gold standard and close follow-up should be maintained in the long term.
- All efforts should be made to report new cases of this nature and maybe ameliorate the outcome of the patients in the future, namely with organ-sparing surgery.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Lopez C, Navarro H, Ruiz J, *et al.* Spermatic cord sarcomas: current status and report of four cases. *Arch Esp Urol* 2009;62:242–6.
- 2 Müller C, Egea J, Álvarez T, *et al.* Liposarcoma de cordón espermático. Asociación con carcinoma de próstata. *Actas Urol Esp* 2005;29:700–3.
- 3 Hunman F, Gibson TE. Tumors of the epididymis, spermatic cord and testicular tunics: a review of literature and report of three cases. *Arch Surg* 1924;8:100.
- 4 Soosay GN, Parkinson MC, Camacho J, *et al.* Lipoma paratesticular. *Actas Urol Esp* 1997;21:620–2.
- 5 Fitzgerald S, MacLennan GT. Paratesticular liposarcoma. *J Urol* 2009;181:331–2.
- 6 Montgomery E, Fischer C. Paratesticular liposarcoma: a clinicopathologic study. *Am J Surg Pathol* 2003;27:40.
- 7 Peyri Rey E, Urban A, Martínez M, *et al.* Liposarcoma dediferenciado del cordón espermático: degeneración de un lipoma previo ressecado. *Actas Urol Esp* 2003;37:383–6.
- 8 Mora JI, Ponce A, Llopis J, *et al.* Rabdomiosarcoma paratesticular. *Actas Urol Esp* 2004;28:245–8.
- 9 Schwartz SL, Swierzewski SJ III, Sondak VK, *et al.* Liposarcoma of the spermatic cord: report of 6 cases of the literature. *J Urol* 1995;153:153–4.
- 10 Coleman J, Brennan MF, Alektiar K, *et al.* Adult spermatic cord sarcomas: management and results. *Ann Surg Oncol* 2003;10:669–75.
- 11 Cheng YC, Chou YH, Chiou HJ, *et al.* Liposarcoma of the spermatic cord: a report of two cases and a review of the literature. *J Med Ultrasound* 2004;12:125–30.
- 12 Lopes RI, Leite K, Lopes RN. Paratesticular leiomyosarcoma treated by enucleation. *Int Braz J Urol* 2006;32:66–7.

Copyright 2013 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- Submit as many cases as you like
- Enjoy fast sympathetic peer review and rapid publication of accepted articles
- Access all the published articles
- Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow