Liposarcoma of the paratesticular tissue and spermatic cord: A case report

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Abstract

Introduction. Liposarcomas are malignant tumors derived from fat tissues. Liposarcoma of the paratesticular tissue is rare. Case report. We presented a 51-year-old man with liposarcoma of paratesticular tissue and the spermatic cord, mimicking a testicular tumor. Ultrasound examination of this scrotal mass was hyperechogenic and homogeneous and separated from the testis and epididymis. The patient was operated, and the orchidectomy was performed. Histology revealed well-differentiated lipoma-like liposarcoma of the paratesticular tissue and spermatic cord. After a 6 month follow-up the patient did not show any evidence of tumor-progression or recurrence. Conclusion. Liposarcomas of the paratesticular tissue and seminal cord represent a rare type of tumors, often misdiagnosed preoperatively. Therapy should include radical surgical excision, usually radical inguinal orchiectomy. If the margin status is in doubt, adjuvant radiation should be performed. Local relapse is common and may occur after several years, so follow-up period has to be sufficiently long.

Key words: liposarcoma; spermatic cord; diagnosis; urologic surgical procedures; treatment outcome.

Introduction

Liposarcoma of the spermatic cord is a rare condition, representing about 7% of paratesticular sarcomas. Rhabdomyosarcoma is the most common paratesticular malignant lesion. Liposarcomas are malignant tumors derived embryologically from mesodermal tissues. They represent the most common soft-tissue sarcomas, and they can occur in any part of the body that contains fatty tissue. Liposarcomas of the spermatic cord usually begin to grow directly below the external inguinal ring, so when the tumors reach a large size, they present as scrotal rather than inguinal mass. We report a rare case of a liposarcoma of the paratesticular tissue and spermatic cord, mimicking a testicular tumor, which was treated surgically. Examining the existing literature, we found little similar cases reported in the literature, but our case is a very rare finding where tumor is located paratesticularly with the expansion in the funiculus tissue.

Case report

A 51-year-old patient presented with a scrotal mass. He reported gradual enlargement of this painless scrotal mass during the previous year. Clinical examination revealed a painless scrotal mass adjacent to the external inguinal ring...
but separated from the normal testis and epididymis was palpated. Testicular tumor markers were within the normal limits. Ultrasound examination of this scrotal mass was hyperechogenic and inhomogeneous and separated from the testis and epididymis, which showed no pathological finding. No malignancy was suspected.

In surgery, a mass was found to be not of testicular origin, but it was growing from the spermatic cord, descending into the scrotum, around the upper pole of the testis. Wide excision and radical orchectomy were performed. The tumor mass was measuring about 13 cm, it had a yellowish lipoma-like texture. This mass had a bunch of grape appearance and consisted of several masses of various sizes surrounding the spermatic cord, and could be separated from the right epididymis and the testis. The patient’s postoperative course was uncomplicated, and he was discharged on the 2 postoperative day. Histological examination revealed lipoma-like well-differentiated liposarcoma (Figure 1–3). The tumor did not show any signs of infiltration into the testis or epididymis. All resection margins were found to be free of tumor. Following surgical resection of the tumor with suspicious margins adjuvant hemiotherapy was conducted. After a 6-month follow-up the patient did not show evidence of tumor-progression or recurrence and felt well.

Discussion

Liposarcomas are malignant tumors derived embryologically from mesodermal tissues. They are classified in 4 histology subtypes (well differentiated, myxoid, pleomorphic, and dedifferentiated)\(^4\). About 80% of seminal cord tumors are benign and mostly derive from lipomatous tissue. The first case of sarcoma of spermatic cord was reported by Lesauvage in 1845.\(^5\) Paratesticular malignancies and sarcomas of the seminal cord are in general rare. Most paratesticular malignant tumors are sarcomas. Despite the fact, that lipomas are the predominant benign tumors found in the inguinal region. Lipomatous tissue plays a minor role in seminal cord malignancies, comprising only approximately 5%–7% of all spermatic cord sarcomas. Liposarcoma may arise from the cord tissue representing the extension of retroperitoneal fat or as malignant transformation of preexisting lipoma. The mesenchymal origin rather than malignant transformation of lipomatous cells lead to liposarcomas\(^6\),\(^7\). These tumors occur more frequently in adults rather than children\(^8\), and although cases aging 16–90 years old are reported, the mean age at presentation is 56 years\(^9\). Liposarcomas usually present as slow-growing masses of the inguinal canal or the scrotum, mimicking testicular or epididymal tumors or inguinal hernias, and they are often diagnosed postoperatively. In the literature, several cases of various histologic subtypes are reported, including myxoid degeneration, sclerosing or inflammatory types, pleomorphic, and even cases with cartilaginous metaplasia\(^10\),\(^13\). Well-differentiated tumors usually have no metastatic potential, although the rate of metastases is high in undifferentiated tumors, usually through hematologic route to lungs and bones\(^10\),\(^16\).

The basic presentations in patients are scrotal mass, that is sometimes associated with pain. Increase in size slowly over a period of months or years is the usual presentation. Liposarcoma is a disease of the older age group. No specific diagnostic procedures for evaluating this scrotal mass have
been recommended so far. In contrast to testicular masses, ultrasonography provides little information on paratesticular sarcomas, as some are visualized as homogenous and iso-
echogenic, others as inhomogeneous and echo density is quite variable. As liposarcomas are of low density and can be
well demarcated the use of CT scans no pathognomonic features for the differentiation of benign versus malignant masses are defined 17. Use of MRI provides good information on the local situation, but an exact evaluation of any masses again cannot be obtained.

Liposarcomas are locally aggressive tumors, thus recurrence is quite common after incomplete excision. Due to this radical surgical excision of any tumor is necessary. In-
guinal radical orchiectomy is the standard approach for sar-
comas of the seminal cord, in general, with wide resection margins 19. The treatment of choice for liposarcomas of the
spermatic cord is radical orchidectomy with high ligation of the spermatic cord 19, with excellent prognosis, but these
tumors seem to have tendency towards local recurrence (≥ 25%) 20. However the anatomical features of the inguinal
region sometimes make it difficult to achieve this goal, and negative resection margins are sometimes close to the tu-

ors. Local recurrence is a major problem, occurring in up
to 50% of patients. However it is established for liposar-
comas of the extremities, that the level of differentiation and the histological sarcoma type, as well as the tumor-
size have little influence on recurrence rate. Due to the ra-
diosensitivity of liposarcomas some authors recommend adjuvant radiation and the radiation field should cover the
internal inguinal ring 21, 22.

Due to their relative resistance against chemotherapy, routine adjuvant systemic therapy is not justified in liposar-
coma.

No specific outcome – data are available for liposar-
coma patients since this disease is rare. A series of 32 semi-
cord sarcoma patients reports a 15-year overall survival rate of 52%. A 10-year local control rate for 8 patients with liposarcoma included in this series was 44% 23.

As late recurrence can occur, follow-up examinations exceed 10 years 24.

Conclusion

Liposarcomas of the seminal cord represent a rare type of tumors which are often misdiagnosed preoperatively. Therapy should include radical surgical excision usually per-
formed by radical inguinal orchidectomy, and mandatory sec-
ond resection and hemiscrotectomy in cases of unclear re-
section margins are feasible. If the margin status is in doubt, adjuvant radiation should be performed. There is no clear view regarding the physical course and the proper treatment and prognosis of the disease. Local relapse is common and may occur several years after primary therapy. Thus, follow-
up period has to be sufficiently long.

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