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CASE REPORT

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Giant tumor of the scrotum: Fibrolipoma

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We present the case of a 42-year-old man with a palpable, painless, slow-growing mass, growing over a period of 12 years. The mass was completely extirpated in June 2017 with relative ease from the adjacent structures sparing the penis, testes, and epididymis. The patient's successive postoperative course of care was uneventful, and he was discharged 24 days after the operation. Microscopic examination revealed fibrolipoma. At a 12-month follow-up – and thus one year after the operation – it was determined that the patient was healthy and free from local tumor recurrence. His body mass had diminished to 140 kilograms (before the operation he weighed 167 kilograms). The patient died on January 6, 2022 due to cardiovascular and pulmonary complications after COVID-19 infection without any signs of scrotal tumor recurrence.

Key Words: fibrolipoma ‹› extratesticular tumor ‹› scrotum

CASE REPORT

A 42-year-old male was referred to our department with a palpable, slow-growing, painless mass in his scrotum. The patient informed us that the mass had progressively increased in size during the last 12 years but without causing pain or other symptoms. The patient's medical history was significant for obesity and nicotinism. Upon clinical examination, a painless, large, solid mass was palpated in the scrotum extending to the perineal region (Figures 1 and 2), without being clearly distinguished on palpation from the surrounding scrotal components. The inguinal lymph nodes were not palpable. Laboratory tests were normal, and serum markers for testicular cancer (β-human chorionic gonadotropin, α-fetoprotein, lactate dehydrogenase) were within normal limits.

A CT scan showed a large, hyperechoic scrotal mass separated from the ipsilateral testis. A pelvic magnetic resonance imaging (MRI) was scheduled to better define the nature of the mass. The MRI confirmed the presence of a mass in the left hemiscrotum extending up to the base of the corpus cavernosum penis (Figure 3). The mass showed a high T1 signal intensity, characteristic of fat-containing tumors (both benign and malignant), and was clearly separated from the ipsilateral testicle. The signal intensity was also heterogeneously high in the T2 sequences (Figure 3). The finding was considered indicative of a benign tumor with the differential diagnosis including the liposarcoma of the scrotum. A routine chest X-ray did not reveal any abnormality. The patient, having been informed about the – albeit small but existing – possibility of malignancy, agreed to undergo surgical exploration of the scrotum and the excision of the mass.

A T-shape incision was made over the external part of the penis; the scrotum was entered revealing a fatty solid mass. There was a lot of oozing lymph fluid.

The mass was completely extirpated with relative ease from the adjacent structures sparing the penis, testes, and epididymis (Figure 4). The total loss of blood during the operation was 2 units (one liter), while the loss of lymph fluid was 2 units (1 liter).

On July 6, 2017, the patient underwent an additional procedure to correct the appearance of the scrotum. The patient's successive postoperative course of care was uneventful, and he was discharged 24 days after the operation.

Macroscopically, the specimen consisted of a well-defined, solid, yellowish white mass, 19.5×7×5 cm in size, surrounded by a thin fibrous capsule. Under microscopy, the presence of mature adipocytes

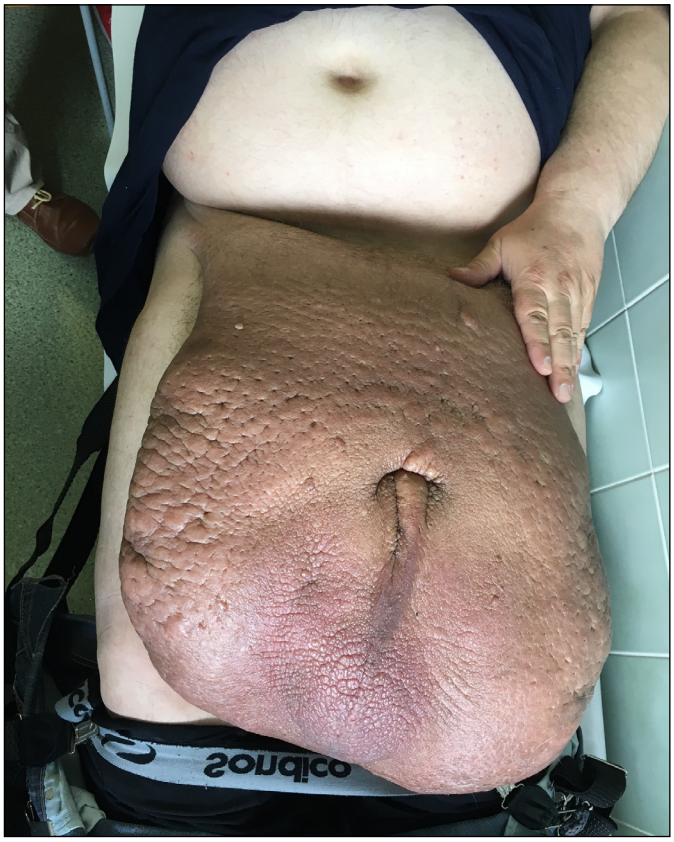

Figure 1. *Enlarged scrotum before the operation, anteroposterior view.*

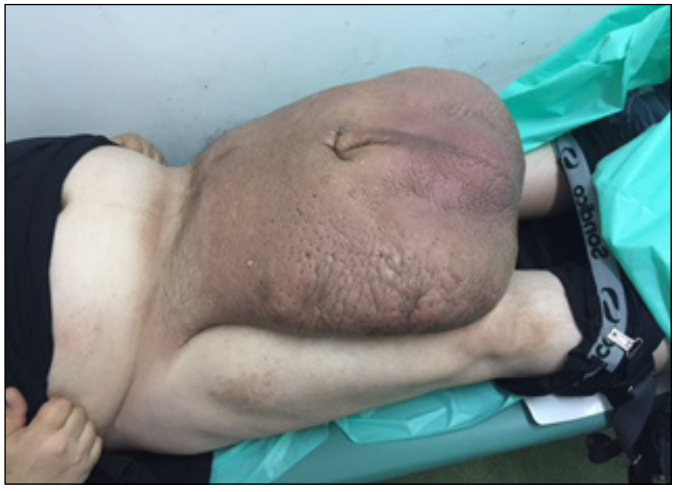

Figure 2. *Enlarged scrotum before the operation, side view.*

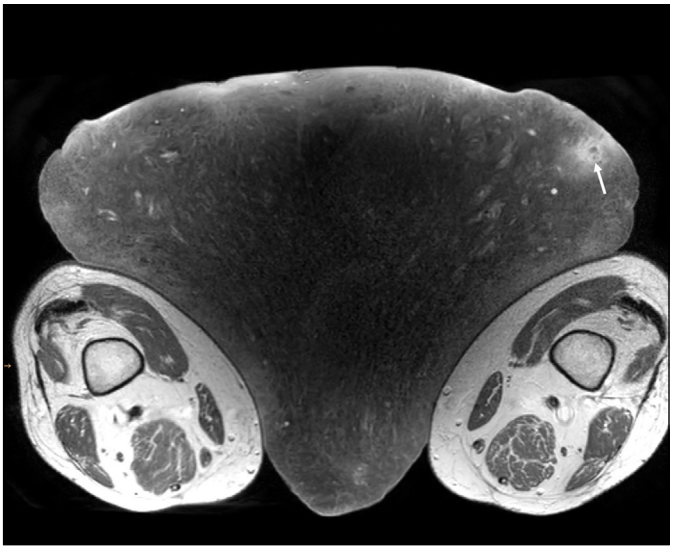

Figure 3. *Magnetic resonance imaging. Scrotal edema with fluid (high signal on T2-weighted images and low signal on T1-weighted images between the fat lobules, without pathologic contrast enhanced masses. On the left side, there is a small abscess that has a fluid signal on the T2-weighted images and is barely visible on the T1-weighted images, and it also shows rim enhancement.*

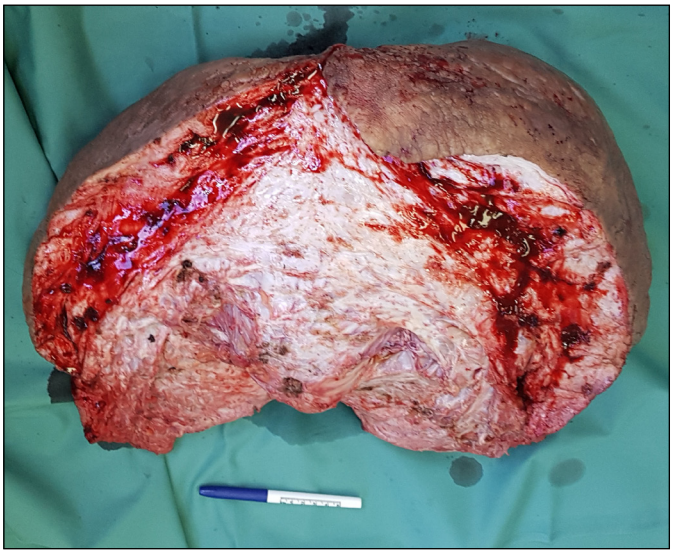

Figure 4. *The gross appearance of the scrotal mass after its resection, showing a fatty solid mass with a lot of oozing lymph fluid.*

among the fibrous substrate was evident. No cellular atypia, mitotic activity, lipoblasts, or necrosis was observed. The use of the Azan stain did not reveal any smooth muscle, and immunohistochemistry results for the tumor cells were negative for desmin, a-smooth muscle antigen, as well as for the p53 protein, CD34, MDM2. and CDK4 (Figure 5).
At a 12-month follow-up – and thus one year after the operation – it was determined that the patient was healthy and free from local tumor recurrence (Figures 6, 7, anteroposterior and side-views).

DISCUSSION

Primary paratesticular tumors are rare [1–4], accounting for 7% to 10% of all intrascrotal masses. Among malignant tumors, the most common histotype is liposarcoma (about 50%), followed by leiomyosarcoma (about 20%). Liposarcoma should be considered in a differential diagnosis in the case of the rapid growth of a tumor exceeding 10 cm [2]. Malignant tumors of the scrotum are more likely to grow large over a course of months or even weeks. Fibrolipoma is one of the most infrequently reported histological subtypes of a lipoma, usually arising from the spermatic cord [1], and it is characterized by the presence of prominent bundles of mature fibrous tissue traversing the fatty lobules.
External genitalia lymphedema occurs very rarely, and there are multiple possible causes. The most common cause, worldwide, is the parasite *Wuchereria bancrofti*, which can affect up to 20% of the male population in tropical countries.
In cases of paratesticular masses, ultrasonography is very helpful in identifying the location of the mass in relation to the scrotal components [1], but it is not very helpful in distinguishing between benign and malignant lesions. Although ultrasound remains the imaging modality of choice, MRI is helpful in resolving dilemmas found at US and in narrowing the differential diagnostic range.
At the end of the day, however, it is surgical excision of the mass followed by microscopy and immunohistochemistry of the tumor that will provide the definite diagnosis.
So, as stated, the final diagnosis therefore rests on a histopathological examination.
In the presented case, although imaging was informative regarding the origin and the non-invasive behavior of the tumor, it proved inaccurate in excluding the presence of liposarcoma. By and large, liposarcoma is depicted via ultrasound as a hyperechoic, solid; the sonographic features of an unusually large extratesticular mass can, however, be variable and non-specific. MRI is certainly more

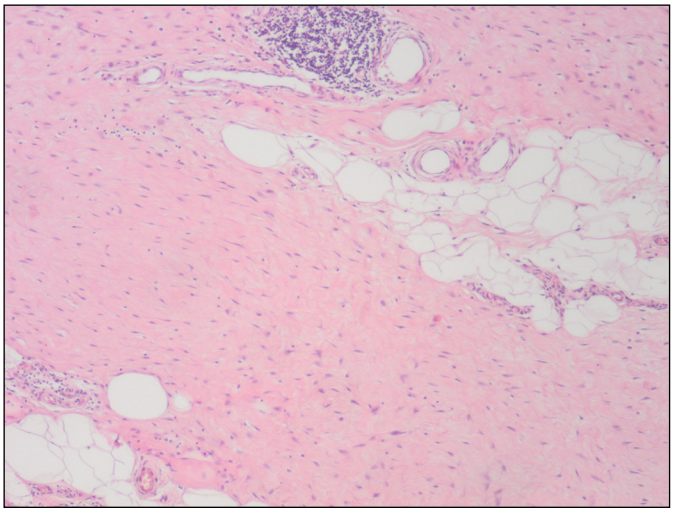

Figure 5. *The microscopic appearance of the scrotal mass, magnified 100×, swelling and widened vessels magnified 100×, oedema and enlarged vessels.*

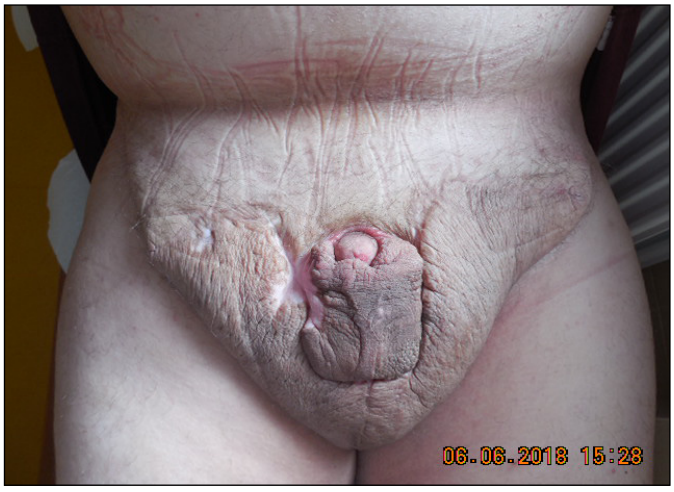

Figure 6. *Photo, one year after the operation, anteroposterior view.*

Figure 7. *Photo, one year after the operation, lateral view.*

accurate, with fat being easily recognized, although one should keep in mind that it may be difficult to differentiate low-grade liposarcoma from benign lipoma based solely on MRI findings. Although lipoma is readily identified by means of an MRI, owing to its characteristic signal intensity, namely the high and low signals on T1- and fat-suppressed T1-weighted images, respectively, in our case the MRI was not helpful in differentiating between fibrolipoma and liposarcoma.

In a case of enlargement the scrotum, we ought to differentiate, so as to exclude from the diagnosis: a testis tumor [4], benign scrotal masses, a hernia involving the scrotum, hydrocele, and cardiac insufficiency.

In conclusion, mesenchymal tumors of the scrotum are extremely rare [1–4]. These include lipomas, liposarcomas, fibrosarcomas, fibromas, fibrolipomas, and myxoid chondrosarcomas. Most lipomas occurring in the scrotum originate and develop in the spermatic cord [1, 2]. In rare cases, a lipoma can originate outside the spermatic cord or in the subcutaneous fat. Scrotal fibrolipomas are extremely rare benign paratesticular tumors [1, 2]. Surgical excision is the treatment of choice. Although most lesions are benign, sarcomas do occur and should be suspected when masses are large, heterogeneous, and envelop or infiltrate other scrotal structures. Based upon the above, the publication of this case presentation is justified.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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ETHICS APPROVAL STATEMENT

The ethical approval was not required.

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