Case Report

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Surgery Section

Liposarcoma of Spermatic Cord-Encountered While Operating the Inguinoscrotal Hernia

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ABSTRACT

Liposarcomas in the spermatic cord are rare and difficult to diagnose preoperatively, since they present as inguinal or scrotal masses which are frequently evaluated only by ultrasonogram, and other imaging modalities. This case report is about a 48-year-old male, who presented with a painless swelling in the right inguinal region extending to the scrotum, since two years. Upon inguinal exploration, a single irregular fatty mass, arising from the cord, was found in addition to a small inguinal hernia. En-bloc resection of the mass with inguinal orchidectomy was done and histopathology proved it to be a well-differentiated liposarcoma. A rare malignancy with a deceptive presentation must be taken into account while evaluating scrotal masses, particularly in patients with suspected recurrent hernias of the inguinal region.

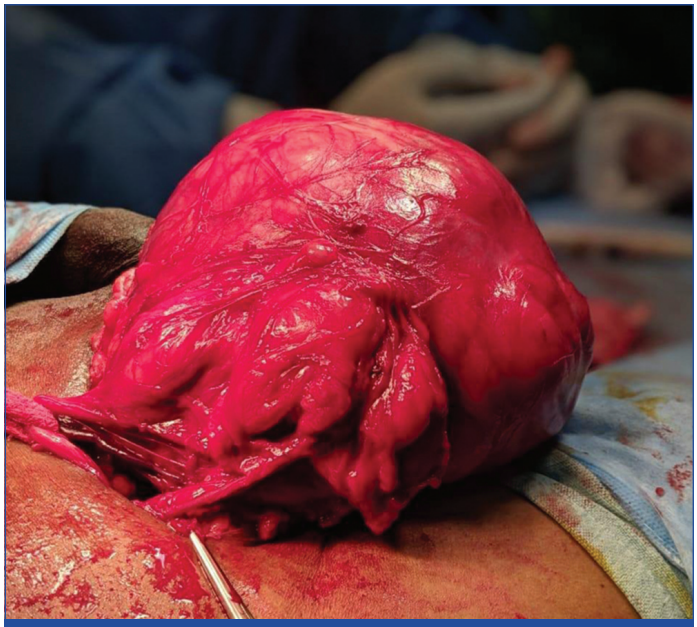
Keywords: En-bloc resection, Hamilton bailey's operation, Orchidectomy, Testicular neoplasms

CASE REPORT

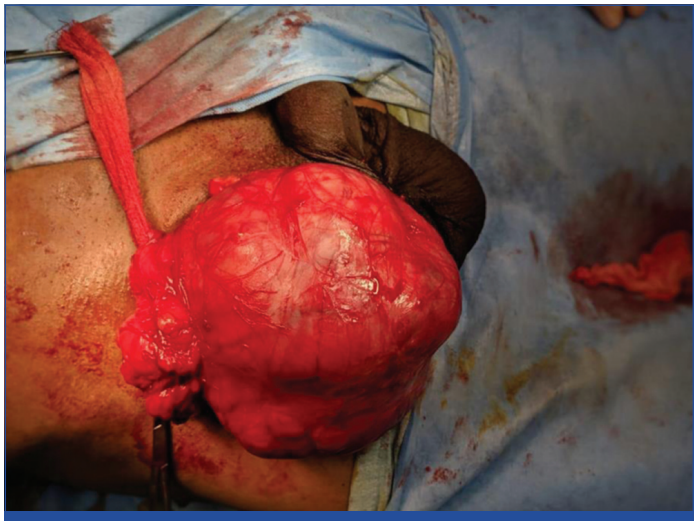
A 48-year-old male patient presented with a painless swelling in the right inguinal region extending to the scrotum, which slowly progressed to attain the present size over two years. He was married for 20 years with two healthy children. He was a non smoker with no co-morbid conditions.

On clinical examination, a 12×10×8 cm inguinoscrotal swelling was seen on the right-side with expansile cough impulse. No skin involvement was observed. The swelling was granular in consistency, non tender with negative transillumination and not reducible. The right testis was separately palpable from the swelling. The left inguinal region and the left hemi-scrotum were normal. The left-sided testis with cord structure appeared to be normal. Penis was normal in position. General and systemic examination of the patient was unremarkable. A routine preoperative ultrasonogram of the abdomen and scrotum was done, which revealed a defect of 3 cm in the right inguinal region with herniating omentum suggestive of an irreducible right inguinal hernia. Bilateral testis and cord structures were normal. The left inguinal region appeared to be normal.

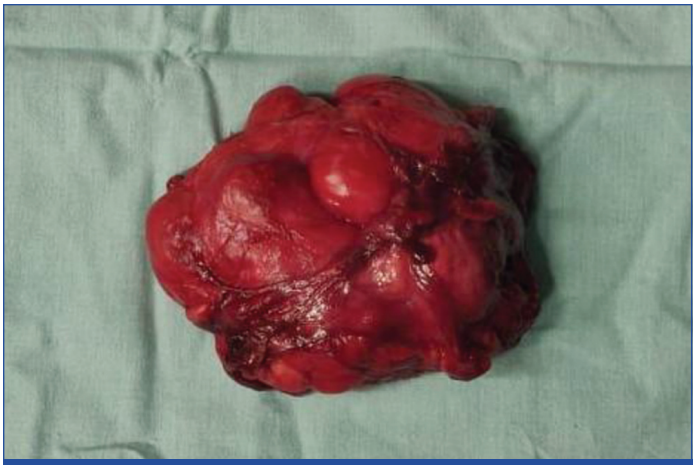
On a routine elective operating list, with a diagnosis of right inguinoscrotal hernia, the patient was posted for right open hernioplasty and right inguinal exploration was done. Surprisingly, upon opening the inguinal canal, a single large irregular fatty yellow coloured hard mass of size 12×10×8 cm was found engulfing the spermatic cord, extending to the scrotal sac [Table/Fig-1]. A small direct inguinal hernia of 2 cm was noted in the posterior wall with the normal intact internal ring. The incision was extended and the fatty mass was dissected off the adjacent tissues and found to be arising from the spermatic cord in the low inguinal canal [Table/Fig-2]. The fatty mass was extending into the scrotum up to 2 cm above the right testis without the involvement of testis or epididymis sparing a few centimetres of the distal spermatic cord. With an intraoperative diagnosis of lipoma/liposarcoma of the cord, en-bloc resection of the mass along with cord structures from the internal ring to a few centimetres above the testicular sac (Hamilton Bailey's operation) was done [Table/Fig-3,4]. In view of suspected malignancy, the mesh was not placed and modified Bassini's herniorrhaphy was done to strengthen the posterior wall.



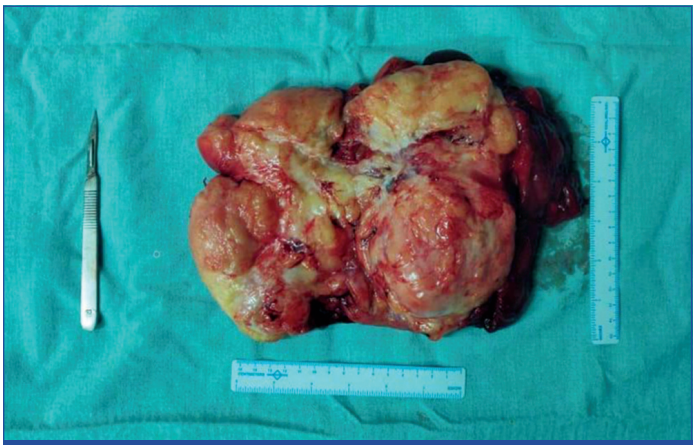
[Table/Fig-1]: 12×10×8 cm large irregular fatty yellow coloured solid mass arising from the spermatic cord.



[Table/Fig-2]: Anterior view of mass with spermatic cord.

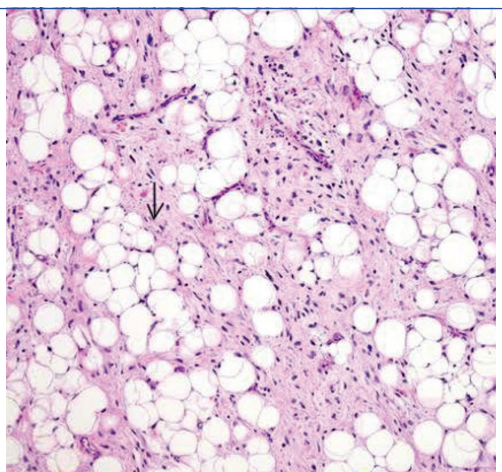


[Table/Fig-3]: En-bloc resection of the mass along with cord structure (Hamilton Bailey's operation) was done.



[Table/Fig-4]: Cut-section of specimen.

Histopathological slides of the tumour, predominantly showed, lobules of mature fatty tissue with areas of fat necrosis, haemorrhage, aggregates of lymphoplasmacytic infiltrate and hemosiderin-laden macrophages. Occasional cells showed intranuclear inclusion, pleomorphism, vacuolated cytoplasm and lipoblasts with no evidence of mitosis suggestive of Well Differentiated Liposarcoma without infiltrating the testicular tissue and the margins were free of the tumour [Table/Fig-5]. Subsequent work-up (whole-body positron emission tomography scan) showed, no evidence of intra-abdominal or lung metastasis. As the tumour was well differentiated with R0 resection, no radiotherapy was given and the patient was on close follow-up as recommended by the medical oncologist. The patient improved well postoperatively with no complaints. A recent follow-up Computed Tomography (CT) scan at two years showed no local recurrence of the tumour.



[Table/Fig-5]: Histopathology slide of the tumour showing lobules of mature fatty tissue with aggregates of lymphoplasmacytic infiltration (Arrow shows unvacuolated lipocytes).

The patient is on close surveillance with a six monthly follow-up over the past three years.

DISCUSSION

In 1845, Lesauvage reported the first case of sarcoma of the cord [1]. Liposarcomas, as small as 3 cm have been reported. All scrotal masses are initially imaged with ultrasound, on which avid vascular flow, favours the diagnosis of liposarcoma over paratesticular lipoma [2]. Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) is highly useful in diagnosing suspected spermatic cord malignancies and retroperitoneal liposarcomas. Contrast-Enhanced Ultrasound (CEUS) can provide complementary information by identifying distinct enhancement patterns [2]. Identification of well-differentiated liposarcomas can be a challenge because they are usually poorly demarcated from surrounding normal fat, homogenous, and low density. In contrast, high-grade liposarcomas present as solid, heterogeneous, high-density masses [2,3]. However, the definitive diagnosis of liposarcoma requires pathological inspection of inguinal masses, to rule out other para-testicular and testicular neoplasms.

As there is no gold standard treatment, an en-bloc resection with R0 margins is the key to the management of spermatic cord liposarcomas. If the margins are positive, re-resection should be performed after the index surgery [4]. Peralta JP et al., reported a similar case of liposarcoma of the spermatic cord where organ sparing surgery was performed with no documented recurrence after a year's follow-up. However, this approach is not routinely advocated and may be undertaken in cases where the risk factors for recurrence are negligible [5]. The abdominal wall defect can be closed by herniorrhaphy and reinforcement with a mesh if necessary. The choice of mesh, biological or synthetic is a point of debate, considering the high incidence of locoregional recurrence and the possibility of adhesions to the vital structures postradiotherapy [5]. Wetzel E et al., reported a similar case of liposarcoma of the spermatic cord, which presented as an inguinal hernia. The patient underwent ipsilateral orchidectomy and excision with wide margins following which he received adjuvant focussed radiation therapy [6]. However, in this case, a polypropylene mesh was used to strengthen the defect. Regional lymph node dissection is not of value, because the dissemination of LSC is essentially haematogenous whereas the lymphatic pattern of metastases seems to be infrequent and has no survival benefit [4].

Radiation therapy is recommended, in addition to surgery for high-grade tumours, the presence of lymphatic invasion, inadequate margins, associated poor prognostic factors, and relapses [7]. Pikramenos K et al., reported a case of well-differentiated sclerosing liposarcoma with myxoid liposarcoma of the spermatic cord where the patient underwent surgery with negative margins. However, the patient did not undergo any further adjuvant treatment and there was no local or metastatic diseases after a year follow-up [8]. There is no definite role of chemotherapy and most of the recommendations are based on cases with recurrences [9]. The role of neoadjuvant chemotherapy and radiotherapy has not been fully investigated. Chowdhry VK et al., emphasised the negative effects of preoperative radiotherapy in regard to wound healing [10]. Local recurrence is a major issue with an incidence of 30-50%. Delayed local recurrences have been reported even after two years of treatment [4]. Morozumi K et al., reported a case of a 54-year-old male who underwent 7 resections following local recurrence over a period of 8 years [11]. A long follow-up of 10-20 years is therefore required in all cases [12,13]. As distant metastasis is rare in LSC, the prognosis is good with a high five-year survival rate [14].

CONCLUSION

This rare case report aimed to emphasise the differential diagnosis of liposarcoma of the cord among irreducible inguinoscrotal hernias and complex inguinal/scrotal masses. Treatment of liposarcoma of the spermatic cord involves en-bloc resection with negative margins.

Distant metastasis is rare, but local recurrences are common even after several years, hence, close surveillance and long follow-up is required in these cases.

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