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Multiple Liposarcomas of the Groin: A Diagnostic Dilemma

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Abstract

The most common sarcoma in the inguinal areas is a liposarcoma, which commonly occurs in adults. A liposarcoma is a bulky yellow tumor similar to a lipoma but generally more complex and contains areas of prominent sclerosis. We report a case of a 45 year old male who reported to the department of surgery with multiple swellings of the groin since 2 years. The histopathological examination from the masses revealed a tumor mass composed of well-differentiated adipocytes interspersed by areas with spindle cell proliferation. After confirmation of the diagnosis of liposarcoma, excision was done. The case is reported because of its rarity.

Introduction

Liposarcoma is a rare tumour of the groin which is difficult to differentiate from a lipoma. Lipoma is the most common benign tumor of the inguinal region. The lipoma is seen as a hyperechoic mass on sonography, which may be difficult to differentiate from a liposarcoma [1,2]. Other differential diagnosis of groin swelling includes epidermoid cyst. An epidermoid cyst develops from a remnant of ectodermal tissues misplaced during embryogenesis and often has a thin wall lined by stratified squamous epithelium surrounding a mixture of desquamated debris, cholesterol, keratin, and water. On sonography, it usually appears as a hypoechoic mass with internal echogenicity, which can be explained by

keratin materials within the mass [3]. Other benign tumors of the groin include leiomyomas, dermoid cysts and lymphangiomas.

Most malignant tumors in the inguinal region are sarcomas because most of the components of the cord are derived embryologically from mesodermal tissues. The most common sarcoma in the inguinal areas is a liposarcoma, which commonly occurs in adults. A liposarcoma is a bulky yellow tumor similar to a lipoma but generally more complex and contains areas of prominent sclerosis [4]. The sonographic findings of a liposarcoma are variable and non-specific.

On the base of this case attention is called to this rare disease. Early diagnosis and complete resection plays key role in the treatment of liposarcoma. Liposarcoma usually occurs in the deep soft tissues of extremities and in the retro- peritoneum. It is the most common type of soft tissue sarcoma accounting for 30% of all mesenchymal tumors. There are no metastases and the overall prognosis is good. Different studies showed that the majority of dedifferentiated liposarcomas presented as de novo lesions, whereas the remainder developed as a late complication of a pre-existing well-differentiated liposarcoma [5,6]. Commonest sites involved by dedifferentiated liposarcoma are retro-peritoneum, extremities, trunk, scrotum/spermatic cord, and also subcutis.

Case Report

A 45 year old male reported to the department of surgery with multiple swellings of the groin since 2 years. There was no history of pain in the groin. He denied any recent trauma to that area. Initially the swellings were smaller in size, but gradually increased in size over a period of one year and thereafter the size of the swellings remained constant. On local examination, four swellings were seen in the groin area **(fig. 1)**. The scrotum and penis were also swollen and distorted. The swellings had a soft consistency and were freely mobile without any fixation to the underlying structures. The physical examination revealed no discernable loss of motor or sensory lower extremity function. There were no specific abnormalities in the laboratory data, and the tumor markers were within normal limits.

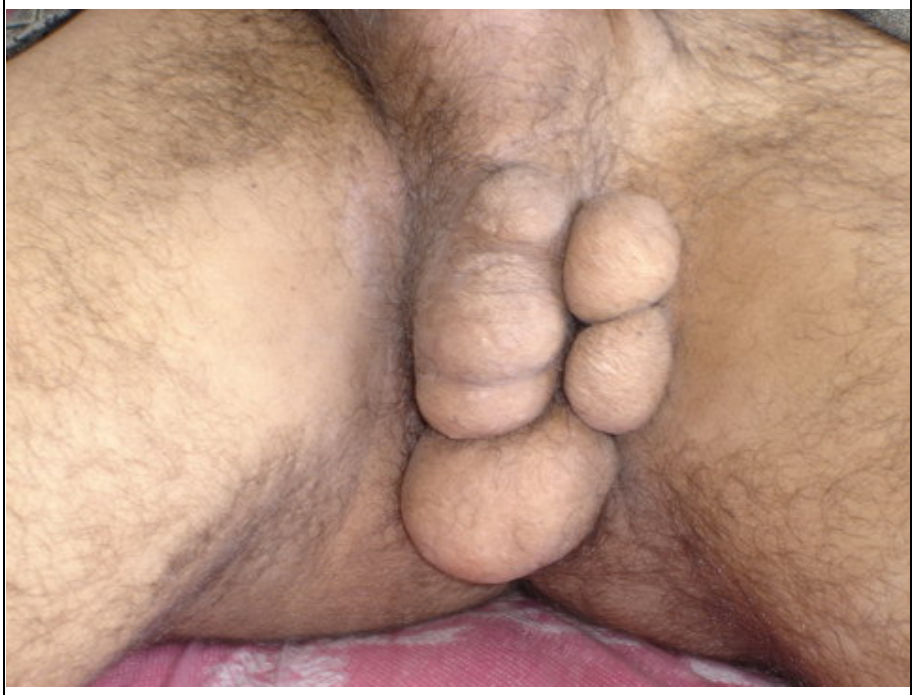

Fig 1: Multiple swellings of the groin.

The swellings were diagnosed as multiple lipomas and histopathological examination was performed of the groin masses. The histopathology from the masses revealed a tumor mass composed of well-differentiated adipocytes interspersed by areas with spindle cell proliferation **(fig. 2)**. In between lipoblasts were seen. The spindle cell area was mild to moderately cellular. The cells were separated by abundant collagen deposition and showed plump nuclei without any mitotic figures. The spindle cells were seen infiltrating the adipose tissue, muscle fibers in the periphery, and reaching almost up to the skin entrapping the skin adnexa. No areas of hemorrhage or necrosis were seen.

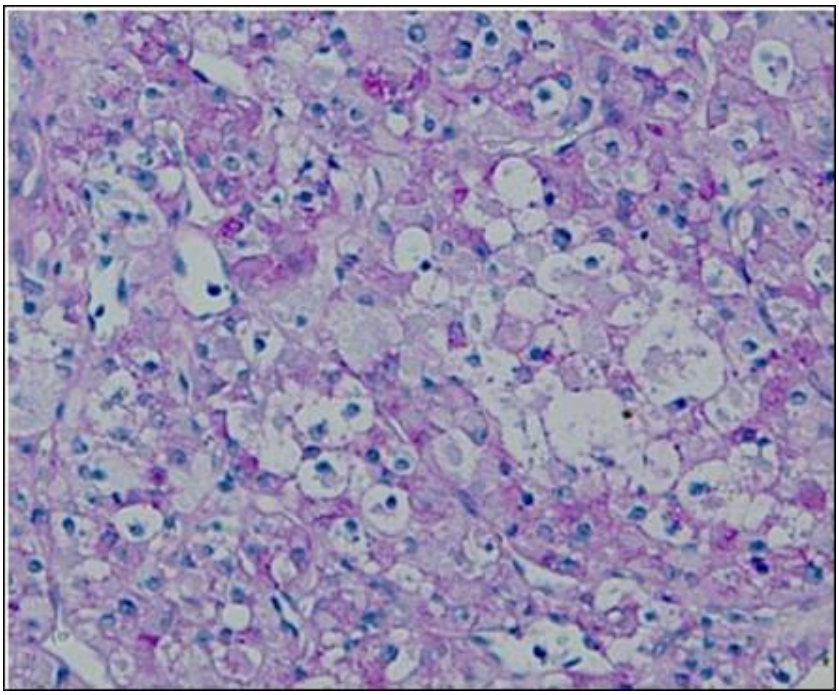

Fig 2: H&E stained sections showing tumor mass composed of well-differentiated adipocytes interspersed by areas with spindle cell proliferation.

The ultrasonography of the groin swellings was done and it showed well defined hypoechoic masses with a minimal internal flow.

After the histopathological reporting which confirmed it to be multiple liposarcomas of the groin, the excision of the groin masses was done. Intra-operatively, the tumor was observed to roll up the isolateral spermatic cord and testicular vessels, which led to the differential diagnosis of liposarcoma. The tumor was then widely resected along with the left testis, spermatic cord, and testicular vessels. Histopathologic study confirmed the diagnosis of well-differentiated liposarcoma, but no malignant cells were found in any of the surgical margins. The post-operative course of the patient was uneventful. A periodical follow-up was performed every 3 months and no evidence of recurrence or metastasis was seen for 6 months after his operation, without any postoperative adjuvant therapy. The case is reported because of its rarity.

Discussion

Liposarcoma is a rare mixed histologic subtype defined by the association of well-differentiated liposarcoma and a non-lipogenic sarcoma of variable histological grade usually with histologically abrupt transition [7]. According to WHO, low-grade dedifferentiated liposarcoma is defined as bland spindle cells with a fascicular pattern with cellularity intermediate

between well-differentiated sclerosing liposarcoma and usual high-grade areas. The behavior of dedifferentiated liposarcoma as a whole is that of a high-grade sarcoma [8]. Good prognosis in de novo dedifferentiated liposarcomas seems unrelated to the extent, grade, or morphologic pattern of dedifferentiation. However, high mitotic activity in the dedifferentiated component was associated with more aggressive clinical course [9]. The prognosis of liposarcomas with de-differentiated component of entirely low grade was more similar to traditional liposarcoma than to that of well-differentiated liposarcoma [10]. However, it is suggested that low-grade differentiation may represent a precursor lesion of high-grade differentiation.

Conclusion

Liposarcoma can develop into either low-grade or high-grade de-differentiated liposarcoma over a variable period of time. Prognosis is unrelated to the grade or extent but is related with mitotic activity of the dedifferentiated area. The case is rare and hence reported.

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