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CASE REPORT

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Primary scrotal lipoma posing a diagnostic quandary: Experience from northern Tanzania, a case report

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Abstract

Primary scrotal lipoma is a rare urological diagnosis. It is usually diagnosed incidentally as most of time initial diagnosis may be confused with other common etiology of scrotal masses. A rare case of scrotal lipoma with initial misdiagnosis of hydrocele at primary health facility is presented in this article.

KEYWORDS

case report, scrotal lipoma, scrotal mass, Tanzania, ultrasound

1 | INTRODUCTION

Scrotal mass is a common problem among men of all age groups.[1] There is a wide range of differential diagnosis that spans from malignant to benign conditions[1,2] The most common differentials include testicular torsion, epididymitis, varicocele, hydrocele, inguinal-scrotal hernia, epididymal cyst, and testicular cancer. [3,4]Primary scrotal lipoma is a rare urological entity, which usually poses a diagnostic quandary.[5]A differential diagnosis of primary scrotal lipoma should always be thought in any patient presenting with scrotal swelling. We report a case of primary scrotal lipoma, which posed a diagnostic dilemma, in a 40-year-old male.

2 | CASE PRESENTATION

A 40-year-old male presented with 1 year history of scrotal swelling which had been progressively increasing in size and was associated with on-and-off pain. The patient reported no other symptoms in reminiscence. He had no known history of chronic illness nor family history of a similar clinical presentation. He visited a primary care center, where he was

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diagnosed to have hydrocele, and underwent scrotal surgery through a median raphe incision 1 day before referred to our hospital. He has no history of undescended testis, prior scrotal surgery or family history of testicular cancer. Intraoperative, the surgeon could not find a fluid-filled sac instead a huge solid mass was identified. They could not figure out the possible diagnosis and therefore the procedure was abandoned by closure of the incision. The patient was then referred to the urology department of a tertiary hospital for further evaluation and possible treatment.

On arrival he was conscious and no lymph nodes were palpable in general examination. Abdominal examination was unremarkable. The external genitalia revealed medial raphe scrotal incision and mild tender, firm, irreducible, left hemiscrotal mass measuring about 7 × 10 cm. The ipsilateral testis could not be felt separate from the mass and could go above the mass easily. A diagnosis of testicular cancer with differential diagnosis of epididymo-orchitis and infected hydrocele was entertained. Laboratory investigations were within normal limits including α-fetal protein (5.92 IU/mL), β-HCG (0.05 IU/mL) and lactate dehydrogenase (304 u/l). Scrotal ultrasound reported normal size and echotexture in both testes with normal intratesticular blood flow. There was a large heterogenous, vascularized lesion in the left tunica vaginalis measuring 10*6 cm suggestive of left scrotal mass. The abdominal ultrasound revealed normal findings.

Testicular exploration was planned through inguinal crease incision in urology theater following his consent. At exploration, the incision was extended to the scrotum, the spermatic cord was clumped high up at the inguinal area and followed down to the scrotum. The whole spermatic cord and testis were normal but there was a well circumscribed fat-like mass in the scrotum on the lateral aspect of the testis. The mass was firmly attached to the scrotal wall.

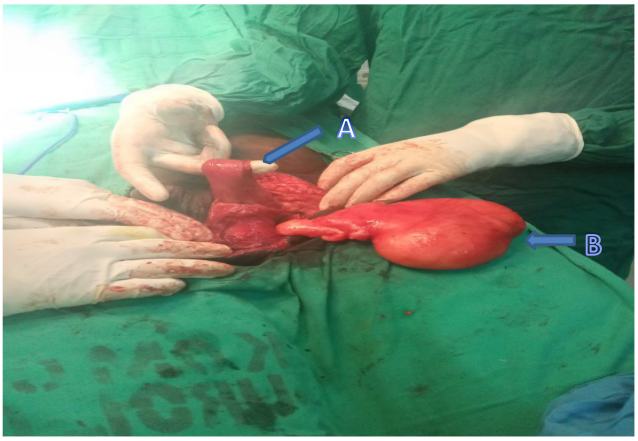

FIGURE 1 Intraoperative photograph showing a fat-like lobulated mass lateral to the spermatic cord and testis. (A) Spermatic cord; (B) Lipoma.

The impression of scrotal lipoma was made by visual appearance of the mass (Figure 1) and excision of the mass was carried out and incision was closed in layers. The testis was left intact. The tissues were taken to pathology department for histopathology assessment where tissue section displayed clusters of mature fat cells with no atypia and diagnosis of scrotal lipoma was concluded (Figure 2A,B). The postoperative period was uneventful and the patient was discharged on Day 4 postoperatively and sutures removed on Day 10 postoperative. The patient was followed up at 1 month, 3 months, 6 months and 1 year postoperatively and on physical examination there was no recurrence of scrotal mass.

3 | DISCUSSION

Lipomas are benign mesenchymal neoplasms with rare occurrence in the scrotum.[1] Primary scrotal lipoma usually originates from the spermatic cord. However, it can also originate outside the spermatic cord or in the subcutaneous tissue. [1–3] Scrotal lipoma is classified into three categories: (i) subcutaneous fatty tissue posterior to the spermatic cord and extending into the scrotum; (ii) adipose tissue within or outside the spermatic cord; and (iii) fat lobules within the scrotal dartos tunica. The latter is also known as primary scrotal lipoma. We present an extremely rare case of primary scrotal lipoma which originated from the subcutaneous tissue.

Primary scrotal lipoma can occur in any age group. Most of the time it is unilateral with variable size.[5–7] The exact etiology is not known; however, up to 80% of scrotal lipoma may be associated with genetic abnormalities, such as rearrangements of 12q13–15, 6p21–22, or deletions of 13q12–14 and 13q22 with 1% tendency of malignant transformation.[1] The age for scrotal lipoma ranges from 1 to 76 years with the mean age of 45.7 years and median of 49 years.[8]

Patients usually complain of a sensation of scrotal fullness without prior history of symptoms and signs of inflammation or trauma.[9] Clinical presentation is not specific, but most patients present with scrotal mass which may be diagnosed incidentally on clinical examination or the patient himself may complain of scrotal mass when it is significantly increased.[5] Clinical examination may sometimes mimic that of inguinal hernia.[9] The most common causes of scrotal masses include inflammation (47.8%), hydrocele (23.7%), and testicular torsion (9.35%) with scrotal lipoma rarely documented in scientific literature.[10]

Ultrasound and computed tomography (CT) are helpful in diagnosing scrotal lipoma but require an experienced ultra-sonographer. Typical finding in ultrasound is homogeneous and hyperechoic mass, no blood flow and the boundaries may be clear or not clear.[8,11,12] There is no pathognomonic finding from history, examination, or

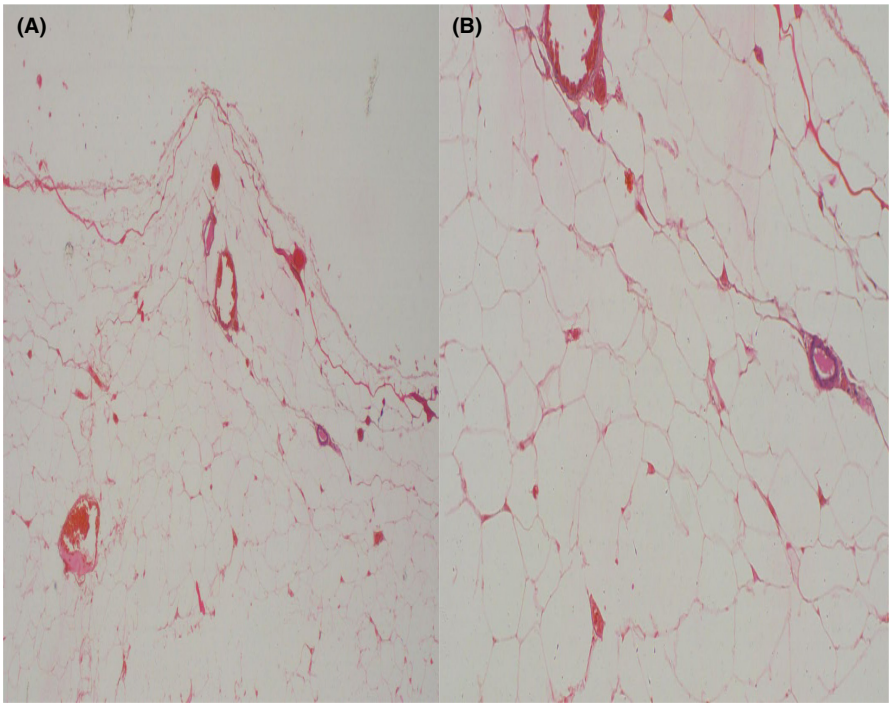

FIGURE 2 (A) Hematoxylin and Eosin-stained photomicrograph showing mature adipocytes without atypia admixed with congested blood vessels x04 magnification. (B) Hematoxylin and Eosin-stained photomicrograph showing mature adipocytes without atypia separated by thin fibrous stroma and blood vessels x40 magnification.

imaging which poses a diagnostic challenge to clinicians. CT and magnetic resonance imaging (MRI) can make anatomic assessment of lipoma more accurate with CT usually having Hounsfield units of less than −30. [11] The MRI findings include a hyperintense signal in T1 weighting, whereas in T2, it presents an intermediate signal in classical spin echo and a hyper signal in fast spin echo.[11]At the primary health care facility, the referral note indicated that the ultrasound had diagnosed the scrotal mass as hydrocele. This could be due to incompetence of ultrasonographer and also medical officer who proceeded to perform the surgery as a case of hydrocele. In our case, provisional diagnosis from ultrasound was hydrocele and left scrotal mass at primary health care facilities and tertiary hospital, respectively. Furthermore, in our case the ultrasound done at the tertiary hospital suggested the mass to be heterogenous while scrotal lipoma is typically homogeneous and hyperechoic, and therefore, a diagnosis of scrotal lipoma was not considered before surgery. The heterogenous echotexture could be caused by recent surgery at the primary health care facility before referral.

Differential diagnosis of liposarcoma is of clinical importance which accounts for 3%–7% of all extra-testicular tumors.[8]Scrotal lipoma pathognomonic findings are mature adipocytes with no atypia while liposarcoma is a mixture of normal appearing adipocytes intermixed with atypical adipocytes.[8,12] Biopsy is the gold standard diagnosis to differentiate between malignant and benign lipomatous tumor.[8,10–12] Frozen section is useful in differentiating between a benign and malignant scrotal masses intraoperatively. Due to limited resources in our hospital, frozen section was not available during the period when this surgery was conducted. In our case physical appearance of the mass suggested of lipoma (well circumscribed fatty-like mass).

Definitive treatment for scrotal lipoma is lipectomy to remove pressure symptoms and also to prevent its progression to liposarcoma although it is a rare occasion.[9]In our case, lipectomy was done and the patient was free of symptoms. Primary scrotal lipoma has a good prognosis.[7]

4 | CONCLUSION

Primary scrotal lipoma is a very rare benign scrotal tumor with no pathognomonic findings both clinically and from imaging which poses a diagnostic dilemma to clinicians. A differential of primary scrotal lipoma should always be considered in any man presenting with scrotal mass. In the absence of clear diagnosis of scrotal mass, clinician at primary care facilities should refer patients to specialized urology centers. Surgical treatment is effective with good prognosis.

AUTHOR CONTRIBUTIONS

Orgeness Jasper Mbwambo: Conceptualization; writing – original draft. **Angela Pallangyo:** Investigation; writing – review and editing. **Jasper Saidi Mbwambo:** Writing – review and editing. **Frank Bright:** Investigation; methodology; writing – review and editing. **Alfred Mteta:** Writing – review and editing. **Jacques bogdawonicz:** Investigation; software; writing – review and editing. **Bartholomeo Nicholaus Ngowi:** Supervision; writing – review and editing.

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All authors have declared that no competing interests exist.

DATA AVAILABILITY STATEMENT

Data are available on request due to privacy/ethical restrictions.

ETHICS STATEMENT

There was exemption of ethical clearance.

STATEMENT OF INFORMED CONSENT

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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