

# Giant scrotal lipoma: Case report and review of literature

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## ABSTRACT

**Introduction:** Lipoma is a benign mesenchymal neoplasm, the primary scrotal type is extremely rare and most of them develop from the content rather than the wall of the scrotum and they are often confused with liposarcomas clinically. In the few reported cases the largest primary scrotal lipoma to date measured 13.5x10x5 cm. Cytogenetically, 80% of solitary lipomas exhibit chromosomal aberrations, such as rearrangements of 12q13–15, 6p21–22, or deletions of 13q12–14 and 13q22 with 1% tendency of malignant transformation. **Case Report:** A 42-year-old nomadic Fulani who presented with extremely rare giant primary scrotal lipoma that measured 60x40x12 cm and weighed 38.4 kg. To our knowledge this is the largest scrotal lipoma reported in the literature. **Conclusion:** Scrotal lipoma can be colossal and leads to diagnostic challenges, especially in developing countries. Total surgical removal of the involved scrotal mass or a compartmental resection has been suggested as treatment of choice; however, the infiltrating type has high chances of local recurrence despite surgical excision. Nevertheless, the tumor rarely transforms into malignancy.

**Keywords:** Giant, Diagnostic challenges, Lipoma, Scrotum

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## INTRODUCTION

Lipomas are the most common benign mesenchymal tumors worldwide and have an estimated incidence of 10% and prevalence of 2.1 per 1,000 [1, 2]. They are commonly present in subdermal and mostly subcutaneous locations that point in the differential diagnosis with liposarcomas, which are almost always deep-seated and it can occur in any region of the body [3–5]. The majority of the tumor occurs in the upper half of the body, particularly the trunk and neck, but they can also develop on the hands and feet [6]. Lipoma of the scrotum are extremely rare [7] and most of them originate and develop in the spermatic cord. In rare cases, scrotal lipoma can originate outside the spermatic cord or in the subcutaneous fat [8]. The location of the lesion form the basis for the classification of the tumor into intramuscular (most common in the trunk) and intermuscular (most common in the anterior abdominal wall including the scrotum) [9]. The second classification are paratesticular and extratesticular lipomas. Most patients develop the tumor in their fifth or sixth decade of life and it rarely affects children [10]. We present extremely rare and giant scrotal lipoma that may cause diagnostic challenges especially in underprivileged health facility centres.

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## CASE REPORT

A 42-year-old male nomadic Fulani presented with scrotal swelling initially small about a peanut size gradually increased in size to a very huge mass about four times the size of a football over 10 years (Figure 1A and B). The mass was painless, not itching, but heavy associated with dragging sensation and prevent the patient from running and other activities including coitus. No history of abdominal colic, distension and constipation and no urinary symptoms. No history of cough, drenching night sweat and no history of contact with adults having chronic cough. There was no history of trauma to the perineal region and family history of scrotal swelling.

On examination patient general condition is stable, not pale, afebrile, anecteric, acyanosed, no significant peripheral lymphadenopathy and no pedal oedema.

There was huge right scrotal swelling extending from the right groin to the mid-thigh (Figure 1A and B). There were distended superficial veins with normal overlying skin. The mass was firm to hard in consistency, not warm to touch, non-tender, did not trans-illuminate. The right testis could not be palpated because of the scrotal mass. The left testis clinically appeared unremarkable.

Assessment of testicular tumor to rule out actinomycosis was made and the following investigations were requested; full blood count, electrolyte urea and creatinine and urinalysis. The investigation results were essentially normal, except for fine needle aspiration cytology (FNAC) that was reported as benign, suggestive of a lipoma. The patient was then counseled for excisional biopsy.

A lazy S-shaped incision of about 30cm extending from the groin to the mid-thigh was made. The mass was then easily dissected from the subcutaneous plane (Figure 1C and D) with haemostasis achieved except its base where it was attached to abductor muscle with a large feeding vessel from which he lost blood about 600 ml. Had two pints of blood transfused intra-operatively. The skin was then closed with occlusion of dead space and a draining tube was then inserted. Post-operatively the draining tube stopped functioning after 48 hours, it was then removed the next day (Figure 1E and F). Currently the patient is doing well and ambulating well with no residual neuro-vascular deficit. Final histological diagnosis (Figure 2A and B), confirmed lipoma with no evidence of malignant transformation.

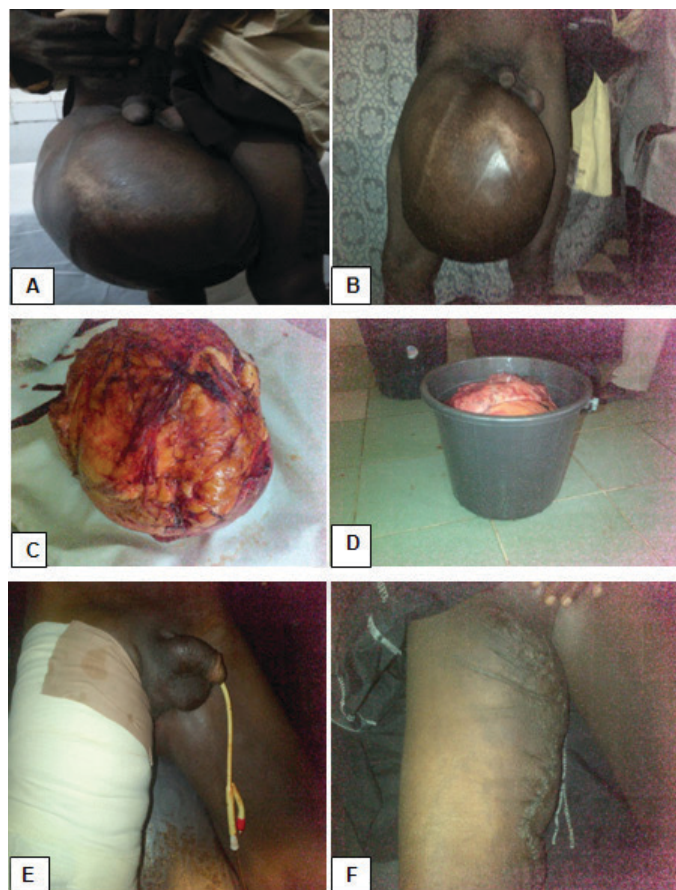


Figure 1: A and B show right scrotal mass with prominent veins overlying an unremarkable skin. Gross specimens (C and D) showing homogeneous lobulated yellow mass that measured 60x40x20 cm and weighed 38.4 kg. E and F show dressed wound after excision and healed wound after the dressing removed.

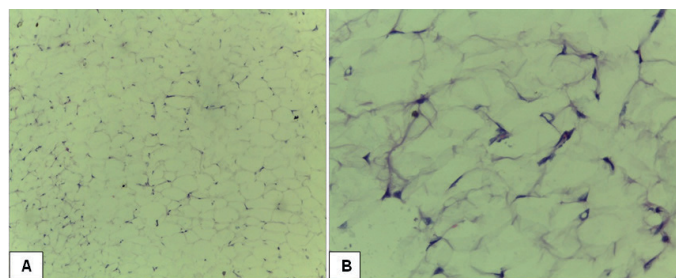


Figure 2: Photomicrograph; sections show benign mesenchymal neoplasm composed of lobules of mature adipocytes separated by thin fibrous septae consistent with a lipoma. (A) Low power view, H and E x100. (B) High power, x400.

## DISCUSSION

Lipomas are benign mesenchymal tumors that are rarely seen in the scrotum. Only few cases of primary scrotal lipomas originating from the scrotal wall have been reported in the literature [11]. We present a case of unusually giant primary intrascrotal lipoma presenting as scrotal swelling and causing serious discomfort to the patient. So far based on our literature search and to our knowledge this is the largest scrotal lipoma that has been

reported till date [9, 11]. Generally, the tumor is rare and the few cases reported in the scrotum the largest measured 13.5x10x5 cm [11].

In most cases, scrotal lipomas originate from the adipose tissue of the spermatic cord evolving towards the scrotum or develop in the spermatic cord itself as seen in this index case. Lipomas that originate from the isolated adipose lobules of the scrotal sub-cutaneous tissue are also uncommon and are called "primary scrotal lipomas"; [2–5]. The tumor usually present as a painless soft tissue



mass, except for larger ones that can be painful when they compress peripheral nerves. Superficial lipomas are smaller (<5 cm) than the deep seated ones (>5 cm) and the latter are the presenting with pain. In our case the mass is deep seated and attached to the spermatic cord and it was painless, which is at variance with some reported cases, [10, 12]. Patients with lipoma arborescens are usually adult men who typically complain of gradual swelling of the affected scrotum or groin associated with pain [10]. In this case the patient presented with insidious scrotal swelling over 10 years, the mass has resulted in the stoppage of the patient daily activities including coitus.

It has been reported that cytogenetically, 80% of solitary lipomas exhibit chromosomal aberrations, such as rearrangements of 12q13–15, rearrangements of 6p21–22, or deletions of 13q12–14 and 13q22 [13–15]. The gene involved in 12q13–15 is HMGA2 (also known as HMGIC), it encodes a high mobility group protein with the tendency of malignant transformation [16, 17]. Two third of the tumor also show aberration of 12q 13-15. However, despite the genetic aberration the tumor rarely (1%) transform to liposarcoma [16]. Genetic studies were not done for this patient because of unavailability of the test in our countries.

The subclassification of conventional lipoma does not have any prognostic significance except for the infiltrating intramuscular lipoma that has a higher local recurrence rate. The treatment of choice for scrotal lipoma are surgical, total removal of the mass and or the testis or a compartmental resection of the tumor has been suggested, although infiltrating lipoma may require total resection in order to minimize local recurrence [18, 19].

## CONCLUSION

Scrotal lipoma can be extremely colossal and cause discomfort to the patient and sometimes diagnostic challenges as in this index case, although, ultrasound scans and magnetic resonant imaging of the scrotum is recommended to identify the possibility of malignant changes along-side with fine needle aspiration biopsy. Though, the mainstay of treatment is surgical compartmental resection for tumors that are benign, but radical surgery are usually done along with orchidectomy in cases of malignant changes. This case report highlights the clinicopathological features of scrotal lipoma in order to increase our awareness of how enormous the tumor can present clinically and mimics liposarcoma.

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## Author Contributions

Abba Bukar Zarami – Conception of the work, Design of the work, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy

or integrity of any part of the work are appropriately investigated and resolved

H. Ibrahim – Acquisition of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

A. G. Ibrahim – Acquisition of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

**Guarantor of Submission**

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**Consent Statement**

Written informed consent was obtained from the patient for publication of this article.

**Conflict of Interest**

Authors declare no conflict of interest.

**Data Availability**

All relevant data are within the paper and its Supporting Information files.

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