

Case Report

Giant Lipoma of Unusual Regions: A Case Series of Two Unfortunate Adults

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Abstract: Lipomas are prevalent, benign, asymptomatic mesenchymal tumors that can develop in various areas where adipose tissue is present. However, when lipomas reach sizes larger than 10 cm in width or exceed 1 kilogram in weight, they are classified as giant lipomas [1-3]. These oversized lipomas can lead to functional restrictions, aesthetic concerns, and compression-related injuries, all of which can negatively impact an individual's quality of life. They are usually surgically removed to avoid injury to major neurovascular structures; however, they have a predisposition for recurrence and the risk of malignancy following surgery. This case series discusses the clinical findings and surgical treatment of two patients who had enormous, deformable, fatty tumors of buttocks and thigh, respectively.

Keywords: Lipomas, Surgical excision, Malignancy, Fatty, Tumors, Buttock.

INTRODUCTION

Lipomas are among the most common mesenchymal neoplasms in humans, involving mature fat cells or adipocytes surrounded by connective tissue membrane and having a prevalence rate of 2.1 per 1000 people [4]. These tumors occur most frequently in the subcutaneous tissue of the head, neck, shoulders, and back, but they can appear anywhere there is fat, which is why they are also known as ubiquitous or universal tumors [1]. They can also be found intermuscular, intramuscular, interosseous, connected with viscera, or at a location of past trauma [5].

Lipomas are typically benign, slow-growing tumors smaller than 2 cm in diameter and weighing a few grams, however when the diameter of a lipoma surpasses 10 cm and the weight exceeds 1000g, it is referred to as a "giant" lipoma, having a risk of malignancy [5, 6]. Patients present with painless, mobile, and soft subcutaneous swelling [7]. Lipomas can be handled conservatively or surgically removed. In this case series, we present two unusual cases of giant lipomas of a 60-year-old male and 65-year-old female involving the buttock and thigh, respectively.

CASE SERIES

Case 1

A 60-year-old male presented with a slowly progressing, painless lump on his left gluteal region. He first noticed the swelling three years ago, which was initially small and increased gradually. The swelling was not associated with fever and weight loss,

but the main concern of the patient was discomfort in walking and sitting straight.

Clinical examination revealed 25 cm x 19 cm, firm, non-tender, smooth, oval mass with dilated veins overlying the skin at the left buttock. The swelling was mobile and soft in consistency with ill-defined borders (Fig. 1A). Sciatic nerve was intact, and dorsalis pedis and posterior tibial artery were palpable. Systemic inquiry was normal.



Fig. (1A). Posterolateral View of the Patient with a Large Mass on the Buttock Region.

X-ray of the full pelvis AP (anteroposterior) view showed abnormal haziness with increased soft tissue shadow, and MRI reports revealed large, abnormal signal intensity intramuscular mass invading gluteus medius and minimus on the left side extending through the sciatic foramen. It is hyper-intense on both T1 and T2 weighted images and does not show any contrast enhancement. No abnormality in the bone cortex was noted. CT scan contrast was also normal. To rule out malignancy,

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incisional biopsy was done that proved normal mature adipose tissue without any malignant growth. Furthermore, following deliberations during the tumor board meeting, the decision was made to proceed with excisional surgery, either through marginal resection or wide margin resection, to remove the tumor.

The patient underwent surgery under general anesthesia, assuming the left lateral position. A posterior incision was made over the swelling, and a flap of skin was elevated to expose the mass. The tumor was found beneath the abductor gluteus maximus, extending into the greater sciatic nerve. Careful dissection was performed to separate the nerve from the tumor, ensuring its preservation. The entire tumor, along with the surrounding muscle, was excised, measuring 27x23x16 cm (Fig. 1B). Following the placement of a suction drain, the wound was closed layer by layer. Histological examination confirmed the presence of a benign lipoma without any signs of malignant transformation. The patient experienced a seroma post-operatively, which resolved naturally. The stitches were removed after two weeks, and the patient has been routinely monitored for the past four years without any signs of recurrence.



Fig. (1B). The Tumor Excised En-mass Measured 27x23x16 cm Preoperatively.

Case 2

A 65-year-old hypertensive female presented with a 10-year history of painless swelling in her left thigh. The mass was initially small, but it gradually grew in size until it involved the entire anterior and lateral thigh. It was not associated with fever and weight loss. Also, no other systemic pathology was found.

On clinical examination, a swelling measuring 40x20 cm was observed over the anterior aspect of the thigh, extending from the greater trochanter to the suprapatellar area. The swelling had a firm consistency and did not elicit tenderness upon palpation. The overlying skin appeared smooth, mobile, and shiny, with visible dilated veins (Fig. 2A). The patient's temperature was within the normal range, and the neurovascular structures appeared intact.

X-ray imaging revealed a large radiolucent shadow in the soft tissue surrounding the tumor. (Fig. 2B) MRI findings indicated

that the lesion was hyperintense on T1-weighted images and iso/hypointense on T2-weighted images, raising concerns of a potential malignancy. However, an incisional biopsy confirmed the diagnosis of a benign lipoma, dispelling the suspicion of malignancy. CT scan with contrast showed normal results.

Based on the clinical evaluation, the patient was deemed suitable for surgery. The planned approach involved performing marginal resection under epidural anesthesia. The patient was positioned supine, and an incision was made from the anterior superior iliac spine down to the skin above the patella. The subcutaneous deep fascia was opened, revealing a large, encapsulated tumor adhering to the underlying nerves and blood vessels. Careful dissection was carried out to remove the tumor while preserving the neurovascular bundles. Segments of muscle tissue were excised along with the tumor to ensure complete eradication. A suction drain was inserted, and the wound was closed in layers before being dressed.

Histology revealed findings that were consistent with a lipoma. Post-operative recovery was uneventful without any neuromuscular dysfunction. The stitches were removed after 2 weeks, and she was allowed to bear full weight after recovery. Biopsy specimens showed definitive diagnosis of lipoma without malignant transformation. No recurrence was observed after 3 years of surgery.



Fig. (2A). Huge Mass of the Left Thigh.



Fig. (2B). Well Defined Oval Shaped Soft Tissue Hypodense Mass is Noted at Anterior Aspect of the Thigh.

DISCUSSION

Giant lipomas are rare, benign soft tissue tumors that measure more than 10 cm in length and 1000 g in weight. They are common in people aged 40-60 and can occur in every part of body [1-3]. Lipomas are more common in female patients, owing to their proclivity for accumulating adipose tissue [6]. According to the literature, the largest cutaneous lipoma described weighed 24,950 g and was found on the right thigh of a 48-year-old lady who was morbidly obese [8].

Even though most lipomas are asymptomatic, giant lipomas, depending on their size and location, can create cosmetic problems as well as pain and functional impairment by putting pressure on nerves and arteries [2, 3]. Consequently, one of our patients were unable to lie in the supine position, and other had trouble in walking and sitting.

Giant lipomas are usually idiopathic but genetic defects, hypercholesterolemia, obesity, and trauma are known causes. Traumas induce adipose tissue migration and proliferation, which leads to the creation of lipomas [2, 9, 10]. Like other tumors imaging studies and histopathology are key to diagnosis. Rapid growth, male, old age, more than 5 cm size, nodules, dense septa, decreased fatty tissue, deeper invasion & intramuscular locations are all in favor of malignant transformation [9].

In our cases, no known reason was found; both were of large sizes, more than 20 cm, and treated with surgery safely with normal functional outcome. Surgical excision and lipectomy are known procedures for lipoma removal [9].

CONCLUSION

We conclude that giant lipomas are very rare entities that typically result in cosmetic abnormalities, surrounding tissue compression, and functional impairment of the affected limb or region. It needs to be properly diagnosed with adequate pre-operative imaging and ultimately complete surgical excision of the mass to achieve good functional outcome and minimize the chances of recurrence.

We successfully managed to remove the mass with minimal damage to adjacent tissues and preserved neurovascular structures in both the cases.

AUTHORS' CONTRIBUTION

- **Badaruddin Sahito and Javeria Qamar:** Conception, Data

collection, Drafting, Designing, Data interpretation and Critical revision.

- **Sajjad Ahmed and Muhammad Waqas Khan:** Suggested appraisal, Supervised, and Contributed equally to all tasks.

CONFLICT OF INTEREST

Declared none.

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