

Antero-Lateral Approach in a Huge Lipomatous Tumor of the Thigh -A Case Report and Review of Literature

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Abstract: A lipoma is a very common benign tumor known to occur in any part of the body. It is also known to increase to very large sizes. Large lipomatous growths of the thigh are known for malignant transformation. Investigative modalities such as magnetic resonance imaging (MRI), ultrasound scan, computed tomography scan and even plain radiograph help a great deal in their differential diagnosis; but the challenge that constantly faces the surgeon in a resource poor economy is the inability of the Patient to afford such investigations. Another challenge is encountered during the treatment as regards the surgical approach which will allow good access at the medial end of the tumour with careful considerations for the vessels. And in a resource poor economy where the patient cannot afford some investigations, the demand for magnetic resonance image becomes very farfetched. In this case, we present a 26 year old man who presented himself (in one of our frequent free medical outreaches to rural communities) with a huge upper anterior thigh mass for over 6 years which had continuously increase in size with associated pains and disfiguring appearance with social embarrassment. A plain radiograph showed a very huge mass extending to the anterior superior iliac spine and the lesser trochanter of the left femur.

Keywords: Lipoma, lipomatous, tumor, antero-lateral, thigh.

INTRODUCTION

Lipomas are mesenchymal tumours considered to be ‘universal tumors’ i.e they can occur in any part of the body where they are fat cells, particularly adipose tissues [1]. They are composed of lipocytes and are usually benign tumours. Lipomas occur in 2% of population and make up to 50% of all musculoskeletal soft tissue [2]. Malignant fibrous histiocytoma is the most common malignant soft tissue mass followed by liposarcoma which looks like lipoma on a computed tomography scan and magnetic resonance imaging [3] and the differentiation between lipoma and liposarcoma of low grade malignancy represents an important diagnostic problems because they require different treatment modality. Lipoma could be superficial or deep; superficial ones are more common[3]. The deep lipomas which are also called subfacial are classified into the following groups parosteal, interosseous, visceral and intermuscular and intra muscular. The muscular lipoma may be infiltrating [5].

The deep lipomas grow very large without detection because they often do not present with any clinical symptoms and deforms the surrounding tissues unlike the superficial ones which are usually circumscribed. Generally, lipomas are asymptomatic

unless when they compress neurovascular structures [6].

Lipomas are common in obese females in their fifth to seventh decades of life [6]. Though Weiss [7], reported equal frequency of solitary lipoma in males and females with multiple lipomas common in the males. The common sites of lipomas are the trunk, followed by the head and neck, and lower extremity [8].

CASE REPORT

A 26 year old man who presented himself (in one of our frequent free medical outreaches to rural communities) with a huge upper right anterior thigh mass for over 6 years which had continuously increase in size with associated Dull aching pains non-radiating but aggravated by walking appearance with social embarrassment. There was no history of trauma, chronic cough or associated weight loss. Due to the large size of the mass on the antero-lateral aspect of the thigh, patient felt embarrassed because of the prominent bulge in his trousers. Patient sought medical care in his rural community and some urban clinics in his locality were the size of the swelling made most clinicians to refer him to a tertiary health centre but had financial constraints. Patient presented at the rural Medical

outreach where he was seen and examined, physical examination revealed a large mass on the antero-lateral aspect of the right thigh, lobulated, minimally tender, measuring 30cm by 22cm in its widest diameter, firm, not attached to the skin but to the underlying muscles. Normal range of motion was observed on the hip. A plain radiograph showed a very huge mass extending to the anterior superior iliac spine and the lesser trochanter of the left femur. He could not afford MRI(which was not also available in that community).Patient had

excision done following anterior approach to the thigh and the mass was accessed deep in the anterior muscles of the thigh extending to the adductors, the femoral vessels were palpable close to the mass. With blunt dissection the mass was teased out from the muscles and avoided the vessels also ensuring complete excision to avoid recurrence. The mass was sent for histology and diagnosis of lipoma was made. Patient has been followed up for two years with no recurrence nor functional impairment in the affected lower limb.



Fig-1: Appearance at presentation



Fig-2: The antero-lateral approach

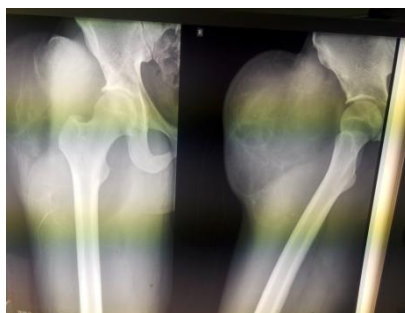


Fig-3: Xray shows the extents of the tumour



Fig-4: Delivery the mass via the wound



Fig-5: Mass completely excised

DISCUSSION

Intermuscular lipomas are rare, with incidences of 1.8%. After complete resection, there is a 1% recurrence rate compared with 19% recurrence rate of intramuscular lipoma [9]. Superficial lipomas are more common than deep ones [2, 3], but our case is a deep and very large intermuscular type buried between the rectus femoris and the Vastus intermedius muscles. Complete excision of these lipomas is quite challenging as the tumour is extensive involving the very sensitive neurovascular structures around the tumour. They have been described as being infiltrative [5] unlike the other lipomas in the upper limbs that are more likely to be encapsulated [10].

Radiography is still very important diagnostic modality which may reveal extent of tumour involvement such as periosteal reactions or destructions and even cartilaginous or osseous masses within the matrix but osseous architecture, soft tissue matrix, and subtle areas of mineralization or soft tissue gas are best assessed using the computer tomography [11]. Magnetic resonance imaging (MRI) further elaborates the diagnosis of this types of lipoma. However, this could not be readily available in a resource poor setting which we operated from in a rural free medical outreach.

This histology revealed an irregularly shaped fibro-fatty tissue measuring 20.0 X 15 X 14 cm with proliferating matured adipocytes having large residual nuclear with abundant clear cytoplasm and no atypical cells; a diagnosis of fibro-lipoma was made. This was a size beyond the documented MRI size for lipomas by

Terzioglu et al [5] of 10.0 X 5.0 X 3.0 or greater considered as giant lipoma with liposarcoma also considered as a differential diagnosis. Noninvasive and inexpensive tools which do not involve ionizing radiation such as the gray-scale ultrasound scan (US) integrated with color Doppler, power Doppler and spectral curve analysis are easily available.

For lesions whose origin and nature are not fully understood the use of ultrasound still remains the best initial diagnostic imaging modality of choice, for a possible US-guided needle biopsy [13] and for comparison with the outcome of contrast enhanced CT.

Treatment for this large size intermuscular lipoma is wide complete excision which follows established indications such as size greater than 5cm or tumour still growing, tumour in a subfacial location or clinical features such as pain, irregular and firm mass, suspicious find needle aspiration biopsy results and most times cosmetic considerations by the patient [12].

After excision recurrence is a concern for these deep intermuscular lipomas. A recurrence ranges from 3% to 62.5% according to Weiss [7]. Intramuscular is known to have a higher recurrence rate than intermuscular [9].

CONCLUSIONS

This was an unusual large right thigh mass presenting in a rural free medical outreach with no diagnostic modalities apart from the physical examination and the plain radiography which patient had at presentation. This case highlights the challenges

of management of this patient in a resource poor economy where the basic investigations cannot be done due to financial constraints and also the difficulties in approach to have complete excision of the tumour to avoid recurrence.

This case report described an adult male patient with an unusually large, deep, intermuscular lipoma in the anterior right thigh that evaded early diagnosis. The patient initially presented with pain most likely from pressure exerted on adjacent tissue by the large lipoma. His pain was another unusual presentation, as lipomas are typically asymptomatic until they grow to a considerable size. Subsequent to the diagnosis by MRI, excision was performed. Postoperative chiropractic treatment resolved the residual symptoms.

During examination and palpation of musculoskeletal soft tissues, chiropractors will likely encounter a range of superficial and deep soft tissue masses. The recognition of clinical signs of a superficial or deep lipoma and the use of magnetic resonance and sonographic imaging will assist clinicians in recognizing the diagnosis, allowing for optimal and timely treatment.

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