

Giant Lipoma of Thigh: A Case Report

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ABSTRACT

A lipoma is a benign tumor which can occur in any part of the body; it is very frequent and can reach a considerable size. Differentiation between lipoma and liposarcoma of low grade malignancy represents an important diagnostic problem, and valuable help in the differential diagnosis is provided by ultrasonography (US), magnetic resonance imaging (MRI), biopsy and/or modern immunohistochemistry. We report the case of a 12-year-old boy who was referred to our department due to the presence of a large mass growing on the lower part of left thigh; over 6 years it had steadily increased in size causing pain and functional impairment. US of the soft tissues and MRI scanning were performed. Musculoskeletal magnetic resonance imaging, however, revealed a gross expansive lesion closely connected to the distal part of the femur, suspicious of malignancy which was taken up for surgery.

Keywords: Giant lipoma, ultrasonography, MRI

INTRODUCTION

A lipoma is a benign mesenchymal neoplasm composed of mature fat cells or adipocytes, and commonly surrounded by a thin fibrous capsule^[1], which can occur in any part of the body where there are fat cells, particularly in the subcutaneous adipose tissue.

It is a single or multiple benign tumor consisting of fat globules; it is soft and of a rounded shape and can reach a considerable size^[1]. Lipomas of the extremities are usually painless and are most commonly found in the thighs and shoulders.^[4] The patients are usually in their fifth or sixth decade of life.^[2]

Multiple lipomas are more common in women and many are seen in a familial setting.^[2] Lipomas that are at least 10cm wide or weigh a minimum of 1000g are regarded as "giant" lipomas.^[2] The volume tends to increase with the increase in body weight, but it does not regress as a

consequence of weight loss.

Differentiation between lipoma and liposarcoma of low grade malignancy represents an important diagnostic problem^[2] as these lesions require different types of therapeutic management. Valuable help in the differential diagnosis is provided by computed tomography (CT), magnetic resonance imaging (MRI), biopsy and/or modern immunohistochemistry.^[3,6] We report the case of a giant lipoma measuring approximately 18 cm in diameter growing on the lower thigh of the left leg.

CASE REPORT

We report a case of a 12-year-old boy who was referred to our department due to the presence of a large mass which had occurred on the lower left thigh about 6 years earlier; it had progressively increased in size. The patient reported dull pain, functional impairment.

There was no other swelling in other parts of the body. He could not walk long distances due to the disproportionate weight of the limb with the mass. There was no preceding history of trauma, fever, or foreign body impaction. He was treated by the alternative medical practitioners with local herbs before presentation, with no positive response.

Physical examination:

12 year old boy neither pale nor jaundiced. The cardiovascular system was normal. The chest was clinically clear.

Musculoskeletal exam: A huge, globular, diffuse mass involving the anteromedial and lateral aspects of the distal 1/3rd of left thigh, measuring 18 x 14cm, with well-defined margins partly underneath muscles.[Fig:1] The mass was neither tender nor warm on palpation. It was attached to the underlying muscles but free from the overlying skin.

The mass was firm in consistency. The emptying, slipping, and compression signs were all negative. No bruit was heard over the mass. The right limb was grossly normal. A provisional diagnosis of left Thigh lipoma undergoing malignancy was made. The hematocrit was 32%. Serum electrolytes, urea, fasting blood glucose, liver function tests, and electrocardiography were normal.

Imaging:

X ray of left femur- soft tissue swelling in the distal 1/3rd of left thigh

Ultrasonography (US) was performed and integrated with MRI. Ultrasound of left thigh showed a large mass of markedly lobulated heterogeneously, hyperechoic mass measuring 18 x 15 cms with linear fat strands noted in intramuscular planes of anterior medial and lateral compartment of distal 1/3rd of left thigh.

Magnetic Resonance Imaging (MRI) scan revealed a well-defined large lobulated mass lesion measuring 18 x 15 cms which is hyperintense on T1, T2 suppressed on STIR with multiple T1, T2 hypo intenseseptae within the lesion noted in intramuscular planes of anterior, medial, and lateral compartment of distal 1/3rd of left thigh, the mass lesion displacing vessels and partly encircling the femur, however no evidence of encasement of vessels.[Fig: 2, 3]

No evidence of flow voids within the lesion. The femur was intact. The hip and knee joints were normal. The radiological diagnosis was a predominantly fatty tumor in keeping with large lipoma, and a chest radiograph was requested on account of this finding. The chest radiograph was normal.

The macroscopic examination of the specimen revealed a huge and irregular soft tissue mass measuring 18x15x6 cm [Fig: 5]. The combined weight of the tissues was 4.5 kg with dimensions of 18x15x6 cm. The cut sections showed homogeneous yellowish soft lobules. Microscopically, the histological sections showed thinly encapsulated sheets of mature adipocytes arranged in lobules. Lipocytes of various sizes were also present. The overall features were compatible with Giant lipoma. He made remarkable progress and was discharged home after 3 weeks of hospital admission.

Differential Diagnosis:

Gaint Lipoma, Sarcoma, Gaint Lipofibroma, Liposarcoma

Management:

During surgery the lipoma was found to be extending in between muscles and into other compartments and densely merging with the periosteum of the femur. With meticulous dissection total mass was excised by retracting, cutting muscles, hemostasis secured and suction drain was kept. Specimen sent for histopathologic investigations [Fig: 4].

DISCUSSION

The locations and sizes of giant lipomas have been well described.^[2,3,5,7] Giant lipomas may exert pressure effect on neighboring vital structures on account of their size, cause functional limitations, lymphedema, pain or nerve compression syndromes.^[2]

Lipomas can also cause meralgiaparesthetica (pain or dyesthesia in the lateral thigh caused by entrapment of the lateral femoral cutaneous nerve underneath the inguinal ligament).^[8] Other features and complications of giant lipomas are dragging sensation, bleeding from the site of ulceration, and thrombophlebitis.^[6,9]

The diagnosis of lipomas is expedited by MRI.^[4] Superficial lipomas may be intermuscular or intramuscular. The MRI findings of intramuscular lipomas varies from a small, single and homogeneous mass identical to ordinary (superficial) lipoma, to a large, in homogeneous lesion with an infiltrative margin.^[4]

Meticulous assessment of the margins and internal characteristics on MRI can be a useful aid in further distinguishing between lipoma and well-differentiated liposarcoma.^[5] It had been suspected that Liposarcoma should be a differential diagnosis of giant lipoma.^[5] Fine needle aspiration cytology (FNAC) has been proposed as an alternative to excisional biopsy but this is wholly unreliable.^[5]



Fig:1 Giant Lipoma of left thigh

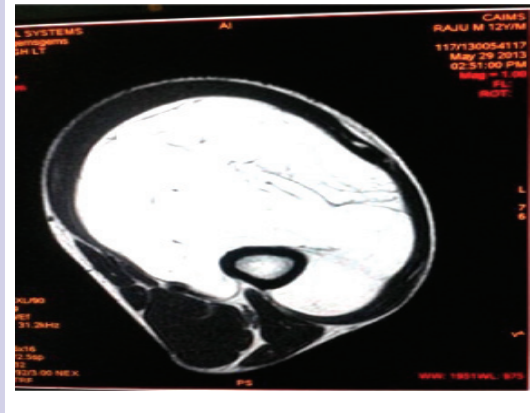


Fig: 2 MRI Left thigh Axial view

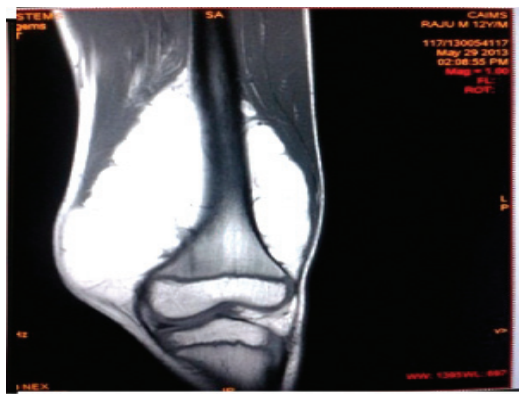


Fig:3 MRI Left thigh sagittal view

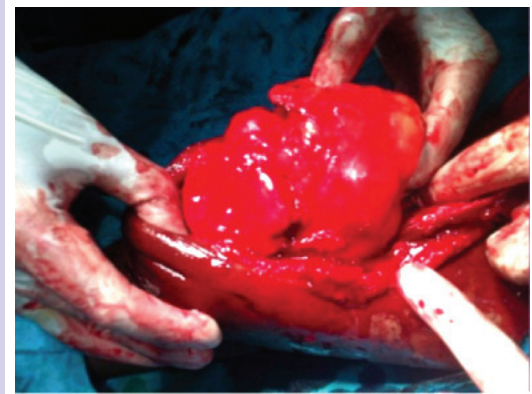


Fig:4 Delivering the lipoma

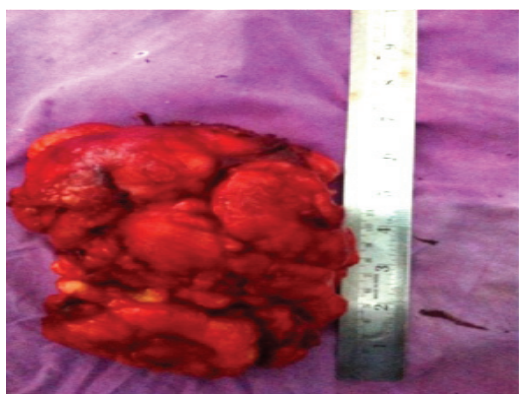


Fig:5 Lipoma measuring 18cm

CONCLUSION

The treatment for giant diffuse lipoma is completely excised from various compartments safe guarding the vessels and nerves. This lipoma was diffuse without capsule and clear cut margins. Patient recovered uneventfully. Specimen sent for histopathological examination. No malignant changes were found.

CONFLICT OF INTEREST :

The authors declared no conflict of interest.

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