



Giant Intramuscular Lipoma of Thigh: A Rare Entity

KEYWORDS

giantlipoma, intramuscular

Dr. J.P.S. SHAKYA

 ASSISTANT PROFESSOR,
DEPARTMENT OF SURGERY, S.N.
MEDICAL COLLEGE, AGRA

**Dr. AVANISH KUMAR
SAXENA**

 ASSOCIATE PROFESSOR,
DEPARTMENT OF SURGERY, S.N.
MEDICAL COLLEGE, AGRA

**DR VARUN KUMAR
AGARWAL**

 JUNIOR RESIDENT , DEPARTMENT
OF SURGERY , S.N. MEDICAL
COLLEGE, AGRA

DR NITIKA MITTAL

 JUNIOR RESIDENT , DEPARTMENT OF
ANAESTHESIA, S.N. MEDICAL COLLEGE, AGRA

DR MAYANKAGARWAL

 JUNIOR RESIDENT , DEPARTMENT OF SURGERY,
S.N. MEDICAL COLLEGE, AGRA

ABSTRACT Lipomas are the most common soft tissue tumors with a prevalence rate of 2.1 per 1,000 people¹. They are usually located in subcuticular areas; and deep location is very rare as well as the distal and intramuscular locations. We report the case of a 35-year-old man who was referred to our department due to the presence of a large mass growing on the upper thigh of the right leg; over 3 years it had steadily increased in size causing pain while rising from bed and on standing. US of the soft tissues and MRI scanning were performed which suggest it was a giant intramuscular lipoma, the mass was excised and densitometric values of the mass suggested adipose tissue, which was subsequently confirmed by biopsy

INTRODUCTION

Lipomas are benign tumors of mesenchymal origin composed of mature lipocytes² and may be localized in any region of the body, superficial or deep³. Generally, lipomas are subcutaneous, small, multiple and weigh only a few grams⁴, their preferable locations being the thigh, shoulder and trunk. However, a small number of lipomas may also be subfascial and further classified as parosteal, interosseous or visceral, as well as infiltrating lipomas⁵, including inter- and intramuscular lipomas, with an estimated incidence of 1.8 and 0.3%, respectively⁶. Intermuscular lipomas are thought to arise from the intermuscular septa and to enlarge between muscle bundles, while the lesions are usually well-circumscribed and easily separated during surgery. Intramuscular lipomas, however, arise between muscle fibres, pass through the intermuscular septa and infiltrate the surrounding tissues, rendering removal of the lesion from the nearby muscles difficult⁷.

Liposarcomas are malignant soft tissue tumours reported in radiological as well as histological findings to comprise 7–27% of the soft tissue sarcomas⁸, and be able to mimic inter- and intramuscular lipomas, rendering the diagnosis and choice of treatment difficult⁹.

CASE PRESENTATION

A 35-year-old male patient was treated in our outpatient clinic with a complaint of swelling in right thigh from last three years. The swelling was about 1*1 cm three yrs. back which progressively increases in size for which patient did not seek for medical treatment, until the patient had difficulty in rising from bed and in standing from last 3 months. Physical examination showed swelling was globular in shape, extending from inguinal crease to junction of upper and middle third of thigh. Size of swelling was 21*17 in maximum diameter with smooth-surfaced, soft consistency, immobile, well defined edges, non-pulsatile with increased skin tension and mild tenderness. The laboratory examinations were normal. The MRI findings suggest that

there is evidence of well-defined lobulated soft tissue mass seen involving anteromedial aspect of groin and upper thigh region. Adductor and pectinius muscles were also involved, and it measures 18.17 cm * 12.87 cm in coronal plane and 14.57 cm * 12.32 cm in axial plane.

The mass was excised with capsular structures. The pathological examination, confirmed the diagnosis as intramuscular lipoma. There were no infiltration, necrosis, fibrosis, pleomorphism; and also cells were not aggressive and atypical.

DISCUSSION

Intermuscular lipomas are rare, with an incidence of 1.8%. After complete resection, there is a 1% recurrence rate compared with a 19% recurrence rate of intramuscular lipoma. Intramuscular lipomas are benign mass; but it can be confused as a malignant tumor because of the infiltration¹⁰. The most common locations of lipomas, in decreasing order are thigh, shoulder, arm, trunk muscles¹¹.

Paget reported the first intramuscular lipoma in the trapezius muscle in 1856, initially¹². Gold and Oppenheim reported disabling arm pain and paresthesias associated with an intermuscular lipoma of the forearm¹³. Irritation of an intimately related nerve was the suspected cause of symptoms.

Leffert's series of 141 upper extremity lipomas included 26 causing pain and 6 causing nerve compression, but the number of deep lipomas was not mentioned¹⁴. Bjerregaard et al reported that one of his 12 patients with deep lipomas of the thigh had pain sufficient to inhibit function of the leg, and Warner et al described two cases of shoulder pain related to IM lipomas of the deltoid muscles¹⁵. There was no significant pain in this patient.

To investigate intramuscular giant lipoma, computerized tomography can assign location and invasion of tumor well; and it can make differential diagnosis from other malignant

tumors. But MRI is more specific than computerized tomography in the differential diagnosis of benign tumor; especially regarding diffuse T1 intensity.. IM lipomas infiltrate skeletal muscle and may locally recur if they are not completely excised. The magnetic resonance features of these tumors have been reported and can be helpful in distinguishing benign lipomas from malignant liposarcomas.

Surgery, however, is often needed to confirm the benign nature of these growths, and extensive resection may be necessary to avoid recurrence. Following excision, the recurrence rate of intermuscular lipoma was described as modest, with the lowest rate at 3% and the highest at 62.5%¹⁶, which was most likely due to incomplete surgical excision. Thus, the possibility of recurrence after long lipoma-free intervals is probable, while an extended period of long-term follow-up is mandatory.

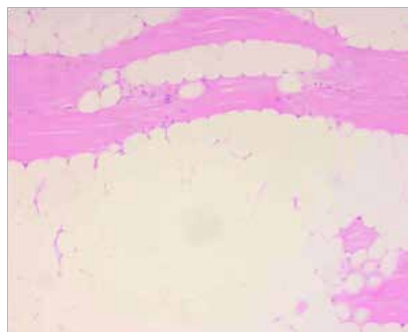
After surgical excision, the most important step in the treatment is the excisional biopsy and pathological confirmation. Biopsy histological examination of IM lipomas can show infiltration of skeletal muscles, with strips of preserved muscle fibers traversing adipose tissue. This appearance is indicative of a benign neoplasm of fat tissue (8).. Intramuscular lipoma is characterised by in vacuolized lipocytes that does not demonstrate pleomorphism. Multivacuolized lipoblasts are not found in the lipocytes instead they are infiltrated muscle fibres. In the tumoral stroma, fibrous tissue can appear in different ratios; and it is localized peripherally. Degenerations are common in the infiltrated muscles..

Infiltration of tumor and age of the patient are important factors. Chronic pain, numbness, hypoesthesia, paraesthesia, gait abnormality are general complications that must be checked out after operation. As a result, intramuscular lipomas must be in the list of the differential diagnosis of deep located masses and full capsular resection must be applied due to the risk of recurrence. Clinical and laboratory follow up must be applied seriously for detail evaluation.

CONCLUSION

Intermuscular lipomas are rare benign tumors, with giant lesions being even more infrequent, and are generally presented with painless mass or swelling for years. It is important for clinicians to be aware of the infiltrating lipomas when dealing with deep-seated soft tissue masses. To make an accurate diagnosis, imaging techniques (ultrasonography, CT and MRI) may be helpful and useful, particularly when making differential diagnosis. Surgical removal is the treatment of choice providing a definite diagnosis, while a complete resection of the lesions is vital to avoid recurrences.

Intramuscular lipoma specimen with muscle atrophy



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