

Giant intramuscular lipoma of the thigh: a case report

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Case Report

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Abstract

Giant lipomas are uncommon benign adipocytic tumours that may present diagnostic and surgical challenges when they are large or deep-seated. A 42-year-old man presented with a painless, gradually enlarging swelling over the posterior aspect of the right thigh for 3 years. Ultrasonography demonstrated a large intermuscular fatty lesion, while MRI showed an inter- and intramuscular lipoma measuring 23.3 × 10.5 × 10.17 cm, predominantly involving the adductor magnus, with displacement of the biceps femoris and abutment and displacement of the sciatic nerve while maintaining a fat plane. The lesion was completely excised through an elliptical posterior-thigh incision. Histopathological examination demonstrated well-encapsulated lobules of mature adipocytes, confirming a benign lipoma. This case highlights the importance of careful imaging assessment and surgical planning for large deep-seated lipomas of the thigh.

BACKGROUND

Lipomas are common benign soft-tissue tumours composed of mature adipocytes. Most are small, superficial and asymptomatic. Giant lipomas are uncommon and are generally defined as lesions measuring at least 10 cm in one dimension or weighing more than 1000 g. Large or deep lesions may produce mass effect and can pose diagnostic and operative challenges because of their relationship with adjacent muscles and neurovascular structures.

This case is noteworthy because of the considerable size and inter- and intramuscular location of the lesion, together with its close relationship to the sciatic nerve. The case also demonstrates the value of MRI in defining anatomical extent and supporting safe operative planning.

CASE PRESENTATION

A 42-year-old man presented to the surgery department with a swelling over the posterior aspect of the right thigh that had been present for 3 years. The swelling gradually increased in size during the first 2 years and remained apparently static during the preceding year. It was painless and was not associated with other symptoms. There was no history of trauma, and the patient reported no functional limitation, including difficulty with daily activities or postural disturbances.

On examination, the swelling measured approximately 15 × 10 cm. It was non-tender, well-circumscribed and mobile. Hip and knee range of motion was preserved. The patient had a history of bilateral varicose veins and had previously undergone radiofrequency ablation and stab avulsion under general anaesthesia on the right side 4 years earlier; the left side had not been treated.

INVESTIGATIONS

Ultrasonography demonstrated a well-defined isoechoic lesion measuring 15.5 × 9.6 cm with multiple echogenic striations in the posterolateral aspect of the right thigh. The lesion was located in the

intermuscular plane and showed no internal vascularity, suggesting a large lipoma.

MRI of the right thigh demonstrated an inter- and intramuscular lipomatous lesion measuring $23.3 \times 10.5 \times 10.17$ cm (craniocaudal $\times$ transverse $\times$ anteroposterior). The lesion was predominantly located within the adductor magnus and contained multiple linear septa. It displaced the biceps femoris and abutted and displaced the sciatic nerve; however, the intervening fat plane was maintained.

Lipomas are common benign soft-tissue tumours composed of mature adipocytes. Most are small, superficial and asymptomatic [1, 5]. Giant lipomas are uncommon and are generally defined as lesions measuring at least 10 cm in one dimension or weighing more than 1000 g [2, 3]. Large or deep lesions may produce mass effect and can pose diagnostic and operative challenges because of their relationship with adjacent muscles and neurovascular structures [4].

DIFFERENTIAL DIAGNOSIS

The differential diagnosis of a large deep fatty thigh mass includes a benign lipoma and atypical lipomatous tumor/ well-differentiated liposarcoma. Other soft-tissue neoplasms may also enter the differential diagnosis depending on the clinical and MRI findings. In this case, the clinical course, predominantly fatty appearance on imaging and final histopathological findings supported the diagnosis of a benign lipoma.

TREATMENT

Complete surgical excision was performed through an elliptical incision over the posterior aspect of the thigh. The capsule was identified and dissection was performed along the tissue planes. Bleeding vessels were ligated and cauterised. The tumour was removed intact in a single piece. A negative-pressure suction drain was placed to manage the postoperative dead space.

This case is noteworthy because of the considerable size and inter- and intramuscular location of the lesion, together with its close relationship to the sciatic nerve. The case also demonstrates the value of MRI in defining anatomical extent and supporting safe operative planning [4, 5].

OUTCOME AND FOLLOW-UP

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Patient was managed in surgical ward postoperatively for 2 days. Drain removed and discharged. There was no functional limitation. He was later followed up in OPD. Wound was healthy with active movement. Histopathological examination of the excised lesion demonstrated well-encapsulated lobules composed of uniformly sized mature adipocytes, consistent with a benign lipoma. The patient was concerned about the gradually enlarging swelling in his right thigh, although it was painless and did not cause functional limitation. He took medical attention for same. Management plan was discussed

and was willing to undergo surgical excision. Following surgery, he reported no functional limitation and improvement in symptoms.

DISCUSSION

Giant lipomas are uncommon and may occur in several anatomical locations, including the thigh, buttocks, scapular region and abdomen. Their large size and deep location may create diagnostic uncertainty and increase the complexity of surgical excision [6].

In the present case, the absence of pain or functional limitation contrasted with the considerable size and deep extension of the lesion. MRI was particularly useful in defining the lesion's extent and its relationship with surrounding muscles and the sciatic nerve. The preservation of a fat plane between the lesion and the sciatic nerve was relevant to operative planning.

Large or deep soft-tissue masses warrant careful assessment because benign lipomas may clinically and radiologically overlap with other adipocytic tumours [8]. Histopathological examination remains important when a definitive diagnosis is required. In this case, the finding of well-encapsulated lobules of mature adipocytes confirmed a benign lipoma.

Complete excision is an appropriate treatment for large or deep lesions, particularly when there is diagnostic uncertainty or when the lesion is likely to cause symptoms or functional problems [7]. In this patient, complete excision was achieved without reported intraoperative complications.

However, the main limitation of this case is the limited duration of follow-up, which precludes assessment of long-term outcomes and possible recurrence after excision.

LEARNING POINTS

- Large, deep-seated thigh masses should undergo careful clinical and radiological assessment before surgery.
- MRI is useful for defining the extent of a giant lipoma and its relationship with adjacent muscles and neurovascular structures, facilitating operative planning.
- Complete excision provides definitive histopathological diagnosis and treatment for a large or deep-seated lipoma when clinically appropriate.

Declarations

Ethics and consent to participate

Ethical approval

was not required for this single-patient case report in accordance with the policies of the authors' institution. Written informed consent was obtained from the patient for participation in this case report.

Consent to publish

Written informed consent was obtained from the patient for publication of this case report and any accompanying clinical images. The patient was informed that the case details would be published in an anonymized form.

Competing interests

The authors declare that they have no competing interests.

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Author Contribution

Author 1: Case management, collection and interpretation of data, literature review, writing the manuscript
Author 2: Review of manuscript

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Availability of data and materials

All data generated or analyzed during this case report are included in this published article. Further information is available from the corresponding author on reasonable request, subject to patient confidentiality.

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Figures

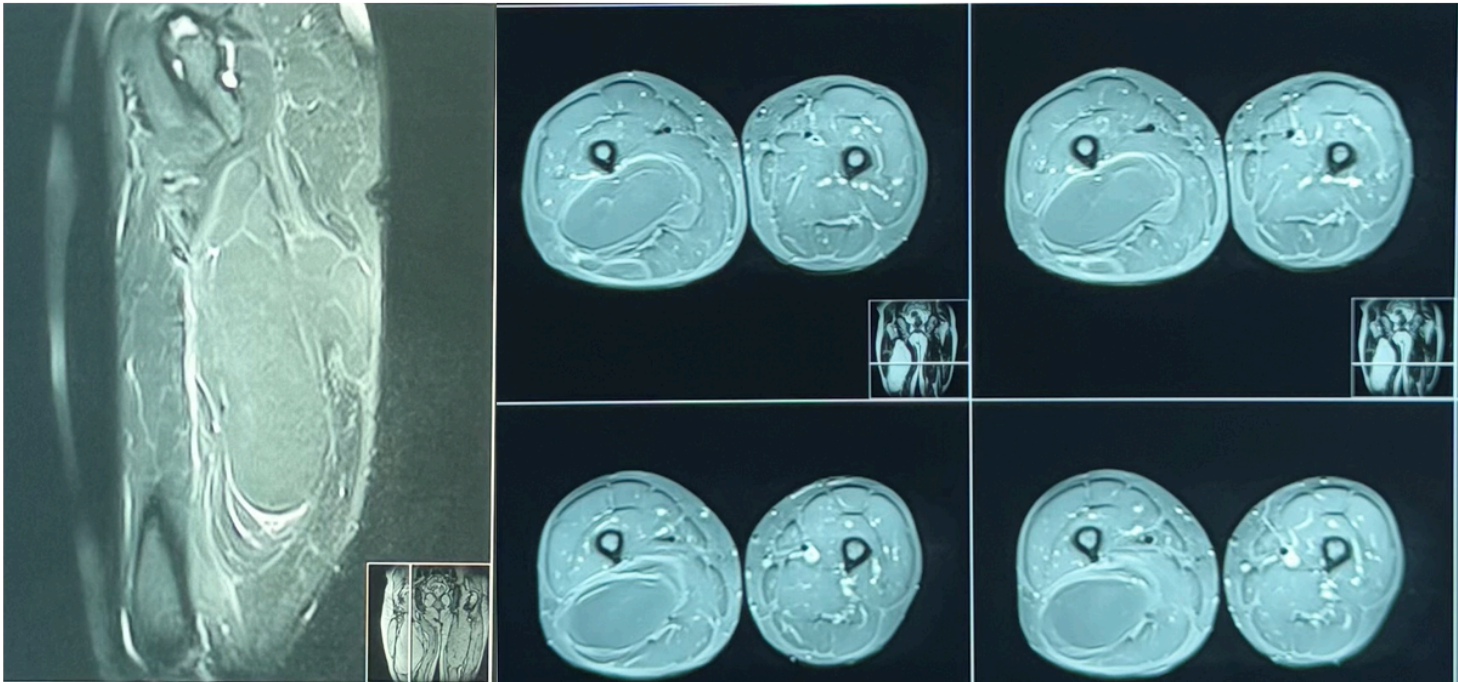


Figure 1

Unnumbered image in the INVESTIGATIONS section.

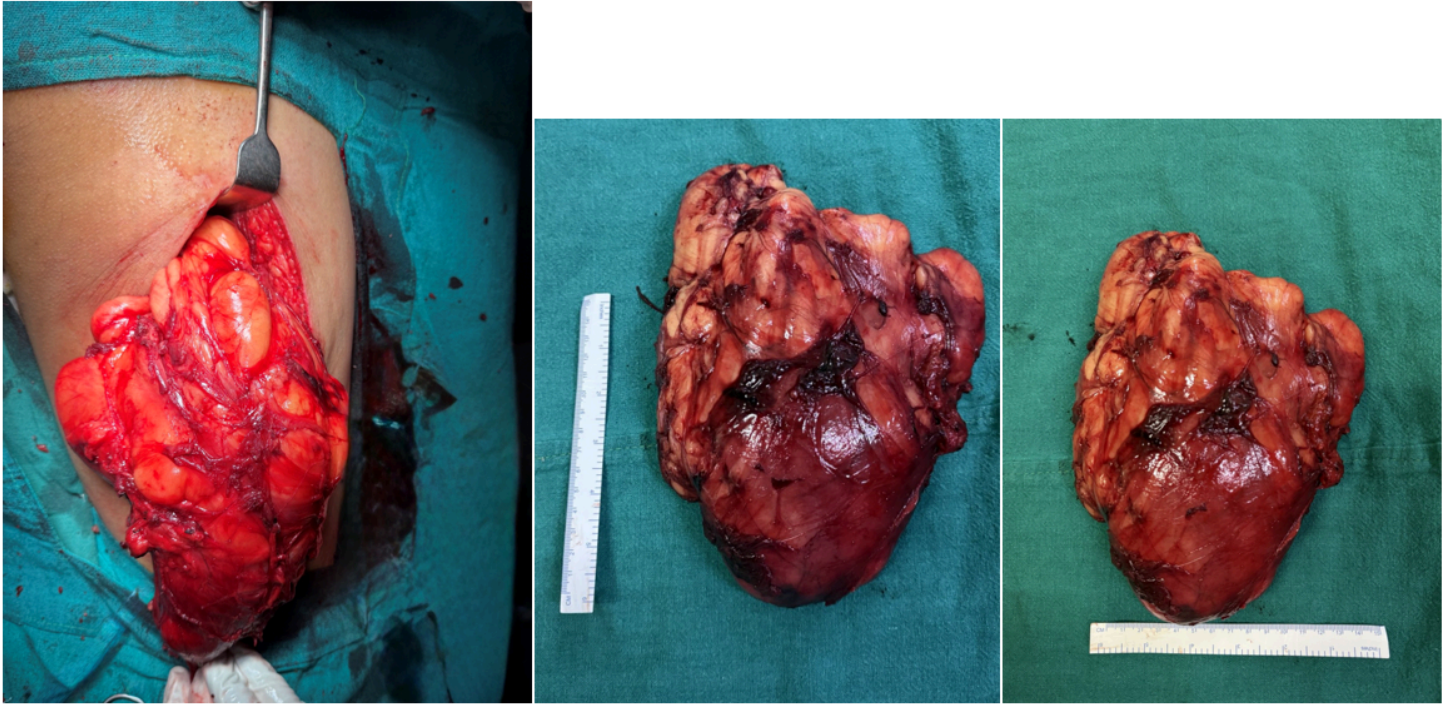


Figure 2

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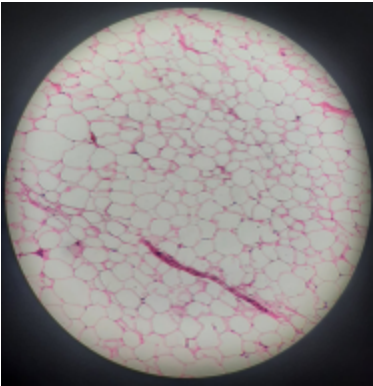


Figure 3

Unnumbered image in the **OUTCOME AND FOLLOW-UP** section.