



Case report

Giant lipoma of the back affecting quality of life

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HIGHLIGHTS

- The most common mesenchymal neoplasms in humans are lipomas.
- Lipomas are typically slow-growing tumours; only a few grow to an exceptionally large size.
- The effects of giant lipomas on daily living and quality of life should be evaluated as an indication for surgery.

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ABSTRACT

Lipomas are benign tumours composed of adipose tissue. They may be localized in almost all body parts and may be in a giant form. Some of these giant lipomas may transform malignancy and cause problems in daily living and deteriorate quality of life. Mass localization also restrict body functions. In the present study, a 72-year-old man who presented with a mass enlarged in a time period of two years and because of this could not lie in the supine position, sit in an erect position and dress easily, go outside because of his physical appearance. With surgical treatment a $38 \times 22 \times 21$ cm mass weighing 3575 g was successfully resected. Postoperative early phase complications did not occur. During 48 months of post-operative period, any recurrence was not detected and the patient was free of all his complaints. Cosmetic and functional results of the surgery and patient satisfaction were excellent. After surgery patient's quality of life was improved and restriction of body function was disappeared.

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1. Introduction

Among the most common mesenchymal neoplasms in humans are lipomas, which occur more frequently in mature adults aged 40–60 years [1]. Lipomas can arise from any part of the body where normal fat is present. They occur regularly on the back of the neck, but are seldom found on the face, scalp, or sternal region [2–7]. Most lipomas are small, weighing only a few grams and measuring less than 2×2 cm. They usually remain asymptomatic and present simply as a localised mass that causes cosmetic concerns for the patient.

Lipomas are typically slow-growing tumours; only a few grow to an exceptionally large size. A giant lipoma was defined by Sanchez et al. [8] as a lesion that measures at least 10 cm in one dimension or weighs a minimum of 1000 g. In this report, we present a case

involving a patient with a giant lipoma that caused cosmetically unacceptable gibbosity, difficulty with sitting in an erect position and getting dressed, avoidance of going outside because of cosmetic concerns, and the inability to lie in the supine position.

2. Case presentation

A 72-year-old man presented with a complaint of a gibbosity that prevented him from lying in the supine position, caused difficulty while sitting in an erect position and dressing, and led to avoidance of going outside because of his physical appearance. He had been aware of the lipoma for 10 years; however, the lesion had enlarged rapidly over a period of 2 years. Our patient had no relevant family history, systemic disease, or specific predisposing factors. A physical examination revealed a mobile mass with distinct contours and thickened skin overlying its apex; it was localised exclusively in the mid-thoracic region, but extended from the cervical region to the upper lumbar region (Fig. 1a). No deficits were detected on neurological examination. The patient's body mass index was 29.4 kg/m^2 (height: 170 cm, weight: 85 kg). Ultrasound

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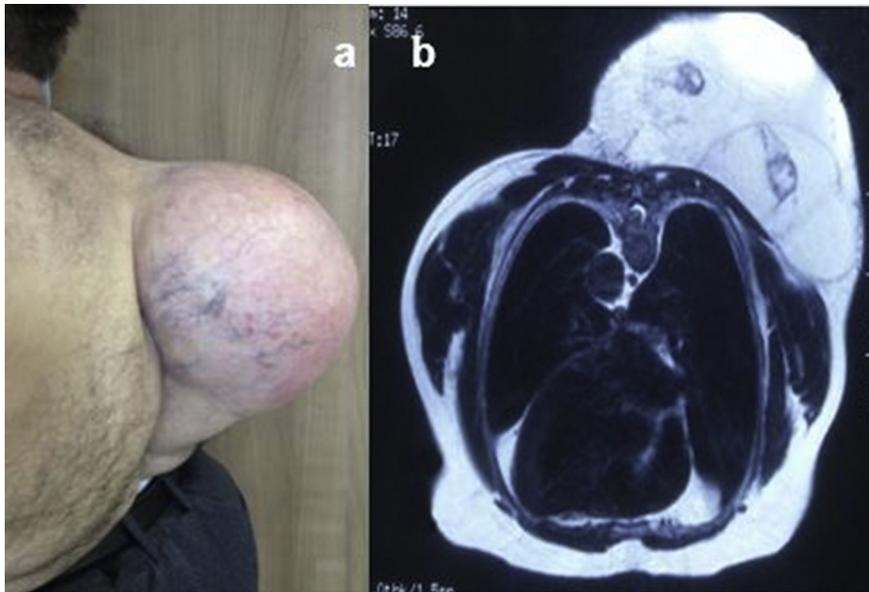


Fig. 1. (a) Lateral view of the patient with a mobile mass localised on the mid-thoracic region preoperatively. (b) Mass on axial MRI images.

(US) examination revealed a lipoma-like mass that measured $34 \times 20 \times 17$ cm and was sharply contoured, homogenous, and isoechoic with subcutaneous fat tissue and that possibly contained fat necrosis related to two calcifications (3 and 2 cm in size, respectively). Magnetic resonance imaging (MRI) confirmed that the mass was $34 \times 20 \times 17$ cm in size, hyperintense on T2-weighted (T2W) and T1W transmissible spongiform encephalopathy (TSE) images, hypointense on fat-saturated TSE images, and exhibited no contrast enhancement on T1W TSE images after intravenous (IV) contrast infusion. The mass also had a signal characterisation similar to the subcutaneous fat tissue and necrotic fat tissue related to the two calcifications (3×3 cm and 2×2 cm in size, hypointense on T1W and T2W TSE images, and without contrast enhancement after IV contrast infusion). It was a fibrous septated structure with no evidence of malignant transformation or paravertebral intramuscular expansion and was detected at the posterior of the left hemithorax between T1 and T12 (Fig. 1b). The preoperative diagnosis was a lipoma. The patient was prepared for surgery while in

the prone position. The patient did not receive local anaesthesia. A fusiform incision that circumscribed the overlying thickened skin and continued longitudinally to the terminal ends was performed.



Fig. 2. Excised specimen. Weight, 3575 g; size, $38 \times 22 \times 21$ cm.



Fig. 3. Postoperative lateral view of the patient.

Table 1

Largest giant lipomas located on the back in the English-language literature (>10 cm and >1000 g).

Author	Size (cm)	Weight (g)	Location
Brandler TI [2]	–	22,700	Scapula
Martin HS [3]	–	12,500	Neck and upper back
Bissel AH [4]	–	9000	Upper back
Silistre OK [5]	25 × 35	6450	Posterior cervical/interscapular area
Aydođdu E [6]	34 × 31 × 25	1950	Back
Terzioglu A [7]	19 × 9 × 5	1135	Back

The neoplastic mass and its overlying thickened skin were excised totally from posterior of thoracolumbar area by using surgical blade for skin incision and monopolar electrocautery for mass excision with haemostasis control. A Hemovac drain was inserted at the end of surgery. The patient was mobilised on the first postoperative day. For postoperative analgesia, the patient received acetaminophen (1000 mg every 8 h as an IV infusion) and diclofenac sodium (75 mg every 12 h as an intramuscular injection). The Hemovac drain was removed 24 h postoperatively, and the contents measured 320 ml. One unit of erythrocyte suspension was infused postoperatively. No haematomas, incision complications, infection, or neurological complications were detected postoperatively. The patient was discharged on postoperative day 2. A specimen was sent for histopathological examination, and the results indicated a lipoma weighing 3575 g and measuring 38 × 22 × 21 cm (Fig. 2). At the final follow-up (48 months after treatment), the patient was found to be free from all complaints and very satisfied. He was able to lie in the supine position, sit in an upright position, and dress himself without difficulty, and he was satisfied with his appearance because of the resolution of the gibbosity (Fig. 3). He answered, “yes” to the question: Would you like to receive the same treatment again for this problem?

3. Discussion

In the literature, giant lipomas have been described as measuring up to 10 cm and weighing up to 1000 g [6]. Also in literature giant lipoma localizations were reported as back and posterior cervical area (Table 1) [2–7]. The largest lipoma in the English-language literature was reported in 1894; it weighed 22.7 kg and was located on the left scapula of a young man [2]. The present case is the largest giant lipoma reported in last decade and the fifth largest giant lipoma in the English-language literature, weighing 3575 g and measuring 38 × 22 × 21 cm.

The exact aetiology of lipomas is unknown. Subcutaneous lipomas are associated with hypercholesterolaemia [9,10], obesity [11,12], and trauma [13,14]. Trauma reportedly causes lipomas due to rupture of the fibrous septae, which induces adipose tissue migration and proliferation. We did not detect hypercholesterolaemia, an aetiology of trauma, or obesity in the present case.

Radiologic evaluation of lipomas is useful for diagnosis and surgical planning. Plain radiographs may demonstrate lucency consistent with fat. US, computed tomography, and MRI may elucidate further information [15]. In the present case, the benign nature of the lipoma was confirmed by US and MRI.

Giant lipomas are primarily a cosmetic problem [1]. They may also cause functional limitations because of their size and weight, or signs of compression may be present; however, this is unusual. A lipoma adjoining the motor nerve of an extremity can cause neuromuscular dysfunction [16,17]. In the present case, we found no complications related to the anatomic location. The patient requested cosmetic treatment for the unacceptable gibbosity; he was reluctant to go outdoors because of his physical appearance. However, he also experienced functional limitations such as

difficulty with dressing and sitting in an erect position and an inability to lie in the supine position.

The treatment of choice for lipomas is blunt dissection. Microscopically, it is not possible to distinguish lipomas from normal adipose tissue [18]. The transformation of a large lipoma (>10 cm) to a liposarcoma is rare [19]. Histopathological examination of large lipomas must be performed carefully to rule out malignancy. In the present case, the surgical treatment was successful in that it relieved all of the patient's complaints. Jones et al. stated specific criteria that would make a liposarcoma more likely size greater than 5 cm, deep to deep fascia, and irregularity, pain, thickened septae [20]. Fortunately in this case although mass size was greater than 5 cm mass was not localized deep of the deep fascia, and there was no irregularity and thickened septae. Additionally, histopathological diagnosis was consistent with lipoma.

4. Conclusions

Because we detected no aetiological or predisposing factors in the present case, further research is necessary to explain the underlying aetiology and genetics associated with giant lipomas. We consider that the effects of giant lipomas on daily living and quality of life should be evaluated as an indication for surgery, in addition to the lipoma's anatomic location, size, and risk of malignant transformation.

Ethical approval

Case Report, there is no ethical committee approval.

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Author contribution

OG; Writer, Surgeon.
SM; Surgeon.
MM; Study design.

Conflicts of interest disclosure

The authors declare no conflicts of interest.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Research registry

Our manuscript is about case report not a research study.

Guarantor

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The English in this document has been checked by at least two professional editors of Textcheck (<http://www.textcheck.com/>) both native speakers of English.

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