



A Rare Case of Intermuscular Lipoma in the Neck

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ARTICLE INFO	SUMMARY
Published Online: 25 October 2018 Corresponding Author: Charles Malcolm Rees	Deep seated lipomas are a rare entity in the literature with the intermuscular lipomas accounting for less than 2% of all benign lipomas. A case of a large lipoma in the left posterior cervical triangle is described with emphasis in the preoperative assessment of neck lumps and the surgical technique and possible complications of such procedures.
KEYWORDS: Takayasu Arteritis, Renal Hypertension, Young Age.	

Introduction

Lipomas are benign mesenchymal tumours formed from the overproduction of mature adipose tissue. They are the most common form of soft tissue neoplasm and traditionally arise within the upper back, abdomen and the limbs.¹ The manifestation of lipomas within the head and neck is less common and has an incidence close to 13%.² Lipomas are classified into many different subtypes according to their clinical and histopathological features. The majority of lipomas are localized within the subcutaneous plane between the skin and the deep fascia.³ These superficial lipomas do not infiltrate adjacent tissues and are characteristically depicted as soft and mobile lumps on clinical examination.

In rarer instances lipomas may exist underneath the enclosing fascia. These deep seated lipomas can be subdivided into visceral, interosseous or parosteal; and also as being intramuscular or intermuscular.⁴ Intramuscular and intermuscular lipomas are exceedingly rare accounting for less than 2% of all benign lipomas with only a handful of cases ever been reported within the head and neck region.⁵ These lipomas are commonly referred to as infiltrating lipomas and are differentiated from one another according to whether they arise within the muscle or between them.

Intramuscular lipomas arise between muscle fibres and pass through the intermuscular septa to invade the surrounding tissues. Intermuscular lipomas arise within the intermuscular septa and expand amid adjacent muscle bundles.⁶ Lipomas are classically asymptomatic however they can produce symptoms if they continue to grow and lead to the compression of nearby neurovascular structures. As such deeper lipomas in particular may go unnoticed for many years before they enlarge sufficiently enough to become detectable.

The majority of superficial lipomas are diagnosed clinically via pathognomonic findings on clinical examination such as the presence of a soft non tender mobile mass. The diagnosis of deep intermuscular and intramuscular lipomas however poses greater diagnostic difficulty than their superficial counterparts.⁷ These deep lipomas often are not evident on clinical examination unless they have grown sufficiently to make them palpable or compress on local neurovascular structures resulting in motor dysfunction or nerve related symptoms. Lipomas that are present in the neck are often not deliberated within the preoperative differential diagnosis due to their considerable rarity in this location.

The differential diagnosis necessitates a great degree of suspicion. Differentials for lipoma in the neck include cyst, herniation of muscle, haematoma, cystic hygroma, sarcoma, fibrous myositis, enlarged lymph node and metastatic carcinoma. As such imaging modalities is a necessity in order to confirm or refute the diagnosis of an intramuscular or intermuscular lipoma. Ultrasound, computed tomography and magnetic resonance imaging are used to differentiate lipomas from other soft tissue neoplasms as well as provide information on tumour staging, tumour size and their relationship to surrounding structures to guide management appropriately.⁸

Case Presentation

A 35 year old male presented to the clinic with a six month history of a left sided neck lump. The lump was more prominent with abduction of the shoulder joint and from the lateral view (**figure 1**). He was otherwise fit and well with no other symptoms. On examination, a large soft mobile non-tender lump was palpable in the left posterior triangle of the neck. There was no cervical lymphadenopathy. On auscultation, no carotid bruit was noted. An ultrasound scan

confirmed the diagnosis of an intermuscular lipoma, which measured 67 x 42 x 12 mm(**figure 2**). Subsequently, in view of its size the patient underwent surgical excision of the lipoma under general anaesthetic.

Surgical Approach

The anatomical landmarks for this procedure are the boundaries of the posterior cervical triangle which is subdivided in the occipital triangle and the supraclavicular triangle. More precisely, the anterior aspect of the triangle is the posterior border of the sternocleidomastoid muscle, the posterior boundary of the triangle is the anterior border of the trapezius, the base is the middle one third of the clavicle and the roof is the superficial layer of the deep cervical fascia(**figure 3**). A linear incision was made along the long axis of the lump parallel to the relaxed skin tension lines of the neck. The lipoma was identified through careful dissection between the external jugular vein, the anterior border of the trapezius muscle and the anterior scalene muscle(**figure 4**). The spinal accessory nerve was visualised and preserved. The lipoma was delivered from its capsule and excised (**figure 5**). Meticulous haemostasis was achieved and the Valsalva maneuver was performed to exclude pneumothorax. The weight of the specimen was 32 g. The final confirmation was made with the histology of the specimen(**figure 6**).

Clinical Significance and Complications

The accessory nerve (CN XI) is particularly vulnerable to damage during head and neck surgery. Damage results in an inability to shrug the shoulders or raise the arm above the head, particularly due to compromised trapezius muscle innervation. The external jugular vein's superficial location within the posterior triangle also makes it vulnerable to injury. It is also the site of clinical examination of jugular venous pressure. The right atrial pressure is reflected in it because there are no valves in the entire course of this vein and is straight, therefore used to examine jugular venous pressure.

Discussion

Careful history taking and examination of the patient will determine the management of patients presenting with neck swellings. Red flags must be asked during the consultation. The entire spectrum of the differential diagnosis should be taken into account when dealing with such cases. More specifically, deep lipomas of the head and neck are assumed to be differentiated liposarcomas until proven otherwise. As

such intermuscular lipomas are treated with wide excision and then sent for histopathological evaluation to confirm the diagnosis and rule out malignancy.⁹ Possible complications of surgical excision include; damage to nearby local structures including nerve and vascular supply, blood loss, post-operative pain and incomplete removal of the tumour resulting in recurrence and requiring further surgical excision. A thorough pre-operative clinical, radiological and cytological examination must be taken beforehand in order to reduce the events of a recurrence due to incomplete tumour excision.^{1, 10}

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Figure 1. Pre-operative photographs of the lump in the left neck region. **A.** Left shoulder in resting position, **B.** Left shoulder in abduction, **C.** Lateral view.

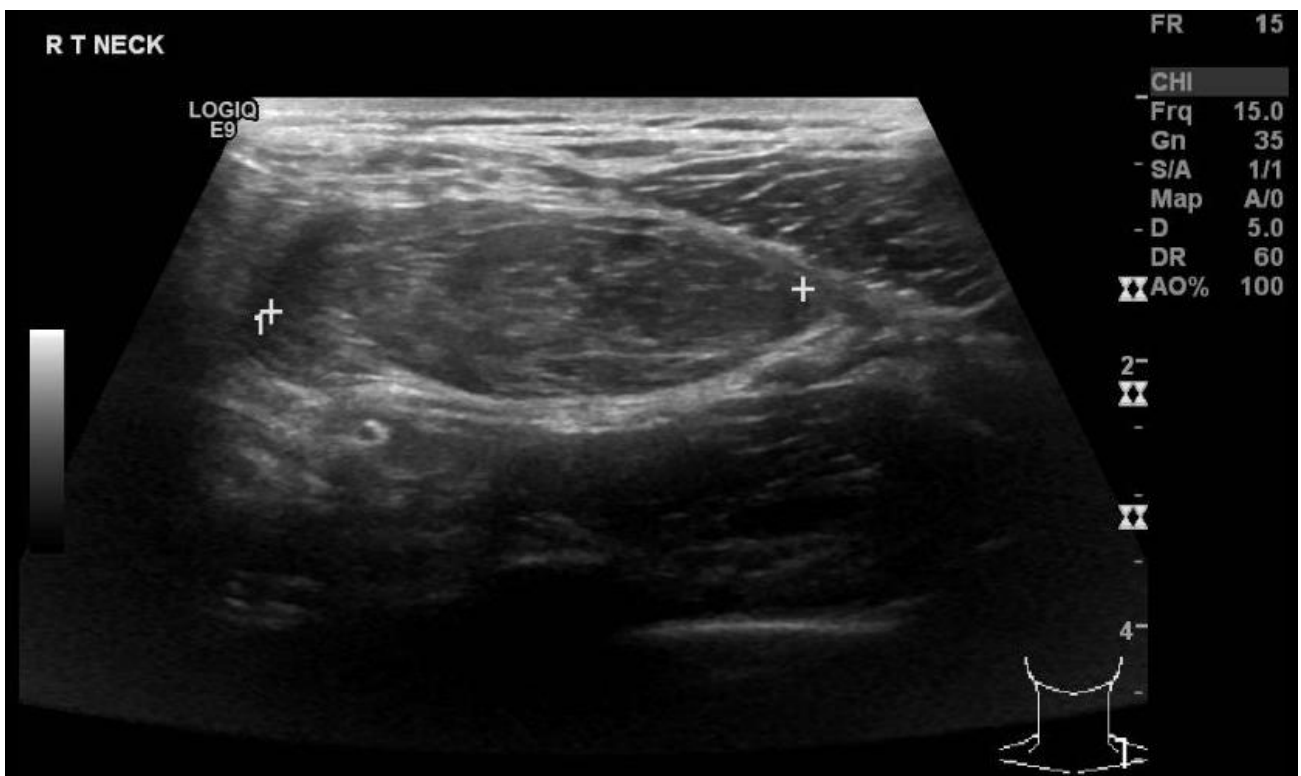


Figure 2. A. A well circumscribed ovoid echogenic striated non vascular lesion is seen between the trapezius and anterior scalene in the left lower neck. It measures 63x17mm,

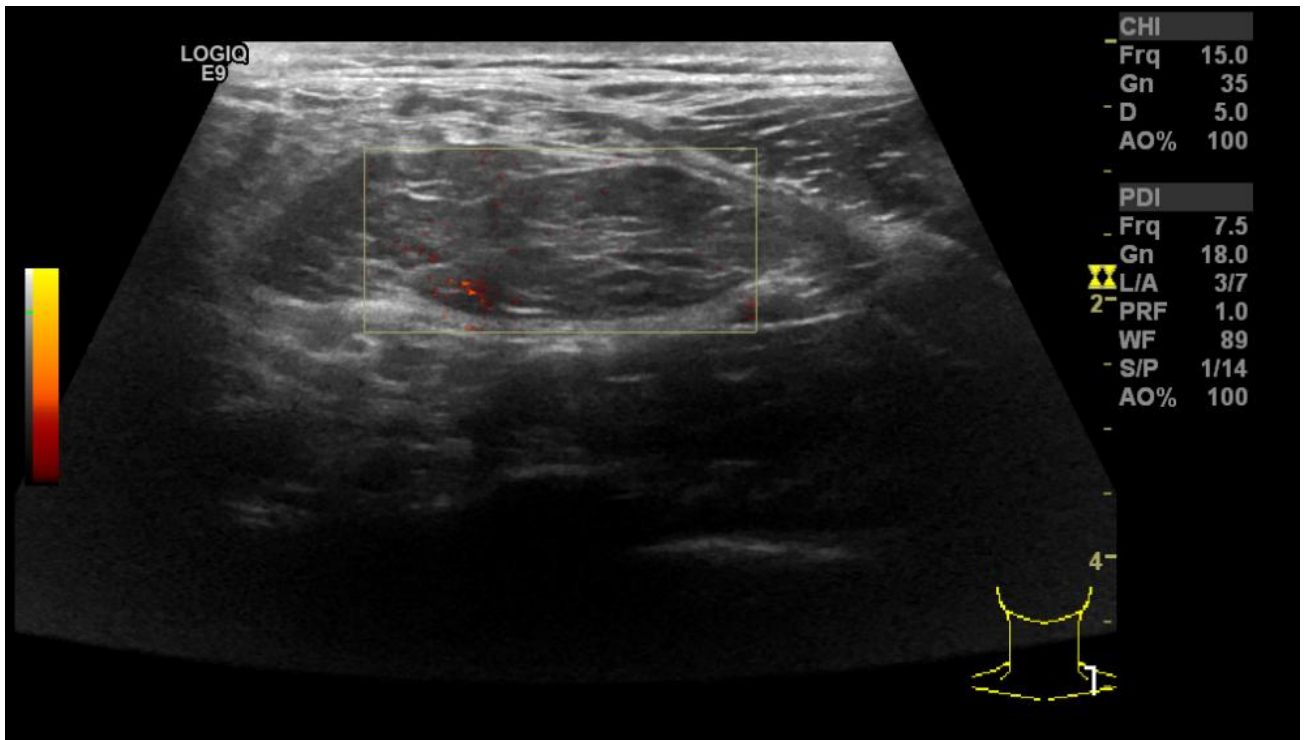


Figure 2. B. No internal vascularity in noted. Appearances suggest an intermuscular lipoma.

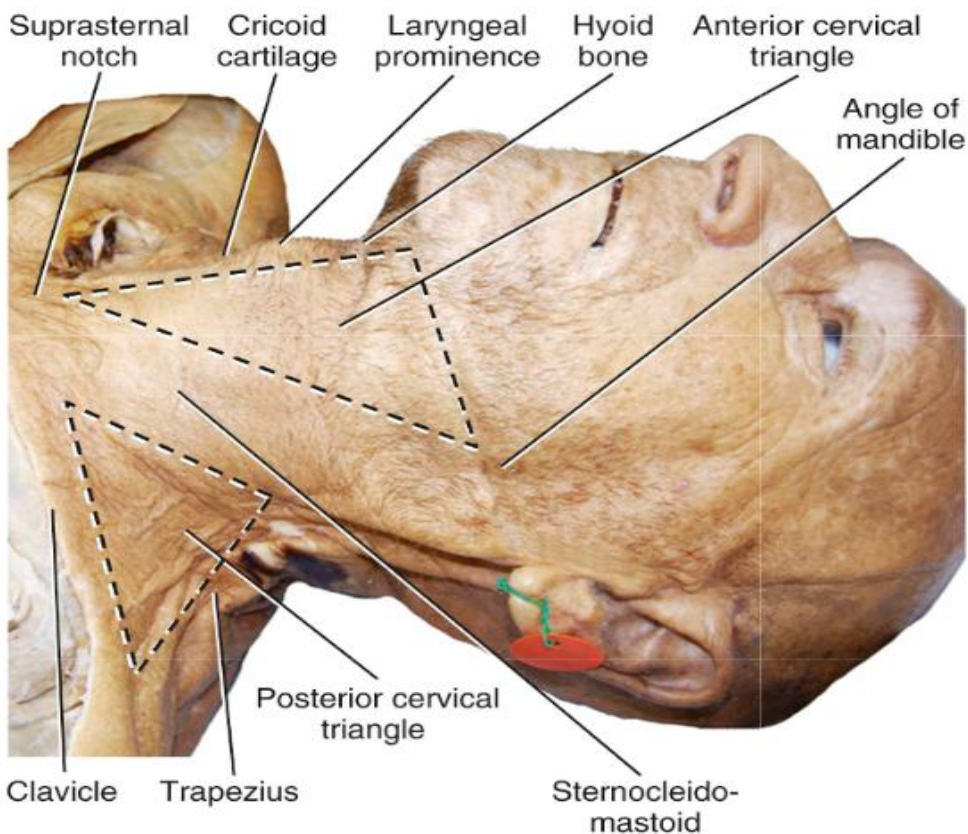


Figure 3. Anterolateral view of surface anatomy of the neck, highlighting hyoid bone, laryngeal prominence, sternal notch, angle of mandible, sternocleidomastoid muscle, and anterior and posterior triangles of the neck. (Gray’s clinical photographic dissector of the human body)

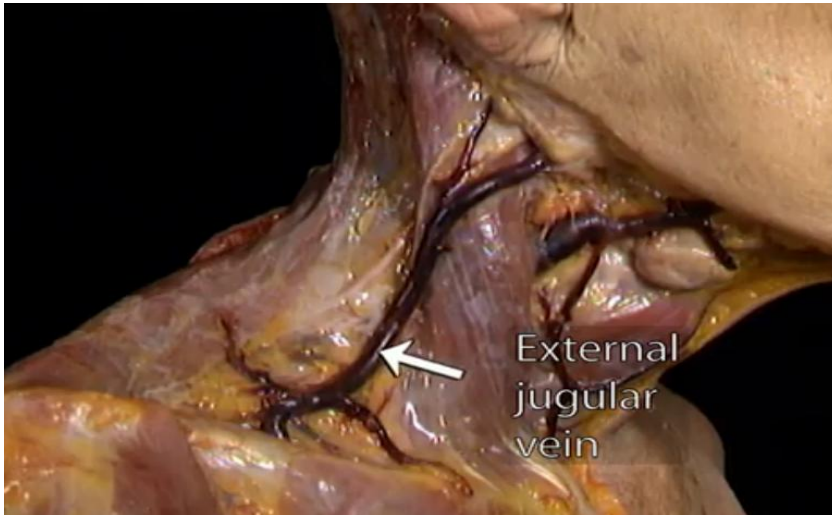


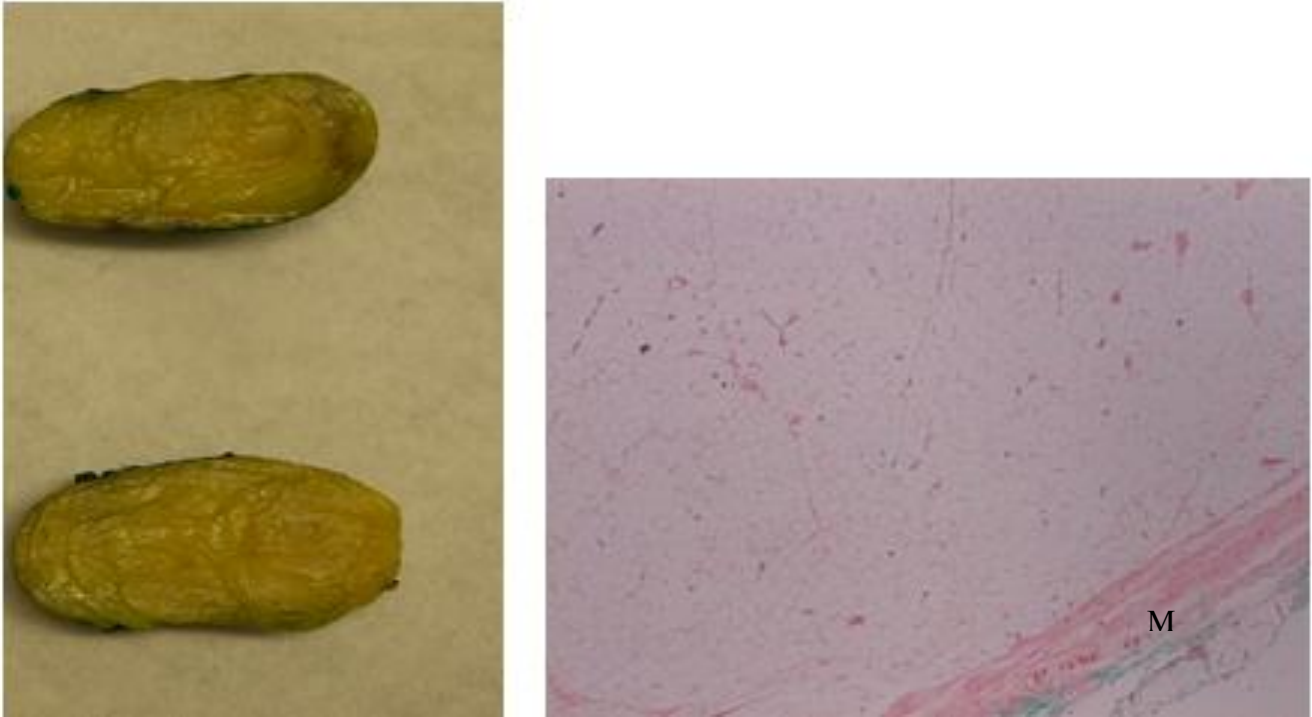
Figure 4. Anterolateral views of the superficial neurovascular structures in the anterior and posterior triangle of the neck. (Acland's anatomy).

A.



B.

Figure 5.A. Intra-operative photographs of the lump delivered in its capsule in the posterior neck triangle. **B.** The specimen excised by thorough dissection within the muscle fibres.



A.

B.

Figure 6. The macroscopic and microscopic appearance of the specimen.

- A.** An encapsulated nodule of fatty tissue is noted with its cut surface being yellow and lobulated without evidence of necrosis or haemorrhage.
- B.** Sections revealed a partly encapsulated lesion composed of lobules of mature adipocytes separated by fibrous septa of varying thickness. A few skeletal muscle fibres are present in the periphery of the lesion (M).