

Case Report

Giant intermuscular lipoma of neck and chest: a case report with review of literature

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ABSTRACT

Intermuscular lipoma is an uncommon benign tumor. In this case report we described a case of a patient with intermuscular lipoma located between sternocleidomastoid, pectoralis and scalene muscles on left side. These types of tumors are exceedingly rare in head and neck regions. Intermuscular lipomas are thought to arise from the intermuscular septa and enlarge between muscle bundles. Clinical data, investigations, Magnetic Resonance Imaging scan confirm the diagnosis. These tumours are more common in males than females. Complete surgical excision of tumor is the treatment of choice. It is crucial for the surgeon to consider deep lipomas when dealing with soft tissue tumors.

Keywords: Intermuscular lipoma, Sternocleidomastoid, Pectoralis muscle

INTRODUCTION

Intermuscular lipomas of head and neck are extremely rare benign tumors. Lipomas are soft tissue tumors with a prevalence rate of 2.1 per 1000 people.¹ These are benign tumors of mesenchymal origin composed of mature lipocytes and may be localised in any region of the body, superficial or deep.² Lipomas are subcutaneous, small, multiple and weigh only few grams. Lipomas are classified as parosteal, interosseous, or visceral, as well as infiltrating lipomas³ including intermuscular and intramuscular lipomas. Solitary lipoma occurs with equal frequency in males and females, whereas multiple lipomas are more common in males.⁴ Nigri et al. reported that lipomas are more prevalent in the obese female patients in fifth to seventh decades of life.⁵ In general lipomas are more common in trunk followed by head and neck and lower limbs. The deep lipoma often present without clinical symptoms and therefore grows to a large

size before detection.⁶ Lipomas are typically asymptomatic unless they compress neurovascular structures.⁵ 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. The aim of this article is to report a giant intermuscular lipoma in left lower cervical region, supraclavicular fossa, axilla and anterior chest wall and discuss about the histopathology, image characteristics, differential diagnosis and management of the intermuscular lipomas.

CASE REPORT

A 50 year old male presented to surgical OP with discomfort and pain in neck region. All complaints were described as insidious for one to two months with no history of trauma. On examination a lump of 15x11 cm located in the left side of neck was found. The deep

seated lump has smooth surface, immobile, firm in consistency and was not pulsatile and no tenderness. The laboratory tests were normal. Ultra sonography examination showed a dark area deep to sternocleidomastoid. However further computed tomography demonstrated 154x132x110 mm sized homogeneously hypodense lesion is seen in left lower cervical region, supraclavicular fossa, axilla and anterior chest wall lying beneath the sternocleidomastoid, pectoralis muscle, superficial to scalene muscles. No evidence of calcific foci or other soft tissue elements are seen within the lesion.



Figure 1: MRI sagittal section of neck and thorax showing giant mass below sternocleidomastoid and scalene muscles.



Figure 2: a) MRI Coronal view of neck and thorax showing involvement of pectoralis major, sternocleidomastoid and scalene muscles. b) Extension of mass into axillary region also. c) No evidence of any mass in other zones.

During surgery a well circumscribed mass with intact capsule was noted beneath the sternocleidomastoid compressing the surrounding muscles. No vessels and nerves were involved. The mass was removed enbloc.

The histopathological examination showed a giant intermuscular lipoma comprising mature fat cells without the involvement of muscle fibers. There was no evidence of cellular atypia, mitosis or necrosis. The post-operative period was uneventful. A three months follow up was carried out and no recurrence was detected.

DISCUSSION

Lipomas are commonest benign soft tissue neoplasms described as either superficial or deep.⁷ Superficial lipomas are more common than deep lipomas. Our case was described as a deep, unusually large intermuscular lipoma located between sternocleidomastoid, pectoralis muscles and scalene muscles. 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.⁸ Deep lipomas those are either intermuscular or intramuscular have been described as infiltrating lipomas by Terzioglu et al.⁶

Diagnostic imaging plays an important role in assessing soft tissue masses. Computed tomography may be used to assess soft tissue masses. On CT examination fat has low attenuation that is less than -20 Hounsfield units. Benign lipomas have a homogenous low attenuation on CT. Malignant liposarcoma demonstrate low to intermediate attenuation and often have inhomogeneous appearance. The lipoma in this case appeared lobulated, homogeneously hypodense (20-40 HU) lesion of 154x132x110 mm size. Terzioglu et al.⁶ categorized lipomas 10x5x3 cm or greater as giant lipomas and note that tumor of this size should include liposarcoma in the differential diagnosis.

The histopathological report confirmed the absence of lipoblast or significant atypical adipocytes. The presence of these types of cells would raise the concern for liposarcoma. Histologically lipomas resemble normal fat. Whereas liposarcomas have dense areas of collagen bands traversing the mass with associated gelatinous area.⁹

Treatment of the deep intermuscular lipoma in this case required complete excision. Indication for complete excision include clinical features such as pain, firmness or irregularity, a tumor that is growing and compressing surrounding muscles, a mass larger than 5 cm in size. Generally intermuscular lipomas have a well-defined capsule.^{2,10,11} Giant intermuscular lipomas should be differentiated from liposarcomas, malignant histiocytomas, metastatic carcinomas or benign soft tissue lesions, such as hematoma, muscle herniation, cystic hygroma or fibrous myositis.^{12,13}

Therefore a thorough anatomical knowledge and experience are prerequisites prior to attempting an excision. Following excision the recurrence rate of intermuscular lipoma was described as modest with the lowest rate at 3% and the highest at 62.5%⁴ which was most likely due to incomplete surgical excision. The possibility of recurrence after long lipoma free interval is probable while an extending period of long term follow up is mandatory. In the surgical procedure the extent of the resection is sometimes modified to avoid injuring surrounding neurovascular structures.

CONCLUSION

This case report described an adult male patient with an unusually large, deep intermuscular lipoma in left cervical region and chest regions. The patient presented with swelling and pain in the left side of neck. Subsequently he was diagnosed by Magnetic Resonance Imaging (MRI) scan and excision was performed. The recognition of deep lipomas by use of MRI scan will assist surgeons in diagnosis and timely treatment.

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