

Sternocleidomastoid intramuscular lipoma

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ABSTRACT

Lipoma is the most common benign soft tissue tumour with most located in the superficial subcutaneous plane. However, some are located in the deeper plane. Location in the head and neck regions are less common compared to the other parts of the body. Deep seated lipomas are either inter-muscular or intramuscular. We present a case of a simple subcutaneous neck lipoma in a 60-year-old Malay man which turned out to be an intramuscular sternocleidomastoid lipoma.

Keywords: Lipoma, intramuscular, sternocleidomastoid

INTRODUCTION

Lipoma is the most common benign soft tissue tumour with most located in the superficial subcutaneous plane. Subcutaneous lipoma arises between the skin and deep fascia and is typically a soft and mobile lump. Intramuscular lipoma is a benign neoplasm consisting of mature adipose tissue with sparse blood vessels. It has the ability to invade the muscle or grow between the muscles. ^{1,2} Characteristically, it infiltrates adjacent tissues with a tendency to recur after excision.

^{1, 2} Commonly presentation is with a painless mass without evidence of nerve compression or motor dysfunction of the involved muscle. A characteristic feature of intramuscular lipoma is the change in consistency from soft and flat to a well-defined and firm mass during contraction of the involved muscle.

CASE REPORT

A 60-year-old gentleman, non-smoker, complained of right neck swelling which had been increasing in size for the previous month. This painless swelling had already been present for the past five years. The patient did not seek any medical consultation as it was not causing any symptoms. He denied prior history of

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Fig. 1: a) Fatty tissue within the right sternocleidomastoid muscle, removed completely. White arrow shows the right greater auricular nerve identified and preserved, b) histology shows mature adipose tissue with fibrous septa (black arrow) (H&E stain, magnification x10).

neck trauma. The swelling was not associated with paraesthesia, fever, cervical lymphadenopathy or other swellings elsewhere. There were no associated signs and symptoms of dysphagia, odynophagia, hoarseness, chronic cough or epistaxis. There was no evidence of contact with individuals with pulmonary tuberculosis.

Examination revealed a 2cm x 2cm, well-defined, rounded non-tender lesion at the upper one third of the right sternocleidomastoid muscle. It was soft in consistency, non-mobile and did not transilluminate. There were no palpable cervical lymph nodes elsewhere. Intra-oral and indirect laryngoscopy examinations were normal. Tuberculosis screening was negative

Fine needle aspiration cytology (FNAC) only revealed an oily substance with no diagnostic material. A repeat FNAC subsequently showed aspiration material composed of multiple sizes of irregularly shaped mature adipose tissue cells with presence of few skeletal muscle fibres. Therefore with all the evidence pointing towards the diagnosis of a

simple lipoma, no further radiological investigation was warranted.

The patient subsequently opted for excision of lipoma under local anaesthesia. Intra-operatively, no lipomatous tissue was identified at the subcutaneous layer. The palpated swelling was found to be within the sternocleidomastoid muscle. This yellow, shiny and smooth mass was slowly dissected and excised from the muscle, and primary wound closure was done. He was discharged on the same day. Subsequent follow up at the clinic showed a well healed neck incision.

Histopathological examination revealed mature adipocytes separated by delicate fibrous septa with no lipoblast seen and skeletal muscle fibres were noted at the periphery confirming the diagnosis of intramuscular lipoma. On follow up, there was no evidence of recurrence.

DISCUSSION

Lipoma accounts for approximately 5% of all benign tumours of the body ³, 13% of which occur in the head and neck region. ⁴ Despite

this, intramuscular lipoma is still considered extremely rare with an estimated incidence of 1.9% of all benign lipomas.² To date only a few cases have been reported in the head and neck region.

Intramuscular lipoma is classified into infiltrative type (83%), compared to the less common well-circumscribed type (17%).² Anatomically, the intramuscular lipoma is commonly found in the lower extremities (45%), trunk (17%) and shoulder girdle (12%), with only about 10 % found in the upper extremities.⁵ In the head and neck region, intramuscular lipoma has been reported in muscles of the oral cavity⁶, neck^{7, 8, 9}, larynx¹⁰, temporalis muscle¹¹ and mental region.¹² The first case of infiltrating lipoma of sternocleidomastoid muscle was reported in 1983 by Mattel and Persky who reported a case involving the right sternocleidomastoid muscle in a 28-year-old man with history of recurrent painless right neck mass.⁷

Most superficial lipomas can be diagnosed by clinical examination. Pathognomonic findings include a mass soft in consistency, mobile (positive slip sign) and non-tender and have an accuracy rate of 85 %.¹³ On the other hand, the diagnosis of intramuscular lipoma is often not clinically evident preoperatively.⁹ Thus imaging modalities like ultrasound and computed tomography scan are useful as they also provide further information regarding the extension of the mass and the relation to the surrounding vital structures. Kransdorf *et al.* suggested that imaging investigation should be done when suspecting a deep seated lipoma such as a rapidly enlarging mass or any mass larger than 10 cm that is highly suspicious of

malignancy.⁵ In our case, no imaging investigation was done as the preoperative clinical assessment pointed towards a simple subcutaneous lipoma with no clinical evidence of malignancy. Interestingly Ott *et al.* also stated that imaging investigation or preoperative fine-needle cytology are insufficient to diagnose a lipoma with infiltration to the surrounding tissue and concluded only histological examination of the resected tumorous tissue is conclusive at arriving at the diagnosis.¹⁴

Treatment of deep-seated lipomas is complete surgical excision without damaging the surrounding structures thus reducing the risk of recurrences. Özcan *et al.* suggested, in lipomas with no signs of nerve compression and if total excision is not possible without risk of injury to adjacent neurovascular structures, surgery is not recommended. Instead close observation is advised.⁹ Other options include debulking of the lesion. However, recurrence is inevitable in an extensive infiltrative lipoma.¹⁵ Some authors also recommended wide excision of all intramuscular lipomas, as the margins of an infiltrative circumscribed type may not be clearly evident.⁸

Intramuscular lipomas have a higher recurrence rate (27.3%) compared to ordinary lipomas (5%).¹⁰ Of this, only the infiltrative intramuscular variant contributes towards recurrence due to its infiltrative nature and difficult anatomic location.^{2, 7, 10, 11} As intramuscular lipoma can grow adjacent to or encircle vital structures, resection can be difficult and may lead to incomplete resection.¹⁵ In our case, recurrence can be expected. The time of recurrence varies from 6 months to 20 years.⁷ However based on literature review, three year follow-up without recurrence is consid-

ered satisfactory.^{8,9}

In conclusion, intramuscular lipoma is uncommon, especially in the head and neck region. If suspected pre-operatively, further radiological evaluation should be done to assess the anatomical depth and its relationship with adjacent structures.

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