

Liyana Ghazali^{1,2}, Ali Haron², Irfan Mohamad^{1,3}, Aniza Hassan⁴

Ogromny tłuszczak śródmięśniowy mięśnia mostkowo-obojczykowo-sutkowego Giant intramuscular sternocleidomastoid lipoma

¹ Department of Otorhinolaryngology – Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, Kelantan, Malaysia

² Department of Otorhinolaryngology, Hospital Raja Perempuan Zainab II, Kelantan, Malaysia

³ Hospital Universiti Sains Malaysia, Health Campus, Kota Bharu, Kelantan, Malaysia

⁴ Department of Pathology, Hospital Raja Perempuan Zainab II, Kelantan, Malaysia

Adres do korespondencji: Irfan Mohamad, Department of Otorhinolaryngology – Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150, Kota Bharu, Kelantan, Malaysia, tel.: 6097676420, fax: 6097686424, e-mail: irfankb@usm.my

ORCID iDs

1. Liyana Ghazali <https://orcid.org/0000-0002-0101-0628>

2. Ali Haron <https://orcid.org/0000-0003-0016-5406>

3. Irfan Mohamad <https://orcid.org/0000-0001-8572-0514>

4. Aniza Hassan <https://orcid.org/0000-0003-1596-2774>

Streszczenie

Tłuszczak śródmięśniowy jest rzadkim nowotworem łagodnym, sporadycznie występującym w okolicy głowy i szyi. Zmiana ta rozwija się między włóknami mięśniowymi, przechodząc przez przegrodę międzymięśniową. Z uwagi na naciekowy charakter guza odsetek nawrotów jest wyższy niż w przypadku innych tłuszczaków podskórnych. Całkowite chirurgiczne wycięcie tłuszczaka często uznaje się za ostateczną metodę leczenia, a pacjenci wymagają długoterminowej obserwacji. Autorzy pracy przedstawiają przypadek 49-letniego mężczyzny, u którego z powodzeniem usunięto masywny (12 × 10 cm) guz szyi po stronie lewej. W badaniu tomografii komputerowej szyi stwierdzono dobrze odgraniczoną zmianę z obecnością przegród i komponentą tłuszczową w prawym mięśniu mostkowo-obojczykowo-sutkowym. Badanie histopatologiczne potwierdziło rozpoznanie dobrze odgraniczzonego tłuszczaka mięśnia mostkowo-obojczykowo-sutkowego. W przeprowadzonym rok później badaniu kontrolnym nie stwierdzono cech wznowy.

Słowa kluczowe: tłuszczak śródmięśniowy, mięsień mostkowo-obojczykowo-sutkowy, nowotwory głowy i szyi

Abstract

Intramuscular lipoma is rare benign tumour rarely located in the head and neck region. It arises between the muscle fibres and passes through the intermuscular septa. Due to the infiltrative nature of the tumour, recurrence rate is higher than in other subcutaneous lipomas. Complete surgical excision of lipoma is often regarded as a definitive treatment modality and long-term follow-up is mandatory. Here we report a case of a 49-year-old male presenting with huge left neck mass measuring 12 × 10 cm, which was successfully removed. Computed tomography scan of the neck showed a well-defined septated lesion with a fat component in the right sternocleidomastoid muscle, and the histopathology examination confirmed the diagnosis of well-circumscribed intramuscular sternocleidomastoid lipoma. Follow-up after one year showed no evidence of recurrence.

Keywords: intramuscular lipoma, sternocleidomastoid muscle, head and neck neoplasms

INTRODUCTION

Lipoma is the most common benign mesenchymal tumour. It originates from fat tissue and most commonly occurs in the trunk followed by head and neck, and then the lower limb. In the head and neck region, it accounts for about 13% of all lipomas and is most commonly located in the posterior neck. Infrequently, these lesions can develop in the anterior neck, infratemporal fossa, oral cavity, pharynx, larynx, and parotid gland⁽¹⁾. Lipomas are usually located in superficial subcutaneous plane which is between the skin and the deep fascia. Intramuscular lipoma accounts for 1.8% of all lipomas⁽²⁾. It is commonly found in the upper and lower extremities but rarely in the head and neck region. It arises from the skeletal muscle and is able to invade the muscle or grow in between the large muscle bundles.

CASE REPORT

A 49-year-old male presented with right neck swelling, which was of 15-year duration. It was a painless, slowly growing mass and did not cause any obstructive symptoms. He denied prior history of neck trauma. On examination, there was a huge well-circumscribed right neck mass measuring 12×10 cm that extended from the angle of mandible to the right supraclavicular area. The mass was soft in consistency, non-tender, with no skin changes or transillumination (Fig. 1). There was no lymph node palpable in the neck. Oral cavity and oropharynx examination was normal. Laryngoscopy was unremarkable.

Fine needle aspiration cytology (FNAC) showed mainly a group of mature adipocytes and fibrous stroma, which was consistent with lipoma. Computed tomography (CT) of the neck was done and revealed a well-defined septated lesion with a fat component in the right sternocleidomastoid muscle (SCM), measuring approximately $6.2 \times 6.9 \times 12$ cm (Fig. 2).



Fig. 1. Right neck mass measuring about 12×10 cm

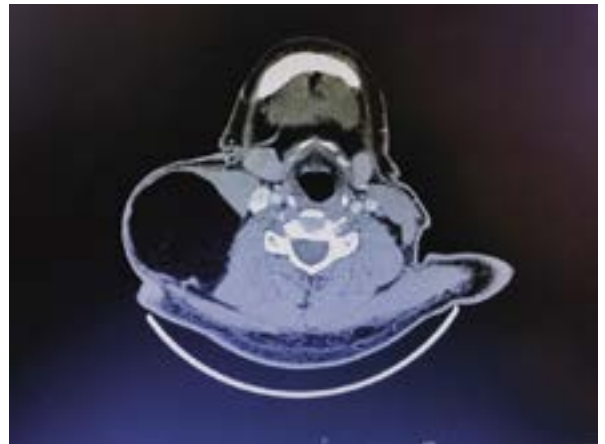


Fig. 2. CT scan showing a well-defined non-enhancing area of low attenuation within the right intra-SCM muscle

The patient underwent excision of the right neck lipoma under general anaesthesia. Intraoperatively, there was a huge neck mass located intra-SCM, pushing the muscle more superficially, causing thinning of the muscle. The mass was completely removed and it was possible to separate it from the surrounding SCM muscle without any difficulty. The mass measured 8×12 cm and weighed 320 g (Fig. 3). A surgical drain (size 10 Fr) was inserted into the mass cavity and was left for 48 hours. Post-operative recovery was uneventful and the patient was discharged on the second day postoperatively. Histopathological examination (HPE) revealed a well-circumscribed mass composed of lobules of mature univacuolated adipocytes separated by thin fibrovascular septa surrounded with a thin capsule with no lipoblast seen (Fig. 4). At one-year postoperative follow-up, there was no evidence of recurrence (Fig. 5).

DISCUSSION

Intramuscular lipoma is a benign mesenchymal tumour, which infiltrates the skeletal muscle and is rarely



Fig. 3. Well-circumscribed yellowish mass

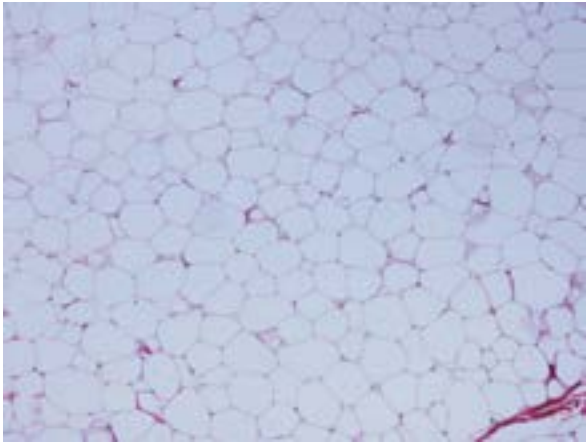


Fig. 4. Microscopic findings show lobules of mature univacuolated adipocytes separated by thin fibrovascular septa. The cytoplasmic vacuole cells are relatively uniform, pushing the nucleus to the periphery (x100)

encountered in the head and neck region. It is commonly found in extremities (45%), trunk (17%), shoulder girdle (12%), with only 10% of cases occurring in upper extremities⁽³⁾. The pathogenesis of lipoma remains unclear. Several theories have been proposed. Local growth of adipose tissue and aberrant differentiation of mesenchymal cells into lipoblasts may contribute to the formation of lipoma. Congenital development, trauma and chronic irritation are the other suggested theories⁽⁴⁾.

Intramuscular lipoma is classified into infiltrative type (83%) and well-circumscribed type (17%). The classification is based on the appearance of the margins in relation to adjacent muscle fibres. In infiltrative type, it is characterized by mature univacuolated adipocytes that irregularly invade between the muscle fibres and, in many places, completely replace them. However, in the well-circumscribed type, it is composed solely of discrete mass of uniform, mature adipocytes that is clearly delineated from the surrounding muscle⁽⁵⁾.



Fig. 5. One-year follow-up showed well-healed scar with no evidence of recurrence

A “giant lipoma” has a bigger size, usually more than 10 cm in at least one dimension or weighs over 1,000 grams⁽⁶⁾. Generally, when soft tissue tumour is large in size, deeply located and infiltrating, a differential diagnosis of soft tissue sarcoma must be considered. Clinically, rapidly growing neck mass larger in size should raise a suspicion of malignancy. However, in our case, although the mass was huge, the slow growth of the mass for almost 15-years give us a clue that this is probably a benign tumour. Other differential diagnoses include malignant histiocytomas, metastatic carcinomas, cystic hygroma, hematoma, muscle herniation or fibrous myositis⁽⁷⁾.

Typically, a giant lipoma may have functional limitation due to excessive size and weight and the patient usually presents with pain, lymphedema or nerve compression syndromes. Surprisingly, in our case, the patient was asymptomatic without having any obstructive or compression symptoms. Most of superficial lipomas can be diagnosed by clinical examination. However, intramuscular lipoma is not always clinically evident preoperatively, thus imaging modalities such as ultrasound, CT scan, or magnetic resonance imaging (MRI) may help in the diagnosis and provide data on the extension of the mass and relation to surrounding structures⁽³⁾. On a CT scan, benign lipoma has a homogenous low attenuation while malignant sarcoma usually has inhomogeneous appearance with low to intermediate attenuation. Contrarily, it was also reported that CT and MRI could not exclude the possibility of liposarcoma⁽⁸⁾. In cases of soft tissue tumours, the role of FNAC in primary diagnosis is controversial with their inherently challenging light microscopic features and their generally heterogeneous composition, soft tissue tumours can be a source of diagnostic confusion. Thus, HPE is the only way to differentiate between these two entities. The differentiation of intramuscular lipoma from liposarcoma may be difficult, however the presence of multinuclear giant cells, nuclear pleomorphism and lipoblastic proliferation in liposarcoma may help distinguish it from a benign lipoma. As in our case, HPE showed features of benign intramuscular lipoma without lipoblastic proliferation.

The treatment of intramuscular lipoma usually requires complete excision. However, intramuscular lipoma is associated with high recurrence rate, ranging between 3 to 62.5%⁽⁹⁾. Recurrence was more commonly seen in the infiltrative type of intramuscular tumours rather than the well-circumscribed type⁽⁵⁾. The high recurrence rate is due to the infiltrative nature of the tumour and difficult anatomic location^(3,9). Thus, if it recurs, wide re-excision can be curative⁽¹⁰⁾.

CONCLUSION

Intramuscular lipoma involving SCM is rare, with infiltrating tendencies, thus recurrence rate is higher. Due to its high recurrence rate, long-term follow-up is mandatory. Moreover, huge intramuscular lipoma must be kept in mind

for other differential diagnosis such as malignant sarcoma. HPE is a diagnostic tool to differentiate between them. Wide excision is used as a treatment principle and significantly reduces recurrence.

Conflict of interest

All authors declare that there is no conflict of interest.

Písmiennictwo

1. Alshadwi A, Nadershah M, Salama A et al.: Giant deep neck lipoma: a case report and review of the literature. *Clin Surg* 2017; 2: 1299.
2. Kim KS, Yang HS: Unusual locations of lipoma: differential diagnosis of head and neck mass. *Aust Fam Physician* 2014; 43: 867–870.
3. Nor Shahida AM, Soleh N, Mohamad I et al.: Sternocleidomastoid intramuscular lipoma. *Brunei Int Med J* 2012; 8: 154–157.
4. Lerosey Y, Choussy O, Gruyer X et al.: Infiltrating lipoma of the head and neck: a report of one pediatric case. *Int J Pediatr Otorhinolaryngol* 1999; 47: 91–95.
5. Fletcher CDM, Martin-Bates E: Intramuscular and intermuscular lipoma: neglected diagnoses. *Histopathology* 1988; 12: 275–287.
6. Sanchez MR, Golomb FM, Moy JA et al.: Giant lipoma: case report and review of the literature. *J Am Acad Dermatol* 1993; 28: 266–268.
7. Lakshmi Kumari K, Vijaya Babu PVSS, Kumar SV: Giant intermuscular lipoma of neck and chest: a case report with review of literature. *Int J Res Med Sci* 2015; 3: 1521–1523.
8. Senchenkov A, Werning JW, Staren ED: Radiographic assessment of the infiltrating retropharyngeal lipoma. *Otolaryngol Head Neck Surg* 2001; 125: 658–660.
9. Medina CR, Schneider S, Mitra A et al.: Giant submental lipoma: case report and review of the literature. *Can J Plast Surg* 2007; 15: 219–222.
10. Ozcan C, Görür K, Talas D et al.: Intramuscular benign lipoma of the sternocleidomastoid muscle: a rare cause of neck mass. *Eur Arch Otorhinolaryngol* 2005; 262: 148–150.