

Giant Deep Lipomas of Anterior Neck

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Abstract

Background: Lipomas are benign mesenchymal tumors which can arise anywhere in the body. Lipomas which are more than 10 centimeters below the platysma in the anterior aspect of neck is a rare entity.

Description: We describe two patients who presented with giant lipoma in the anterior neck of which once was in the midline. We have explained the case, with respect to clinical presentation and relation to critical structures in neck during surgery. We also discussed pathophysiology of giant lipoma and differentiation of lipoma from its sarcomatous component.

Conclusion: Complete excision of the tumor with an intact capsule gives an excellent aesthetic outcome and no functional debilitation. A close relation to great vessels of the neck should be kept in mind while operating on giant lipoma.

Introduction

Lipomas are a benign tumor of adipose tissue. It is commonly referred to as 'universal tumor' as it can arise anywhere in the body [1]. Only 13% of lipoma arises from the head and neck region of which posterior cervical space is the most commonly involved site. Lipomas in the neck present as a painless, slowly progressive, growth limited tumor, most of which are about 2 centimeters. Sanchez et al. defined giant lipomas as when the size is more than 10cm in any one dimension or weighing a minimum of 1000 grams [2]. Lipoma of head and neck are classified into superficial and deep lipoma based on the relationship to platysma [3].

Here we present two cases of giant deep lipoma of anterior neck, among which one presented as midline neck swelling and other as lateral neck swelling.

Case report 1:

A 34 year-old woman (Figure 1) presented with a history of a midline anterior neck swelling for two years associated with neck discomfort. She denied any pressure symptoms or symptoms of hypothyroidism/hyperthyroidism. Physical exam revealed an 8 x 6 cm soft, mobile anterior neck mass extending symmetrically over the neck with indistinguishable margins, involving the plane below platysma. Her neck findings had similarities of that seen in a goiter. There were no palpable neck nodes. The thyroid gland could not be palpated separately.



Figure 1: Clinical photograph of case 1

A computerized tomography (CT) scan done revealed a homogenous fat density lesion in the midline extending from infrahyoid region to the suprasternal notch compressing the left lobe and isthmus of the thyroid gland and insinuating deep to the sternocleidomastoid muscle bilaterally (Figure 2). The fine needle aspiration biopsy (FNAB)

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showed mature adipocyte clusters. Due to persistent symptoms and aesthetic concerns the patient underwent surgical excision of the 13x10 cm lipomatous lesion with an intact capsule (Figure 3) which extended from infrahyoid level to just under suprasternal notch and insinuating under both sternocleidomastoid muscles extending up to great vessels of the neck and splaying the strap muscle in the midline. Histopathological examination confirmed the presence of lobules of mature adipocytes with no atypia or mitotic activity, pointing towards lipoma.

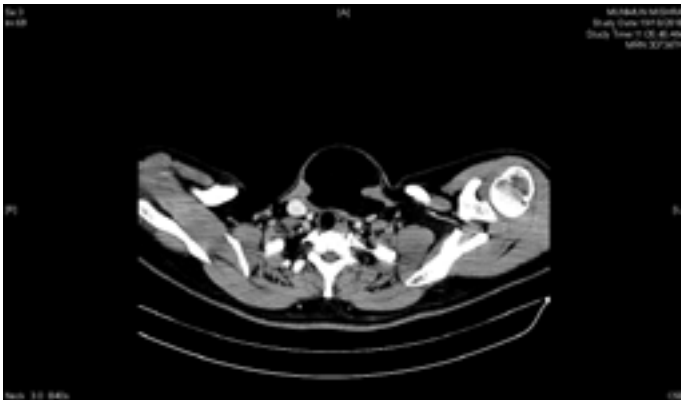


Figure 2: CT scan depicting the insinuation of lipoma deep and superficial to sternocleidomastoid muscle with close relation to great vessels of neck



Figure 3: Surgical specimen case 1

Case report 2:

A 42 years old gentleman (Figure 4) presented with a history of swelling in front of the neck for the past ten years. It was not associated with any pressure symptoms. Physical examination revealed a 10x8 cm soft nontender swelling with slippery edges involving left level II/III/VI pushing the trachea towards the right, occupying a plane below the platysma. Ultrasound of the neck swelling showed an ill-defined isoechoic avascular lesion in the left side of the neck which on FNAB showed lipomatous neoplasm. Due to aesthetic concerns he underwent surgical excision of an 11x 8cm lipomatous lesion with an intact capsule (Figure 5) from left side of the neck. It extended from tail of parotid to the lower level of the cricoid cartilage, the lesion was insinuating deep to the medial aspect of sternocleidomastoid muscle reaching the great vessels of the neck. Histopathological examination confirmed the diagnosis of lipoma which did not show any atypia or mitotic activity.



Figure 4: Clinical photograph of case 2



Figure 5: Surgical specimen case 2

Discussion:

Lipoma also known as the ubiquitous tumor or universal tumor occurs most often in subcutaneous plane and it is the most common mesenchymal tumor of adulthood. Prevalence of lipoma is 2.1 per 1000 people. They commonly present as a solitary lesion in women, but multiple lesions are more common in men. Microscopically lipoma is classified into conventional lipoma, angiolipoma, fibrolipoma, spindle cell lipoma, pleomorphic lipoma, hibernomas, myelolipoma and atypical lipoma [3-6].

Lipoma in the neck are insidious in onset, soft, painless, slow-growing tumor and brought to physician attention mainly because of cosmetic problems. Rarely it can cause a functional problem due to compression of neurovascular structures or limitation in neck movement due to its size [(5,6)].

Only 1% of lipomas grow more than 10 cm which are categorized as giant lipomas. A sarcomatous transformation is to be suspected when there is a rather rapid increase in the size. Size of the tumor, location, consistency and attachment to surrounding structures differentiates benign from a malignant lesion. The usual site of liposarcoma are retroperitoneum, mediastinum, buttocks and lower extremities. About 2-8% of liposarcomas occur in the head and neck region. There are five types of liposarcoma well-differentiated, de-differentiated, myxoid, pleomorphic, and mixed [3,6,7] Jones et al have suggested four criteria to differentiate lipoma from liposarcoma which includes: rapid increase in size, size more than 10cm, the location of tumor deep to deep fascia and pain associated with lesion, further Magnetic Resonant imaging (MRI) might add more validity in preoperative diagnosis [8].

The pathophysiological mechanism of a giant lipoma is yet to be elic-

ited. It is postulated that blunt trauma can lead to rupture of fibrous septae, which prevents the migration of fat, this when associated with tears of anchorage between the skin and deep fascia, might result in a local proliferation of adipose tissue.

Diagnosis of lipoma is by clinical examination [4,9]. When malignancy is suspected, imaging plays a role. MRI is the gold standard to differentiate lipoma from liposarcoma. CT scan might demonstrate calcification in 10 to 15 % of liposarcoma. Imaging might also demonstrate irregularity and thickening in septae, decreased fat composition (<75%), swirling/nodularity. Even with aid of imaging, diagnosis of well-differentiated liposarcoma might not be possible and fine needle aspiration cytology (FNAC) will yield a diagnosis [3,9].

Complete surgical excision of the lesion along with its capsule is the definitive treatment [10] and is associated with low rate of recurrence. It gives an excellent cosmetic outcome with no functional impairment.

FNAB/Core biopsy will give a definitive diagnosis and help in treatment planning. When large and suspicious, imaging should be considered to rule out malignancy and for preoperative planning. Complete excision with capsule is the standard of care. Insinuation medial to sternocleidomastoid muscle with tumor reaching upto great vessels of the neck was noted in both our cases and must be borne in mind whilst operating.

Conclusion:

Deep giant lipomas of the anterior neck are rare and warrant a thorough clinical evaluation to differentiate it from a malignant tumor. When a malignant transformation is suspected imaging and FNAC play a vital role. Proximity to great vessels of the neck should be kept in mind while operating deep giant lipomas of the neck. Complete excision of the tumor will prevent further recurrence and will give a good cosmetic outcome.

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