

# Anterior Neck Lipoma Enigma: Unmasking the Unusual- A Case Report

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## Abstract

Lipomas are non-cancerous growths consisting of mature fat cells. Lipomas usually manifest as distinct, pliable lumps in the fatty tissues beneath the skin. Around thirteen percent of lipomas are observed in the head and neck area. An anterior neck lipoma is quite uncommon, and an anterior neck lipoma extending into the mediastinum is an exceedingly rare occurrence. Here, we present a case of 50 years old female who came with a huge swelling in anterior neck region (prevertebral space) which was slow growing. The purpose of this report is to keep in mind the differential diagnosis of lipoma when patient presents with anterior neck soft tissue swelling.

**Keywords:** Lipoma; Anterior neck; Prevertebral space

## Introduction

A lipoma is a non-cancerous growth formed from mature fat cells and is sometimes referred to as the “universal tumor” or the “widespread tumor” because it can develop in any part of the body where fat cells accumulate. In the head and neck region, lipomas account for approximately thirteen

percent of cases [1]. While lipomas in the neck typically manifest in the posterior triangle area, those found in the front part of the neck (anterior neck lipomas) are infrequently encountered. Moreover, giant anterior neck lipomas, which measure over 10 cm in size, are exceptionally rare [2]. In this report, we present a case of such giant anterior neck lipoma with retrosternal extension.

## Case Presentation

A 50-year-old female presented to the OPD with complaint of a huge swelling in the left anterolateral part of the neck since many years which gradually increased in size till the present. It was associated with slight dyspnea on exertion. She did not have any complaints of difficulty in swallowing or change in voice.

After taking consent, physical examination was done which revealed a large approximately 10 cm × 7 cm swelling in left anterolateral region of neck which was soft in consistency and appeared bilobed (Figure 1). The swelling had smooth surface and was compressible. It was mobile and nontender. Skin overlying the swelling was normal colour, stretched,

not adherent to tumor and no dilated veins were seen over the swelling. Edges of the swelling was definite above and slips under the finger (slip sign) and finger could not get below the lower margin. It did not move with deglutition or protrusion of tongue. The carotid artery pulsations of left side were displaced laterally.



**Figure 1:** On investigating, blood reports were within normal limits.

### Radiological Imaging

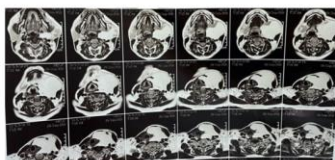
- Ultrasonography of neck was done which showed a large  $9.4 \times$  cm well defined compressible uniformly homogenous lesion in the left cervical region extending from anterior to the left lobe of thyroid and displacing the carotid vessels laterally. No heterogenous areas or internal vascularity seen within. No cervical lymphadenopathy. Both lobes of thyroid and left parotid and left submandibular glands appear normal.
- X- ray neck (AP and lateral view) was suggestive of large soft tissue swelling on left side of neck with slight

deviation of trachea to the right with no evidence of compression (Figure 2).



**Figure 2:** X-ray neck (AP and lateral view).

- MRI of neck suggestive of a well-defined homogenous fat density lesion on left side of neck approximately  $9.4 \text{ cm} \times 6.6 \text{ cm}$ . Superiorly, the lesion is extending and abutting inferior margin of left parotid gland. Inferiorly, it is reaching till sternoclavicular joint with suspicious extension into superior mediastinum. The lesion appears to be displacing the left sternocleidomastoid muscle anterolaterally and the carotid vessels laterally. Medially, causing mass effect on trachea and adjacent thyroid lobes thereby pushing them to right side. It does not cross the midline and does not show any abnormal vasculature. The lesion does not encase any major vessels. No internal haemorrhage or calcifications noted (Figure 3).



**Figure 3:** MRI neck depicting large soft tissue swelling causing tracheal shift to right and displacing left sternocleidomastoid and carotid sheath laterally.

**Fine Needle Aspiration Cytology (FNAC)** was suggestive of benign lipomatous lesion.

**Histopathology** report of specimen sent post operative was consistent with lipoma in left cervical region.

**Operative Findings**

Patient was positioned in supine position with neck extension under general anaesthesia. After the surgical field was scrubbed sterile drapes were placed. Incision was marked as shown in Figure 4.



**Figure 4:** Incision marking preoperative.

**Findings:**

1. There was a well-encapsulated lipomatous mass deep to the deep cervical fascia.
2. Extent was -
  - a) Anterior- Skin, platysma and deep cervical fascia covering it.
  - b) Posterior- Prevertebral fascia.
  - c) Medial- Central structures- strap muscles, thyroid gland, hyoid bone, thyroid cartilage, trachea, and pharynx.
  - d) Lateral- Left sternocleidomastoid and left carotid sheath pushed laterally.
  - e) Superior- left submandibular and lower tip of left parotid gland.
  - f) Inferior- into retrosternal area.

There was evidence of neurovascular bundle (superior root of ansa cervicalis) traversing through the tumor which was preserved. Inferior extent of the mass was bluntly dissected through the neck incision itself. Tumor removed. Haemostasis confirmed. Romovac drain placed and closure done in layers (Figure 5).



**Figure 5:** Intraoperative and post operative picture of the lipoma.



**Figure 6:** Follow up on post operative day 8 and day 14.

**Discussion**

Lipomas are very common with a prevalence rate of 2.1:1000 to 1:100 [3]. The earliest recorded case of neck mass suspected to be a lipoma dates back more than 100 years [4]. The cause and development of lipomas are still not fully understood, although there have been suggestions of genetic, endocrine, and traumatic factors possibly playing a role in their etiology and pathogenesis.

This report outlines the atypical manifestation of a commonly encountered condition. Neck masses offer a broad spectrum of possible diagnosis, spanning neoplastic, developmental, and inflammatory etiologies [5] [Table 1].

**Table 1:** Differential diagnosis of neck masses

<b>Primary Tumours</b>	Thyroid Masses
	Lymphoma
	Salivary Tumours
	Carotid Body and Glomus Tumours
	Lipoma

	Neurogenic Tumours Dermoid/teratoma
<b>Secondary tumours</b>	Metastatic nodes and metastases to other tissues of the neck
<b>Congenital and Developmental Masses</b>	Branchial Cleft Cysts
	Thyroglossal Duct Cysts
<b>Epidermal and Sebaceous Cysts</b>	
<b>Vascular Tumours</b>	Capillary haemangiomas
<b>Lymphatic malformations</b>	Cystic hygromas
	Lymphangiomas
<b>Inflammatory Disorders</b>	Lymphadenitis
	Granulomatous lymphadenitis
	Abscesses

Ultrasonography serves as an economical, uncomplicated, and harmless diagnostic tool that can be employed as an initial assessment for neck tumors. Typically, lipomas present as homogenous masses with well-defined edges in both CT and MRI scans. Characteristic lipoma images exhibit low attenuation and feature few or no thin fibrous septa [6]. MRI is considered superior to CT in assessing tissue structure and outlining boundaries in lipomas. Lipomas exhibit a consistent hyperintense fat signal on T1-weighted MRI images, while they display fat suppression in T2-weighted images [7].

In summary, giant lipomas are exceptionally rare in the neck region and can lead to functional limitations. The utilization of preoperative MRI or CT imaging can offer valuable insights into the precise extent of the tumor and its relationship with neighbouring tissues.

Surgical intervention in such cases is a complex undertaking due to the proximity of lipoma to major blood vessels. It is typically reserved for patients who seek treatment for cosmetic reasons (which is most common), those experiencing pressure-related symptoms, or those requiring confirmation that the growth is not malignant. Recurrence is highly uncommon if the lipoma is completely excised along with its capsule, and this approach ensures a definitive histopathological diagnosis is achieved.

Alternative treatment modalities have been documented, such as liposuction [8-11] and steroid injections. Liposuction is occasionally favoured in cases of subcutaneous lipomas due to the reduced scarring [10,11], it leaves after the procedure, although there is a higher likelihood of recurrence when compared to excision if any residual tumor or capsule remains. Also, liposuction is not indicated in deep seated lipomas. Steroid injections can also be considered for smaller lipomas, but they typically require multiple injections and may result in depigmentation of the overlying skin.

Surgical intervention for giant lipomas in the anterior neck with mediastinal extension should be carried out with great precision and care.

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