

## CASE REPORT

## Lipoma of the submandibular space

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**ABSTRACT**

Lipomas in the submandibular space are uncommon. This report describes a case of lipoma in the submandibular space. The clinical features, imaging study, histopathological features and management of the tumor are described.

**Key words:** Adipocytes, lipoma, submandibular space

**INTRODUCTION**

Lipomas of the submandibular space are relatively uncommon. Prevalence is 1%. Conventionally, lipomas are divided into three types. Superficial lipomas (arise within subcutaneous tissue), deep lipoma (arise within deep soft tissue) and parosteal lipoma (arise within surfaces of the bone).<sup>[1]</sup> A total of 13% of lipomas are found in head and neck. Lipoma can harbor elements other than adipose tissue-like blood vessels, muscle fibers, fibroconnective tissue and bone tissue.<sup>[2]</sup> Although lipomas are generally diagnosed by clinical examination, imaging studies and histopathological examination can aid in establishing the diagnosis. Ultrasonography and histopathological examination aided us in establishing the diagnosis in the following case.

**CASE REPORT**

An 55-year-old male patient presented with a swelling of the right submandibular region since 2 years. The swelling was painless and gradually progressive. Clinical examination revealed a smooth-surfaced, soft and non-tender mass (3 × 3 cm) with well-defined margins in the right submandibular region. The swelling was mobile, not fixed to the skin and the underlying bone. Clinically submandibular region swelling was suspected to be a lymph node or glandular enlargement [Figure 1].

Ultrasonography of the right submandibular region showed a well-circumscribed elliptical mass, which was relatively hyperechoic to the adjacent muscle that was adjacent to the base of the mandible. Fine-needle aspiration cytology showed fragments of adipose tissue consisting of cells with large

vacuoles of fat and small peripherally located nuclei. Fragments also contained capillary vessels. It was negative for malignancy.

The patient underwent standard submandibular gland approach under local anesthesia with sedation. Excised mass showed a well-circumscribed lesion that was easily separated from the surrounding tissues [Figure 2]. Rest of the gland was normal. Marginal mandibular nerve was well preserved. Histopathological examination of the specimen showed adipocytes in lobules, separated by fibroconnective tissue and muscle bundles. These features were suggestive of lipoma [Figure 3].

**DISCUSSION**

Although lipomas are relatively uncommon in the head and neck region, they should be considered as one of the differential diagnoses of neck masses. Annual incidence is 1 in 1000 individuals. Of those lipomas that occur in head and neck region, the most common location is posterior neck.

Lipomas, lipomatosis, angioliipomas, chondroidlipomas, lipoblastoma, lipoblastomatosis, spindle cell lipoma and



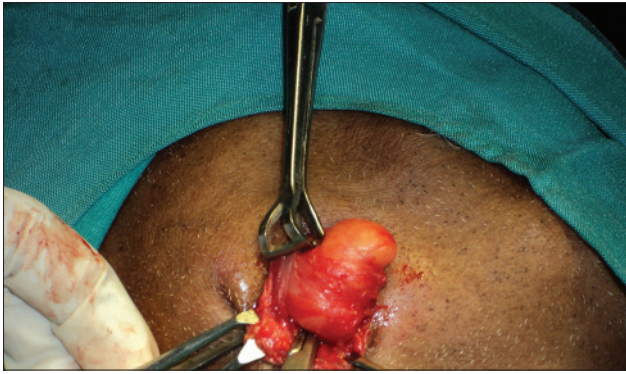
**Figure 1:** Clinical picture showing a swelling in the right submandibular space with well defined margins

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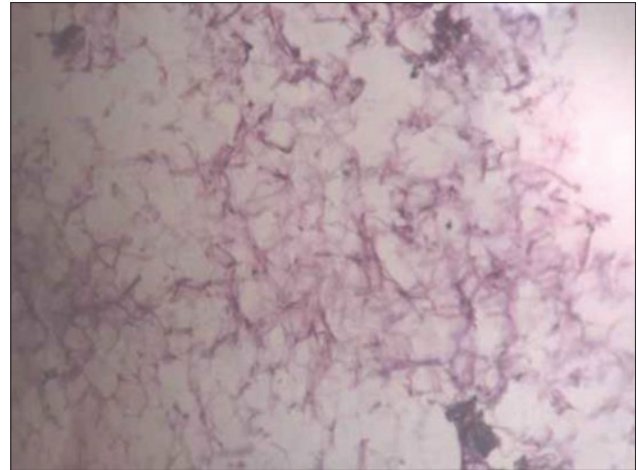


**Figure 2:** Gross specimen being well encapsulated and separated from surrounding structures

pleomorphic lipomas are variants of this condition. The solitary lipoma is a common soft tissue tumor that results due to proliferation of histologically and chemically normal adipose tissue. Solitary lipoma is not developmental in origin and hence is not considered a hamartoma but rather a true neoplasm. Intraoperatively, lipomas may be seen as soft, yellow, shiny, smooth, mobile, encapsulated and occasionally lobulated subcutaneous masses. Microscopically, the lesions show lobular growth of mature adipocytes with demarcated borders, a fibrous capsule and a central vacuole. In some cases, lipomas can infiltrate into the adjacent muscles. Such lipomas are called infiltrative lipomas. They may be associated with syndromes such as hereditary multiple lipomatosis, Gardner's syndrome, Madelung's disease and Decrum's disease.<sup>[2]</sup>

There have been reports of deep intramuscular lipomas in the submandibular region by Adachi *et al.*<sup>[3]</sup> Pusiol *et al.*, reported an oncocytic sialolipoma of submandibular gland.<sup>[1]</sup> Gultekin *et al.*, reported a case of parosteal lipoma.<sup>[4]</sup> Furlong *et al.*, in their study reported that lipomas in the head and neck are common in the parotid region followed by buccal mucosa and lip.<sup>[5]</sup>

When it comes to the diagnosis, sometimes clinical examination alone is not sufficient to identify the nature and exact location of the mass. In such a situation, imaging and histopathological examination can be useful. Ultrasound and magnetic resonance imaging can differentiate lipomas



**Figure 3:** Photomicrograph showing adipocytes arranged in lobules. (H&E stain, 100)

from other soft tissue tumors. In the case reported here, ultrasonography and histopathological examination were useful for the diagnosis. The prognosis of superficial lipoma is good and the risk of recurrence is low.

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