

## LIPOMA: CASE REPORTS WITH REVIEW OF LITERATURE

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### Abstract

Lipoma is a benign mesenchymal neoplasm composed of mature adipocytes, usually surrounded by a thin capsule. They are the most common soft tissue tumors of the body and about 20% of the cases occur in the head and neck region. Lipoma can occur at any site in the oral cavity with buccal mucosa, tongue and floor of the mouth being the common intra-oral sites of predilection. The clinical presentation is typically as an asymptomatic yellowish mass. Here we present two cases of intra-oral lipoma in buccal mucosa in a 23 year old male patient and extra-orally at nape of the neck region in a 35 year old female patient.

**Keywords:** Lipoma, Benign, Neoplasm.

### Introduction

Being one of the commonest soft tissue neoplasms, lipoma accounts for 15% cases in head and neck region but hardly 1-4% involves oral cavity.<sup>1</sup> These are composed of adipocytes surrounded by fibrous capsular structure and are benign in nature.<sup>2</sup> In 1848, Roux *et al* described it as a "yellow epulis" while studying oral cases.<sup>1</sup>

Oral lipomas are usually painless, well circumscribed, slow growing, superficial or submucosal located in oral mucosa, yellowish in color and no change of surface.<sup>2</sup> They can appear in variety of clinical forms varying from being pedunculated to sessile. In diseases like neurofibromatosis, Gardner syndrome, encephalocutaneous lipomatosis, multiple familial lipomatosis and proteus syndrome, multiple lipoma occurrence has been reported.<sup>1</sup>

Lipomas have general age predilection between 4<sup>th</sup> to 5<sup>th</sup> decades of life. Liposarcoma is the malignant form of this benign tumor but its occurrence in oral cavity is rare.<sup>3</sup>

Lipomas tend to occur on trunk, shoulder, posterior neck and axillae.<sup>4</sup> Usually lipomas are seen in buccal mucosa, tongue along with other oral sites less commonly like lips, palate, gingiva. They may interfere with mastication and speech when they grow to a larger size otherwise lipomas are asymptomatic.<sup>5</sup>

Here we present two cases of extra-oral and intra-oral varieties of lipoma with the review of the literature concerning about the clinical presentation, microscopic characteristics, differential diagnosis and treatment.

### Case reports

**Case 1** -A 23 year old male patient reported with a chief complaint of a painless mass on the left buccal mucosa since 1 year which was small in size initially and gradually increased to its present size. Intraorally, it was well defined, spherical, sessile and fluctuant swelling present 8mm behind the left commissural area measuring 1.0x1.0 cm. The overlying mucosa was normal with no surface changes. Excisional biopsy was later performed for the same (fig 1 a).

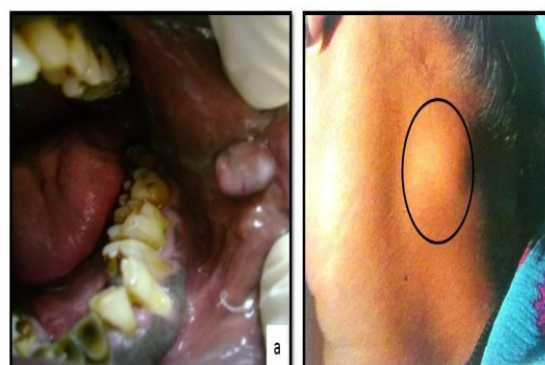


Figure 1a and 1b- showing a well defined, spherical swelling present behind the left commissural area and in the nape of the neck measuring 1.0x1.0 cm

**Case 2-** A 35 year old female patient presented with an asymptomatic, non-tender swelling in the nape of the neck since 3 months. The swelling was well defined, mobile and spherical extending 0.5 cm anterior to the hairline and posteriorly to the posterior border of trapezius muscle (fig 1b). Extraorally, the swelling was firm to palpate with no abnormal surface changes on the skin. A provisional diagnosis of isolated lymph node was given. Fine needle aspiration was performed which did not reveal any significant findings, which was followed by excisional biopsy for the same.

### Histopathology

#### Macroscopic Findings

The specimens were observed to be floating in 10% neutral buffered formalin. They were excised in toto. Cut surface revealed neat well demarcated yellow glistening surface in both cases. In the extra-oral lesion, fibrous septa like projections were seen dividing the lesion and on the exterior surface neat lobulation was visible. The above gross findings were much more appreciated on stereozoom microscopy. The specimens were sent for routine histopathological processing.



Figure 2 – shows gross appearance of Lipoma specimens- (a),(b)- Case 1- well defined lobular spherical mass with intervening fibrous septa visible which when cut into two halves shows yellow glistening surface.(c), (d)- Case 2- shows well defined oval mass which when cut revealed a glistening surface

### Microscopic findings

**Case 1-** The Hematoxylin and Eosin stained sections showed well encapsulated area covered by parakeratinized stratified squamous epithelium and connective tissue showing mature adipocytes containing large clear cytoplasm and eccentric flat nuclei. (fig 3a) Distinct lobular arrangement of cells was seen. The lobules were separated by fibrous connective tissue(fig 3b). Muscle bands and haemorrhagic areas were evident.

**Case 2-** The Hematoxylin and Eosin stained sections showed overlying keratinized stratified squamous epithelium, with mature adipocytes with intervening connective tissue septa. One area showed presence of lipoblasts (fig 3c).

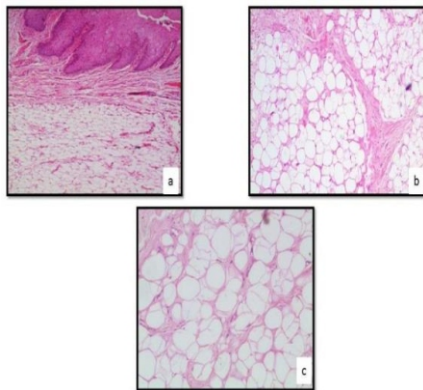


Figure 3 – (a) H& E section shows area covered by parakeratinized stratified squamous epithelium and connective tissue showing mature adipocytes (10X).(b) H& E section shows distinct lobular arrangement of adipocytes where the lobules were separated by fibrous connective tissue septa. (20X) (c) H& E section shows mature adipocytes containing large clear cytoplasm and eccentric flat nuclei. One area showed presence of lipoblasts.(40X)

### Discussion

A slow growing tumor which is benign and is composed of mature adipocytes are the characteristics of Lipoma. Based on occurrence, intraoral lipomas are relatively rare.<sup>6</sup> Extraorally, they are usually solitary tumors, more common in women, most often located on the posterior neck and on the back, but there may also be multiple tumors all over the body and extremities which are usually smaller in size compared to the solitary lipoma.<sup>4</sup> Many types of origin have been suggested for Lipoma which includes heredity, hormonal basis, fatty degeneration, infection, trauma, infarction, lipoblastic embryonic cell nest association.<sup>7</sup> Rearrangement of 12q, 13p, 6p chromosomes has also been observed in developing lipoma.<sup>8</sup> Association with HMGI-C gene (*High mobility group protein gene*) has been observed with lipoma development as observed in various mice studies.<sup>9</sup> Oral lipoma commonly presents as a submucosal nodule which is usually soft in consistency and painless<sup>1</sup>. For histopathological evaluation of the lipoma, special stains can be used in addition to the conventional stain of hematoxylin and eosin. Lipids in the lipoma stains positively with Oil red O and Sudan II.<sup>10</sup>

Besides being composed of mature adipocytes, lipomas can occasionally be composed of endothelial, muscular, osseous and chondroid tissues. Histopathologically, the oral lipomas can have many varieties like fibrolipoma, angioliipomas, lipomas of the salivary glands and pleomorphic lipomas, lipomas spindle cells, myxoid lipomas, and atypical lipomas.<sup>2</sup> Clinically, Angioliipoma is tender to palpation in its initial growth phase later being painless when it increases in size. Myoliipoma is a rare variant of lipoma, marked by proliferation of fat and smooth muscles which presents as a smooth painless mass. In Chondroid lipoma, usually has a slowly growing painless mass which is often present for several years prior to excision commonly seen in proximal limbs and head and neck region. Spindle cell lipoma presents in a similar manner as a slow growing mass. Pleomorphic lipoma presents as a circumscribed subcutaneous mass in posterior neck region in older male patients. Intramuscular lipoma on the other hand are more common in large muscle of extremities which are slow growing and painless, become evident on contraction of the involved muscles. Hibernoma is another variant, also called as lipoma of immature adipose tissue is also a slow growing mass having a tan brown color and occur in subcutis.<sup>10</sup>

The frequency of occurrence of intra-oral lipomas are simple lipoma which the most common variant, followed by fibrolipoma which are usually seen in buccal mucosa. fibrolipomas consist of fat cells intermingled with broad bands of dense connective tissue.<sup>8</sup>

Liposarcomas are characterized by areas of lipoblastic proliferation, cellular pleomorphism, myxoid differentiation, increased vascularity and mitosis. AP2 is a useful marker for immunohistochemical differentiation between benign and malignant counterpart as this protein is expressed by lipoblasts in the tissue.<sup>8</sup>

The differential diagnosis of oral lipomas includes lesions such as oral lymphoepithelial cysts, oral dermoid and

epidermoid cyst.<sup>2</sup> Oral lymphoepithelial cysts are found on the floor of the mouth, soft palate and mucosa of the pharyngeal tonsil, where oral lipomas are not frequently found and are usually found in first to third decades of life. Salivary gland tumors can also be included in differential diagnosis for oral lipoma, as the later present as a deep nodule with normal surface colour.<sup>1</sup> Oral dermoid and epidermoid cysts typically occur in the midline of the floor of the mouth and present as submucosal nodules but site predilection can vary for them also.<sup>1</sup>

Resection of the lesional mass is the preferred treatment strategy.<sup>8</sup> Laser excision has taken a front seat as compared to surgical resection as there will be less regressive tissue changes due to laser diode.<sup>9</sup>

### Conclusion

Lipomas are uncommon mesenchymal neoplasms of the oral and maxillofacial region which can present in varying forms and needs adequate exclusion of other differential diagnosis so that clinician is able to treat these type of lesions properly and effectively.

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