



## ORAL FIBROLIPOMA: A HISTOLOGICAL SUBTYPE

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**ABSTRACT** Lipoma is a common benign soft-tissue neoplasm arising from mature adipose tissue. Oral lipoma was first described by Roux in 1848 as “yellow epulis.” Intraoral lipomas are rare lesions, which may be discovered during routine dental examinations since they present as a slow-growing, painless, and asymptomatic yellowish mass. Fibrolipoma is an extremely rare subtype of lipoma which accounts for 1.6% of all facial lipomas. In this article, we are presenting a case report on oral fibrolipoma of the right buccal mucosa in a 61-year-old male.

**KEYWORDS :** Oral Lipoma, fibrolipoma, Epulis.

### INTRODUCTION

Lipomas are common benign soft tissue neoplasms of mature adipose tissue; however, they are relatively uncommon in the oral and maxillofacial region. Their overall incidence in the oral cavity is thought to be between 1% and 4.4% of all benign oral lesions<sup>1,2</sup>. Oral lipomas can occur in various anatomic sites including the major salivary glands, buccal mucosa, lip, tongue, palate, vestibule, and floor of the mouth. Histologically, lipomas can be classified into classic lipoma and variant forms of lipoma, such as fibrolipomas, spindle lipomas, intramuscular lipomas, angioliomas, salivary gland lipomas, pleomorphic lipomas, myxoid lipomas, and atypical lipomas<sup>1,3</sup>. In some lipomas they are composed of connective tissue and so labelled as fibrolipomas. There have only been a few reports about fibrolipoma of the oral cavity<sup>4,5</sup>. Their aetiology and pathogenesis remain unclear, although mechanical, endocrine and inflammatory influences have been reported<sup>6</sup>. We describe the case of a patient with fibrolipoma of the buccal mucosa.

### CASE PRESENTATION

A 61-year-old man was referred to the Department of Oral Medicine and Radiology with the chief complaint of painless, slow growing swelling in his right buccal mucosa since 5 years. Patient first noticed the lesion 5 years back which was asymptomatic and small in size so, did not report to the dentist. However, the growth gradually increased to its present size and caused difficulty in mastication which prompted the patient to consult the doctor. There was no history of bleeding or discharge from the swelling, and no treatment was taken for the lesion. Extra oral examination showed no facial asymmetry. There was no associated lymphadenopathy. There was no past relevant medical history. The patient was having habit of smoking and an occasional alcoholic.

Intraoral examination showed pink-colored, exophytic, sessile growth of 2 × 2 cm in size on the right buccal mucosa opposing crowns of 16 and 17. The growth was well-circumscribed, with occasional biting on the lesion during mastication. The surface was smooth and glossy with slight erosion on the superior aspect of the lesion. Melanin pigmentation was observed on the buccal mucosa over the lesion. The adjacent mucosa appeared to be normal.

On palpation, it was soft in consistency, non-tender with no pulsation,

and slightly mobile. Provisional diagnosis of lipoma and differential diagnosis of fibroma and neurofibroma were considered. Patient referred to Department of Oral and Maxillofacial Surgery for further treatment. Lesion was excised under local anesthesia. The surgical specimen was fixed in 10% neutral buffered formalin and subjected to histopathological examination. On gross examination the specimen appeared well circumscribed and the cut surfaces showed a pale yellow color. (Figure 1) Microscopic examination revealed a well circumscribed lesion with an atrophic parakeratinized stratified squamous epithelium. The underlying connective tissue stroma showed large number of matured adipose cells embedded in densely collagenous stroma. Inflammatory cell infiltrations were observed juxtaepithelially and focal areas of connective tissue showed melanin incontinence. Deeper areas of the lesion showed longitudinal and transverse sections of muscle fibers (Figure 2). These findings were suggestive of fibrolipoma. Postoperative follow-up of the patient after 3 months showed no signs of recurrence.

### DISCUSSION:

Lipomas may arise from adipose tissue anywhere in the body but usually they are found in the subcutaneous tissues with a large variability in size. Oral lipomas are relatively rare entities which account for 2.2% of all lipomas and among that 1%–4% of all benign tumors of oral cavity<sup>7</sup>. The first description of oral lipoma was given by Roux in 1848 and referred to as “yellow epulis.”<sup>8</sup> Various studies reported male predominance for classic lipoma to be in the ratio of 1.5:1 whereas female predominance for fibrolipoma to be in the ratio of 1:1.3.<sup>9,10</sup>

The exact etiology remains unclear but it is suggested that the precursors of adipose cells resemble fibroblasts and that their fat content is acquired by the imbibition of soluble fat or by intra-cellular elaboration<sup>1</sup>. Therefore the adipocytes are probably not a separate but a metaplastic transformation in connective-tissue cells. Consequently this transformation may occasionally lead to the production of fat tissue in abnormal sites<sup>11</sup>. It is believed that the fibroblastic component develops, independently from the fat cells, from mesenchymal cells as an intrinsic component of the lipomatous tumour<sup>11</sup>. Other combinations between lipoblastic tissues and mesenchymal structures are also possible. Occasionally they may invade muscles or grow between them: the so-called infiltrating lipomas<sup>12</sup>. They are mainly

solitary but multiple lipomas are also found in 6 to 7 per cent of patients with these growths<sup>1</sup>. Variant forms of lipoma, such as fibrolipomas, spindle lipomas, intramuscular lipomas, angiolipomas, salivary gland lipomas, pleomorphic lipomas, myxoid lipomas, and atypical lipomas<sup>13</sup>.

The buccal mucosa and buccal vestibule are the most common intraoral sites which account for 50% of all cases. Less common sites include the tongue, floor of the mouth, lips, palate, and the retromolar area.<sup>13</sup> Usually, they manifest as asymptomatic, slow-growing, sessile, round-to-ovoid submucosal nodules.

Fibrolipoma is one of the variant of oral lipomas. The pathogenesis of fibrolipoma remains unclear, although various hypotheses are put forward. It has been thought to be congenital, endocrine imbalance, the product of a degenerated fibromatous tumor, or to arise from maturation of lipoblastomatosis<sup>14</sup>. Both lipoma and fibrolipoma are usually well circumscribed and have a thin capsule. Fibrolipoma differs from the classic lipoma because of mature adipose tissue is interspersed by bands of connective tissue. Similarly proliferative activity of fibrolipoma is greater compared to classic lipoma<sup>1</sup>.

Surgical excision is the line of management in case of lipomas and its variants. Microscopically, the fibrolipoma is composed of lobules of "chicken-wire" appearing, benign adipocytes with a component comprising broad bands of dense collagen. It is mostly well

circumscribed and maybe encapsulated like the classic lipoma.<sup>15</sup> Differential diagnosis includes many benign mesenchymal tumors such as fibromas, simple lipomas, and minor salivary gland tumors either benign or malignant. Several other histological subtypes of lipoma, are Chondrolipoma, osteolipoma, infiltrating lipoma, angiolipoma, myolipoma, Angiomyolipoma, spindle cell lipoma, myxoid and sialolipoma ( Table 1). It is not possible to establish an precise fibrolipoma diagnosis based only on clinical data. It is thus essential to conduct histological examination for confirmation of diagnosis.

Complications are rare and few. It may cause life threatening due to obstruction of upper airway by virtue of its size as sudden asphyxia death<sup>16</sup>. Long-standing cases may turn into liposarcomas<sup>17</sup>.

## CONCLUSION

Fibrolipoma represents a distinct clinicopathologic entity with an increased potential for increasing size and with a low recurrence rate. The clinical course is normally asymptomatic and sometimes it may appear as infiltrating adjacent tissues and may cause doubts for differential diagnosis with malignant infiltrating lesions, such as liposarcoma. Histopathological examination is advised for the confirmation of the diagnosis. This would be helpful in providing early intervention and prevention of complications such as malignant transformation. Surgical excision is the elective treatment of choice and careful follow-up are, henceforth, mandatory.

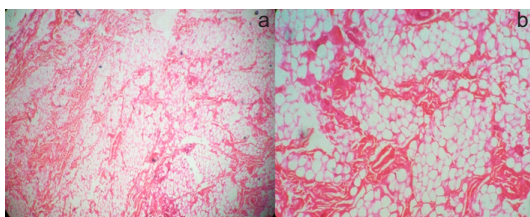
**Table 1: Histological Subtype (Modified).<sup>10</sup>**

S.No	Histological types	Histological features
1	Lipoma	Composed of mature adipocyte, but the cells vary slightly in size and shape.
2	Osteolipoma	Fully developed, benign cartilage or bone formation within the neoplastic fatty tissue.
3	Chondro / Osteo lipoma	Cartilaginous or osseous metaplasia in a lipoma is a relatively rare finding characterized by mature, benign cartilage or bone formation within the neoplastic fatty tissue. The pathogenesis is largely speculative, but probably is related to endochondral ossification by pluripotent mesenchymal cells in the fat.
4	Infiltrating lipoma	Fat cells which are separated by a few fibrous stroma and show infiltration of the muscle.
5	Angiolipoma	Composed of mature fat and small capillaries with fibrin thrombi and a surrounding pericytic proliferation
6	Myolipoma	Fascicles of bland smooth muscle penetrating mature fat.
7	Angiomyolipoma	Composed of immature epithelioid smooth muscle, vessels, and adipocytes.
8	Spindle cell lipoma	Combination of mature adipose and bland spindled shaped cells that do not have smooth muscle differentiation
9	Myxolipoma	Lipoma admixed with abundant mucoid substances. Stain well with alcian blue.
10	Sialolipoma	The tumor is a well-circumscribed mass confined by a fibrous capsule and composed of mature adipose tissue and islands of salivary gland parenchymal tissue

**Figure 1 :** a: Clinical Picture showing lesion on right side of buccal mucosa, b: Intra-operative picture of Lipoma, c & d: Showing excised lesions and picture after grossing.



**Figure 2:** Lobules of adipocytes septated by fibrovascular septa with numerous capillaries (H & E stain (a)10 X & (b)20 X)



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