

Oral Fibrolipoma: A Rare Histological Variant

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ABSTRACT

Introduction: Lipoma is a rare benign soft tissue mesenchymal neoplasm of the oral cavity, constituting 1% of all benign oral tumors. Fibrolipoma (FL) is an uncommon histological variant of the conventional lipoma. The diagnosis and differentiation of FL with clinically similar lesions, such as fibroma and pleomorphic adenoma is necessary for a correct treatment plan and complete follow-up.

Case presentation: A 52-year-old female patient reported to the dental outpatient department (OPD) with a chief complaint of a growth in left cheek region of mouth. The swelling was first noticed one and half years ago, which showed continuous gradual enlargement. After thorough investigation, the case was concluded as FL.

Management and prognosis: The lesion was surgically excised and the patient was under follow-up for past 8 months. No recurrence of lesion was noted.

Conclusion: Fibrolipoma may appear as infiltrating the adjacent tissues, which may cause doubts in differential diagnosis of liposarcoma. Hence, careful postsurgical histopathological examination and follow-up are required.

Keywords: Adipose tissue, Fibrolipoma, Oral lipoma.

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INTRODUCTION

Lipoma is a benign tumor of fat cells, which represents the most common mesenchymal neoplasm of mature adipose tissue.¹ Most of the lipomas occur during 40 to 60 years of life.² In head and neck region, their occurrences comprise about 20% of which only 1 to 4% occur in oral cavity. Fifty percentage oral lipomas occur in buccal mucosa and tongue.³ Various histological variants of lipoma have been identified, which include simple lipoma, fibrolipoma (FL), angiolipoma, infiltrating (intra-muscular) lipoma, pleomorphic lipoma, osteolipoma,

sialolipoma, chondrolipoma, myxolipoma and spindle cell lipoma (SCL).⁴ Fibrolipoma of oral cavity is a rare histological variant.²

CASE REPORT

A 52-year-old female patient reported to the dental outpatient department (OPD) with a chief complaint of a growth in left cheek region of mouth. The swelling was first noticed one and half years ago, which showed continuous gradual enlargement. The patient had no difficulty in mastication, speech, and deglutition. Intraoral examination revealed a pinkish, well-defined solitary sessile fibrous growth of size measuring 2 × 2 cm seen in the occlusal line of the left buccal mucosa in relation to 35–36 region.

On palpation, the growth was soft, fluctuant, non-tender, and mobile. The margins were slippery under the palpating finger. A provisional diagnosis of intraoral lipoma/fibroma was established. Routine blood examination was found to be normal. Informed consent of the patient was taken and the lesion was surgically excised under local anaesthesia. The excised tissue was then sent for histopathological examination. Macroscopic examination of the gross specimen revealed one bit of soft tissue, measuring about 9 × 4 × 3 mm, whitish grey in colour, firm in consistency, and oval in shape with smooth surface (Fig. 1).

Microscopic examination of the specimen revealed parakeratinized stratified squamous epithelium in association with underlying densely collagenous connective



Fig. 1: Surgical gross specimen

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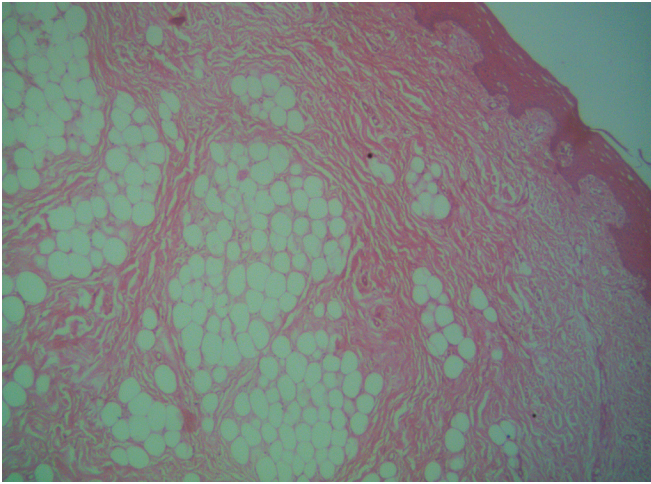


Fig. 2: Photomicrograph showing dense connective stroma and adipose tissue interspersed with fibrous bands (H&E, 4x)

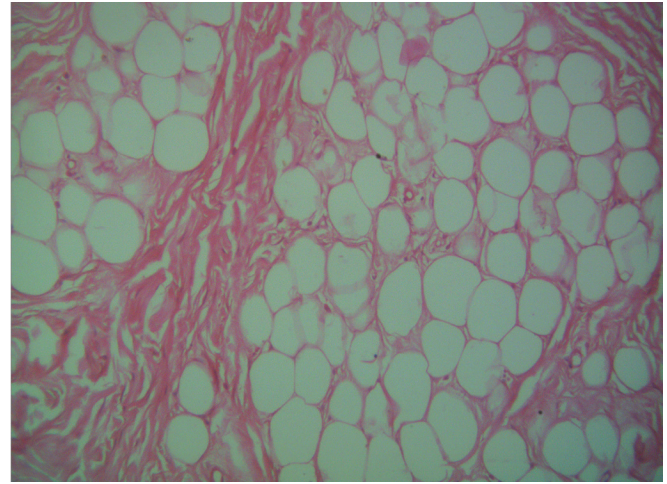


Fig. 3: Photomicrograph showing mature adipose tissue and intervening fibrous bands (H&E, 10x)

tissue stroma. Epithelium was atrophic at areas, with flattened rete pegs. Connective tissue stroma showed mature adipose tissue, without atypical aspects interspersed by fibrous tissue (Figs 2 and 3). Correlating with the clinical and histopathological examination, the excised lesion was diagnosed as a FL.

DISCUSSION

Oral lipoma is a benign tumor of the mesenchymal tissue.¹ Morphologically intraoral lipomas can be classified as diffuse form affecting the deeper tissues, superficial form, and encapsulated form. The first case of lipoma was reported by Roux in 1848 and he referred it to as yellow epulis.²

Presence of lipoma in oral and oropharyngeal region is relatively uncommon with prevalence rate of only 1/5000 in adults.² Heredity, fatty degeneration, trauma, hormones/hormonal effects, infection, infarction, and chronic irritation of a lipoblastic embryonic cell nest origin have been put forward as possible etiopathology behind lipomas but none of them has been proved with acceptable scientific evidence^{2,5}. Chromosomal aberrations have been discovered in 55 to 75% of lipomas, most common being 12q, 13p, and 6p translocation.²

Lipomas are seen in various intraoral locations including major salivary glands.⁶ Most of the cases of oral lipomas are reported in buccal mucosa and other sites of occurrence include tongue, floor of mouth, lip, and palate.^{1,3} Lipomas usually occur in adults and there is no gender predilection. A rare case report of oral lipoma in 33-month-old child has also been reported by Agarwal et al.⁶

Usually, intraoral lipomas are seen as single solitary painless nodule, which is palpable. Deeply seated non-palpable cases of lipoma have also been reported by

Darayani et al.⁷ Lipomas usually present as slow growing asymptomatic yellowish submucosal masses and the size of the lesion is usually less than 3 cm at the time of diagnosis but can increase up to 5-6 cm over a period of several years⁴. Till date, only biopsy and subsequent histopathological examination have been put forward as the gold standard in diagnosis of lipoma. Other methods like fine-needle aspiration biopsy (FNAB) also have been suggested but with only a certain degree of success.²

There are various histological variants of lipoma and they include simple lipoma, FL, angioliipoma, infiltrating (intramuscular) lipoma, pleomorphic lipoma, osteoliipoma, sialoliipoma, chondroliipoma, myxoliipoma, and SCL.⁴

Fibrolipoma of the oral cavity is a rare histological variant.¹ It has been shown to occur in various sites of oral cavity like tongue, buccal mucosa, lower lip, parotid gland, and soft palate.⁸ A rare FL of gingiva has also been reported by Graham et al.⁹ A study conducted by Fregani et al showed 39% of 46 cases of lipomas were fibrolipomas.⁴ Another recent study conducted on oral lipomas showed 27% of cases to be fibrolipomas.¹⁰ The mean age of occurrence of fibrolipoma is 34 years with a range reported from 3 to 56 years.¹¹ A female predilection was noted in FL of 1:1.3 unlike lipomas which showed a male predilection of 1.5:1.¹⁰ It has also been reported in other extra oral sites, such as oesophagus, colon, pharynx, trachea, and larynx.¹²

Histopathologically, the FL is made up of lobules of benign mature adipocytes with a component consisting of broad bands of dense collagen, which resemble chicken-wire-like arrangement. Both FL and classic lipoma are usually well-circumscribed and may be thinly encapsulated. Fibrolipoma differs from the classic variety because the lobules of mature adipose tissue are interspersed by

Table 1: Histological Subtype¹⁴

<i>Histological types</i>	<i>Histological features</i>
Simple lipoma	Lobules of mature adipose tissue with variably sized adipocytes.
Osteolipoma	Fully developed, benign cartilage or bone formation within the neoplastic fatty tissue.
Chondrolipoma	Myxochondroid matrix and scattered nests of lipoblast-like cells.
Infiltrating lipoma	Fat cells which are separated by a few fibrous stroma and show infiltration of the muscle.
Angiolipoma	Mixture of mature adipocytes and numerous thin-walled capillary-sized vessels.
Myolipoma	Fascicles of bland smooth muscle penetrating mature fat.
Angiomyolipoma	Varying proportions of vascular cells, immature smooth muscle cells, and fat cells.
Spindle cell lipoma	Combination of mature adipose and bland spindled cells, bundles of ropey collagen, and scattered mast cells.
Pleomorphic lipoma	Pleomorphic lipoma also has multinucleated giant cells. These cells contain radially arranged nuclei in a "floret-like" pattern.
Myxolipoma	Lipoma admixed with profuse mucoid substances.
Sialolipoma	Admixture of adipose cells and glandular components.

Table 2: Histological difference between fibrolipoma and liposarcoma²

<i>Fibrolipoma</i>	<i>Liposarcoma</i>
Adipocytes which are present will be similar to normal fat cells and will show normal round clear cytoplasm with an eccentrically placed nucleus. Fibrous bands separate the fat cells.	Show different type of morphologic pattern but lipoblasts presence is common to all. Some liposarcomas consist of poorly differentiated round cells with localized evidence of cytoplasmic vacuolization. Signet ring appearance in which nucleus is moved to one side of the large vacuole can also be seen. Anaplastic and evidence of fatty degeneration are also seen.

bands of fibrous connective tissue¹. The present case was in agreement with the above findings clinically and histologically.

HISTOLOGICAL SUBTYPES

The histological subtypes (Table 1) have no clinical significance with respect to the behaviour of tumors. However, infiltrating lipomas are an exception; due to the absence of a capsule and its ability to penetrate the surrounding skeletal muscles represent a high-risk factor for recurrence¹³.

An immunohistochemical study which was conducted by Fregnani et al showed positivity of FL for proliferating cell nuclear antigen and Ki 67. Proliferative activity of FL was greater than lipoma³. Liposarcoma, although rare, cannot be distinguished from the FL clinically (Table 2). An accurate histological examination is mandatory to rule out the malignant variety.

Other differential diagnosis includes pyogenic granuloma, lymphangioma, and schwannoma.¹¹ Simple surgical excision is the treatment of choice and they recur⁴ rarely.

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. Surgical excision is the elective treatment of choice. An accurate differential diagnosis, postsurgical histological examination, and careful follow-up are, hence, required.

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