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Oral Lipomas- Rare Conditions in Oral Cavity, A Review

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Abstract

Oral lipomas are rare benign lesion. Though soft tissue lipomas are not uncommon oral lipomas are relatively less in number. Mostly goes asymptomatic and are rarely comes to dental professionals either by accidental findings or complaint from a patient due to aesthetic reasons. Various histological variant of lipomas are there but most common is classical lipoma followed by fibrolipoma. Prognosis of these benign intraoral lesions is good. In this review article we will discuss about etiology, theories regarding pathogenesis, clinical features, Histological variant of Oral Lipomas.

Keywords: *Angiolipoma, Intramuscular lipoma, fibrolipoma, spindle cell lipoma*

Introduction

Lipomas are neoplasms of mesenchymal origin composed of matured adipose tisssues with a fibrous connective tissue capsule[1,2] .Though lipoma is a common soft tissue lesion i.e about 15-20% occur in head and neck region, but their intraoral presence is rare (1-4%)[2]. They are generally asymptomatic so most of the times are found accidentally in routine dental examination. They can be described as slow growing soft nodular mass often yellowish texture on overlying mucosa[3] .In the year 1848, lipoma was first described by Roux as yellowish epulis, following which in the year 1880 first case of intraosseous lipoma was presented by Cornil and Ranvier. Intraoral lipoma are found in the areas of oral mucosa where there is deposition of fat, most appropriate of which is buccal mucosa, Other common sites include tongue, floor of mouth, vestibular sulcus, palate and gingiva. Based on histopathological findings lipomas can be of different types like angiolipoma, spindle cell lipoma, myelolipoma, chondrolipoma, myxolipoma, pleomorphic lipoma and fibrolipoma [3]. Less frequently involved sites are as follows, parotid, masseteric region, pharynx and larynx [6]. Sometimes lipomas can be seen in maxilla [5,7] .

ETIOLOGY:

Not that much clarity is there regarding the etiology of oral lipoma. Few studies deduced the facts like endocrine system, certain mechanical factors, inflammation, obese conditions, due to chromosomal abnormalities, radiation therapy, trauma, mucosal infections, chronic irritation can be regarded as causative agents for oral lipoma[8].

PATHOGENESIS:

Behind the pathogenesis of Oral lipoma various theories are there like-

HYPERTROPHIC THEORY:

This theory tried to prove that unintentional proliferation of adipose tissue and obesity can be the cause of these benign lesions. Though this theory was discarded later as it could not satisfy the reason moreover it seemed non convincing in case of the occurrence of those lipomas which are seen on non fat bearing areas of oral mucosa. They are not depleted during starvation condition of the body as like any other adipose tissues[3]

METAPLASIA THEORY: This theory emphasized upon the ability of fat cells to differentiate anywhere in the human body from multipotent cells of connective tissue. According to this theory the abnormal differentiation of mesenchymal cells into lipoblast can result in such adipose benign tumors. They are also thought to be arising on the basis of congenital malformations as a result of proliferation from multipotent cells of embryo

which stay dormant until the time it gets sudden activation under hormonal influence. But Clinicopathological evidence has not been found yet [5]

CLINICAL FEATURES: Depends upon the site generally[3]. Diagnosis of lipomas mainly clinical. Though diagnosis difficult until that characteristic yellow color is seen. These can be described as nodular, pedunculated or sessile, soft, palpable smooth lesion which generally occurs in areas having extensive adipose tissues or fat like that of buccal mucosa, tongue etc. They most of the time goes asymptomatic by the patients and very rarely they cause any discomfort like dysphagia, speech trouble and interruption in mastication. Signs like feeling of fullness, slip can sometimes be the complaint of patients.(Fig.1)

FIG.1 LIPOMA IN BUCCAL MUCOSA

DIAGNOSIS: Accidental discovery of bony lesion is common. Radiographically characterized by unilocular or multilocular lesion with honey comb or soap bubble appearance associated with an osteosclerotic border[18,20]. Though classical soft tissue lipoma cannot be diagnosed by radiograph. Computed tomography and Magnetic Resonance Imaging (MRI) are not useful in diagnosing lipoma so Histopathology is gold standard diagnosing modality[19].

HISTOPATHOLOGICAL FEATURES:

Features are more or less similar in both soft and intraoral lipomas. Mature white fat cells are seen without any atypical features. Often the fat cells in lipoma are separated into lobular structures by connective tissue septae. Generally covered or encapsulated by thin fibrous connective tissue capsule. On rare occasions fat necrosis, infarct or calcification and osseous metaplasia can be present in lipoma [3,6] .Diagnosis usually made by the presence of mass clinically.

IMMUNOHISTOCHEMISTRY: Shows positivity for Vimentin, S-100 and Leptin.

HISTOPATHOLOGICAL DIFFERENTIATION OF LIPOMA: (Fig.2) It can be divided as follows:

1. **Angiolipoma:** Characterized by subcutaneous nodular structure which is a combination of mature adipocytes and thin walled vessel, often associated with fibrin thrombi. However presence of various small thrombi helps in the diagnosis. The lesion can be also called Cellular Angiolipoma when it consist of 90% or more of vascular component. Certain degenerative changes like perivascular fibrosis, hyalinization and stromal myxoid change can be found in chronic persistent lesions. Always a benign lesion and chances of

recurrences are almost negligible.

2. **Intramuscular/Infiltrating Lipoma:** This lesion can increase in size as big as 20cm in diameter. This histologically characterized by combination of striated muscle fibers with abundant fat cells which gives it a texture similar to a checkboard. This lesion can recur as it is seen in 15% of cases[10] **.**

3. **Perineural Fibrolipoma:** Concentric perineural fibrosis is characteristic of this lesion. Here fat cells are seen surrounding the nerves and hence the name[10]. It can cause disfigurement due to its enlargement in young children. It can also be termed as hamartoma of nerves often seen as multiple lesions[11].

4. **Spindle Cell Lipoma:** Histologically characterized by adipose tissue intersmixed with short fascicles of bland undifferentiated spindle cells in a matrix containing bands of hyaline collagen and occasional mast cells.[5,10]

5. **Angiomyolipoma:** Asymptomatic lesion. Histologically characterized by well differentiated smooth muscle sheets surrounding the mature fat cells

and dilated blood vessels[10].

6. **Pleomorphic Lipoma:** Characterized by presence of Round, spindle and floret like giant cells. This typical giant cells helps to differentiate pleomorphic lipoma from liposarcoma[10]. Often there is confusion in diagnosing pleomorphic lipoma with spindle cell lipoma due to there overall similarity in clinicomorphological features.

7. **Myolipoma:** Rarest among all. Characterized by combination of mature adipose tissue and smooth muscle in varying proportions of which proportion of muscular component is more[8].

8. **Chondroid Lipoma:** Similarity with chondroblasts and lipoblasts often leads to misdiagnosis of sarcoma instead of chondroid lipoma. Histologically, it is characterized by combination of mature adipose tissue, lipoblasts with bland nuclei, and hibernoma like cells in a myxohyaline and pseudochondroid matrix.[13]

9. **Fibrolipoma:** Combination of fibrous component with lobules of mature adipose cells. Texture of this tumor can be from soft to firm which depends upon the proportion of fibrous component in it [21] .Most of the time surgery is the mode of treatment. If the size of the lesion is too large to excise then various regression methods are implied. Injection with steroids like lidocaine with triamcenolone acetonide(1:1) can reduce the size of the lesion following which surgery is carried out. Some prefer liposuction to avoid scarring of tissues. Some authors believe on IFN alpha to regress the lesion. But whatever may be the treatment modality prognosis of lipoma is satisfactory[22,23,24].

TREATMENT: Surgical excision is the treatment of choice. Surgical excision of the lesion irrespective of their histologic variant is the main treatment modality. Recurrence rate is very rare[6,14,15] except Intramuscular variant of oral lipomas where incomplete excision can lead to recurrence[16,17] .Overall prognosis is good in all cases.

Conclusion

Oral lipomas are rare benign lesion. Though soft tissue lipomas are not uncommon oral lipomas are relatively less in number. Mostly goes asymptomatic and are rarely comes to dental professionals either by accidental findings or complaint from a patient due to aesthetic reasons. Various histological variant of lipomas are there but most common is classical lipoma followed by fibrolipoma. Prognosis of these benign intraoral lesions is good.

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