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Oral Fibrolipoma-: A Rare Presentation Case Report and Review of Literature

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Authors' contributions

This work was carried out in collaboration between all authors. Author RM did the surgical excision of the lesion. Author NB diagnosed the case. Author SG performed the histopathological examination of the lesion. Authors RM, NB, AS and SG helped in formulation of the manuscript. Authors RM and NB helped in reviewing and editing the manuscript. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Lipomas are classified as benign soft tissue neoplasms of mesenchymal origin and comprise 4-5% of benign tumors in the body. They are relatively rare in the oral cavity with a rate of 1/5000 individuals. The buccal mucosa, tongue, and floor of the mouth are among the common locations. Surgical excision is the treatment of choice. The fibrolipoma is an unusual histologic variant of lipoma that is comprised of neoplastic fat cells embedded in condensed collegen tissue. Clinicians should be aware of these lesions in order to develop better clinical differential diagnoses. This is a report of a rare case of an oral fibrolipoma in an unusual location in the lower labial oral mucosa. The biological characteristics of the lesion are described.

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1. INTRODUCTION

The term “lipoma” is derived from the Greek words lipos and oma meaning fat and tumor respectively [1]. A lipoma is a benign mesenchymal soft tissue neoplasm comprised of mature adipose tissue [2]. They are best known as universal or ubiquitious tumors due to their wide distribution in the human body [3]. Lipoma comprise 4–5% of all benign tumors in the body [2]. They are relatively rare in the oral cavity with a reported rate of 1/5000 individuals [3]. Oral lipomas were first described in 1848 and referred to as a “yellow epulis” [4].

The fibrolipoma, in which neoplastic fat cells are embedded within dense collagen, is a benign uncommon histologic variant of the conventional lipoma. Particularly rare is the fibrolipoma that sometimes can be confused with infiltrating lesions when included in forming a differential diagnosis [5].

The etiology and pathogenesis of the fibrolipoma remain unclear, although mechanical, endocrine and inflammatory influences have been reported. An alteration in lipid metabolism or an anomalous localization of fatty-fetal tissue in the tongue have been suggested. It is thought that repeated mild trauma can also trigger fatty tissue proliferation [5]. While most lesions are developmental anomalies, those which occur in the maxillofacial region usually arise late in life and are presumed to be neoplasms of adipocytes and are occasionally associated with trauma. A few lipomas show rearrangement of 12q, 13q, 6p chromosomes [6].

2. CASE REPORT

The patient was a 30-year-old male who reported to Hitkarini Dental College & Hospital Jabalpur with the chief complaint of a growth of 4 months duration on left side of his lower lip. The growth was asymptomatic except for functional discomfort. The lesion had gradually increased to its present size. His past medical history was non-contributory and his physical condition was good. The extraoral examination was non-contributory. Intraoral examination revealed a solitary pedunculated exophytic growth on lower left labial mucosa, oval in shape, and measuring approximately 4.5 X 2 cm in size. The surgace of the lesion appeared smooth, lobulated, and relatively normal in color. On palpation it was firm in consistency, compressible, non-tender, non-reducible, non-bleeding and non-pulsatile in nature (Fig. 1). Routine hematological laboratory studies were normal.

The patient was referred to the Department of Periodontics and Implantology for consultation where excision biopsy was advised. After obtaining a written informed consent, local anesthisa was administered and excision of lesion was performed under aseptic conditions with soft tissue diode laser in interrupted pulse mode (Soft-tissue Diode Laser: [manufactured by Picasso] wavelength 810 nm (± 10), output energy 2.5W, and input power 300 VA.) We used 810-nm wavelength and 7W power. Surgical time was approximately 4-5 min to completely excise the mass. The diode laser provided an optimum combination of clean cutting the tissue and good haemostasis (Fig. 2). Routine analgesics were prescribed. The excised tissue was sent to the Department of Oral and Maxillofacial Pathology for histolopathological examination. Follow up after one week and subsequent at 1 month revealed complete and uneventful healing.

Histopathological examination with Haematoxylin and Eosin stained section [10X] revealed

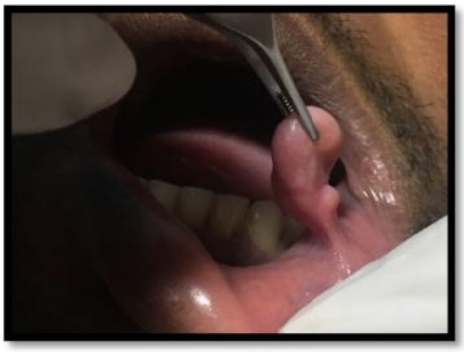

Fig. 1. Preoperative view

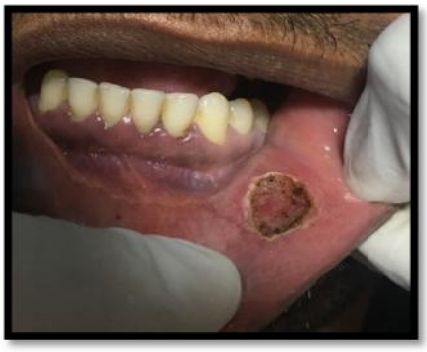

Fig. 2. Immediate postoperative view

stratified squamous epithelium covering an adipose tissue mass in a fibrocellular connective tissue stroma. Lobules of mature adipose tissue mass are separated by connective tissue septae and fibroblasts also seen [40X]. The final diagnosis was fibrolipoma [Figs. 3 and 4].

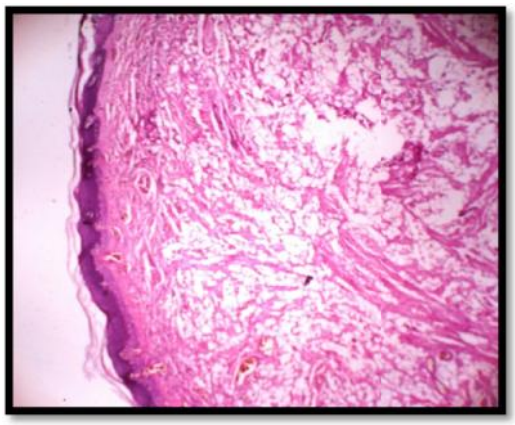

Fig 3. Histopathological Finding (10X)

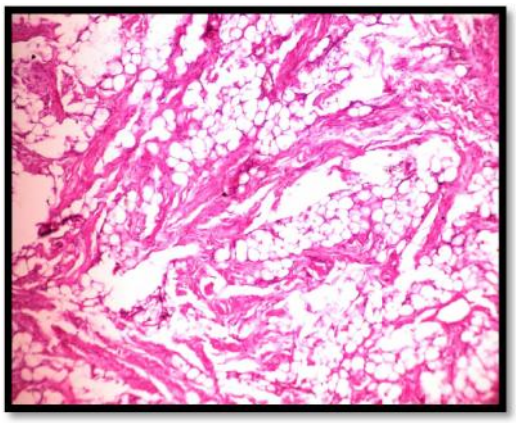

Fig. 4. Histopathological Finding (40X)

3. DISCUSSION

Lipomas are benign mesenchymal tumors that can develop at any location where fat is present and make up 4–5% of all benign tumors in the body. Intraoral lipomas comprise 2.2% of all lipomas and 2.4% of all benign tumors in the oral cavity. Fibrolipoma is a microscopic variant of lipoma characterized by a significant fibrous component intermixed with lobules of fat cells [7].

Most patients with fibrolipoma are of an older age [1]. They often present in adults in the 5th to 7th decade and are rare in children [8]. Moreover a review by Naruse et al found that most cases of lipoma occur at 60 years of age or older and are rare in children. In their study, the mean age of the patients was 59 years with only few cases being less than 40 years old [9]. Fibrolipoma shows a slight predominance in females [10,11]. Our case of a fibrolipoma in a 30-year-old male make it unique.

Clinically, fibrolipomas appear as well-circumscribed, slow-growing, long standing, and painless soft tissue tumors that may be superficial or more deeply located and covered by normal mucosa [6]. The sites reported in the head and neck region are: buccal mucosa, floor of mouth, gingiva, mandible, vestibule, maxilla and in the parotid glands [1]. The buccal mucosa and buccal vestibule are the most common intra-oral sites and account for 50% of all cases. Less common sites include the tongue, floor of the mouth and lips [6]. Involvement in the lower labial mucosa also makes the present case unusual.

Oral lipomas are usually soft, smooth surfaced nodular masses that can be sessile or pedunculated. Most of the lesions are less than 3 cm in size, but occasional lesions can become much larger [3]. Lipomas are freely mobile in relation to the surrounding tissues and may clinically have a semi-lucent yellow color because of the thin overlying epithelium. In some cases it is possible to observe the superficial blood vessels as well [12]. They are mobile, non tender, soft in consistency, smooth surfaced and compressible mass. On palpation a characteristic positive slip sign can be elicited [3]. Though benign in nature, progressive growth of intraoral lipomas may cause interference with speech and mastication due to tumor's dimension [2]. It is capable of producing pain, discomfort a pressure sensation and can undergo degenerative changes due to constant trauma and also has the potential to become malignant [1].

The pathogenesis of fibrolipoma remains unclear. It has been thought to be congenital, to be caused by endocrine imbalance, to be the product of a degenerated fibromatous tumor, or to arise from maturation of lipoblastomatosis. Multiple head and neck lipomas have been observed in neurofibromatosis, Gardner syndrome, Ecephalo- Craniocutaneous lipomatosis, Multiple familial lipomatosis and Proteus syndrome, Cowden's syndrome, Multiple hamartoma syndrome and Dercum's disease [3].

Lipomas that are superficial can get confused with mucocole or ranula depending on the location while submucosal types can get confused with chronic abscesses especially when they are near the dentoalveolar bone

segment [1]. In view of their clinical features, other tumors and cysts like fibroma, pleomorphic adenoma, mucoepidermoid carcinoma, liposarcoma, oral dermoid and epidermoid cysts and oral lymphoepithelial cysts must also be considered in the differential diagnosis of oral lipomas. Oral lymphoepithelial cysts lesions are usually small at the time of diagnosis. Also, most oral lymphoepithelial cysts are found on the floor of the mouth, soft palate and mucosa of the pharyngeal tonsil, which are uncommon sites for oral lipomas. Oral dermoid and epidermoid cysts also present as submucosal nodules and, typically, occur on the midline of the floor of the mouth. However, oral dermoid and epidermoid cysts can occur in other locations of oral mucosa. Because an oral lipoma can occasionally present as a deep nodule with normal surface colour, salivary gland tumors and benign mesenchymal neoplasms should also be included in the differential diagnosis [13,5].

Adding to the clinical data or when differential diagnosis is more complex, imaging techniques can also be used, such as a CT scan, together with diagnostic fine needle aspiration cytology (FNAC), can be helpful to determine the nature of the mass. The CT features of fibrolipoma show an ovular mass with definite margins and inhomogeneous density (compatible with adipose tissue). Although cytology can be a useful guide, in many cases it is not sufficient to confirm the diagnosis of fibrolipoma [5].

Histopathology remains the gold standard for the diagnosis of lipoma. Histologically, classic lipomas are composed of mature adipose tissue with true lipoblasts showing no cellular atypia. Many benign histological variants of lipoma are known and described based on the type of tissue present and predominant in the lesion inckuding: fibrolipoma, angiolipoma, myolipoma, myxolipoma, spindle cell lipoma, osteolipoma, and chondrolipoma [14]. Histopathologically, the fibrolipoma is described as lobules of chicken wire appearing benign adipocytes with a component comprised of broad bands of dense collagen. Like the classic lipoma, it is usually well-circumscribed and may be thinly encapsulated [11]. The angiolipoma consists of an admixture of mature fat and numerous small blood vessels. Myxoid lipoma exhibits a mucoid background and may be confused with myxoid liposarcomas. The spindle cell lipoma is another variant that demonstrates variable amount of uniform appearing spindle cells in conjunction with a more typical lipomatous component. Pleomorphic lipomas are characterized by presence of spindle cells and bizarre hyperchromatic giant cells. Intramuscular lipomas are often more deeply situated and have an infiltrative growth pattern that extends between skeletal muscle bundles [10]. Some of the histopathologic variants of lipoma are very rare including the hibernoma which is rare benign soft tissue tumor arising from brown fat tissue and, to date, only a single intraoral case in the tongue region has been reported.reported, [15] Angiomyxolipoma is another rare histological variant of lipoma characterized by proliferation of adipose tissue associated with a variable amount of myxoid stroma and with numerous thick- and thin-walled blood vessels [16]. Fibrolipoma should be differentiated from spindle cell lipomas which are composed of mature lipocytes and uniform spindle cells in a mucinous and fibrous background. On occasions, fibrolipoma can be confused with herniated buccal pad of fat but the characteristic well –circumscribed nature and lack of history of trauma will help in differentiating [1].

Immunohistochemical staining for proliferating cell nuclear antigen (PCNA) and ki-67 revealed that it is detected in the nuclei of mature fat cells. The distribution of PCNA and ki-67 expression is different in different variants of lipoma. The expression in fibrolipomas and intramuscular lipomas was found to be higher than classic lipomas [9]. Regarding the proliferative activity that is determined by expression of PCNA and Ki-67, it was found that fibrolipomas have greater proliferating activity than that of classic lipomas [3].

The treatment of oral lipoma, including all its histologic variants, is conservative local excision [5]. Recurrence is rare; however, lesions outside the oral cavity show a greater recurrence rates after surgical excision, but intraoral intramuscular lipomas, although not well-limited, also rarely show recurrence if completely excised [9].

4. CONCLUSION

Oral fibrolipomas are rare in the oral cavity with few cases reported. The need for accurate diagnosis important, as proliferative activity of fibrolipoma is greater as compared to other variants. Since the clinical manifestations are mimicked by a variety of lesions, histopathological examination is necessary in order to arrive at a final diagnosis. To that end we have attempted to describe the clinical

features, etiology, differentiating features, and histopathology of this infrequently occurring lesion the oral cavity.

CONSENT

All authors declare that 'written informed consent was obtained from the patient for publication of this case report and accompanying images'.

ETHICAL APPROVAL

It is not applicable.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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