

Fibrolipoma - A Rare Intraoral Tumor: A Case Report

Surekha Chavan¹, Yashwant Ingle², Revati Deshmukh³, V.V. Kulkarni⁴

Abstract:

Lipomas are the most common benign mesenchymal tumors, developing in any location where fat is normally present. They develop mostly in the subcutaneous tissues but also could develop in deeper tissues. These most commonly occur in the fifth or sixth decade of life, are multiple in 5% of patients and are uncommon in children. However in the oral cavity this is a relatively rare tumor. When present in the oral cavity these lipomas can present with difficulties in speech and mastication. They predominantly affect the buccal mucosa followed by the lip and tongue. We present a case report of a young female patient diagnosed with a fibro-lipoma in the hard palate.

Key words: Fibrolipoma, Oral Cavity, Buccal Mucosa, Hard Palate

Introduction:

Lipoma is a relatively rare intraoral tumor, although it does occur with variable frequency in other areas especially the subcutaneous region of the neck. It is a benign slow growing tumor composed of mature fat cells. However the metabolism of these fat cells in a lipoma is different from normal fat cells. Shafer says that a person on a starvation diet will lose fat from normal fat deposits in the body but not from a lipoma. Further fatty acid precursors are incorporated at a more rapid rate into lipoma fat than into normal fat and lipoprotein lipase activity is reduced.¹ It has been shown that the fat of lipoma is not used for energy production during starvation period, as it happens with normal adipose tissue; their lipid is not available for metabolism. Adipose tissue is present in two basic forms white fat and brown fat.¹

The first description of an oral lesion was provided by Roux in 1848 where in a review of alveolar masses he referred to it as yellow epulis.² The pathogenesis of lipomas is not certain. While most lesions are considered to be developmental anomalies, those which occur in the oral and maxillofacial region specifically are presumed to be neoplasms of adipocytes associated with trauma. Few lipomas show re arrangement of 12q, 13q, 6p chromosomes.³

Case Report:

A 20 year old female patient reported to the Department of Oral Pathology Bharati Vidyapeeth Dental College and Hospital Pune with a chief complaint of a painless swelling in the left posterior aspect of palate. On clinical examination patient revealed a pedunculated slow growing swelling measuring 3cm x 2.5cm in size since past one to two years

(Fig. 1). Swelling was lobular in nature with no ulceration. A clinical diagnosis of lipoma/ benign salivary tumor/fibroma was made. The tumor was excised and the tissue was sent for histopathological examination to the Department of Oral Pathology. Macroscopic examination revealed one soft tissue of creamish white color, firm in consistency, smooth surface and measuring 2cm x 1cm x 2cm (Fig. 2). The gross specimen was floating in water. Microscopic findings revealed the connective tissue stroma consisting of dense collagen bundles and lobules of mature adipocytes with no cellular atypia. Proliferating fibroblasts, few chronic inflammatory cells infiltrate and compressed blood vessels engorged with RBC's were also evident in the connective tissue stroma (Fig. 3a, 3b and 3c). Correlating with the clinical and with histopathological examinations, the above lesion was suggestive of fibro-lipoma.

Discussion:

The lipoma is a very common benign tumor of adipose tissue, but its presence in the oral and oropharyngeal region is relatively uncommon with a prevalence rate of only 1/5000 adults. They have been known to grow to large sizes causing mastication and speech difficulties. Fibrolipoma has been thought to be congenital, caused by endocrine imbalances, the product of a degenerated fibromatous tumor, or to arise from the maturation of lipoblastomatosis.⁴

The usual lesions consist of a well circumscribed, lobulated mass of mature fat cells. In other situations the covering mucosa becomes ulcerated and presents difficulties in diagnosis. It seldom occurs in the younger age group.¹

Oral lipomas can occur in various anatomic sites including the major salivary glands, buccal mucosa, lip, tongue, palate, vestibule, and floor of mouth. Although benign in nature, their progressive growth may cause interference with speech and mastication due to tumour's dimension. In most cases the size

¹Reader, ³Professor and Head, ⁴Associate Professor

✉ Email: surekhachavan16@gmail.com

Department of Oral & Maxillofacial Pathology,
Bharati Vidyapeeth Dental College and Hospital, Pune.

²Senior Lecturer, Department of Oral & Maxillofacial Pathology
D.Y. Patil Hospital, Pimpri, Pune



Figure 1: Pedunculated swelling lobular in nature with no ulceration.



Figure 2: Well circumscribed lesion of creamish white colour.

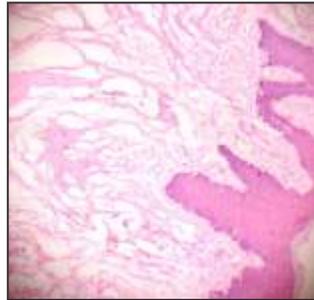
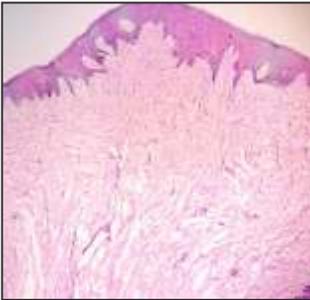


Figure 3a & b: Well circumscribed lesion showing proliferating fibroblast and adipocytes

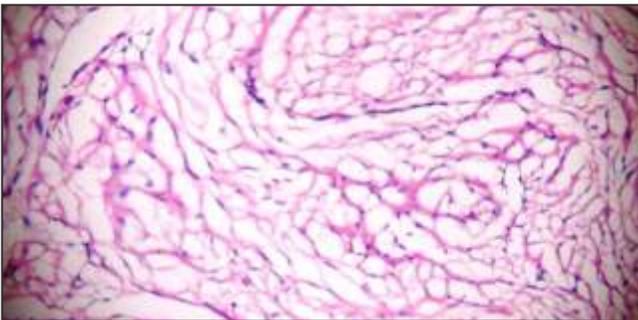


Figure 3c: Mature adipocytes interposed with proliferating fibroblast

of the lesion is less than 3cms, but can increase upto 5-6cms over a period of few years. It is usually found in adults. The female to male ratio for all lipomas is 2: 1, but oral lipomas occur more in men than in women.¹⁻³

Lipoma makes up 4- 5% of all benign tumors in the body. Involvement of the oral cavity is rare; with lipomas corresponding to less than 4.4% of all benign oral soft tissue tumors.² Intra-orally it affects the buccal mucosa and vestibule more commonly compared to tongue and floor of the mouth. The hard palate has very little fatty tissue and the incidence of a lesion here is quite low. Lipomas can however occur in areas where you least expect them. Brennan et al reported a case of a lipoma occurring between the two layers of the deep temporal fascia above the zygomatic arch.³

Lipomas are usually soft, well circumscribed, mobile, slow growing, and asymptomatic.¹ In 2004, Zhong et al published an extensive study of the site and classification of 125 cases of lipomas. They published the following findings. Lipomas of the oral and maxillofacial region occur most commonly in adult males in the parotid region, followed closely by the buccal mucosa. These tumors are uncommon in children. Interestingly, spindle cell lipomas are common in this region and comprise the majority of parotid and lip tumors in the study. Angiolipomas were absent in this anatomic region in this study.⁵

Multiple head and neck lipomas have been observed in neurofibromatosis, Gardner syndrome, cephalocranio-cutaneous lipomatosis, multiple familial lipomatosis and Proteus syndrome.¹⁻³

The etiology varies from the differentiation of multipotent mesenchymal cells in fat tissue, cartilage, and bone to metaplasia of a preexisting lipoma. Mesenchymal cells are modified by systemic and local influences that range from local trauma to prolonged ischemia. Hum Kim et al studied 10 ordinary lipomas and one fibroblastic lipoma under the light and electron microscope respectively. They observed that ordinary lipomas contained only a few inconspicuous septa, were composed of univacuolar mature adipocytes. No young forms of adipocytic differentiation were seen reflecting the slow growth of the ordinary lipomas. 6 Small spindle cells accompanying capillaries located in the triangular confluence of the adipocytes are thought to be potential precursors of adipocytes. By contrast, the fibroblastic lipoma contained many younger forms which closely resembled those seen during maturation of normal adipose tissue. These younger forms were located in and about prominent trabeculae which therefore are considered to constitute active growth centers.⁶⁻⁹

Imaging modalities and Diagnostics: Superficial lipomas in oral and maxillofacial region sometimes can be diagnosed clinically.¹⁰ Palpation reveals a soft, painless, and mobile mass enlarging gradually, and the course could be several months or years. Deep lipomas usually are not palpable. It is difficult to distinguish between the mass and the adjacent tissues, especially when the mass is adherent to muscles and salivary glands. Zhong et al have extensively reviewed the imaging modalities in lipoma. Imaging examination such as ultrasonography or FNAB (fine needle aspiration biopsy) may be necessary. The aspirates are yellow and oil-like. In one patient, Zhong reported that the mass clinically presented like a cyst, but was diagnosed as lipoma by ultrasonography. Ultrasound imaging reveals tissues to be hypoechoic or hyperechoic.⁵ It has been demonstrated by in vitro experiment

that a mixture of water and fat is markedly echogenic, but that pure fat or water separately is echo free. Similarly, in vivo echogenicity of lipomas may be related mainly to the number of internal interfaces between fat and other intermingled connective tissue elements: the purer the fat, the more hypoechoic. Because the different density of the adjacent tissues and the different velocity of ultrasonography in the adjacent tissues lead to different acoustic impedance of the adjacent tissues, the fat tissue could be identified from the adjacent tissues. It remains controversial whether lipomas are hypoechoic or hyperechoic on ultrasonograms. Superficial soft-tissue lipomas were initially reported to be sonolucent or hypoechoic, with only a few weak internal echoes. Behan and Kazam concluded that subcutaneous lipomas and adipose tissue may be either relatively sonolucent or echogenic. Chikui et al have reported the results that majority of lipomas are hypoechoic.¹¹

When it is difficult to identify the mass from the adjacent tissues in the oral and maxillofacial region, on ultrasonogram, a CT or MRI is necessary.^{5, 12} Fregnani et al did an exhaustive study of 46 cases of lipomas of the oral cavity.¹³

Conclusion:

Oral fibrolipomas are very rare in the oral cavity with few cases documented so far. Since the proliferative activity of fibrolipoma is greater than the other variants, the need for accurate diagnosis is important.¹³ Many lesions show similar clinical findings but the histopathological examination help us to arrive at confirmative diagnosis. Thus we have attempted to describe the clinical features and histopathology of infrequently occurring lesion the oral cavity.

References :

1. Shafer HL. Textbook of oral pathology. In: Rajendran R,

- Sivapathasundharam B, editors. Benign and malignant tumors of the oral cavity. 6th edition. 2009.
2. Douglas, Gnepp R. IN diagnostic surgical pathology of the head and neck (1st ed). Philadelphia, WB Saunders Company 2001:192-93.
 3. Aust MC, Spies M, Kall S, et al. Lipomas after blunt soft tissue trauma: Are they real? Analysis of 31 cases. Br J Dermatol 2007;157:92-99
 4. de Visscher JG. Lipomas and fibrolipomas of the oral cavity. J Maxillofac Surg 1982;10:177-81.
 5. Zhong LP, Zhao SF, Chen GF, Ping FY. Ultrasonographic appearance of lipoma in the oral and maxillofacial region. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2004;98:738-40.
 6. Ye Hum Kim, MD, and Leopold Reiner, MD Ultrastructure of Lipoma Cancer 50:102-106, 1982.
 7. Epivatianos A., Markopoulos A.K., Papanayotou P.: Benign tumors of adipose tissue of the oral cavity: a clinicopathologic study of 13 cases. J Oral Maxillofac Surg. 58:1113-1117 2000.
 8. B. Sekar Dominic Augustine. Lipoma, A Rare Intraoral Tumor - A Case Report With Review Of Literature. OMPJ; Vol 2. No 2. Jul- Dec 2011.
 9. Studart-Soares EC, Costa FW, Sousa FB, Alves AP, Osterne RL. Orallipomas in a Brazilian population: A 10-year study and analysis of 450 cases reported in the literature. Med Oral Patol Oral Cir Bucal. 2010;15(5):e691-6.
 10. Epivatianos A., Markopoulos A.K., Papanayotou P.: Benign tumors of adipose tissue of the oral cavity: a clinicopathologic study of 13 cases. J Oral Maxillofac Surg. 58:1113-1117 2000.
 11. Chikui T, Yonetsu K, Yoshiura K, Miwa K, Kanda S, Ozeki S et al. Imaging findings of lipomas in the orofacial region with CT, US and MRI. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1997; 84 : 88-95.
 12. Brennan P.A., Bater M.C., Sharma S., and Oeppen R.S. Lipomas where you least expect them. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005;100:E9-10.
 13. E. R. Fregnani, F. R. Pires, R. Falzoni, M. A. Lopes, P. A. Vargas: Lipomas of the oral cavity: clinical findings, histological classification and proliferative activity of 46 cases. Int. J. Oral Maxillofac. Surg. 2003; 32: 49-53.

How to cite this Article: Chavan S, Ingle Y, Deshmukh R, Kulkarni V. Fibrolipoma - A Rare Intraoral Tumor: A Case Report . J Dent Allied Sci 2013;2(1):83-85.
Source of Support: Nil. **Conflict of Interest:** None Declared.