

Intraoral Lipoma: Report of 3 Cases

RamanPreet Kaur¹, Shikha Kler¹, Amandeep Bhullar²

ABSTRACT

Lipoma, a benign tumor of adipose tissue is one of the most common benign neoplasms of the body. However, its occurrence in oral cavity is very rare. It accounts for 1 to 4% of benign neoplasms of mouth affecting predominantly the buccal mucosa, floor of mouth and tongue. We report three cases of intraoral lipoma, two in buccal mucosa and one in labial mucosa. An excisional biopsy was performed and histopathological examination revealed proliferation of mature adipocytes arranged in lobules and separated by fibrous septa. After 3 years follow up, the patients showed no signs of recurrence.

Keywords: Adipocytes, Lipoma, Oral, Surgery.

Received: March 2010

Accepted: September 2010

Dent Res J 2011; 8(1): 48-51

Introduction

Lipomas are the most common soft tissue mesenchymal neoplasms, with 15–20% of cases involving the head and neck region and only 1–4% affecting the oral cavity.¹ The first description of an oral lesion was provided in 1848 by Roux in a review of alveolar masses, where he referred to it as a "yellow epulis".² The pathogenesis of lipoma is uncertain, but they appear to be more common in obese people. However, the metabolism of lipoma is completely independent of the normal body fat. If the caloric intake is reduced, lipomas do not decrease in size, although normal body fat may be lost. Lipomas are slowly enlarging, with a soft, smooth-surface mass of the submucosal tissues. When it is superficial, there is a yellow surface discoloration. The lesion may be pedunculated or sessile and occasional cases show surface bosselation.³ Multiple lipomas of head and neck have been observed in neurofibromatosis, Gardner syndrome, encephalocraniocutaneous lipomatosis, multiple familial lipomatosis and proteus syndrome. Generalised lipomatosis have been reported to contribute to unilateral facial enlargement in hemifacial hypertrophy.⁴ Although its etiology is unknown, possible causes may include trauma, infection, chronic

irritation and hormone alterations.⁵ In few cases of lipoma, rearrangement of 12q, 13q, 6p chromosomes have been observed.²

Clinical cases

Case 1 was a 54 years old male patient, who complained of painless soft tissue mass in the labial mucosa in the last 10 years. It was solitary, lobulated soft mass, 2X3 cm in size, with smooth margins and was not fixed to underlying deeper structures (Figure 1). There was not any associated fever, weight loss or other otolaryngeal problems. The oral mucosa over the mass appeared normal. Other investigations included full blood count, serum and urea electrolytes, and urine analysis, all were in normal limits.

Case 2 was a 52 years male patient, who complained of slowly growing mass in the buccal mucosa since one and half years ago, which was non-pulsatile and non-tender in nature, 2.5X3.5 cm in size with smoother margins (Figure 2). During extraoral physical examination, the patient was cooperative and appeared to be in good nutritional health with normal vital signs. The patient reported no prior personal or family histories related to this problem.

¹ Assistant Professor, Department of Oral and Maxillofacial Pathology DAV(c) Dental College & Hospital, Yamunanagar, Harayana, India.

² Assistant Professor, Department of Prosthodontics, Genesis Institute of Dental Sciences & Research, Dental College & Hospital, Ferozepur, Punjab, India.

Correspondence to: RamanPreet Kaur, Email: ramanpreetgrewal@rediffmail.com



Figure 1. Intraoral swelling on labial mucosa.



Figure 3. Intraoral swelling seen on buccal mucosa.



Figure 2. Intraoral growth on buccal mucosa.

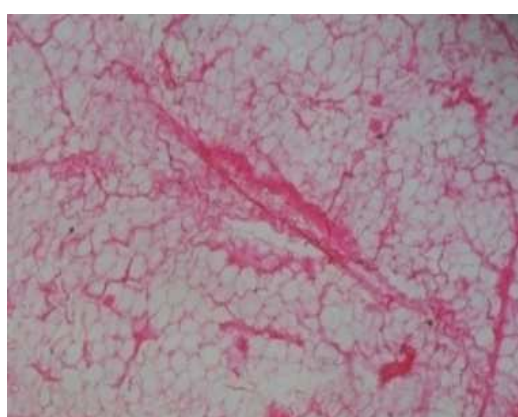


Figure 4. Photomicrograph showing mature adipocytes having nucleus placed to periphery with intervening connective tissue stroma (X10).

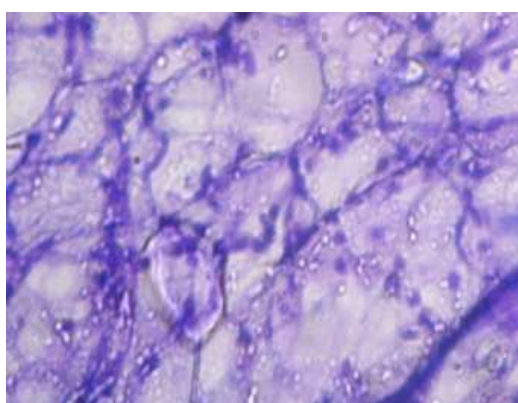


Figure 5. Fine needle aspiration cytology showing adipocytes (X40).

Case 3 was a 55 years old male complained of painless doughy swelling, growing very slowly in the buccal mucosa for the last four years, which was about 2.5X1.5 cm in size, yellowish in colour, compressible, fluctuant, well localized and pedunculated (Figure 3). Grossly, it was a well circumscribed lobulated mass. Fine needle aspiration cytology was performed in this case and aspirated fluid showed fat cells (Figure 4).

In these cases, clinical diagnosis varied from focal reactive overgrowths, neural tumors, granular cell tumors to lipomas. Surgical excision was done for all the cases under local anaesthesia along with peritumor anaesthesia.

Histopathology. Grossly, these tumors were soft, well circumscribed, and non-infiltrating. Microscopically, these tissues revealed sheets of mature adipocytes containing clear cytoplasm and eccentric nucleus, with no evidence of cellular atypia or metaplasia (Figure 5). The tumor cells were arranged in lobules with intervening fibrovascular connective tissue septa. Based on the histopathological features, the diagnosis of lipoma was made.

Discussion

Lipomas are adipose mesenchymal neoplasms that rarely occur within oral cavity (1% to 4%). Lipids unavailable for metabolism⁶ coupled with the autonomous growth of a lipoma have rendered it to be a true benign neoplasm.⁷ Generally, their preva-

lence does not differ with gender, although a predilection for men has been reported,⁵ and they occur most often in patients older than 40 years.⁸ Similar trend was seen in our reported cases. The cheek is the commonest site of occurrence in the intraoral cavity followed by tongue, floor of the mouth, buccal sulcus and vestibule, palate, lip and gingiva.⁹ This pattern corresponds closely to the quantity of fat deposit in the oral cavity.

Oral lipomas are slow growing masses, and patients commonly present with a well-circumscribed nodule that has been developing for several years.¹ The average duration of tumor in our study prior to resection was 7.7 years. This may be biased due to greater duration of one lesion being present since 10 years ago.

Clinically, oral lipomas generally present as mobile, painless submucosal nodules, with yellowish tinge, as observed in our cases. In some cases, oral soft tissue lipomas can present as a fluctuant nodule. Because of these clinical features, other lesions, such as oral dermoid and epidermoid cysts and oral lymphoepithelial cysts must be considered in the differential diagnosis of oral lipomas.¹⁰ Although, oral lymphoepithelial cysts present as movable, painless submucosal nodules with a yellow or yellow-white colouration, they differ from oral lipomas in that the nodules are usually small at the time of diagnosis and usually occur in the first to third decade of life. Also, most oral lymphoepithelial cysts are found on the floor of the mouth, soft palate and mucosa of the pharyngeal tonsil,¹¹ 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.¹² 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 Lipomas have a less dense and more uniform appearance than the surrounding fibrovascular tissue when transilluminated. Magnetic resonance imaging scans are very useful in the clinical diagnosis while CT scan and ultrasonography are less reliable. Definitive diagnosis depends on correlation between the histological and clinical features.¹⁴

The histopathology remains the gold standard in the diagnosis of lipoma. Lipomas are not very dif-

ferent in microscopic appearance from the surrounding fat. Like fat, they are composed of mature fat cells, but the cells vary slightly in size and shape and are somewhat larger, measuring up to 200 μ m in diameter. Subcutaneous lipomas are usually thinly encapsulated and have distinct lobular patterns. Deep-seated lipomas have a more irregular configuration, largely depending on the site of origin. All are well vascularised, but under normal conditions, the vascular network is compressed by the distended lipocytes and is not clearly discernible. Lipomas are occasionally altered by the admixture of other mesenchymal elements that comprise an intrinsic part of the tumor. The most common element is fibrous connective tissue, which is often hyalinized and may or may not be associated with the capsule or the fibrous septa. Lipomas with these features are often classified as fibrolipomas.¹⁵ Quite often, however, lesional fat cells are seen to "infiltrate" into surrounding tissues, perhaps producing long thin extensions of fatty tissue radiating from the central tumor mass. When located within striated muscle, this infiltrating variant is called intramuscular lipoma (infiltrating lipoma), but extensive involvement of a wide area of fibrovascular or stromal tissues is best termed as lipomatosis. Occasional lesions exhibit excess numbers of small vascular channels (angiolipoma), a myxoid background stroma (myxoid lipoma, myxolipoma), or areas with uniform spindle shaped cells interspersed among normal adipocytes (spindle cell lipoma). When spindle cells appear somewhat dysplastic or mixed with pleomorphic giant cells with or without hyperchromatic enlarged nuclei, the term "pleomorphic lipoma" is applied. When the spindle cells are of smooth muscle origin, the term myolipoma may be used. It is angiomyolipoma when the smooth muscle appears to be derived from the walls of arterioles. Rarely, chondroid or osseous metaplasia may be seen in a lipoma which is described as chondroid lipoma, osteolipoma or ossifying lipoma. On occasions, lipomas of the buccal mucosa cannot be distinguished from a herniated buccal fat pad, except by the lack of a history of sudden onset after trauma. Otherwise, lipomas of the oral and pharyngeal region are not difficult to differentiate from other lesions, although spindle cell and pleomorphic types of lipoma must be distinguished from liposarcoma.¹⁴ Most of these microscopic variations do not affect the prognosis, which is usually good.¹⁶

The treatment of oral lipomas, including all the

histological variants is simple surgical excision. No recurrence has been observed.¹ Although the growth of oral lipomas is usually limited, they can reach great dimensions, interfering with speech and mastication¹⁹ and reinforcing the need for excision.¹⁷ In the current series, all tumors were excised surgically, and no recurrence has been observed till now.

Conclusion

Solitary lipomas have enthused little interest in the past and have largely been ignored in the literature. The reason is that the most lipomas grow insidiously and cause few problems other than those of a localised mass. Approximately 15-20% of lipoma occurs in the head and neck region. Among the reported intraoral lipomas, 50% occur in the buccal mucosal region. Surgical excision is the ideal treatment with excellent outcome, however complete resection should be emphasized as this is the key factor to avoid recurrence.

References

1. Fregnani ER, Pires FR, Falzoni R, Lopes MA, Vargas PA. Lipomas of the oral cavity: clinical findings, histological classification and proliferative activity of 46 cases. *Int J Oral Maxillofac Surg* 2003; 32(1): 49-53.
2. Rajendran R. *shafer's Oral Pathology*. 5th ed. Amsterdam: Elsevier; 2006. p. 194-5.
3. Cawson RA, Binnie WH, Speight PM, Barrett AW. *Lucas's Pathology of Tumors of The Oral Tissues*. 4th ed. New York: Churchill Livingstone; 1984. p. 176-9.
4. Lawoyin JO, Akande OO, Kolude B, Agbaje JO. Lipoma of the oral cavity: clinicopathological review of seven cases from Ibadan. *Niger J Med* 2001; 10(4): 189-91.
5. Furlong MA, Fanburg-Smith JC, Childers EL. Lipoma of the oral and maxillofacial region: Site and subclassification of 125 cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2004; 98(4): 441-50.
6. Vindenes H. Lipomas of the oral cavity. *International Journal of Oral Surgery* 1978; 7(3): 162-6.
7. Miles DA, Langlais RP, Aufdemorte TB, Glass BJ. Lipoma of the soft palate. *Oral Surg Oral Med Oral Pathol* 1984; 57(1): 77-80.
8. Epivatianos A, Markopoulos AK, Papanayotou P. Benign tumors of adipose tissue of the oral cavity: a clinicopathologic study of 13 cases. *J Oral Maxillofac Surg* 2000; 58(10): 1113-7.
9. de Visscher JG. Lipomas and fibrolipomas of the oral cavity. *J Maxillofac Surg* 1982; 10(3): 177-81.
10. Anavi Y, Gross M, Calderon S. Disturbed lower denture stability due to lipoma in the floor of the mouth. *J Oral Rehabil* 1995; 22(1): 83-5.
11. Flaitz CM. Oral lymphoepithelial cyst in a young child. *Pediatr Dent* 2000; 22(5): 422-3.
12. Longo F, Maremonti P, Mangone GM, De Maria G, Califano L. Midline (dermoid) cysts of the floor of the mouth: report of 16 cases and review of surgical techniques. *Plast Reconstr Surg* 2003; 112(6): 1560-5.
13. Tan MS, Singh B. Difficulties in diagnosing lesions in the floor of the mouth--report of two rare cases. *Ann Acad Med Singapore* 2004; 33(4 Suppl): 72-6.
14. Gnepp DR. *Diagnostic Surgical Pathology of the Head and Neck*. 1st ed. Philadelphia: Saunders, 2010. p. 192.
15. Weiss SW, Goldblum JR. *Enzinger and Weiss's Soft Tissue Tumors*. 5th ed. Philadelphia: Mosby; 2007. p. 571-639.
16. Neville B, Damm DD, Allen CM, Bouquot J. *Oral and Maxillofacial Pathology*. 3rd ed. Philadelphia: Saunders; 2008. p. 523-4.
17. Chidzonga MM, Mahomva L, Marimo C. Gigantic tongue lipoma: a case report. *Med Oral Patol Oral Cir Bucal* 2006; 11(5): E437-9.