



Case Report

Oral lipoma: A case report with comprehensive ultrasonographic features and treatment plan

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ABSTRACT

Lipomas are uncommon oral tumours that make up between 1 and 4 percent of benign oral tumours. It often presents as an asymptomatic, soft, smooth-surfaced, nodular, yellowish mass, and most commonly affects the buccal mucosa, tongue, and floor of the mouth. Although there is a lot of conflicting information in the literature on the sensitivity and specificity of ultrasound in detecting lipomas, it has been used as a diagnostic tool for soft-tissue lesions for more than ten years. Understanding the various sites of oral lipomas inside the oral mucosa is crucial for accurate diagnosis and successful therapy. The case report of a 49-year-old man with an oral lipoma that developed in the mandibular buccal vestibule, a rare position, is presented in this article along with ultrasonographic results and a thorough literature analysis. The paper offers insightful analysis for those working in the field of oral healthcare by looking at the clinical presentation, histological traits, and probable differential diagnoses.

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1. Introduction

Oral lipoma is a benign tumour that develops from mesenchymal tissues. It mostly comprises of mature adipocytes and is frequently wrapped in a thin capsule of fibrous connective tissue.¹ A soft tissue lipoma was first described as a yellowish epulis by Roux in 1848, while an intraosseous lipoma was first described by Cornil and Ranvier in 1880.² Oral lipomas can appear in a variety of anatomical locations, including the lips, tongue, floor of the mouth, palate, and retromolar pad. They are most commonly found in the buccal mucosa and vestibule. They have a slow pace of growth, are typically painless, and form distinct, well-defined, soft protuberances. Submucosal nodules, which might have a sessile or pedunculated base, may also be present in these growths.³ Only 1% to 4% of all lipomas manifest in the mouth cavity, which accounts

for just 0.1% to 5% of all benign tumours in this anatomical area. About 15% to 20% of all lipomas manifest in the head and neck region.⁴

The diagnosis of lipomas in the head and neck region benefits greatly from imaging. Ultrasonography is the first method of choice for identifying these soft-tissue growths since it is the most affordable, widely available, very sensitive, highly selective, and able to provide focused, real-time evaluation of the lesion of interest. According to reports in the medical literature, ultrasound may detect lipomas with diagnostic sensitivity and specificity ranging from 52% to 100% and 86% to 100%, respectively.⁵

Surgical removal is an effective way to treat these diseases. Steroid injections and liposuction operations are examples of alternative therapeutic options. In this context, we provide a case of an oral lipoma in the right mandibular buccal vestibule, including the clinical assessment, the ultrasound findings, and the subsequent treatment strategy.

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2. Case Report

A 49-year-old male patient visited the institution with a chief complaint of small swelling present in right lower back region of mouth since 6 months. Patient gives history of swelling which was constant in size without change in measurement over 6 months period. History of swelling which was completely asymptomatic without functional interference in speech or mastication. Patient is moderately built, well nourished and properly oriented to time and place. General physical examination showed no signs of pallor, icterus, cyanosis, koilonychia. Intraoral examination revealed a solitary dome shaped swelling seen in the right mandibular buccal vestibule measuring approximately 0.5x0.5 cm extending antero-posteriorly from buccal vestibule corresponding to mesial aspect of 45 to distal aspect of 45 and superior-inferiorly from at the level of marginal gingival of 45 to buccal vestibular area.

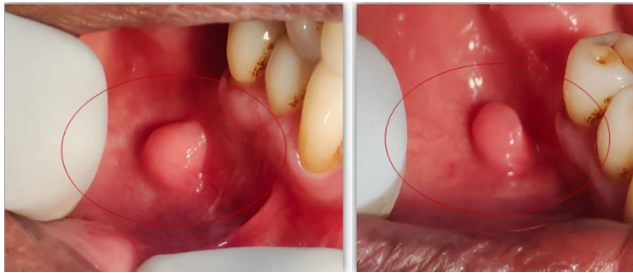


Fig. 1: Intraoral examination showing dome shaped swelling in right mandibular buccal vestibule corresponding to 45.

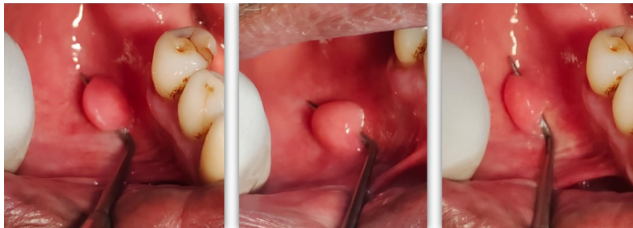


Fig. 2: Intraoral percussion using probe showing swelling which is soft in consistency, fluctuant in nature.



Fig. 3: USG of the swelling showing anechoic shadow with posterior acoustic enhancement.

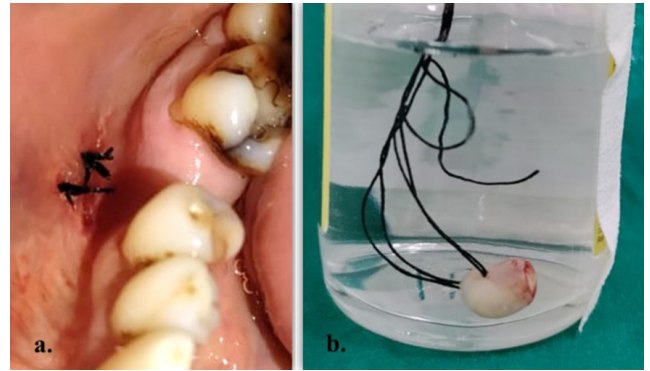


Fig. 4: a: Surgical excision along with suture placement; b: Excised specimen

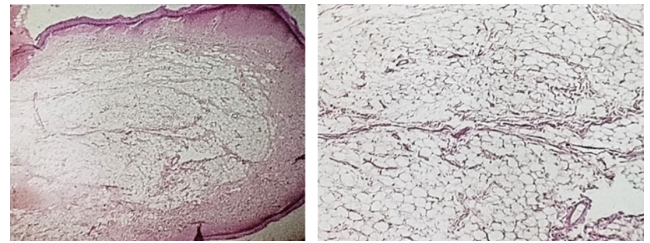


Fig. 5: Histopathological evaluation showed well circumscribed cap with para keratinized stratified squamous epithelium covering the underlying connective tissue. The connective tissue is composed of admixture of polygonally arranged fat cells intermixed with few blood capillaries.



Fig. 6: Post-surgical fellow-up after 6 month showing the absence of recurrence.

Overlying mucosa appears to be smooth with coral pink in color blending with surrounding mucosa [Figure 1]. On palpation, swelling was asymptomatic, soft in consistency, non-tender, pedunculated with broad base, fluctuant, compressible and non-pulsatile [Figure 2]. Provisional diagnosis was given as benign mesenchymal tumour, predominantly lipoma involving right mandibular buccal vestibule with differential diagnosis being reactive minor salivary gland lesion like mucocele and benign nerve sheath tumour, predominantly neurofibroma. Patient was then subjected to ultrasonography which revealed well defined soft tissue cyst in right buccal vestibule of measuring 0.8X1 cm in dimension having anechoic to hypochoic echotexture with no evidence of vascularity within [Figure 3]. Surgical excision of the lesion was performed using scalpel under local anaesthesia [Figure 4]. The specimen was sent for histopathological evaluation which revealed well circumscribed capsule with para-keratinized stratified squamous epithelium covering the underlying connective tissue. The connective tissue is composed of admixture of polygonally arranged fat cells intermixed with few blood capillaries [Figure 5]. A final diagnosis of oral lipoma was given based on histopathological features correlating with clinical and ultrasonographic impression. A follow up after 6 months should no signs of recurrence [Figure 6].

3. Discussion

Lipoma, a common benign tumour that can appear almost anywhere on the body and makes up 4 to 5% of all benign tumours, is a benign development of fatty tissue. Lipomas often manifest as well-defined nodules over the course of several years and develop slowly and gradually. Clinically, these growths might appear as a single lesion or as several lesions. They frequently present as submucosal masses with a yellowish hue and a dough-like consistency, are usually asymptomatic, mobile, and flexible. They can, however, occasionally appear as nodules filled with fluid. The largest occurrence of lipomas occurs around the age of 40, with a small preference for females. They are most common in people between their fourth and fifth decades of life.⁶ The majority of these growths are typically located just below the skin's surface, particularly in non-weight-bearing locations. Lipomas can be single or numerous, and their distribution can be symmetrical or asymmetrical. The buccal mucosa, tongue, palate, mandible, and lip are where they typically manifest themselves in the oral cavity. Their diameter varies depending on where they are, but it normally stays under 25 mm, with the average recorded size in the literature being somewhere about 200 mm.⁷

Although the cause of lipoma is uncertain, the "Hypertrophy theory" and the "Metaplasia theory" are the two leading hypotheses. There have also been suggestions for additional processes, such as trauma, infection, chromosomal anomalies, or hormone imbalances.⁸

According to their histologic characteristics and rates of growth, benign tumours of the adipose tissue can be divided into simple lipomas, fibrolipomas, angioliomas, infiltrating (intramuscular) lipomas, pleomorphic lipomas, osseoliomas, sialoliomas, chondrolipomas, myxoliomas, and spindle cell lipomas. Lipomas can also be divided into superficial, deep, and periosteal types depending on the place. Lipomas are similar in microscopic appearance to a normal fat tissue. They are made up of mature fat cells, just like fat, but they differ slightly from regular adipocytes in terms of size, structure, and metabolism. They can measure up to 200 mm in diameter.^{4,8-10}

Rarely, a lipoma will infiltrate muscles or develop in the spaces between them; this type is known as an infiltrating lipoma. Uncommon infiltrating lipomas are mesenchymal tumours that typically invade nearby tissues and come back after resection. In the head and neck region, this type of lipoma is extremely uncommon, and its congenital variety is uncommon.¹¹ Intraosseous lipoma is another unusual type of lipoma that develops within the bone, with the mandibular symphysis, body, and ramus being the most typical sites.^{1,12} The following conditions are included in the differential diagnosis of intraoral lipoma: mucocele, ranula, ectopic thyroid tissue, lymphoma, benign salivary gland tumour, oral dermoid and epidermoid cysts, oral lymphoepithelial cyst, benign mesenchymal neoplasm, and benign salivary gland tumour.¹³

Ultrasonography is the best imaging modality for soft tissue swellings. Special intraoral probes can be used for swellings in intra-oral region. Purer the fat tissue, the more hypochoic the outcome; the echogenicity of a lipoma is correlated with the number of internal contacts between fat and connective tissue. Overall, ultrasound had a 95.95% accuracy rate and an 86.87% sensitivity rate for identifying lipomas. When a mass is challenging to recognise on an ultrasonogram, additional investigation techniques like computed tomography and magnetic resonance imaging (MRI) can be performed.^{5,13,14}

Simple local surgical excision is the only method for treating oral lipomas, including all histopathological types. Oral lipomas can grow to large sizes, even though their growth is often constrained. This makes excision even more necessary because it interferes with speaking and mastication. Other treatment modalities include Liposuction, used using a 16-gauge needle in average (4 to 10 cm) or large-sized (> 10cm) tumors and intralesional steroidal therapy. Less than 5% of lipomas recur locally. Because they are difficult to eradicate, infiltrating lipomas are susceptible to recurrence. Wide surgical excision lowers the risk of recurrence. Only a few occurrences of malignant transformation have been documented in the literature, making it practically unheard of. This tumour always has a positive prognosis. After a full surgical resection in adults,

recurrence is uncommon.^{3,13,15,16}

4. Conclusion

Oral lipomas are a very uncommon condition that do not discriminate based on gender and typically affect the inner cheek lining in people in their sixth to seventh decade of life. These growths typically take time to form and don't exhibit any symptoms until they're rather large. Ultrasonography exhibits high sensitivity and even greater specificity, making it a useful diagnostic tool for superficial lipomas. In these situations, it continues to be the main investigative strategy. Unbelievably, regardless of their histological subtype, these lipomas often do not show a tendency to recur after a cautious surgical excision.

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6. Conflict of Interests

The authors have no competing interests to declare that are relevant to the content of this article.


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