

## Intra-Oral Lipoma - A Rare Case Report

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### Abstract:

Lipoma, a very common benign tumor of mesenchymal origin can emerge anywhere in the body; however, its intra-oral counterparts are very rare, with approximately 1-4% occurring in the oral cavity. Typically appearing as painless, soft, smooth nodules with a yellowish hue, it often affects region like the buccal mucosa, tongue, and floor of the mouth. Surgical removal is the preferred treatment due to its benign nature and low recurrence rate. Histological examination remains the gold standard in the definitive diagnosis of the lipoma. Here, We present a case of an pedunculated intraoral lipoma in a 62-year-old women located on the left mandibular buccal vestibule, managed through surgical excision. Documenting rare cases like this contributes to a better understanding of the prevalence and clinical features of these tumors.

**Keywords:** lipoma, intra-oral, benign soft tissue tumors, adipose tissue.

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### I. Introduction

Lipomas are benign mesenchymal neoplasm composed of mature adipocytes, usually surrounded by a thin fibrous capsule. Lipomas are the most common soft tissue mesenchymal neoplasms, with 15-20% of cases involving the head and neck region. This tumor is rarely seen in the oral cavity (1-4% cases)<sup>1</sup>. The first description of oral lipomas was made by Roux in 1848. He referred it as a 'yellow Epulis'. Morphologically intra-oral lipomas can be classified as diffuse form affecting the deeper tissues, superficial form and encapsulated form. 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<sup>2</sup>. The etiology of oral lipoma is unclear, and some studies have suggested that mechanical factors, endocrine system, inflammatory processes, obesity, chromosomal abnormalities, radiation, trauma, mucosal infections, and chronic irritations may contribute to the development of the tumor<sup>3</sup>. Oral lipomas are usually asymptomatic but larger lesions may cause pain, difficulty in swallowing and speech. They may present as a pedunculated or sessile lesion<sup>4</sup>. Histologically, oral lipomas consist of mature adipocytes encapsulated by a well-defined fibrous connective tissue layer. They exhibit slow growth, and surgical excision remains the treatment of choice<sup>5</sup>. The rate of recurrence is 1% to 2%<sup>6</sup>.

Reporting such rare cases of intraoral lipoma is crucial for several reasons. Firstly, it broadens our understanding of the clinical spectrum of this condition by highlighting its diverse manifestations and variations in presentation. This knowledge is invaluable for healthcare professionals, facilitating accurate diagnosis and appropriate management. Secondly, documentation of uncommon cases enriches the existing medical literature by providing detailed insights into rare presentations. Furthermore, it underscores the importance of maintaining a high index of suspicion and careful clinical evaluation, enabling timely diagnosis and effective intervention for improved patient outcomes.

### II. Case Report

A 66-year-old woman presented to the Department of Oral Medicine and Radiology with a chief complaint of a painless swelling in the lower left buccal vestibule in relation to the mandibular premolar region, which had been present for approximately three years. The swelling was insidious in onset and remained asymptomatic, with no associated pain, bleeding, or discharge. The patient reported no variation in size during meals. There was no history of trauma, difficulty in mastication or swallowing. Her medical and family histories were non contributory. The patient gave a history of extraction of tooth 36, ten years earlier, which was uneventful. She also reported no deleterious oral habits.

Extraoral examination revealed no significant abnormalities. Intraoral examination demonstrated a pedunculated swelling causing slight obliteration of the buccal vestibule in the left mandibular premolar–molar region (Figure1&2). The lesion arose from the buccal vestibule and exhibited a yellowish hue beneath the overlying mucosa, which appeared otherwise normal in texture, with no evidence of ulceration or inflammation.

On palpation, the swelling measured approximately 2 cm in diameter, was soft in consistency, non-tender, non-fluctuant, and compressible. A positive slip sign was elicited, with the lesion demonstrating mobility under palpation. Aspiration yielded no fluid.

Based on the patient's history, clinical examination, and chairside investigations, a provisional diagnosis of intraoral lipoma was made, localized to the left mandibular buccal vestibule in relation to teeth 35 and 36. The differential diagnoses considered included irritational (traumatic) fibroma, fibrolipoma, mucocele, buccal fat pad herniation, and hemangioma in relation to tooth 35 and 36. Routine hematological investigations were carried out prior to intervention, and all parameters were found to be within normal physiological limits.

Surgical excision of the lesion was performed under local anesthesia. The lesion was excised by transecting the pedunculated stalk. Intraoperatively, the mass was found to be well-circumscribed, encapsulated, and oval in shape, measuring approximately 2 mm in its greatest dimension. Upon dissection (Figure 3), the specimen exhibited a pale yellow, lobulated appearance. The excised tissue was subsequently submitted for histopathological examination. Histopathological examination revealed lobules of mature adipose tissue separated by thin connective tissue septa. The adipocytes were polygonal with clear cytoplasm and eccentrically placed nuclei compressed against the cell membrane. These findings are consistent with the histopathological features of a lipoma (Figure 4).

A final diagnosis of intraoral lipoma was confirmed based on correlation of the patient's history, clinical presentation, and histopathological findings. The patient was recalled one week postoperatively for suture removal, at which time satisfactory wound healing was noted. No postoperative complications were observed, and no recurrence was detected during a one-year follow-up period.

### **III. Discussion**

The first case of oral lipoma was reported in 1878 by Roux, who referred it as "yellow epulis". Lipomas are the most common benign soft tissue tumor, but are rare in oral cavity accounting for less than 4% of all benign oral tumors. Aetiology and pathogenesis of lipoma is not clear, but few possible theories suggesting its origin are heredity, fatty degeneration, hormonal abnormalities, injuries, infection, infarction, muscle cell metaplasia, residual embryonic fat cells, and chronic irritation<sup>4</sup>. The lipomas occur most often in patients older than 40 years; however, in our case the lesion was seen in 66 years old female. Since, the buccal mucosa is the region where there is abundant fatty tissue, it is reported to be the most common location of lipomas which occur in the oral cavity, followed by tongue and hard palate, which show very low occurrences of lipomas because they have lesser fatty tissues<sup>7</sup>. In our case also presented with a lesion in the buccal vestibular region. The patients usually present with an asymptomatic oral swelling. Larger lesions may sometimes produce pain, difficulty in swallowing, speech, dysarthria and dysmotility. The swelling may be sessile or pedunculated<sup>8</sup>. In our case, the swelling presented as a pedunculated lesion. There is no unanimous consensus on the etiopathogenetic cause of lipoma. Among the various etiopathogenetic hypotheses, there is the "theory of hypertrophy" according to which any irritating agent, such as a continuous trauma, stimulates the uncontrolled growth of the adipose tissue, contributing to the formation of intraoral lipomas. Alternatively, there is the "theory of metaplasia" which suggests an aberrant differentiation of connective tissue cells into adipose tissue under the hormonal influence<sup>9</sup>. The differential diagnosis of intraoral lipoma includes oral dermoid and epidermoid cysts, oral lymphoepithelial cyst, benign salivary gland tumour, mucocele, benign mesenchymal neoplasm, ranula, ectopic thyroid tissue, and lymphoma. Lesions appearing as swelling on the dorsum of the tongue usually mimic hemangioma, lymphangioma, rhabdomyoma, neuroma, or neurofibroma<sup>10</sup>. The diagnosis should be based on the characteristic histopathological findings of the benign tumor. Histopathological examination of the lesion often provides a definitive diagnosis. Histopathological findings demonstrate arrangements of mature adipocytes divided by lobules of connective tissue, surrounded by a thin fibrous capsule<sup>3</sup>. The treatment of choice for oral lipomas, including all the histologic variants, is complete surgical excision. The prognosis is good with extremely rare recurrence. However, recurrence can be seen in deep lipomas. Wastner BF et al.<sup>10</sup> reported one case of intramuscular lipoma of tongue which recurred after 10 years. This can be attributed to incomplete excision. In our case, it was completely excised<sup>4</sup>.

### **IV. Conclusion**

Intraoral lipoma is a rare benign neoplasm that typically presents as a slow-growing, painless swelling. Because of its asymptomatic nature, diagnosis is often delayed. The present case demonstrated classical clinical features, including a soft, compressible, yellowish pedunculated lesion. Correlation of history, clinical findings, and histopathology is essential for definitive diagnosis. Histological examination remains the gold standard for confirmation. Complete surgical excision is the treatment of choice. Prognosis is excellent when the lesion is adequately removed. Recurrence is uncommon and usually related to incomplete excision. Regular follow-up is recommended to monitor healing. Early recognition ensures appropriate management and optimal patient outcomes.

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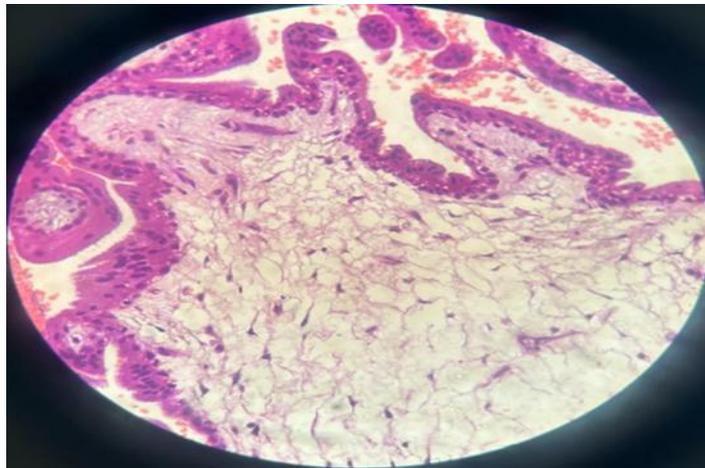
**Figure 1: Pre-operative Photograph**



**Figure 2: Intraoral Pedunculated Mass in the Buccal Vestibule**



**Figure 3: Excised Specimen, Showing Dissected View**



**Figure 4: Microscopic View Showing Adipose Cells**