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Pleomorphic Adenoma of Minor Salivary Gland in the Upper Lip: A Case Report of a Common Neoplasm in a Rare Site

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Abstract

Introduction: Pleomorphic adenoma (PA) is the most common benign salivary gland neoplasm, accounting for approximately 60% - 70% of all salivary gland tumors. Although it predominantly affects the major salivary glands, 10% - 15% of cases arise from minor salivary glands, most commonly in the palate, while involvement of the upper lip remains uncommon. Clinically, PA presents as a slow-growing, painless, well-circumscribed submucosal mass and requires histopathological confirmation for definitive diagnosis. We report a rare case of pleomorphic adenoma of a minor salivary gland of the upper lip, highlighting its diagnostic challenges and surgical management. **Aim:** To present a rare clinical case of a Pleomorphic Adenoma of Minor Salivary Gland located in the upper lip and its management. **Case Report:** A 45-year-old male patient presented with a painless swelling of the left upper lip that had been evolving over a period of three years. The lesion was slowly growing, firm in consistency, and was not associated with ulceration of the overlying mucosa. Magnetic resonance imaging (MRI) revealed a well-circumscribed, oval-shaped lesion of the left upper lip measuring 23 × 18 × 18 mm. The lesion was solid-cystic in appearance, demonstrated heterogeneous isointense signal on T1- and T2-weighted sequences, and was surrounded by a T2 hypointense capsule. It showed no diffusion restriction and exhibited heterogeneous enhancement following gadolinium administration. Surgical excision was performed under local anesthesia. Histopathological examination confirmed the diagnosis of pleomorphic adenoma. This case highlights the importance of considering this entity in the differential diagnosis of longstanding, indolent intraoral swellings. **Conclusion:** Pleomorphic adenoma of the upper lip is an uncommon presentation of a common salivary gland neoplasm. Careful clinical assessment, imaging, and histopathological examination are essential for

accurate diagnosis. Complete surgical excision remains the treatment of choice and is associated with an excellent prognosis and a low risk of recurrence.

Keywords

Pleomorphic Adenoma, Minor Salivary Glands, Case Report

1. Introduction

Salivary gland tumors are relatively uncommon and represent less than 5% of all head and neck neoplasms [1]-[3]. Pleomorphic adenoma (PA), also known as a benign mixed tumor, is the most common neoplasm of the salivary glands, mainly the parotid gland (85% of cases) and submandibular gland (5% of cases), accounting for approximately 60% - 70% of all salivary gland tumors [4]. Although PA predominantly arises in the major salivary glands, particularly the parotid gland, approximately 10% - 15% of cases originate from minor salivary glands [5].

Minor salivary glands are widely distributed throughout the oral cavity, including the palate, lips, buccal mucosa, tongue, floor of the mouth, and retromolar region [6] [7].

Among intraoral minor salivary gland tumors, the palate is the most frequently affected site, whereas the upper lip represents a relatively uncommon location [8] [9]. Interestingly, lesions arising in the lip are predominantly benign, with approximately 80% of lip minor salivary gland tumors reported to be non-malignant [10].

Histologically, PA is characterized by a mixture of epithelial and myoepithelial components embedded within a variable mesenchymal-like stroma, which may demonstrate myxoid, chondroid, or mucoid differentiation [11] [12].

Clinically, pleomorphic adenoma typically presents as a slow-growing, painless, firm, well-circumscribed submucosal mass covered by intact mucosa, often remaining asymptomatic for a prolonged period [13]-[15]. Despite its benign nature, incomplete surgical excision may result in local recurrence, and a small proportion of long-standing lesions may undergo malignant transformation into carcinoma ex pleomorphic adenoma [16] [17].

Because of its uncommon occurrence in the upper lip and its potential clinical resemblance to other benign soft-tissue lesions, accurate diagnosis requires careful clinical, radiological, and histopathological evaluation. We report a case of pleomorphic adenoma arising from a minor salivary gland of the upper lip, highlighting the diagnostic challenges and management of a common salivary gland neoplasm occurring at a relatively rare intraoral site.

2. Case Report

A 45-year-old male patient presented to the outpatient section of the ENT and

head and neck surgery department of our hospital with a painless swelling upper lip of 3-year duration, the swelling initially appeared as a little mass and it gradually started increasing from the past 6 months. There was no antecedent history of trauma or any other medical history of significance.

Extraoral examination revealed a swelling on the left side of the upper lip with normal overlying skin. On intraoral examination and palpation, a solitary well-circumscribed swelling about 3 cm × 2 cm, firm in consistency, mobile but nontender was noted in the upper lip on the left side of the midline. The overlying mucosa was smooth without any ulceration or toxicity (**Figure 1**). During bimanual palpation, the mass was detectable in the space between the skin of the Upper lip and the mucosa. There were no accompanying symptoms. No lymph node involvement was observed during the extraoral physical examination.

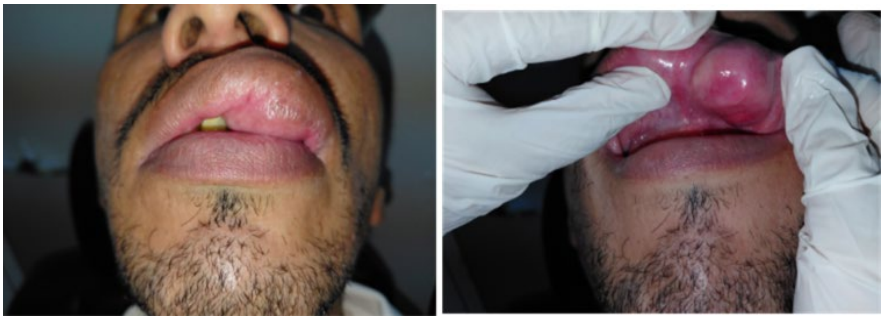

Figure 1. Extraoral (left) and intraoral (right) view of the swelling.

Based on clinical data, the diagnostic possibilities included fibroma, lipoma or inflammatory fibrous hyperplasia due to the region's susceptibility to trauma.

MRI revealed a well-defined, regularly contoured, oval lesion of the left upper lip, measuring 23 × 18 × 18 mm. On T2-weighted sequences, the mass appeared submucosal and encapsulated, with predominantly hyperintense signal intensity and homogeneous to mildly heterogeneous internal characteristics. The lesion exhibited well-defined margins without evidence of infiltration into the adjacent soft tissues. Coronal, sagittal, and axial images consistently confirmed its well-demarcated borders and localized extent (**Figure 2**).

Fine-needle aspiration cytology (FNAC) or preoperative biopsy was not considered because the lesion was superficial, well circumscribed, and readily accessible, therefore, complete surgical excision under local anaesthesia via a sublabial approach was performed as both a diagnostic and therapeutic procedure (**Figure 3**). Thus Complete excision of the tumor was possible as the tumor was not fixed to the underlying structures, Care was taken to excise the lesion completely while preserving the integrity of the capsule and avoiding intraoperative rupture or tumor spillage to reduce the risk of recurrence. Primary closure of the defect was done with good cosmetic result (**Figure 4**).

Histopathological examination revealed a well-circumscribed, encapsulated soft-tissue lesion composed of proliferating epithelial and myoepithelial cells ar-

ranged around duct-like structures within a chondromyxoid stromal background. These findings were consistent with a diagnosis of pleomorphic adenoma (PA) of the upper lip. The patient remains under regular follow-up, with no evidence of recurrence at 13 months of follow-up (Figure 5).

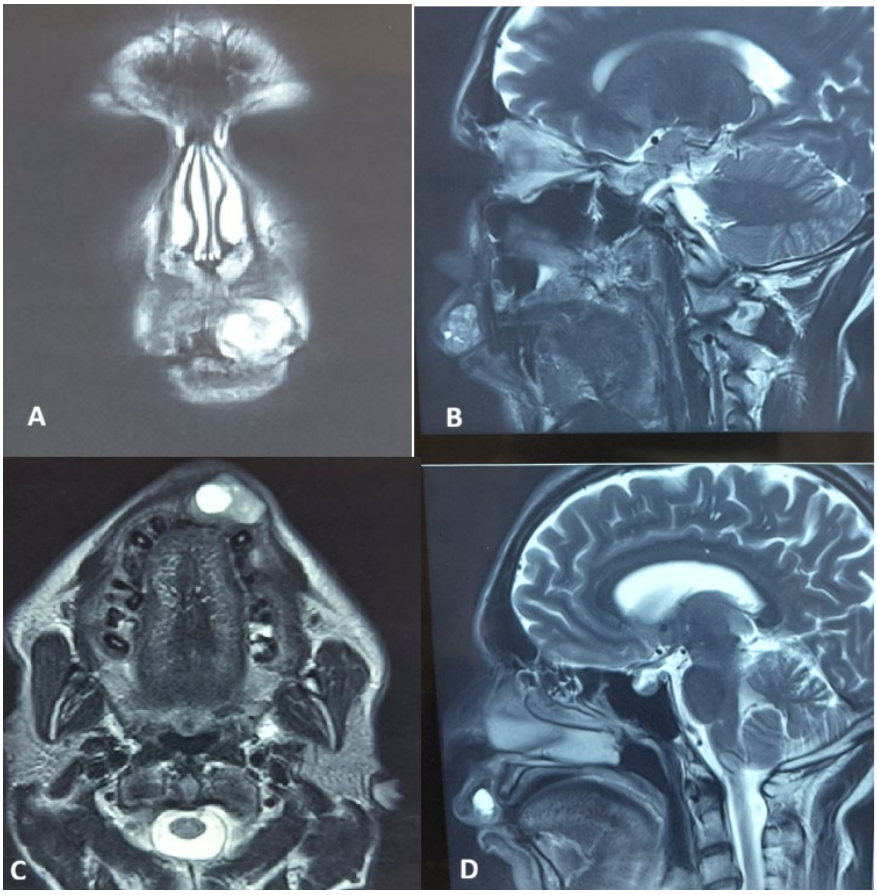

Figure 2. Magnetic resonance imaging (MRI) of the upper lip lesion. (A) Coronal T2-weighted image demonstrating a well-circumscribed, oval lesion arising from the left upper lip. ((B), (D)) Sagittal T2-weighted images showing a submucosal, encapsulated mass with predominantly hyperintense signal intensity and well-defined margins, without evidence of infiltration into adjacent structures. (C) Axial T2-weighted image confirming the lesion's well-demarcated borders and homogeneous to mildly heterogeneous high signal intensity.

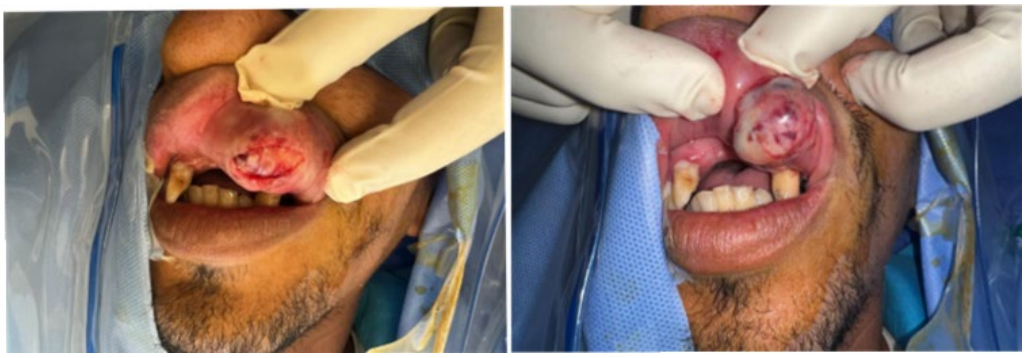

Figure 3. Intra oral mucosal incision over the swelling, excision of swelling.

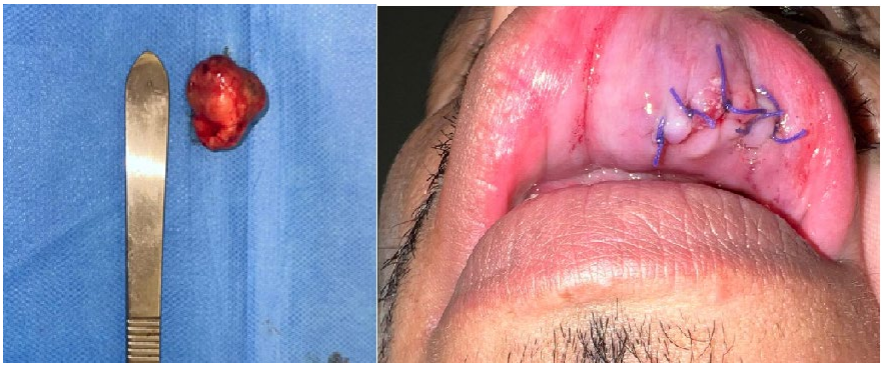

Figure 4. Excised specimen and primary closure of the defect.

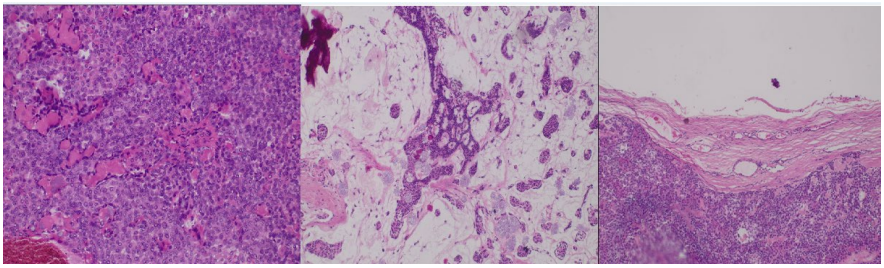

Figure 5. Histopathological appearance of pleomorphic adenoma with myoepithelial proliferation.

3. Discussion

Pleomorphic adenoma is the most common benign salivary gland neoplasm and the most frequent benign tumor of the minor salivary glands [18]. Although minor salivary gland tumors occur throughout the oral cavity, the palate remains the predominant site, whereas involvement of the upper lip is relatively uncommon [19]. Several large clinicopathological series have reported the palate as the most frequent location for pleomorphic adenoma, followed by the upper lip and buccal mucosa [20]. Therefore, the present case represents an unusual localization of a common salivary gland neoplasm.

Pleomorphic adenoma of minor salivary glands is most frequently encountered in middle-aged adults and shows a slight female predominance in most published series. The reported mean age at diagnosis ranges from the fourth to sixth decades of life. Our patient was a 45-year-old man, which is consistent with the typical age range described in the literature, although it differs from the female predominance commonly reported [2] [15] [20].

Clinically, pleomorphic adenoma usually presents as a slow-growing, painless, firm, mobile, and well-circumscribed submucosal mass with normal overlying mucosa and absence of cervical lymphadenopathy. These characteristics were observed in the present case, where the lesion had been evolving slowly for approximately three years without pain, ulceration, or regional lymph node involvement. Such an indolent presentation often delays consultation and may lead to confusion with other benign soft-tissue lesions of the lip [21] [22].

The differential diagnosis of an upper lip mass includes fibroma, lipoma, canalicular adenoma, inflammatory fibrous hyperplasia, mucocele, and other benign or malignant salivary gland neoplasms. Canalicular adenoma deserves particular consideration because of its predilection for the upper lip and its clinical resemblance to pleomorphic adenoma [23] [24]. Consequently, definitive diagnosis relies on histopathological examination.

Imaging plays an important role in the preoperative assessment of minor salivary gland tumors. Magnetic resonance imaging is particularly useful for evaluating tumor size, margins, extension, and involvement of adjacent structures. In the present case, MRI demonstrated a well-circumscribed encapsulated lesion with regular borders and no evidence of local invasion, findings that supported a benign salivary gland neoplasm. These radiological characteristics were consistent with those commonly described for pleomorphic adenoma [25] [26].

Histopathologically, pleomorphic adenoma is characterized by a variable admixture of epithelial and myoepithelial cells embedded within a myxoid, chondroid, or hyalinized stromal background. The tumor is generally surrounded by a fibrous capsule, although microscopic pseudopodial extensions beyond the capsule may occur. In the present case, histopathological examination revealed a well-encapsulated lesion composed of epithelial and myoepithelial elements arranged in duct-like structures within a chondromyxoid stroma, confirming the diagnosis of pleomorphic adenoma [27] [28].

Complete surgical excision with preservation of the tumor capsule remains the treatment of choice for pleomorphic adenoma of the minor salivary glands. The lesion in our patient was removed through an intraoral sublabial approach, allowing complete excision while avoiding external scarring and providing an excellent cosmetic outcome. Wide local excision is recommended because simple enucleation or capsular rupture may leave microscopic tumor extensions behind and increase the risk of recurrence [15] [25] [14].

Although pleomorphic adenoma is considered a benign neoplasm with an excellent prognosis, long-term follow-up is essential. Recurrence has been attributed to incomplete excision, capsular penetration, tumor spillage, or the presence of satellite nodules. Furthermore, longstanding untreated lesions carry a small risk of malignant transformation into carcinoma ex pleomorphic adenoma [29]-[30]. No recurrence has been observed in our patient to date, however, continued surveillance remains necessary.

This report is limited by its single-case design and relatively short follow-up period. Although no recurrence has been observed after 13 months, the long-term risk of recurrence cannot be determined from this case alone, highlighting the need for prolonged postoperative surveillance and additional studies with larger patient cohorts.

4. Conclusion

In summary, this case illustrates the occurrence of pleomorphic adenoma in the

upper lip, an uncommon site for minor salivary gland tumors. Despite its rarity, pleomorphic adenoma should be considered in the differential diagnosis of any persistent, painless upper lip swelling. Accurate diagnosis depends on the correlation of clinical, radiological, and histopathological findings, while complete surgical excision and long-term follow-up remain the cornerstones of successful management.

Informed Consent

Informed written consent for publication of clinical details and accompanying images was obtained from the patient.

All data are available in the patient's medical file Provenance and peer review. Not commissioned, externally peer-reviewed.

All authors approved the final version of the manuscript.

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Collection and assembly of data: All authors.

Data analysis and interpretation: All authors.

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Final approval of manuscript: All authors.

Conflicts of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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