Myxoid lipoma in the perioral mandibular region: two case reports

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Lipomas are one of the most common mesenchymal tumors in the human body, exhibiting a heightened prevalence between the ages of 40 and 60 years. However, primary intraoral lipomas are rare. Myxoid lipoma, which is characterized by abundant mucoid components, is a particularly rare histological subtype of lipoma. This study presents two cases of myxoid lipoma that occurred outside the common age range for occurrence, one in the right submandibular area of a 67-year-old male and the other in the lower lip of a 3-year-old child. Through these case reports, the aim was to introduce myxoid lipoma, a rare subtype affecting facial areas, and provide a brief review to assist in the differential diagnosis, emphasizing the importance of pathological assessment. Even in age groups and anatomical locations not typically associated with lipomas, it is crucial to emphasize the necessity of careful evaluation.

Keywords: Differential diagnosis; Lipoma; Oral pathology

Introduction

Lipomas are common benign tumors of adipose tissue that can occur under the skin anywhere in the body. However, their occurrence in the oral cavity is rare, accounting for only 1% to 4% of all benign oral mesenchymal neoplasms [1]. Lipomas predominantly affect individuals aged between 40 and 60 years and are uncommon in children. Although intraoral lipomas are rare, when present in the oral cavity, they are frequently found in the buccal mucosa [2].

Lipomas can be classified as simple lipomas or various histological subtypes. Although a differential diagnosis is required for intraoral myxoid lipoma subtypes, very few cases have been reported to form the basis for differentiation [2]. To date, only five articles in the English literature have reported oral myxoid lipomas with details on patient age, sex, and site of onset (Table 1) [2-6]. This study aimed to present the clinical and histological features of two rare cases of myxoid lipoma, one in the right submandibular area of a 67-year-old male and the other in the lower lip of a 3-year-old boy.

Cases

Ethical statements: This case report was approved by the Institutional Review Board (IRB) of Pusan National University Dental Hospital (IRB No: 2024-06-002), and the requirement for informed consent from the patient was waived by the IRB.
1. Case 1
A 67-year-old male presented to the Pusan National University Dental Hospital with a lesion in the right submandibular area. A firm, palpable mass was noted. The patient was taking medication following percutaneous coronary intervention but had no specific comorbidities or relevant family history.

At the first visit, a soft mass approximately 3.0 × 2.5 cm in size was found in the right submandibular area. The mass was non-tender to palpation, movable, and showed no color variations. An enhanced computed tomography scan of the neck suggested the presence of a well-differentiated liposarcoma requiring pathological confirmation (Fig. 1A). Based on these findings, the lesion was clinically diagnosed as liposarcoma and surgically removed. However, during excision, a translucent solid mass encapsulated by thin fibrous tissue was observed (Fig. 1B). Microscopic examination following hematoxylin and eosin staining revealed a solid proliferation of mature adipose cells (Fig. 1C). The tumor exhibited lobulation partial replacement by myxoid stroma characterized by abundant basophilic mucoid substances (Fig. 1C, 1D). The final diagnosis of myxoid lipoma was made.

Table 1. Clinical data of reported patients with myxoid lipoma in the oral and maxillofacial area

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Age (yr)/Sex</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ono et al. [2]</td>
<td>2011</td>
<td>52/Male</td>
<td>Tongue</td>
</tr>
<tr>
<td>Curien et al. [3]</td>
<td>2012</td>
<td>34/Female</td>
<td>Lower lip</td>
</tr>
<tr>
<td>Chen et al. [4]</td>
<td>1984</td>
<td>70/Female</td>
<td>Tongue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42/Male</td>
<td>Tongue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30/Male</td>
<td>Buccal mucosa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>57/Male</td>
<td>Buccal mucosa</td>
</tr>
<tr>
<td>Studart-Soares et al.</td>
<td>2010</td>
<td>55/Male</td>
<td>Buccal mucosa</td>
</tr>
<tr>
<td>Ausband et al. [6]</td>
<td>1953</td>
<td>52/Male</td>
<td>Tongue</td>
</tr>
</tbody>
</table>

2. Case 2
A 3-year-old boy was referred to our hospital with persistent swelling of the lower lip. The soft and fluctuating lesion had been identified 1 year earlier. The child had no relevant medical or family history.

At the initial examination, intraoral assessment revealed an approximately 1.5 × 1.5 cm soft mass on the lower lip. Clinical examination indicated no tenderness on palpation, immobility, or color variation, and the mass was covered with normal mucosal epithelium. Based on these findings, the lesion was clinically diagnosed as a mucocele and surgically excised. However, during excision, a translucent solid mass surrounded by a thin membrane was observed (Fig. 2A, 2B). Microscopic examination following hematoxylin and eosin staining showed a solid proliferation of mature adipose cells (Fig. 2C). The tumor exhibited lobulation partial replacement by myxoid stroma characterized by abundant basophilic mucoid substances (Fig. 2D). The final diagnosis of myxoid lipoma was made.

Fig. 1. Computed tomographic, gross, and histological findings of the mass in the right submandibular area. (A) The enhanced computed tomography findings reveal a well-differentiated lesion (arrow) measuring 2.5 × 1.9 cm in the right submandibular area. (B) A yellowish-brown connective tissue mass with a diameter of 3.5 cm is visually observed. (C) The mass is filled with mature fat cells (hematoxylin and eosin [H&E] stain, ×40). (D) The myxoid stroma consists of abundant basophilic mucoid substances (H&E stain, ×100).
ylin and eosin staining revealed a solid proliferation of mature fat cells. The tumor exhibited lobulation partial replacement by myxoid stroma (Fig. 2C, 2D) characterized by abundant basophilic mucoid substances. The tumor did not contain lipoblasts (Fig. 2C, 2D). Based on the histological findings, a final diagnosis of myxoid lipoma was made. Postoperative follow-up in both cases revealed no significant abnormalities.

Discussion

Soft-tissue lesions in the facial and oral regions require a wide range of differential diagnoses, emphasizing the critical need for accurate differentiation. Oral and maxillofacial surgeons must skillfully differentiate soft-tissue lesions occurring in the perioral and mandibular regions, make an accurate prognosis, discuss the situation with the patient, and proceed with appropriate treatment. Previous studies focusing on myxoid lipomas in the oral and maxillofacial area are limited and thus insufficient for differential diagnosis. The reported cases predominantly involved individuals who were middle-aged, consistent with the typical age range for patients with lipomas [2-6]. Table 1 exclusively includes the studies published in English that comprehensively detailed the age and sex of the patient and the specific site of lesion occurrence.

Although lipomas are the most common benign mesenchymal tumors, they occur less frequently in the oral and maxillofacial regions. However, according to a recent study, lipomatous tumors constitute a significant proportion of benign tumors of the oral mucosa [7]. The most common intraoral sites are the buccal mucosa and the vestibule, with fewer cases on the tongue, floor of the mouth, and lips. The pathogenesis and etiology of lipomas are uncertain, but they may develop in response to external factors such as trauma and chronic irritation [1,8].

Local surgical excision is an appropriate treatment option for benign masses in the oral and perioral areas. The treatment of lipomas does not vary according to the variant; however, subtypes with infiltrative growth, such as intramuscular lipomas, may exhibit high recurrence rates [1]. Furthermore, myxoid lipomas must be distinguished from benign and malignant lipomatous tumors with abundant mucoid substances, such as spindle cell lipomas with myxoid changes and myxoid liposarcomas [2]. Because the clinical features of myxoid lipomas are similar to those of mucoceles in the lower lip and because of their rarity in children, myxoid lipomas are often misdiagnosed. Accurate patient prognosis necessitates differential diagnosis and pathological assessment. Given their distinct pathological features, myxoid lipomas require specific management to prevent recurrence and progression. The clinical ability

Fig. 2. Gross and histological findings of the mass in the lower lip. (A) A mass surrounded by a membrane is observed. (B) A yellowish-brown connective tissue mass with an approximate diameter of 1.5 cm is visually observed. (C) The mass is filled with mature fat cells, and the tumors are partially replaced by myxoid stroma (hematoxylin and eosin [H&E] stain, ×40). (D) The myxoid stroma consists of abundant basophilic mucoid substances (H&E stain, ×100).
to recognize benign mucosal neoplasms by visual inspection is relatively poor, and benign mucosal neoplasms are often clinically unsuspected. For most benign diseases requiring differential diagnosis, preserved local surgical excision is the first choice [2], and postoperative biopsy of every excised oral mucosal mass is recommended [7].

In conclusion, histopathological examination is crucial for the accurate diagnosis and prognosis of connective tissue lesions in the head and neck region, including various histological subtypes of lipomas. This underscores the importance of a thorough examination regardless of the site or age of onset.

**Article information**

**Conflicts of interest**
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