CASE REPORT

Oral mucocele: A case report

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Abstract

Oral mucocele is a frequently encountered lesion associated with the minor salivary glands and is characterized by localized accumulation of mucin following disruption or obstruction of salivary gland ducts. Based on its underlying mechanism, it is generally classified as either an extravasation or retention type. These lesions may develop at several intraoral sites, including the lips, buccal mucosa and floor of the mouth, although the lower lip is the predominant location, particularly for extravasation mucoceles. They may occur at any age but are encountered more often among younger individuals. Clinically, a mucocele commonly presents as a painless, soft, fluctuant swelling that may appear translucent or bluish. Some lesions undergo spontaneous rupture and temporary disappearance, followed by recurrent filling with mucus. The diagnosis is usually established from the clinical history and characteristic appearance. For persistent lesions, complete surgical excision remains a commonly used treatment because it removes the lesion and reduces the likelihood of recurrence.

Keywords: *diagnosis, excision, lower lip, mucocele, mucous cyst.*

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Introduction

A mucocele is a localized collection of mucus within the oral tissues that most commonly develops in association with minor salivary glands. Similar mucus-filled lesions may also occur in other anatomical locations, including the appendix, gallbladder, paranasal sinuses and lacrimal sac.[1,2] The designation "mucocele" refers to a cavity or space containing mucus.[3] Within the oral cavity, mucoceles represent a relatively common type of salivary gland lesion.[4]

The lesion develops when normal salivary secretion accumulates within or adjacent to a minor salivary gland because of ductal disruption or obstruction.[5] Clinically, it usually appears as a well-defined, rounded swelling that may be translucent or bluish and can vary considerably in size. The consistency is generally soft and fluctuant on palpation. Most mucoceles are asymptomatic, although recurrent enlargement and rupture may occur.[6,7]

From a pathological perspective, oral mucoceles are broadly divided into two categories. The extravasation type develops when mucus escapes from an injured salivary duct or acinar structure into the surrounding connective tissue. Trauma, including repetitive lip biting, is a recognized precipitating factor. In contrast, a retention mucocele develops when mucus accumulates because the duct of a minor or accessory salivary gland becomes obstructed.[1,8,9]

Intraoral examination may reveal an asymptomatic vesicular or dome-shaped lesion with a pink, translucent, or bluish appearance. The size may range from approximately 1 mm to several centimeters and both sexes and a wide range of age groups may be affected.[10] A greater frequency has been reported among individuals between 10 and 20 years of age.[1] The lower labial mucosa is the site most frequently involved. Less commonly, mucoceles may occur on the buccal mucosa, tongue, palate, or floor of the mouth. When a mucus-filled lesion develops in the floor of the mouth and is associated with the sublingual gland, it is commonly termed a ranula.[1] A mucocele may become evident shortly after a minor traumatic event and may subsequently reach

a relatively stable size. Some lesions remain unchanged for prolonged periods, whereas others show intermittent enlargement and reduction. This fluctuation is usually related to rupture of the lesion followed by renewed accumulation of mucin. The present case report describes the clinical presentation and surgical management of a lower-lip mucocele using a straightforward excisional technique, with the aim of highlighting relevant clinical considerations for general dental practitioners.

Case Report

A 26-year-old man presented to the dental clinic with a painless swelling involving the right side of the lower lip. According to the history, the lesion had been noticed on the inner surface of the lower lip approximately 2 months earlier. It was initially small but gradually increased to its present size. The patient reported sustaining trauma to the lower lip approximately 3 months before presentation. He did not report pain, fever, malaise, or other relevant systemic symptoms.

Clinical examination revealed an oval, soft, fluctuant swelling of the lower lip. There was no local increase in temperature and the lesion was readily palpable. Intraoral examination also demonstrated generalized soft deposits and calculus, particularly in the lower anterior region. Routine hematological investigations were performed and showed values within the normal reference range.

Considering the history of preceding trauma together with the characteristic clinical findings, a provisional diagnosis of oral mucocele was established. The proposed treatment was discussed with the patient's accompanying family members and the planned intervention was subsequently undertaken. Scaling was performed during the initial dental visit.

Surgical excision of the lesion was selected as the definitive treatment. A vertical incision was made through the overlying mucosa to gain access to the lesion, followed by careful separation and removal of the mucocele. The involved tissue was excised as completely as possible to minimize the possibility of recurrence. The surgical site was closed with sutures [Figure 3], which were removed after 7 days. The patient was advised to attend scheduled follow-up appointments. Clinical reviews were conducted at 3-month intervals for more than 15 months, during which no evidence of recurrent swelling was observed.

Discussion

Oral mucocele is a relatively common benign lesion that develops as a consequence of altered salivary flow within the minor salivary glands. Accumulation of mucus following ductal injury or obstruction produces the characteristic localized swelling.[5] Yamasoba et al. identified trauma and salivary duct obstruction as important etiological factors in the development of mucoceles.[11] Mucoceles arising from minor salivary glands are generally superficial and are seldom large in diameter. In an extravasation-type lesion, disruption of a duct or acinar structure permits salivary material to escape into the surrounding connective tissue. Minor trauma is therefore considered an important mechanism, particularly when it results in leakage of salivary secretion into the submucosal tissues.

In most cases, diagnosis can be established clinically. The anatomical location, history of previous trauma, relatively rapid development, changes in lesion size, bluish or translucent appearance and fluctuant consistency may collectively provide important diagnostic clues.[3,12] Repetitive oral habits, particularly lip biting or sucking, have also been implicated in the development of mucoceles and other trauma-related lesions of the oral mucosa.[13]

Additional investigations are not routinely necessary for an uncomplicated lesion with a typical clinical presentation. However, imaging may become useful when the possibility of an associated salivary calculus or a deeper lesion is considered, particularly in cases involving oral or cervical ranulas. Fine-needle aspiration may demonstrate mucus within the lesion and can provide supportive cytological information. Analysis of the aspirated material may reveal protein and elevated amylase concentrations.[11] In lesions where the anatomical extent or origin is uncertain, computed tomography or magnetic resonance imaging can provide further information.

Palpation is also useful when distinguishing a mucocele from other soft-tissue lesions. Lesions such as lipomas and some minor salivary gland tumors are typically non-fluctuant, whereas cystic lesions, mucoceles, abscesses and certain vascular lesions may demonstrate fluctuation.[14] Therefore, the combination of history, visual examination, palpation and lesion location is important when establishing the clinical differential diagnosis.

Management depends on the size, location, duration and clinical characteristics of the lesion. Simple incision and drainage may temporarily empty the mucus-filled cavity, but this approach does not eliminate the underlying source and may therefore be followed by reformation of the lesion after healing.[15] For persistent mucoceles, surgical excision of the lesion together with the associated minor salivary gland tissue is generally preferred because it addresses the source of mucus accumulation.

Marsupialization alone may be associated with recurrence in some cases.[16] When tissue is surgically removed, submission of the specimen for histopathological assessment is important, particularly when the clinical findings are atypical, because microscopic examination can confirm the diagnosis and exclude other salivary gland lesions. In the present case, the excised tissue was submitted for pathological examination to support confirmation of the clinical diagnosis.

Alternative treatment modalities have also been described. These include carbon dioxide laser ablation, cryosurgical treatment and electrocautery. Their reported effectiveness may vary according to lesion characteristics and treatment technique.[11] For a localized lower-lip lesion such as that described in this case, conventional surgical excision provides a relatively straightforward approach and permits the removed tissue to undergo histopathological assessment.

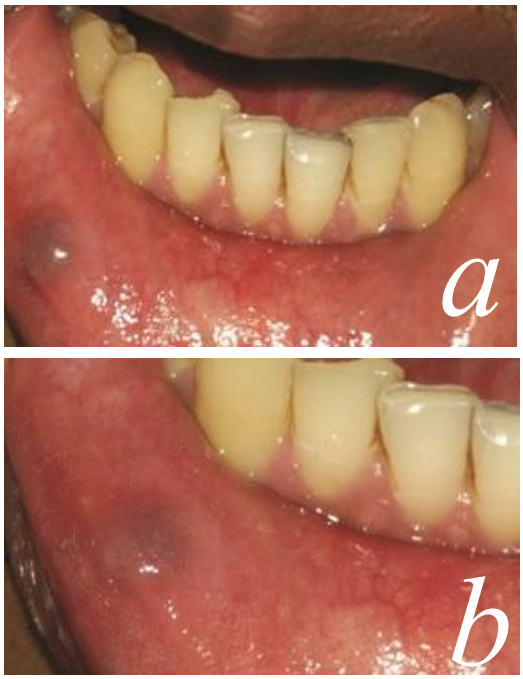

Figure 1: (a and b) Mucocele in lower lip.

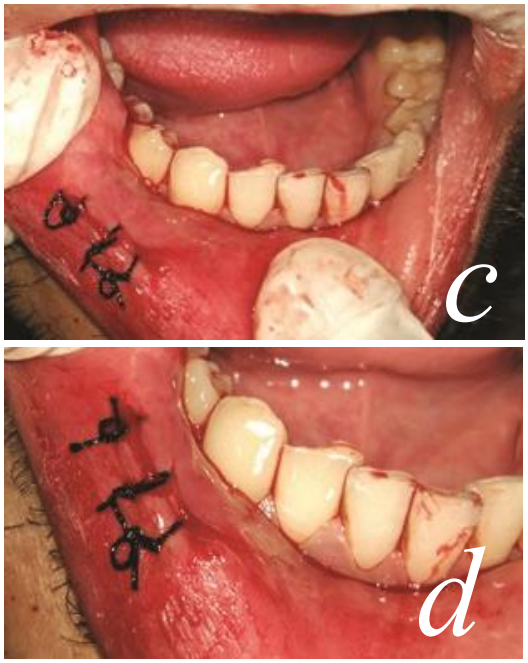

Figure 2. After excision

Conclusion

Oral mucoceles are benign lesions that may resolve spontaneously but can persist or recur when the underlying source of mucus accumulation remains. In most uncomplicated cases, the diagnosis can be made from the clinical history and characteristic appearance, while histopathological examination of excised tissue provides definitive confirmation and helps exclude other lesions. Previous trauma and repetitive habits such as lip biting are frequently reported in association with their development. Preventive education may be useful in children and adolescents who demonstrate repetitive oral habits. School-based oral health education and periodic reinforcement of habit-interruption strategies may help reduce trauma-related mucosal lesions. Children receiving orthodontic treatment should also be examined periodically for areas of persistent mucosal irritation caused by appliances or other local factors. For persistent or symptomatic lesions, complete surgical excision is an effective treatment option. Incomplete removal may permit recurrence because residual glandular tissue can continue to contribute to mucus accumulation. In the present case, follow-up was performed at 3-month intervals and the patient remained clinically free of recurrence during the reported follow-up period. The postoperative course was favorable, with an excellent clinical outcome and no evidence of lesion recurrence.

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