

## Case Report

# Mucocele in Lower Lip as a Result of Trauma

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## Abstract

Mucocele is a common salivary gland disorder that can appear on the dorsal surface of the tongue, lacrimal sac, paranasal sinuses, and oral cavity. Mucocele results in alteration of the minor salivary glands due to a mucous accumulation causing limited swelling. Two histological types of mucoceles exist, namely extravasation and retention. Lower lip is the most common site of occurrence of these lesions in the oral cavity and the most probable cause is trauma or habits of lip biting. This report presented a 6½-year-old female child patient having mucocele on the inner side of her lower lip due to fall while playing, which resulted difficulty in mastication and speech. Treatment performed was conventional surgical excision followed by removal of the minor salivary glands.

**Keywords:** Lower lip, mucocele, trauma

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## INTRODUCTION

Mucocele is defined as a mucus-filled cyst that may appear in the oral cavity, breast, appendix, gall bladder, paranasal sinuses, or lacrimal sac.<sup>[1-4]</sup> The term “mucocele” was derived from Latin words – mucus and coele or cavity.<sup>[1,5]</sup> Accumulation of mucus due to alteration in the minor salivary glands results in the formation of mucocele.<sup>[3,6]</sup>

Mucocele is the 15<sup>th</sup> most common oral mucosal lesion, with a prevalence of approximately 2.4 cases per 1000 people.<sup>[7]</sup> A study by Jones and Franklin, considering 4406 pediatric patients, showed that the most common oral lesion was mucocele (16%).<sup>[8]</sup>

The clinical presentation depends on the depth within the soft tissue and the degree of keratinization of the overlying mucosa. Superficial lesions present as raised soft-tissue swelling having bluish color, while deeper lesions are more nodular with normal mucosal color, without vesicular appearance.<sup>[9]</sup>

Two types of mucocele can appear in the oral cavity, namely extravasation and retention types. In children, extravasation mucoceles are common, whereas the retention type is rarely found.<sup>[10]</sup> Extravasation mucocele results from a broken salivary gland duct causing spillage into the soft tissues around the gland.

These extravasation mucoceles undergo three evolutionary phases. In the first phase, the mucus spills diffusely from the excretory duct into the connective tissues. In the next phase, that is, resorption phase, because of foreign-body reaction, formation of granuloma occurs. In the final phase, there is formation of pseudocapsule (without epithelial lining) around the mucosa.<sup>[6]</sup> Blockage of the salivary gland ducts leads to decrease or absence of glandular secretion, which then results in the formation of retention mucocele.<sup>[3,6]</sup>

Mucocele are usually asymptomatic but sometimes can cause discomfort by interfering with speech, chewing, or swallowing. Treatment options include surgical excision, marsupialization, micro-marsupialization, cryosurgery, laser vaporization, and laser excision.<sup>[4,5]</sup>

## CASE REPORT

A 6½-year-old girl reported with the chief complaint of painless swelling on the inner aspect of the lower lip with a

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history of trauma 5 months back. The trauma occurred due to fall while playing. The trauma resulted in intrusion of the upper 61 and Ellis Class IX fracture in 51 [Figure 1]. Due to the injury, the patient developed the habit of biting her lower lip, resulting in swelling. Initially, it was a small lesion and gradually attained the present size.

There was no significant medical history. On intraoral examination, a round, solitary, fluctuant swelling was seen on the inner aspect of the lower lip at the right central incisor region. The swelling was 3–4 mm below the vermilion border of the lower lip, extending inferiorly toward the lingual vestibule, measuring approximately 4–5 mm. Color of the swelling was the same that of the adjacent mucosa [Figure 2]. The patient had difficulty in speaking and chewing. The lesion was diagnosed as a mucocoele based on the clinical features and a history of lip-biting habit.

The mucocoele was treated under local anesthesia using a scalpel by placing an incision circumferentially [Figure 3a]. The lesion was resected from the base and sent for histological analysis. The size of the excised mucocoele was approximately 11 mm [Figure 3b]. Histopathological report confirmed the diagnosis as mucocoele.

Intermittent sutures were placed [Figure 4a]. The suture was removed after 1 week. After 6-month follow-up, there was no recurrence of the lesion [Figure 4b].

## DISCUSSION

The incidence of mucocoeles in the general population is 0.4%–0.9%. There is no gender predilection.<sup>[4]</sup> The mucocoele

appears to be pathognomonic. Location of lesion, history of trauma, rapid appearance, variation in size, bluish color, consistency, history, and clinical findings lead to the diagnosis of superficial mucocoele.

The lip contains adipose tissue, connective tissue, blood vessels, nerves, and salivary glands. Pathology of any of these tissues can produce swelling on the lips. Mucocoele, fibroma, lipoma, mucus retention cyst, sialolith, phleboliths, and salivary gland neoplasm appear as swelling on the lip. However, these can be distinguished from mucocoele based on their clinical appearance, color, consistency, etiology, and location of occurrence.

Conventional surgical removal is the most common method used to treat mucocoele. Elliptical incision is the most popularly used treatment procedure. This helps to decrease the extent of mucosal tissue loss and the incidence of formation of large fibrous scars. It also prevents the spilling of the cystic content, which could be responsible for recurrence.<sup>[11]</sup>

To reduce the chance of recurrence, the lesion should be removed down to the muscle layer and all the surrounding glandular acini must be removed. Any damage to the adjacent gland and duct should be avoided while placing the suture.<sup>[3,6,12]</sup>

## CONCLUSION

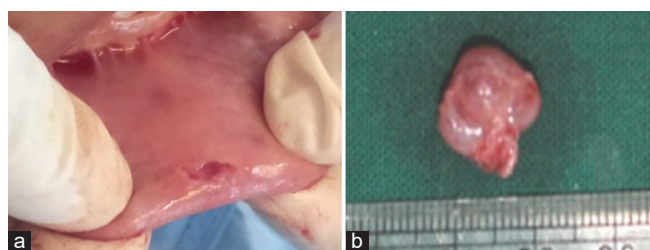
Mucocoeles are of mostly benign and self-limiting nature, primarily diagnosed based on clinical findings followed by a definitive diagnosis based on histopathological investigation. Most of the reported literature showed that the lesion arose



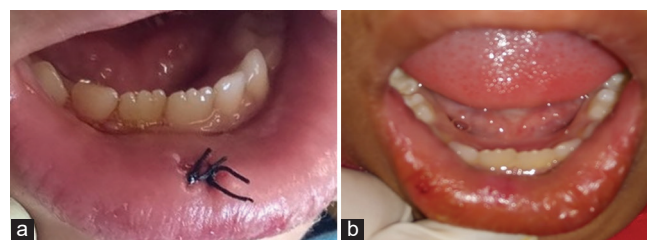
**Figure 1:** Intrusion of 61 and Ellis Class IX fracture of 51



**Figure 2:** Preoperative mucocoele lesion



**Figure 3:** (a) Postoperative image of the lower lip. (b) Excised lesion



**Figure 4:** (a) Suture placed after surgical procedure. (b) Follow-up after 6 months

followed by trauma and habitual lip biting. Patients undergoing orthodontic therapy should be monitored periodically for areas of irritation in the oral mucosa. Complete excision has been the easiest way of treatment choice, and recurrence has been associated if the lesion had been removed incompletely.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

## REFERENCES

1. Baurmash HD. Mucoceles and ranulas. *J Oral Maxillofac Surg* 2003;61:369-78.
2. Ozturk K, Yaman H, Arbag H, Koroglu D, Toy H. Submandibular gland mucocele: Report of two cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005;100:732-5.
3. Rao PK, Hegde D, Shetty SR, Chatra L, Shenai P. Oral Mucocele—Diagnosis and Management. *J Dent Med Med Sci* 2012;2:26-30.
4. Laller S, Saini RS, Malik M, Jain R. An appraisal of oral mucous extravasation cyst case with mini review. *J Adv Med Dent Sci Res* 2014;2:166-70.
5. Sukhtankar LV, Mahajan B, Agarwal P. Treatment of lower lip mucocele with diode laser – A novel approach. *Ann Dent Res* 2013;2(Suppl 1):102-8.
6. Ata-Ali J, Carrillo C, Bonet C, Balaguer J, Peñarrocha M, Peñarrocha M. Oral mucocele: Review of literature. *J Clin Exp Dent* 2010;2:e18-21.
7. Guimarães MS, Hebling J, Filho VA, Santos LL, Vita TM, Costa CA. Extravasation mucocele involving the ventral surface of the tongue (glands of Blandin-Nuhn). *Int J Paediatr Dent* 2006;16:435-9.
8. Jones AV, Franklin CD. An analysis of oral and maxillofacial pathology found in children over a 30-year period. *Int J Paediatr Dent* 2006;16:19-30.
9. Shah GV. "MR imaging of salivary glands," *Magnetic Resonance Imaging Clinics of North America*. Vol. 10. Shimla: View at Publisher View at Google Scholar, View at Scopus; 2002. p. 631-62.
10. Bodner L, Manor E, Joshua BZ, Shaco-Levy R. Oral Mucoceles in Children – Analysis of 56 new cases. *Pediatr Dermatol* 2015;32:647-50.
11. Madan N, Rathnam A. Excision of mucocele: A surgical case report. *Bio Biomed Rep* 2012;2:115-8.
12. Gupta B, Anegundi R, Sudha P, Gupta M. Mucocele: Two case reports. *J Oral Health Comm Dent* 2007;1:56-8.