

## Case Study

# An Oral Mucocele on Lower Lip; A Case Report & Literature Review

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## Abstract

**Background:** Oral mucocele is considered to be a common benign lesion of the oral cavity characterized by fluctuant, painless and is distinct in two different forms, i.e. extravasations and retention. Trauma to mucus membrane or salivary gland is the most common etiologic factor.

**Case-Presentation:** A 27-year-old female patient presented at a Private Dental Clinic with the complaint of a swelling on the right side of her lower lip for the last three months.

**Management & Results:** Based on the history & clinical examination, the diagnosis of oral mucocele was concluded. The treatment plan was discussed with the patient in which she was informed about the chairside surgical removal of the tissue under local anesthesia. On the 10<sup>th</sup> day of the surgery, sutures were removed, the scar was irrigated with saline and the usual check-up was performed which revealed no recurrence.

**Conclusion:** Oral mucocele is a benign lesion, which can be managed with surgical excision under unremarkable prognosis.

## Keywords

Mucocele, Oral Mucous Membrane, Salivary Gland, Trauma



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## Introduction

Mucoceles are mucus-filled cystic cavities, found not only in the oral cavity but also in lacrimal sac and paranasal sinus. Oral mucocele is considered as one of the most common oral cavity lesions. It is caused by trauma to oral mucosal membrane or salivary glands alteration which leads to accumulation of mucus<sup>1</sup>. These lesions are benign, generally asymptomatic and have two histological types, i.e. extravasation and retention. Although, mucocele is asymptomatic but can bother some patients during speaking, eating, or maybe, psychologically<sup>1</sup>. The most common site of the mucocele is lower lip, other less common sites are buccal mucosa, tongue and both hard and soft palate<sup>2</sup>.

Extravasation is without the epithelial lining caused due to spillage of saliva into the soft tissues from a broken salivary gland duct whereas the retention cyst is with the epithelial lining caused by blockage of salivary gland duct leading to glandular secretion being retained<sup>3</sup>. About 10% of the cases are of retention type, whereas 90% are extravasation type<sup>4</sup>. If found on the floor of the mouth, mucocele is known as a ranula, as it resembles the belly of a frog<sup>5</sup>. Mucoceles can occur at any age, but most commonly, they are reported in the second and third decade, in either sex<sup>4</sup>. Mucocele makes an appearance after a few days of minor trauma and can increase in size. If left untreated, they might increase or decrease in size depending upon the etiological factor<sup>2</sup>. This case report aimed to show the management, which was performed by the conventional surgical excision of the tissue.

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## Case-Presentation

A 27-year-old female patient presented at a Private Dental Clinic with presenting complaints of swelling on her lower lip (right side) from the last three months. On history and clinical examination, the lesion was benign, and the swelling was circumscribed

and painless. The swelling was 4-5 mm below the lower lip from the vermilion border, and it measured approximately 6-7 mm. The color of the benign tissue was the same as the oral mucosa (Figure I).



Figure I: Clinical Examination of the lesion

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## Management & Results

Based on the history and clinical examination, the case was diagnosed as oral mucocele was made. The treatment plan was discussed with the patient, and she was informed about the surgery for the removal of the mucocele cyst under local anesthesia over the chairside. Patient consent was obtained, and the mucocele was removed under infiltrating local anesthesia i.e. 2% lidocaine with epinephrine 1:100,000; one and a half cartridge.

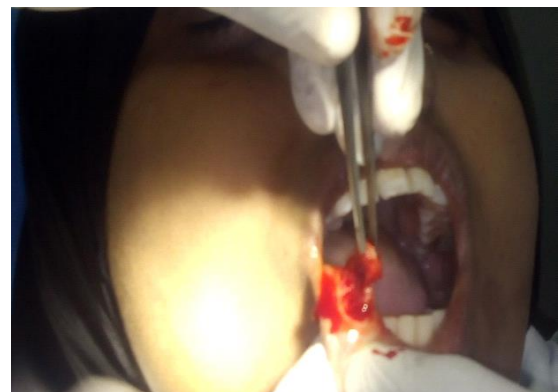


Figure 2: Surgical Excision of the tissue



**Figure 3: Simple Interrupted sutures& its removal and debridement upon follow-up**

Figure 2 shows the removal of the tissue by a conventional surgical technique using elliptical incision. After the excision of the tissue, the approximation of tissue was made by simple interrupted sutures (Figure 3). The excised tissue was preserved in 10% neutral buffered formalin for histopathological examination. After a 10-day follow-up, sutures were removed and were irrigated with saline, and routine check-up was performed.

## Discussion

The emergence of mucocele is pathognomonic; its location depends upon the trauma that occurred to the site of the oral mucosa. It is known to be the most common lesion of the salivary gland and also considered to be the 2nd most common benign tumor of the oral cavity. The incidence of mucoceles is 0.4% to 0.8%<sup>2</sup> and has an incidence ratio between the age of 11 to 29 years of age with equal distribution amongst both sex<sup>6</sup>.

Clinically, mucocele is a painless cystic swelling, growing at a slow pace and has a mobile consistency. It is a curved sphere-shaped with or without unscathed epithelium. They are benign and are harmless, but this nature depends upon the size and tolerance level of individual patients. Generally, mucocele is asymptomatic; diagnosis is based on the history of trauma, location, size, appearance and consistency<sup>7</sup>. Mucocele could be more than one and can rupture, leaving behind painful erosions, which heal within a few days. The time span is not constant; they last for a few days to a few years. Mucocele affects the patients of all ages, usually in the

second decade, teenagers to young adults<sup>4</sup>. The location usually is under the mucus membrane, which is called superficial mucocele or in the upper mucosa, which is referred to as classical mucocele. Oral mucoceles may be present either as a fluid-filled sac or a blister in the mucosa (superficial layer) as a fluctuant nodule present within the deep connective tissue<sup>6,7</sup>. On histopathological examination, a minor salivary gland, which gets traumatized, shows metaplasia and degenerative responses. Extravasation is the more frequent variant, which involves spillage of fluid into the submucosal tissue whereas retention variant pertains to blockage or obstruction of the salivary gland. The extravasation variant is a pseudo-cyst with non-defined walls of epithelium and inflammatory response. As comparing with extravasation type, retention shows no inflammation and is devoid of epithelial lining<sup>8,9</sup>.

There is two etiological factor which is commonly seen, which is either they are caused due to trauma or other by an obstruction of minor salivary gland or a duct. Mainly physical trauma can cause salivary secretion into sub-

mucosal tissue. After some time, inflammation becomes obvious in later stages due to the formation of mucous<sup>10</sup>. Habitual lip biting and tongue thrust are common aggravating factors which are seen clinically. Mucoceles are most commonly found in the minor salivary gland, especially lower lip. Mucocele involving the upper lip, buccal mucosa has been reported as rare cases<sup>6</sup>. Ranula is the mucocele that is located on the floor of mouth<sup>4,7</sup>.

In Pakistan, Arshad D et al., in 2019 managed his case using diode laser for the treatment of oral mucocele in which he concluded that it has various beneficial effects including the lesser amount of anesthesia administered, procedural timings are markedly decreased, surgical site visualization is improved due to lack of bleeding, and carbonization of the tissues is minimal which makes it possible to lessen any apprehension and fear in children and old age patients for surgical procedures<sup>6</sup>. Also, the absence of sutures has a psychological impact and a sense of relief in the patients<sup>6</sup>. In our case, we treated it by doing surgical excision of the lesion with the help of a scalpel. Hemostasis was achieved by pressure pack and then sutures were provided. This procedure was easy and economical for the patient as compared to electrocautery and laser surgery.

The conventional treatment of mucocele is complete excision of mucocele with some glandular tissue to avoid recurrence. Other treatments include dissection, marsupialization, CO-2 laser, cryosurgery, steroid-injections, electrocautery, or intralesional injection of some sclerosing agents<sup>6, 8</sup>. Generally, the incidence of an oral mucocele is high as 2.5/1000 patients which usually occurs in their 2nd to the third decade of life<sup>5,7</sup>. The recurrence rate reported for micro-marsupialization is 20% and that for surgical excision is 10%. There are several disadvantages of surgical excision which are reported, such as trauma, pain, lip, damage to the adjacent vital structures, and ducts leading

to the development of satellite lesions<sup>8-10</sup>. Many studies have concluded that the treatment for oral mucocele with the CO2 laser therapy offers better results with fewer complications and recurrences than conventional excision<sup>5</sup>.

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## Conclusion

Oral mucocele is one of the most common benign conditions of the oral mucosa, which are usually diagnosed clinically. It is important to confirm the diagnosis by histopathological means to rule out any other certain pathology. Treatment for such conditions can be performed by non-surgical and surgical means. In our case report, there was firm growth which was associated with trauma as the patient has a history of an accident. Managing such conditions is a challenge as it has more chances of recurrences. After surgery, if there is no regression the excision is done of causative minor salivary glands which gives a good prognosis and less or no chances of recurrence.

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## Conflicts of Interest

None.

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