

# Mucous Extravasation Cyst: A Case Series and Review of Literature

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## ABSTRACT

Mucocele is a benign lesion related to the minor salivary glands and their respective ducts frequently affecting oral structures which are generally asymptomatic. Common location for these lesions in the oral cavity is lower lip however, it also presents on other locations like tongue, buccal mucosa, soft palate, retromolar pad and lower labial mucosa. Trauma and lip biting habits are the main cause for these types of lesions. These are painless lesions which can be diagnosed clinically. Here we are reporting a case of mucocele with comprehensive review on its etiopathogenesis and differential diagnosis.

**KEYWORDS:** Mucous escape reaction, Lip, Salivary gland, Differential diagnosis, Retention cyst

## INTRODUCTION

Mucocele also called as a mucus extravasation phenomenon are common minor salivary gland lesions characterized by single or multiple, spherical, fluctuant nodules which are generally asymptomatic.<sup>1</sup> The term mucocele is derived from a Latin word, mucus and coele means cavity.<sup>2</sup> Mucocele is seventeenth most common salivary gland lesions seen in the oral cavity. Mucoceles are less likely to occur on the anterior hard palate and attached gingiva as they do not typically possess minor salivary glands. Mucoceles are associated with the minor salivary glands. Mucocele are formed secondary to rupture of an excretory duct of a salivary gland, which results in an outpouring of saliva into the surrounding.<sup>3</sup> This is the result of accumulation of mucous due to the alteration in the minor salivary gland which causes limited swelling. Here we are reporting a Case Series with comprehensive review on its etiopathogenesis and differential diagnosis.

## CASE REPORT 1

A 32 year old male patient reported to the Department of Oral Medicine and Radiology with a chief complaint of swelling in the left lower lip since 6 months (Fig 1). History of present illness revealed that initially the swelling was smaller in size but it slowly increased to present size. There has not been increase in the size of the swelling since last three months. There was no history of

pain. This is the first time swelling appeared on the lower lip.



Fig 1:- Intra Oral Swelling

Intra oral examination of lower lip revealed a well defined swelling, roughly oval in shape, roughly 0.5x1 cm in diameter. Overlying surface appeared to be smooth and swelling appears blue in colour. Surrounding mucosa appeared normal. On palpation it was soft, fluctuant and non tender on palpation. Based on the clinical findings and history a provisional diagnosis of mucocele on lower lip was given and differential diagnosis of lipoma and haematoma was given.

Lesion was surgically excised (Fig 2 and Fig 3) and sent

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for histopathological investigation which revealed extravasation type of mucous retention cyst (Fig 4). Hence final diagnosis of mucocele on lower lip was given.



Fig 2:- Lesion Surgically Excised



Fig 3: Suturing Done After Lesion Was Excised

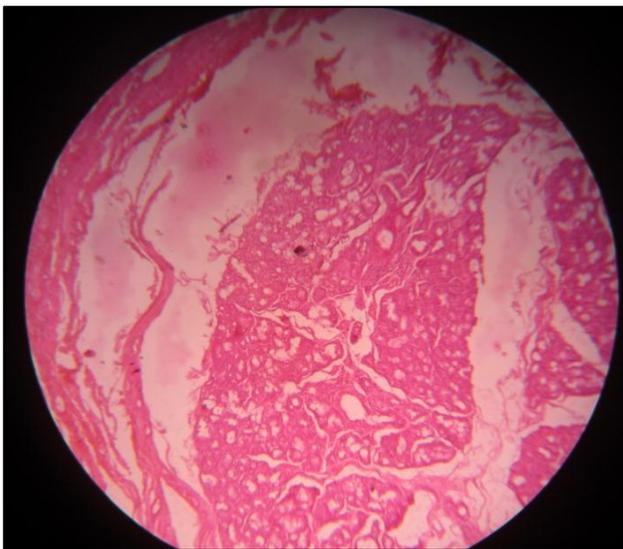


Fig 4: Histopathology Figure Of Mucocele

## CASE REPORT 2

A 40 year old male patient reported to the Department of Oral Medicine and Radiology with a chief complaint of swelling in the right lower lip since 4 months (Fig 5). History of present illness revealed that initially the swelling was smaller in size but it slowly increased to present size. There has not been increase in the size of the swelling since last one month. There was no history of pain. This is the first time swelling appeared on the lower lip.

Intra oral examination of lower lip revealed a well defined swelling, roughly oval in shape, roughly 1x1.5 cm in diameter. Overlying surface appeared to be smooth and swelling appears blue in colour. Surrounding mucosa appeared normal. On palpation it was soft, fluctuant and non tender on palpation. Based on the clinical findings and history a provisional diagnosis of mucocele on lower lip was given and differential diagnosis of lipoma and haematoma was given.

Lesion was surgically excised and sent for histopathological investigation which revealed which was suggestive of extravasation type of mucous retention cyst. Hence final diagnosis of mucocele on lower lip was given.



Fig 5: Intra Oral Swelling On Lower Lip

## CASE REPORT 3

A 25 year old male patient reported to the Department of Oral Medicine and Radiology with a chief complaint of swelling in left buccal mucosa since 8 months (Fig 6). History of present illness revealed that initially the swelling was smaller in size but it slowly increased to present size. There has not been increase in the size of the swelling since last three months. There was no history of pain.

Intra oral examination of left buccal mucosa revealed an ill defined swelling, roughly oval in shape, roughly 1x2 cm in diameter. Overlying surface appeared to be smooth and pink. Surrounding mucosa appeared normal. On palpation it was soft and non tender on palpation. Based on the clinical findings and history a provisional

diagnosis of mucocele on left buccal mucosa was given and differential diagnosis of lipoma was given.

Lesion was surgically excised and sent for histopathological investigation which revealed which was suggestive of extravasation type of mucous retention cyst. Hence final diagnosis of mucocele on left buccal mucosa was given.



Fig 6: Intra Oral Swelling On Left Buccal Mucosa

## DISCUSSION

Mucocele is defined as mucous filled cavities that can appear in the oral cavity, appendix, gall bladder, paranasal sinuses or lacrimal sac.<sup>4</sup> Clinically there are two types of mucocele, extravasation and retention type. Extravasation type is due to the leaking of fluid from the broken salivary gland ducts and acini into the surrounding soft tissues. Extravasation mucocele is commonly seen in minor salivary glands (Table 1). Retention type is due to the blockage of salivary gland duct and this type is commonly seen in major salivary gland ducts (Table 2).<sup>5</sup> Clinically there is no difference between extravasation and retention type of mucoceles. When mucocele is present in floor of the mouth it is called as ranula. It is named so as it appears as the underbelly of a frog.<sup>6</sup>

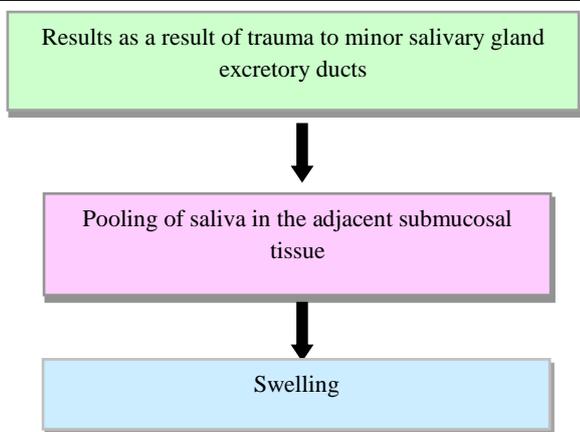


Table 1: Pathogenesis Of Extravasation Type Of Mucocele

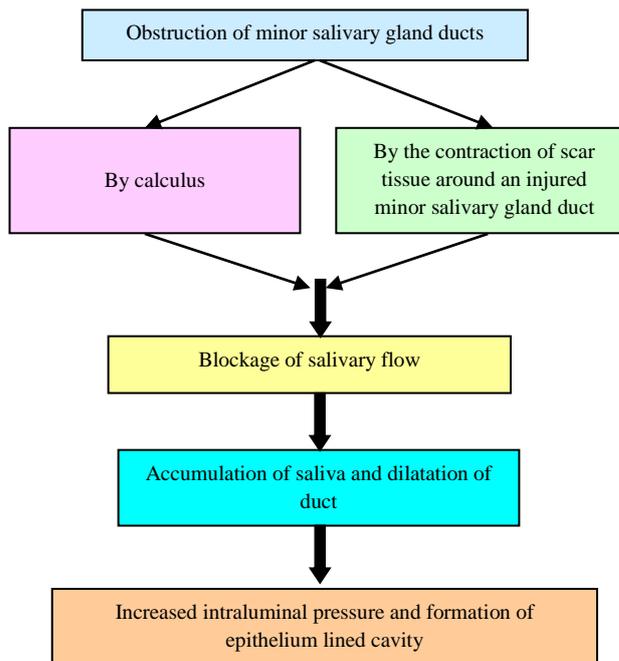


Table 2: Pathogenesis Of Retention Type Of Mucocele

Mucoceles are painless, asymptomatic swellings that have a relatively rapid onset and fluctuant because of mucinous content. Mucocele is the common salivary gland disorder and it is second most common benign soft tissue tumor in the oral cavity. It is common in lower lip but occur in other locations also (Table 3). The bluish discoloration is mainly due to the vascular congestion and cyanosis of the tissue above and the fluid accumulation below. The bluish discoloration also depends on the size of the lesion and proximity of lesion to the surface and elasticity of upper tissue. Sizes may vary from few millimeters to centimeters and generally occurs single in number.<sup>7</sup> They are usually doom shaped swellings with intact epithelium over it and sizes may vary from few millimeters to centimeters and occurs single in number. They rarely occur bilateral. It is seen equally in males and females more in first, second and third decade of life. Mucocele can be of two types according to their location in various site, they are superficial mucocele and deep seated mucocele. Superficial mucocele is bluish in colour and deep seated mucocele is of same colour as of overlying epithelium.

- Lower lip
- Buccal mucosa
- Floor of mouth
- Tongue
- Upper lip
- Hard palate
- Retromolar area

Table 3:- Common Locations Of Mucocele

The differential diagnosis in cases where lesion is present in lower lip should include lesions known to cause swelling of the lips. The lip comprises of adipose tissue, blood vessels, nerves, connective tissue and salivary

glands, so pathosis of any of these tissues is possible. Blandin and Nuhn mucocele, Ranula, Benign or malignant salivary gland neoplasms, Oral Hemangioma, Oral Lymphangioma, Venous varix or venous lake, Lipoma, Soft irritation fibroma, Oral lymphoepithelial cyst, Gingival cyst in adults, Soft tissue abscess, Cysticercosis (parasitic infection) Superficial mucoceles may be confused with Cicatricial pemphigoid, Bullous lichen planus and Minor aphthous ulcers. They can be differentiated from mucocele on lower lip based on various clinical, radiographic examination (Table 4).

S.no	Lesion	Differentiating features
1	Lipoma	<ul style="list-style-type: none"> <li>Yellowish colour</li> <li>Composed of lipids</li> <li>SLIP SIGN seen</li> </ul>
2.	Fibroma	<ul style="list-style-type: none"> <li>Pink/White in colour</li> <li>Non fluctuant</li> <li>Firm in consistency</li> </ul>
3.	Haematoma	<ul style="list-style-type: none"> <li>Red/ Blue in colour</li> <li>On aspiration it gives dark blue colour blood</li> </ul>
4	Haemangioma	<ul style="list-style-type: none"> <li>Can be emptied by digital pressure</li> <li>Non fluctuant</li> </ul>
5	Varix	<ul style="list-style-type: none"> <li>Bluish in colour</li> <li>Can be emptied by digital pressure</li> <li>Donot show fluctuation</li> </ul>
6	Lymphangioma of lip	<ul style="list-style-type: none"> <li>Congenital</li> <li>On aspiration yield lymph fluid</li> </ul>
7	Superficial cyst	<ul style="list-style-type: none"> <li>Seen in infants</li> <li>White in colour</li> <li>In radiographs, show bone resorption</li> </ul>
8	Ranula	<ul style="list-style-type: none"> <li>Occurs only at floor of mouth</li> </ul>
9	Low grade mucoepidermoid carcinoma	<ul style="list-style-type: none"> <li>Lower lip is uncommon site</li> <li>Malignant lesion</li> </ul>
10	Sialolith	<ul style="list-style-type: none"> <li>Most often in fifth to seventh decade of life</li> <li>Presents as a firm movable nodules</li> <li>Radiograph will show radiopaque appearance.</li> </ul>

Table 4:- Differential Diagnosis Of Mucocele

## DIAGNOSIS

The appearance of mucocele is pathognomonic, and so the data about the lesion location, history of trauma, rapid appearance, variations in size, bluish color and the consistency. Usually this lesion is soft in consistency. History and clinical finding will lead to the diagnosis of superficial mucocele. Fine needle aspiration cytology demonstrates mucus retention, inflammatory cells and histiocytes. In retention type of mucocele, well defined epithelial wall is present. This type shows less inflammatory reaction. The extravasation type was pseudocyst without epithelial wall and shows inflammatory cells and granulation tissues. Chemical analysis shows high amylase and protein content. Radiographs like computed tomography and magnetic resonance imaging helps in localization of these lesions.

## TREATMENT

Conventional surgical removal is a common method used to treat this lesion. Other treatment options include

cryosurgery, CO<sub>2</sub> laser ablation, intralesional corticosteroid injection, marsupialization and electrocautery Small sized mucoceles are removed with marginal glandular tissues and in case of large lesions marsupialisation is done. Lacrimal catheters are used to dilate the duct to remove the obstruction of retention type mucoceles. While removing the mucocele surgically, it is important to remove the surrounding glandular acini. Lesion should be removed down to the muscle layer and it's important to avoid the adjacent gland and any damage to duct while placing the suture. This will reduce the chances of recurrence of mucocele. If the fibrous wall of the mucocele is thick then the removed tissue must be sent for histopathological examination to rule out any salivary gland neoplasms. The advantage in CO<sub>2</sub> laser is that it minimizes the relapses and complications. Prognosis of the lesion is good. There has not been malignant transformation reported till now in literature.

## CONCLUSION

Mucocele is the most common benign self-limiting condition. Young males are most commonly affected. In majority of cases, lower lips are commonly affected. Trauma is the most common cause of this lesion. Most often it can be diagnosed clinically however sometimes biopsy is required to rule out any neoplasm and other lesion. Different treatment options are available but CO<sub>2</sub> laser treatment shows more benefits with less relapse.

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