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CASE REPORT

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Mucocele: A Case Report

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ABSTRACT

Mucocele is a common benign lesion in the oral cavity. It is caused by the excess of mucous secretion as a result of injury and lip biting habits or any abnormalities of minor salivary glands. Mucoceles are generally painless but can cause discomfort to the patients while eating and speaking. Mucoceles are mainly diagnosed with the help of clinical features. Very few mucoceles resolve without any treatment, but majority of mucoceles are surgically removed. The right management can remove mucoceles without causing any side effects. It is important for a practitioner to diagnose oral lesions such as mucocele and provide the right treatment. This paper describes a case of mucocele that has been surgically treated.

KEYWORDS: Lower Lip, Mucous, Salivary Gland, Mucocele

INTRODUCTION

The term "Mucocele" is a Latin derivative. "Mouco" means mucus and "Coele" means cavity. They are "cavities filled with mucus that are most commonly located in the mouth, lacrimal sac and paranasal sinuses.[1]

Mucoceles are the most prevalent minor salivary gland condition. They are the second most frequent benign soft tissue tumor of the oral cavity, the first being irrational fibromas.[2]

ETIOLOGY

Damaged or an obstructed salivary gland can result in mucocele formation. There are numerous salivary glands in the oral cavity. Saliva consists of three main components : water, mucus and enzymes. Saliva is transported from the salivary glands to the oral cavity via small tubes, known as ducts. When one of these ducts is injured, it causes accumulation of saliva at the injured site resulting in a swelling or a mucocele.

A mucocele can sometimes be formed around lip or tongue piercings. Intake of few medications can cause thickened saliva, which may clog a salivary gland and form a mucocele.[3]

CLASSIFICATION

Mucocele can be classified into two types:
- Mucus extravasion
- Mucus retention

Mucus extravasation:
- Most commonly seen in minor salivary glands.
- Occurs when fluid leaks from injured salivary gland ducts and acini into the adjacent soft tissues.
- Incidence: 90%

Mucus retention:
- Commonly occurs in major salivary glands.
- Due to the obstruction of salivary gland ducts.
- Incidence: 10%

There is no clinical difference between mucus extravasation and mucus retention.[4]

HISTOLOGY

Epithelial lining is missing in mucus extravasation cyst, hence have resemblance to pseudocyst. It is created by a mucus pool and granulation tissue surrounding it. However, mucus retention cyst is lined by epithelium, hence it's a true cyst.[5]

CLINICAL FEATURES

Mucoceles are semi-transparent and resilient, with a diameter ranging from a few millimeters to centimeters. They are bluish, soft and transparent cystic swelling that usually regresses on their own. The blue color is caused by vascular congestion, tissue cyanosis, and fluid collection below. The color of the lesion, however, might vary depending on its size, proximity to the surface, and the flexibility of the surrounding tissue.[6]

When pressure is exerted to mucoceles, they do not change color. If a patient presents with a blue swelling that has resemblance to mucocele, the dentist must

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apply pressure on it during the intra oral examination and observe the color changes. A change in color may indicate a harmless growth composed of blood vessels. This may be diagnosed as hemangioma.

Mucocele often do not have any symptoms, unless they interfere with speech, chewing or swallowing.[7]

LOCATION

Extravasation mucoceles are most commonly present on the lower lip due to biting habit, followed by tongue, buccal mucosa and palate. They are infrequently seen in retromolar region and posterior dorsal part of the tongue. Retention mucoceles may be present in any sites of the oral cavity. When a mucocele is found in the floor of the mouth, it resembles the underbelly of a frog, therefore the name ranula. Mucocele which is seen on the gums is known as epulis.[8]

This article presents a case of mucus extravasation mucocele which was present on the inner aspect of the lower lip.

CASE REPORT

A female patient aged 17 years reported to the Department of Periodontics with a complaint of painless swelling in the inner aspect of the lower lip since 2 months. The swelling was initially small which has gradually increased to the present size. No history of trauma was reported by the patient. There was no significant dental and medical history. Extra-oral examination did not show any presence of swelling or palpable lymph nodes. On intra oral examination, the lesion was present in the inner aspect of the lower lip in 42,43 region (figure 1).

Figure 1. Pre-operative: Lesion on the lower lip

On examination of the lesion, it was found to be solitary, smooth, well defined, soft fluctuant and palpable measuring about 12 X 8 mm (Figure 2 & 3).

Figure 2. Measurement of the lesion

There was no rise in the temperature and it was round in shape with a bluish translucent hue.

Figure 3. Measurement of the lesion

Based on the clinical findings, provisional diagnosis was given as mucocele. Blood investigations were performed and it was within the normal limits. After administering adequate local anesthesia, superficial incision was placed over the lesion involving the superficial layers (Figure 4&5).

Figure 4. Incision

Figure 5. Exposure of the Lesion

The lesion was excised after the separation of the tissue (Figure 6).

Figure 6. Excised Lesion

The excised tissue was then sent for histopathological analysis to confirm the diagnosis. Intermittent sutures were placed after irrigation of the surgical site (figure 7). Post- operative instructions were given to the patient and analgesics were prescribed.

Figure 7. Sutures placed

HISTOPATHOLOGICAL REPORT

The H&E stained section showed stratified squamous non-keratinized epithelium overlying lesional tissue. The tissue consisted of cystic space with scanty eosinophilic mucous substance. The cystine lining was made of capsule and granulation tissue with numerous blood vessels and few inflammatory cells. Few ducts and cross-sections of mucous salivary glands were also noted. All these features were suggestive of mucous extravasation cyst.

The patient was recalled after one week for suture removal and the healing was found to be satisfactory (figure 8). Follow up was done after one month and complete healing was observed and no recurrence of the lesion was observed.

Figure 8. One-Week Post- Operative Picture

DISCUSSION

A mucocele also known as mucous cyst is a mucus-filled cystic lesion of the minor salivary glands in the oral cavity. The exact mechanism by which a mucocele forms is not yet clearly understood.[9] However, Yamasoba et al. identified two etiological aspects in formation of mucocele: trauma and constriction of salivary gland ducts.[10]

Menta et al. along with Yamasoba et al. and Oliveira et al. stated that more than 65% of their patients with mucoceles were under the age of 20 years.[11,10,12] The patient presented in our case report was 17 years old.

The mucocele is most commonly found on the lateral part of the lower lip.[13] Lip consists of adipose, connective tissue, nerves, blood vessels and salivary glands. Therefore, injury to any of the tissues may result in swelling in the lips.[14]

A mucus cyst appears as a prominent, fluctuant and painless enlargement of the mucosa. About 75% of lesions are less than 1 cm in diameter; however, the size

can vary from a few millimeters to several centimeters on rare occasions.[4] Our patient had a lesion measuring 12 X 8mm. Superficial lesions have a bluish to transparent hue, however deep lesions have typical mucosal color and bleeding into the swelling can make it appear bright red and vascular.[15]

Out of the two types of mucoceles, our clinical and histopathological findings confirmed the diagnosis of mucus extravasation cyst. In extravasation type, fluid leaks from the ducts or acini in to the surrounding tissue. They are mostly found near the site of accessory salivary glands and are rarely exceeds 1.5 cm in diameter.[16]

Lip swelling can be caused due to various conditions like mucocele, lipoma, mucus retention cyst, sialolith, phlebolith, and salivary gland tumor. However, these can be differentiated from mucocele based on their clinical findings, colour, consistency, etiology, and their area of occurrence.[14] Palpation of the lesion can also aid in correct differential diagnosis. Cysts, mucoceles, abscesses, and hemangiomas present with fluctuation, whereas lipomas and tumors of small salivary glands do not fluctuate.[17]

A mucocele does not always go away without therapy. However, if some mucoceles go untreated, they can result in scar formation. A thorough intra oral examination is mandatory for the dentist to rule out the presence of any swelling. Surgery is frequently used to remove mucoceles. A scalpel or laser is usually preferred. The removed mucocele tissue is send to laboratory for further analysis. There is chance of recurrence after the removal of mucocele. Before attempting a surgical therapy, doctors can employ corticosteroid injections. These injections can sometimes reduce edema, which reduces the need for surgery.

Our case was managed by simple surgical excision of the lesion and removal of the mucosa around the lesion and glandular tissue beneath the muscle layer. Alternative treatment options include marsupialization, dissection, cryosurgery, carbon dioxide lasers, electrocautery, intralesional injection of sclerosing agent OK 432 and cryotherapy.[18]

CONCLUSION

Mucocele is a commonly occurring benign lesion which is self-limiting and can cause distress and anxiety to the patient. Trauma is one of the most common causes of mucocele. The diagnosis of mucocele is based on the history, clinical features, definitive diagnosis and histopathological investigation. The treatment of mucocele is challenging since the rate of recurrence is high. If it is left untreated, they can cause scar formation, or increase in size which will interefere with mastication. Mucocele of smaller size does not require any treatment and may regress on its own. However, a surgical excision may be required for those of the larger size. In this case, a simple surgical excision was carried out to achieve successful results.

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