

Mucocele of the lower lip: A case report of a benign salivary gland cyst

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Abstract

We report a case of Mucocele in a 35-year-old male patient. Mucoceles are one of the most frequent lesion of the oral mucosa. The most common affected site is the lower lip.

The most common treatment for mucocele is excision, however recurrence is common. Other treatment modalities available are Cryosurgery, CO 2 laser ablation, Intralesional steroid injection, and Diode lasers.

Keywords: Extravasation cyst; Mucocele; Retention cyst; Salivary gland cyst; Lower lip

1. Introduction

Mucocele is a cavity that is filled with mucus, according to their definition (muco = mucus, coele = cavity) [1]. It is one of the most frequent lesion of the oral mucosa, and it is brought on by an accumulation of mucus secretion due to trauma, lip-biting behaviours, or small changes in the salivary glands. According to histological characteristics, they primarily fall into two categories: retention and extravasation [1]. The most common afflicted area is the Lower lip, lower Labial Mucosa, and can also form on the cheek, tongue, palate, and floor of the mouth [2].

Mucocele typically develops as a result of the rupture of a salivary gland's excretory duct, which causes saliva to leak into the nearby tissues [3,4]. Inflammatory cells initially surround the pool of glandular secretion that results, and then reactive granulation tissue made up of fibroblasts surrounds it later. It is classified as a fake cyst or pseudocyst because of the absence of an epithelial lining and the mucin is encapsulated only by the granulation tissue [5].

A mucocele typically presents clinically as an asymptomatic nodule with a normal or bluish colour. Its mucinous components lead it to fluctuate and move [5].

2. Case description

A 35-year-old male, reported with a chief complaint of swelling of the left lower lip for more than 4 years and it started to increase in size since one month.

The patient gave a history of swelling in the lower lip which increased in size within the last 1 month. He gave a history of trauma to the maxillofacial region before 5 years.

2.1. Medical History

His medical history questionnaire revealed no information that was particularly pertinent to this dental examination, and he stated that he had not received dental care in the previous 20 years.

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2.2. Habit History

The patient was a known smoker for the past 12 years. He used to smoke 4.5 cigarettes per day. The patient was also an occasional drinker for the past 10 years.

2.3. Clinical examination

On inspection an extraoral examination of the lower lip showed that it was pale pink in color with mild asymmetry. On the left labial mucosa, an intraoral examination revealed a blueish pink swelling [Fig.1].



Figure 1 Preoperative radiograph of the Mucocele in the left labial mucosa

On palpation all the inspectory findings were confirmed. The swelling anteroposteriorly extended from 34 to the mesial aspect of 36. The swelling was fluctuant, compressible, non-reducible, nontender measuring 3*5 cm; the swelling did not blanch in response to digital pressure. There was no pulsation present.

Intraoral examination of the hard tissues showed crowded lower anteriors and crossbite with mesiobuccally tilted 34. Moderate presence of calculus and stains were noted with dental caries in maxillary right posterior teeth.

2.4. Provisional diagnosis

Based on the history of trauma, clinical examination a provisional diagnosis of mucocele in the left lower labial mucosa was considered.

The mucocele have a characteristic clinical look hence, data about the lesion's location, its history of trauma, its rapid onset, its variability in size, its bluish colour, and its consistency aid in its diagnosis [6,7,8].

2.5. Differential diagnosis

Blandin and Nuhnmucocele, benign or malignant salivary gland neoplasms, oral hemangiomas, oral lymphangiomas, venous varices or lakes, lipomas, soft irritation fibromas, oral lymphoepithelial cysts, adult-onset gingival cysts, soft tissue abscesses, and cysticercosis are among the differential diagnoses that can be taken into consideration. In addition to mild aphthous ulcers and bullous lichen planus, superficial mucocele can also be mistaken for cicatricial pemphigoid [9].

2.6. Investigation

The following investigations were done - Transillumination test and Histopathological analysis of the specimen.

A Transillumination test was done and it was found to be positive.

The excised material was submitted for histological analysis. The lesion's histopathology revealed a hollow cyst like characteristic, including eosinophilic coagulum and dense inflammatory cells with granulation tissue. The connective tissue in the vicinity was fibrous, resembling a cyst wall with fibroblasts. Extravasation mucocele was officially diagnosed after histological confirmation.

2.7. Diagnosis

The history, clinical findings, the transillumination test, and histopathology all lead to the diagnosis of a superficial mucocele. An obvious, varying, painless swelling of the mucosa is the clinical presentation of a mucous cyst.

2.8. treatment plan

Mucocele of the lower lip due to trauma was the conclusive diagnosis. Hence, Excision of the mucosal was advised for the patient. Eventhough recurrence following excision is rarely noted.

2.9. Treatment done

Local anesthesia was administered around the lesion. Vertical relieving incision was placed. The lobule of the mucocele was separated from the surrounding epithelium with the help of metzenbaum surgical scissors. BP Blade no.15 was used to excise the mucocele from its base.

Following the excision of the larger lobule of mucocele several smaller mucoceles were found at the base, which was also carefully excised [Fig.2].

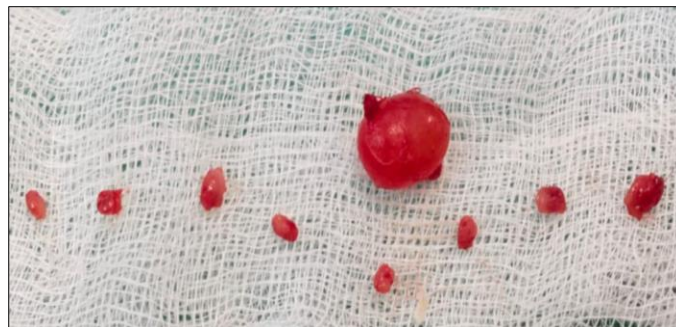


Figure 2 Excision of the larger and the smaller lobules of the mucocele



Figure 3 Suture Placement - 5 3-0 Sutures Were Used To Close the Wound



Figure 4 1 Month follow-up photograph

Failure to excise the smaller mucoceles would have resulted in recurrence. Hence it is highly essential for the clinicians to carefully excise all the visible mucoceles however small it may be.

Excision was completed, and 5 3-0 sutures were used to close the wound [Fig.3]. Patient was given post-operative instructions and medications including antibiotics and painkiller for three days. Sutures were removed after 1 week. At the 1-month [Fig.4] and 3-month follow-up exams, no recurrence was seen.

3. Discussion

2.5 lesions per 1000 patients represent a significant prevalence of mucoceles, which often appear in the second decade of life [6,8,10].

In contrast to retention mucoceles, which can develop anywhere in the oral cavity, extravasation mucoceles commonly develop on the lower lip. The lower lip is the most common location for a mucocele because it is more likely to sustain damage, particularly at the premolar level [11].

In our case also the mucocele was present in the lower lip.

The investigation of age distribution showed that young people aged 20 to 29 years (34.2%) had the highest prevalence of OMs, followed by adolescents aged 10 to 19 years (23.2%) [12].

In our case report the affected individual was of 35 years of age.

Mucoceles have a pathognomonic appearance, and the location, trauma history, quick onset, size changes, bluish colour, and consistency of the lesion are all crucial variables. To make a good differential diagnosis, palpation can be useful. While cyst, mucocele, abscess, and hemangiomas do fluctuate, lipoma and small salivary gland tumours do not [11]. In our case report the Swelling was fluctuant, non-tender, and did not blanch in response to digital pressure all pointing towards mucocele.

Fine Needle Aspiration Biopsy (FNAB), a straightforward procedure, is very beneficial, particularly when differential diagnosis of angiomatous lesion is involved [13].

To confirm the diagnosis, a histopathologic analysis is required. Extravasation mucoceles will appear as an undefined pseudocyst [11]. Retention mucoceles are well defined with an epithelial wall and a row of cuboidal or flat cells produced from the excretory duct of the salivary glands, whereas these mucoceles are surrounded by an inflammatory cell layer and then by a reactive granulation tissue made up of fibroblasts caused by an immune reaction [14,1,8]. Retention mucoceles, unlike extravasation mucoceles, do not exhibit an inflammatory response and are true cysts with an epithelial covering [8]. Even though oral mucoceles often resolve completely on their own, recurrence is frequent. Minor mucoceles are typically treated with conventional surgical excision with removal of nearby small salivary ducts. In the present case report also the mucocele was treated with conventional surgical excision. Large mucoceles may be surgically removed through marsupialization to protect nearby structures, especially the labial branch of the mental nerve [12]. Some of the other treatment modalities available are using diode lasers, CO2 laser ablation, micromarsupialization, Cryotherapy and intralesional steroid injection. CO2 laser ablation is a fast and simple technique limited to the superficial mucosa when set between 5 and 10 W. In comparison to scalpel excision, CO2 laser ablation has less postoperative discomfort, bleeding, problems, and injury to adjacent structures. It also heals more quickly and has fewer relapses. The average time for CO2 laser ablation is 3 to 5 minutes because there is no need for sutures. The procedure's lack of blood makes for good surgical visibility [15]. The micromarsupialization is considered as an ideal treatment in case of pediatric patient because this technique is simple, rapid and less chances of recurrence [16].

Cryotherapy and intralesional steroid injection have also been introduced as first-line treatments. Through the use of cryogens like liquid nitrogen or nitrous oxide, intense cold is used during alternate freeze-thaw cycles to eliminate mucoceles. It is quick, easy, and painless. The drawbacks include that it can require multiple applications and has limited use for deep lesions [15]. Diode lasers can be used on pediatric patients to remove mucoceles. It offers a method that is well-accepted, quick, easy, bloodless, and effective for treating mucocele in paediatric patients. Additionally, none of the instances presented reported any significant post-operative pain or scars [17].

4. Conclusion

In conclusion, mucoceles should always be considered in the differential diagnosis of cystic like masses even though they are uncommon. Although surgical intervention with excision of the mucocele is the primary course of treatment, recently developed therapeutic methods have shown promise in eliminating the drawback of surgical excision.

Compliance with ethical standards

Disclosure of conflict of interest

All authors declare that they have no conflicts of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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