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## Mucocele: A case report with brief review

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### Abstract

Mucocele is a clinical term that basically includes two phenomenon i.e. mucus extravasation and mucus retention. Cysts arising in connection with minor salivary glands are common and about 90 per cent of cases are of the mucous extravasation type. These lesions are typically painless, dome-shaped, and fluctuant; they appear blue in colour secondary to the presence of mucin under the mucosa. The vesicular appearance created by the superficial nature of the mucin spillage, causes a separation of the epithelium from the connective tissue. The pathologist must be aware of this lesion and should not mistake it microscopically for a vesiculo-bullous lesion, especially mucous membrane pemphigoid. Here, we present a case report on mucocele with a brief review.

**Key words:** Mucocele, Extravasation cyst, Mucus, Salivary gland.

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### Introduction

Defined as a mucus filled cyst, mucocele can appear in various parts of body including gall bladder, appendix, paranasal sinuses and even the oral cavity[1]. It is one of the most common lesion of the oral mucosa affecting the general population that results from an alteration of minor salivary glands due to a mucous accumulation[2]. Mucoceles are most commonly found on lower lip followed by floor of the mouth and buccal mucosa[3]. Basically two types of mucocele are identified i.e. retention and extravasation type of mucocele. Trauma to the salivary glands duct and consequent spillage of mucus in the soft tissues may result in extravasation type while retention mucocele mainly appears due to blockage of salivary gland ducts.<sup>2</sup> Mucoceles may resolve spontaneously, however in most cases a surgical excision is required.

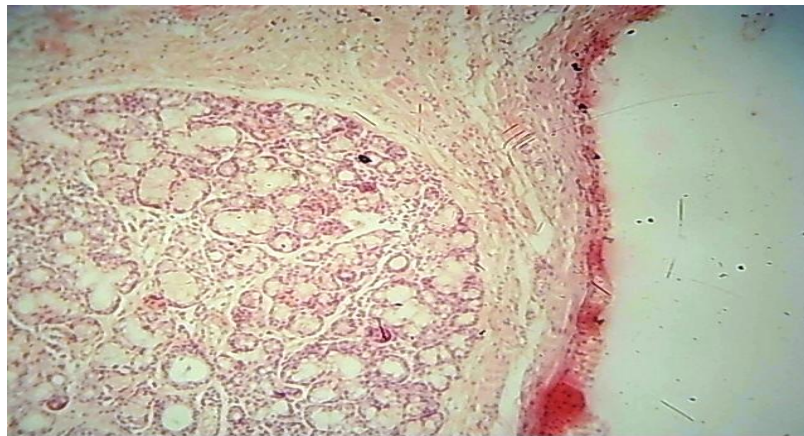
### Case Report

A male patient 19 years of age patient reported with a chief complaint of swelling on the lower lip since 3

months. The patient was apparently normal 3 months back when he noticed a swelling on the lower lip. The swelling was very small in size and did not cause much discomfort. However, gradually the swelling increases in size. The patient didn't experience any pain. On examining intra orally a solitary swelling was seen approximately 1.5 cm in its greatest dimension. It had a pale blue colour, with smooth surface and was non tender as well. No other significant oral findings were present. The lesion was enucleated surgically and tissue was sent for histo-pathological evaluation. On grossing the tissue was soft, fluctuant, had a regular shape with smooth surface. Histopathology evaluation (Figure 1) revealed a cystic space lined with a fibrous capsule with an overlying normal stratified squamous epithelium. Salivary gland acini were seen in association to the cyst (Figure 2). Fibrous tissue stroma with chronic inflammatory cells was also seen.



**Fig. 1: A- Overlying epithelium, B- Salivary acini, C- Cystic space**



**Fig. 2: Salivary gland tissue seen near the cystic space**

### Discussion

Mucocele is a common lesion of the oral mucosa, which can affect the general population[4]. In general population; mucocele incidence is 0.4% to 0.8% with significant differences between males and females. 40% - 80% of all the cases are found on lower lip followed by the cheek mucosa and floor of the mouth[5]. In a study done by Yamasoba et al. two etiological factors in mucocele were highlighted these included Trauma and obstruction of salivary gland ducts[4]. Clinical visual examination of the oral mucosa is the first and most frequent method used to make a provisional diagnosis but the final diagnosis is done by histology[6].

Histologically, mucous retention and mucous extravasation phenomena for mucocele are observed depending on the presence of epithelial lining. Mucous retention phenomena prevalence is low in children due to inability of ductal structure to contain an exaggerated

accumulation of secretion[7]. Extravasation mucoceles are thought to undergo three different evolutionary phases. The first phase includes mucus spilling diffusely from the excretory duct into the connective tissues. Next phase (resorption phase), shows formation of granuloma occurs because of foreign body reaction. Last phase shows formation of pseudo-capsule (without epithelial lining) around the mucosa[8]. Epithelial lining are absent in Mucous extravasation cysts and are often present as poorly defined mucinous pools with eosinophilic mucinous material, condensed fibrous tissue and vacuolated macrophages. Few cases show a granulation tissue surrounding pooled mucous containing polymorphonuclear leukocytes, lymphocytes, and eosinophils[9].

Diagnosis is mainly based on clinical findings; Mucocele appearance is pathognomonic trauma history, rapid appearance, location of the lesion, bluish colour and

variations in size are some of the important factors to be considered before the making a final diagnosis. Protein content and high amylase are generally observed on chemical analysis[4]. Palpation often helps in framing the differential diagnosis as cysts, mucocles, abscess, and hemangioma's show fluctuation whereas lipoma's and tumors of minor salivary glands do not present any fluctuation[10].

Simple incision of the mucocle, the content would drain out but the lesion would reappear as soon as the wound heals therefore it is suggested that the lesion should be surgically excised with removal of the involved accessory salivary gland. Marsupialization often results in recurrence of such lesions[11,12].

Vaporization with argon and Nd: YAG lasers have been described as a new technique for the treatment of mucocles. Both laser procedures presented satisfactory results with low recurrence rates and were well tolerated by the patients, whose discomfort was the main complaint reported[5,13].

### Conclusion

Mucocle is the common benign condition seen in young males. It usually is a self-limiting condition mostly associated with trauma. Majority of these lesions are seen in lower lips. Due to the painless nature of this condition it remains mostly undiagnosed. It is usually the dentist who comes across with such condition during a routine oral check-up or during any unrelated dental problem.

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