Oral Mucocele: Report of Two Cases

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INTRODUCTION
Mucoceles (Mouco-mucus and coele-cavity), are cavities filled with mucus and are one of the most common benign soft tissue masses that occur in the oral cavity. They are traumatic in origin and are formed when the main duct of a minor salivary gland is torn with subsequent extravasation of the mucus into the fibrous connective tissue forming a cyst like cavity. The wall of this cavity is formed by compressed bundles of collagen fibrils and it is filled with mucin. Mucoceles can appear by an extravasation or a retention mechanism, they are most commonly found on the lower lip, lateral to the midline and may occur at any age, but they are more frequently seen in the second and third decade of life. The lesion has no sex predilection and occurs more frequently in children, adolescents and young adults. They appear as discrete, small, translucent, soft, painless swelling of the mucosa ranging from normal pink to deep blue in color. Laser, cryosurgery, and electro cautery have also been used for treatment of the conventional mucoceles.

Keywords: Oral Mucocele, Minor salivary glands, Lower lip, Mucous Extravasation & Retention Phenomenon.

CASE REPORT
ABSTRACT
BACKGROUND: Mucoceles are cavities filled with mucus and are one of the most common benign soft tissue masses that occur in the oral cavity. They are traumatic in origin and are formed when the main duct of a minor salivary gland is torn with subsequent extravasation of the mucus into the fibrous connective tissue forming a cyst like cavity. The wall of this cavity is formed by compressed bundles of collagen fibrils and it is filled with mucin. Mucoceles can appear by an extravasation or a retention mechanism, they are most commonly found on the lower lip, lateral to the midline and may occur at any age, but they are more frequently seen in the second and third decade of life. The lesion has no sex predilection and occurs more frequently in children, adolescents and young adults. They appear as discrete, small, translucent, soft, painless swelling of the mucosa ranging from normal pink to deep blue in color. Laser, cryosurgery, and electro cautery have also been used for treatment of the conventional mucoceles.

INTRODUCTION
Mucoceles (Mouco-mucus and coele-cavity), are cavities filled with mucus.¹ They are one of the most common benign soft tissue masses that occur in the oral cavity. Mucoceles are traumatic in origin and are most commonly found on the lower lip, lateral to the midline.² They may occur at any age, they tend to be seen most frequently in the second and a third decade of life.³ The lesion has no sex predilection and occurs more frequently in children, adolescents and young adults. Mucoceles appear as discrete, small, translucent, soft, painless swelling of the mucosa ranging from normal pink to deep blue in color. The tissue cyanosis and vascular congestion associated with stretched overlying tissue and the translucency of the accumulated fluid beneath results in the deep blue color. They can be single or multiple often rupturing and leaving slightly painful erosions that usually heal within few days.⁴ The mucous extravasation phenomenon is the term used when there is spillage of mucin into the connective tissue around the gland. The term mucous retention cyst is used to describe a cyst with retained mucin which is lined by ductal epithelium.⁵ Etiopathogenesis
Mucus is produced exclusively by the minor salivary glands and is also the most important substance secreted by the major sublingual salivary glands. Mucoceles can appear by an extravasation or a retention mechanism. Extravasation mucoceles are caused by leaking of fluid from surrounding tissue ducts or acini. This type of mucocele is commonly found on the minor salivary glands. Inflammation becomes obvious due to stagnant mucous resulting from extravasation.⁶ Trauma and obstruction of the gland are considered to be the most common pathologies.² Extravasation mucoceles undergo three evolutionary phases. In the first phase, mucous spills from the excretory duct into surrounding tissues where some leukocytes and histiocytes are found. Granulomas become visible during the resorption phase due to histiocytes, macrophages and multi-nucleated giant cells associated with a foreign body reaction. In the final phase, connective

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cells form a pseudo capsule without epithelium around the mucosa. Retention mucoceles are formed by dilation of the duct secondary to its obstruction caused by a sialolith. The majority of retention cysts develop in the ducts of the major salivary glands.

**Case Report-1**

A 20 year old female reported to the Department of Oral Diagnosis, Medicine & Radiology, Manubhai Patel Dental College, Vadodara, Gujarat with the chief complain of swelling in the lower left lip region since 2 months. (Fig-1) A well defined, soft, oval and fluctuant swelling was seen on the inner aspect of lower lip in the premolar region since 2 months. The swelling was painless and patient did not give any history of fever and/or malaise and there was no increase in temperature associated with the swelling. The provisional diagnosis was given as a mucocele. The surgical removal of the lesion was performed and the specimen was sent for histopathological examination. (Fig 2) The H&E stained sections show stratified squamous epithelium with connective tissue showing irregular shaped cystic lumen with presence of spilled mucin, numerous muciphages and polymorphonuclear leucocytes. Cystic cavity was surrounded by granulation tissue made up of plump fibroblasts, newly formed blood vessels, areas of endothelial cell proliferation and chronic inflammatory cells. Muciphages showed abundant vacuolated cytoplasm and centrally placed vesicular nuclei and presence of minor salivary glands in deeper sections which confirmed the diagnosis of mucocele (Mucous extravasation phenomenon) (Fig 3,4)

Regular recall and checkup for the recurrence of the lesion was done and none was seen till date.

**Fig-1 Clinical presentation of mucocele**

**Fig: 2 Gross image of mucocele**

**Fig: 3 & 4 shows cystic lumen with presence of spilled mucin, numerous muciphages and polymorphonuclear leucocytes.**

**Case Report-II**

A 24 years old female reported to the Department of Oral Diagnosis, Medicine & Radiology, Manubhai Patel Dental College, Vadodara, Gujarat with the chief complain of swelling in the lower lip since 1 month. The well defined swelling with surrounding erythematous halo was seen on the inner aspect of the anterior region of lower lip since 2 months. The swelling was soft in consistency, fluctuant, non-tender, non-reducible, compressible, afebrile and non-pulsatile. The surgical removal of the lesion was performed and specimen was sent for histopathological examination. (Fig 5) H& E stained sections show minor salivary glands against the background of loose connective tissue. Focal collection of mucinophages was observed which demonstrates abundant foamy cytoplasm and darkly stained nuclei which confirmed the diagnosis of mucocele (Fig 6,7) and no recurrence was noted.

**Fig: 5 Clinical presentation of mucocele**
DISCUSSION

Mucoceles may be located either as a fluid filled vesicle or blister in the superficial mucosa or as fluctuant nodule deep within the connective tissue.3 Mucoceles appear as discrete, small, translucent, soft, painless swelling of the mucosa ranging from normal pink to deep blue in color.4 The appearance of mucocele is pathognomonic, therefore, the knowledge concerning the lesions location, history of trauma, infection, variations in size, blue color and also the consistency helps in the diagnosis of such lesions.7,8 The development of Mucoceles usually depends on the disruption of the flow of saliva from the secretory apparatus of the salivary glands. The lesions are most often associated with mucus extravasation into the adjacent soft tissues caused by a traumatic ductal insult, which may include a crush-type injury and severance of the excretory duct of the minor salivary gland.9,10 Mucoceles have no age predilection but mainly occur in the children and young adults due to more chances of trauma.2 The various differential diagnosis are Blandin and Nuhn mucocele, Benign or malignant salivary gland neoplasm, Oral Hemangioma, Oral Lymphangioma, Venous varix, Soft irritation fibroma, Gingival cyst, Soft tissue abscess. Superficial mucoceles may be confused with Cricatricalpemphigoid, Bullous lichen planus and Minor aphthous ulcers.5 Histologically, mucocele are of two types’ mucus extravasation and mucous retention phenomena, depending on presence of epithelial lining. In children prevalence of mucous retention phenomena is low due to inability of ductal structure to contain an exaggerated accumulation of secretion.11,12 Whereas as mucous extravasation is common in children because extravasated saliva is first surrounded by inflammatory cell followed by granulation tissue composed mainly of fibroblast due to absence of epithelial lining, this phenomenon is categorized as a pseudocyst or false cyst.13 Removal of the accessory salivary glands has been urged as the treatment. Marsupialization can solely lead to recurrence, but large lesions are best treated with marsupialization. Laser, cryosurgery, and electro cautery have also been used for treatment of the conventional mucoceles.8 Recurrence can be avoided by removing adjacent surrounding glandular acini and removing the lesion down to the muscle layer.15,16 Special care should be taken to avoid injury of adjacent glands and ducts while placing sutures as this also causes reappearance.17

CONCLUSION

Mucocele is the most common benign lesion of the oralcavity. Majority of these cases can be diagnosed clinically. Management of mucocele is done surgically by excision or marsupilation depending on the size of the lesion. Recurrence is rare if managed accurately.

REFERENCES


