

**MUCOCELE ON VENTRAL SURFACE OF TONGUE: A UNUSUAL PRESENTATION**

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**ABSTRACT**

The Mucocele or Mucus retention phenomenon is a salivary gland lesion of traumatic origin. It is formed when the main duct of a minor salivary gland is torn with subsequent extravasation of the mucus into the fibrous connective tissue followed by blockage of opening of duct thereby leading to formation of soft cystic lesion. The walls of this lesion are formed by compressed bundles of collagen fibrils and the cavity is filled with mucin. Mucoceles are known to occur in varying locations on the oral mucosal surfaces overlying accessory minor salivary glands. However they occur more frequently in certain locations. The lower lip is reported to be most commonly affected followed by the tongue. Mucoceles of the lingual glands are rare and are hardly reported to occur more so in the pediatric age group.

Here in we present and bring to light the diagnosis and treatment of the mucocele on the ventral surface of tongue in a 13 year old female who reported to the department of oral and maxillofacial surgery at Chandra dental college & hospital, Barabanki (U.P), India.

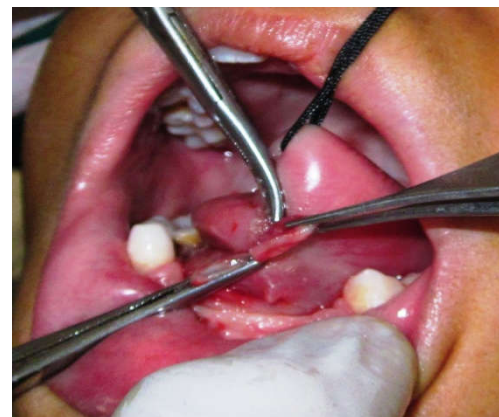
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**INTRODUCTION**

Mucoceles are benign cystic lesions of the oral cavity, which develop from the extravasation or retention of mucin produced by the minor salivary glands, and are found throughout the surface of the oral cavity, except in the gingival sulcus. Frequent occurrence anatomically, Mucoceles of the lower lip are the most common (77.9%), followed by lingual mucoceles (36%) and mucoceles of the floor of the mouth (15.6) (Jinbu et al.2003). Mucoceles on the ventral surface of the tongue are derived from the BlandinNuhn glands and are considered quite unusual<sup>[1]</sup>. These lesions because of their clinical characteristics and location may be confused with other pathologies like vascular lesions, pyogenic granulomas, squamouspapillomas, among others. The term mucocele is derived from a latin word, mucus and cocele means cavity (Yagüe-García et al., 2009). Mucocele is seventeenth most common salivary gland lesions seen in the oral cavity (Flaitz and Hicks, 2006). This is the result of accumulation of mucus due to the alteration in the minor salivary gland which causes limited swelling (BagánSebastián et al. 1990)

**CASE REPORT**

A 13 year old girl accompanied by her father came to the department of oral and maxillofacial surgery at Chandra dental college and hospital, Barabanki, U.P., India. With the following complaint swelling on lower surface of tongue, which appear about one month back. Patient reported that there is no history of trauma (Fig.1).



**Figure 1** Clinical picture showing mucocele over ventral surface of tongue

On extra oral examination neither the asymmetry of neck nor cervical lymphadenopathy was found. Intra oral examination revealed bluish-red, non tender fluid filled mass measuring about 2cm x 1cm in size on the ventral surface of tongue. The lesion was cystic, sessile and progressive in growth producing

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discreet superficial dome shaped swelling. The lesion was soft and elastic in consistency. Fine needle aspiration cytology was done which revealed presence of mucous, histocytes, and inflammatory cells. The patient was taken for surgery under local anesthesia and complete excision of the mass was done (Fig.2&3).

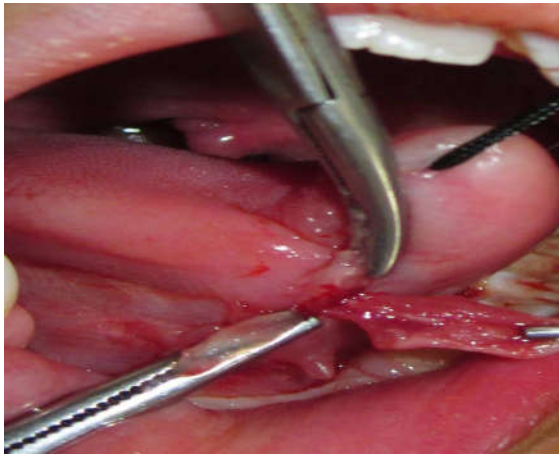


Figure 2&3 Intraoperative photograph showing excision of entire mucocele

The histopathology reported changes compatible with extravasation-type mucocele of the ventral surface of the tongue, which because of its location and presentation corresponds to a mucocele of the BlandinNuhn glands (Fig.4&5)

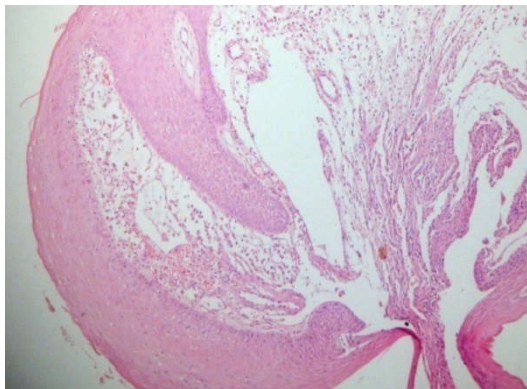


Figure 4

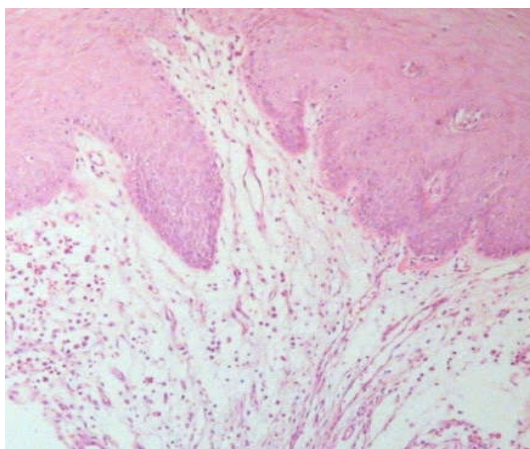


Figure 4&5 Histopathologic examination showing mucous histiocytes with inflammatory cells with loss of epithelial lining showing extravasation type of mucocele.

The patient was followed up for 10 months without clinical evidence of recurrence.

## DISCUSSION

The minor salivary glands are a set of three types of glands found throughout the oral cavity, except in the gingival sulcus<sup>[2]</sup>. 1. The Von Ebner glands drain on the base of the circumvallate and foliate papillae located on the dorsal and lingual surface of the tongue. 2. The Weber glands, which are exclusive mucin producers, are located on the lateral surface of the tongue, and also drain to the lingual tonsil crypts. 3. The BlandinNuhn glands are found near the tip of the ventral surface of the tongue, and are surrounded by lingual muscles near the medial line. These glands extend laterally and towards the rear of the medial line, forming a horseshoe-like mass with an aperture toward the posterior and drain through four to six ducts opening near the lingual frenulum. The characteristics of their secretory products have not been precisely determined. These glands histologically have been described as containing seromucous acini in their anterior part and mucous acini in their posterior part<sup>[3]</sup>.

Mucoceles are common lesions minor salivary gland clinically characterized by single or multiple, spherical, fluctuant nodules which are generally asymptomatic.<sup>[4,5]</sup> They are believed to result from mechanical trauma to the excretory duct of the salivary glands, causing duct transection or rupture, with consequent extravasation of mucin to the connective tissue stroma (mucus extravasation phenomenon, MEP), in addition, the mucus might be retained in the duct and/or acinus as a result of duct obstruction (mucus retention phenomenon, MRP). MRP are less frequent and are seen particularly in the elderly<sup>[6-8]</sup>.

Mucoceles may be located either as a fluid filled vesicle or blister on the superficial mucosa or as a fluctuant nodule deep within the connective tissue. Spontaneous drainage of the inspissated mucin especially in superficial lesions followed by subsequent recurrence may occur. The surface of long standing lesions may exhibit fibrosis<sup>[9]</sup>.

The cystic formations or mucoceles of the BlandinNuhn glands have been reported as unusual; according to Harrison<sup>[10]</sup> in a review of 400 mucoceles of the oral cavity only nine originated in the tongue, constituting 2.3% of the total cases reviewed. According to Saza *et al.*,<sup>[11]</sup> mucoceles of the BlandinNuhn glands were found in 9.6% of 385 mucoceles observed. In the series published by Jinbu *et al.*<sup>[1]</sup>, mucoceles from the BlandinNuhn glands constitute 9.9% of all oral mucoceles. Young patients seem to develop mucoceles with greater frequency than older patients. In a Brazilian case series of 104 patients reported by Nico *et al.*,<sup>[12]</sup> 50% of the patients were younger than 20 years of age and 34.6% were under 15 years of age. A greater incidence was also found in females.

Harrison<sup>[10]</sup> reported that in younger patients the mucoceles of extravasation types are caused as a consequence of local bite type traumatism causing rupture of the excretory complex with mucous extravasation.

Histologically, they consist of a circumscribed cavity full of mucin between the connective tissue and the submucosa there by stretching the mucosa with and thinning of the epithelial surface. They are surrounded by granulation tissue and inflammatory cells with the fundamental characteristic that they lack epithelial lining, in contrast to retention mucoceles,

which are real cysts constituting a cavity lined by a layer of squamous epithelium and are associated with can alolitiasis and sialadenitis syndromes, most prevalent in populations over 40 years of age.<sup>[13]</sup>

## CONCLUSION

Though mucocele of BladinNunh salivary gland resembles vascular lesion, pyogenic granuloma, polyp, squamous cell papilloma; the major diagnostic criteria emanates from the clinical characteristics and therefore it is pertinent to raise awareness about this pathology among the surgeons.

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