

CASE REPORT

Mucocele of the anterior lingual salivary glands (Glands of Blandin & Nuhn)

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Abstract :

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 anterior lingual glands are rare and are hardly reported to occur in the pediatric age group. This article reports a case of mucocele of the glands of Blandin & Nuhn, in a 7-year-old girl.

Key Words: *Mucocele, Pseudocyst, Glands, Blandin & Nuhn*

INTRODUCTION

Mucoceles are one of the most common of the benign soft tissue masses that occur in the oral cavity. Mucoceles (muco - mucus and coele - cavity), by definition, are cavities filled with mucus.¹ All cystic lesions of the minor salivary glands, collectively and clinically referred to as mucoceles, are described as either the extravasation type or the retention type. The term mucus extravasation phenomenon (or escape reaction) is used when mucus has been extruded into the connective tissue and is surrounded by a granulation tissue envelope. The term mucus retention cyst is used to describe a cyst with retained mucin which is lined by ductal epithelium. Mucoceles are usually single, although more than one may be present at any given time. Regardless of their location, they present as soft painless swellings².

Their deep blue color results from tissue cyanosis and vascular congestion associated with the stretched overlying tissue and the translucent character of the accumulated fluid beneath. The variation in color depends upon the size of the

lesion, its proximity to the mucosal surface and the elasticity of the overlying tissue¹.

CASE REPORT

A 7-year-old girl reported to the Oral Surgery clinic for evaluation of a swelling on the left ventral surface of the tongue. The lesion was present since two months and was asymptomatic. Patient did not present with any relevant medical history. Patient reported that there was no history of trauma. Intra-oral examination revealed a bluish, non-ulcerated, non-tender fluid filled mass measuring about 2cm x 1cm in size, producing a discreet, superficial dome shaped swelling (Fig. 1). It was clinically diagnosed as a mucocele of glands of Blandin & Nuhn, and the patient was admitted to the hospital for excision of the lesion.

The mucocele was operated under general anaesthesia. The gross specimen showed a well encapsulated mass, soft in consistency & cystic in nature (Fig. 2). Following surgery the operative site healed uneventfully, and a 1 year follow up revealed no recurrences.

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Hematoxylin & Eosin stained section showed a well delineated cavity containing eosinophilic mucinous material .The cyst wall lacked an epithelial lining confirming its pseudocyst nature. The cystic lining was composed of granulation tissue with fibroblasts, proliferating small caliber blood vessels and a mixed , acute and chronic inflammatory cell infiltration (Fig. 3). A ruptured salivary duct that was feeding into the area was also present(Fig. 4).The overall histopathological features were consistent with the clinical diagnosis of mucous extravasation phenomenon.

DISCUSSION

Mucoceles of the glands of Blandin & Nuhn are uncommon especially in children less than 8 years .They have been postulated to be the result of trauma to the ventral surface of tongue that results in rupture of the draining ducts.Exhaustive search of Medline archives from 1965 onwards revealed that out of the 1,691 reported cases of mucoceles only 106 cases were associated with glands of Blandin & Nuhn (6.26%) (Table1).

The human tongue contains three distinct sets of minor salivary glands namely, the glands of Von-

TABLE 1

Sr. No.	Author(s)	Year	Total no. of mucoceles reported	No. of cases involving glands of Blandin & Nuhn
1.	Cohen L[3]	1965	80	1(1.25%)
2.	Meranus H, Kisis A, Seldin R [4]	1968	4	4
3.	Heimansohn HC[5]	1970	1	1
4.	Harrison JD[6]	1975	400	9(2.25%)
5.	Ishida S[7]	1980	425	8(1.88%)
6	Saza H, ET AL[8]	1982	385	37(9.6%)
7.	Ellis E 3 RD , Scott R, Upton GL[9]	1983	1	1
8.	Kurozu T [10]	1983	126	13(10.3%)
9.	Mandel L, Kaynar A[11]	1992	1	1
10.	Sugarman PB, Savage NW, Young WG[12]	2000	5	5
11.	Jinbu Y, Kusama M, Itoh H, Matsumato K& Naguchi T[13]	2003	263	26(9.9%)
TOTAL			1691	106(6.26%)

Ebner, the glands of Weber & the glands of Blandin & Nuhn.The glands of Blandin & Nuhn are mixed mucus and serous glands that are embedded within the musculature of the ventral surface of anterior tongue.They are not lobulated or encapsulated. Each gland is approximately 1-8mm wide and 12-25mm deep & consists of several small independent glands.They drain by means of 5-6 small ducts that open near the lingual frenum⁹The composition of saliva from the glands of Blandin & Nuhn is unknown¹³.Mucoceles of the glands of Von-Ebner & Weber have not been reported¹².

Trauma to the excretory duct of a mucus gland, resulting in rupture of the duct and release of mucus into the tissue, is probably the most important causative factor in the production of a mucocele.The most common site for mucocele is

lower lip wherein the maxillary canine impinges on it³. Presence of fibrous tissue is probably of considerable importance in limiting the spread of extravasated mucus.Increased amyladase activity and to a lesser extent alkaline phosphatase activity has been reported with fibroblasts in the extravasation mucoceles and may be a manifestation of increased fibroblastic activity⁶.

Diagnostic difficulties with superficial mucoceles can arise clinically if they appear simultaneously with a mucosal disorder or microscopically when the true nature of the specimen is not suspected by the reporting pathologist¹⁴.The lesion can be clinically diagnosed as vascular lesion, pyogenic granuloma, polyps or squamous papillomata depending on the degree of vascularity ,scarring & acinar atrophy.

A history of trauma , rapid onset , alterations in size , bluish color , fluid filled consistency , & recovery of mucus with fine needle aspiration are helpful in the clinical diagnosis of mucoceles of the glands of Blandin & Nuhn¹². Special stains like mucicarmine and alcian blue, are helpful in identifying mucin that is present freely in tissues or in the foamy macrophages.

During surgery the glands of Blandin & Nuhn, that are deep in the musculature resulting in recurrence of the lesion. Careful clinical evaluation of these lesions especially in pediatric age group & preoperative awareness of the surgical anatomy of the glands of Blandin & Nuhn, may minimize the need for repeated surgical procedures.

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Fig.1. Intra-oral photograph of the patient exhibiting a smooth , nodular, translucent lesion on the ventral surface of tongue.



Fig. 2. The gross appearance of the lesion after surgical removal.

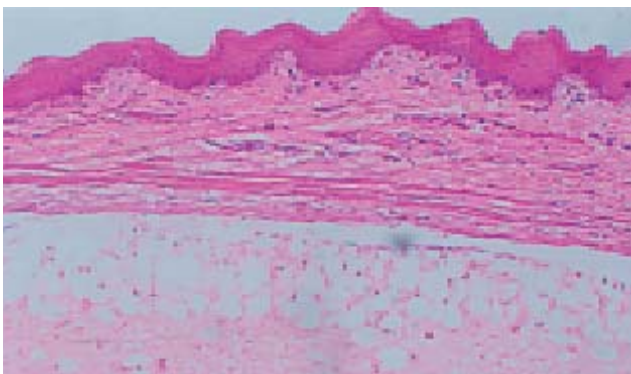


Fig.3. Photomicrograph of the lesion showing mucus surrounded by a wall of condensed granulation tissue. (Hematoxylin and Eosin stain, X 10)

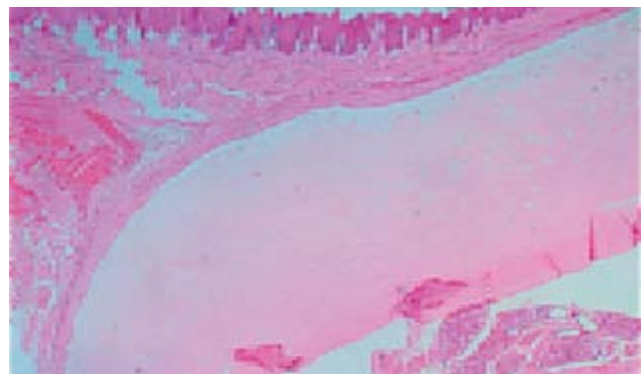


Fig.4. Photomicrograph of the lesion showing extravasation of mucus with a torn end of the main duct of a minor salivary gland.(Hematoxylin and Eosin stain, magnification, X4)