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. 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 swellings.

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 tissue.

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. Intraoral 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.
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%) (Table 1).

The human tongue contains three distinct sets of minor salivary glands namely, the glands of Von-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 frenum. The composition of saliva from the glands of Blandin & Nuhn is unknown. Mucoceles of the glands of Von-Ebner & Weber have not been reported.

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 it. 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 activity.

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 pathologist. The lesion can be clinically diagnosed as vascular lesion, pyogenic granuloma, polyps or squamous papillomata depending on the degree of vascularity, scarring & acinar atrophy.

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Author(s)</th>
<th>Year</th>
<th>Total no. of mucoceles reported</th>
<th>No. of cases involving glands of Blandin &amp; Nuhn</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Ishida S[7]</td>
<td>1980</td>
<td>425</td>
<td>8(1.88%)</td>
</tr>
<tr>
<td>8.</td>
<td>Kurozu T [10]</td>
<td>1983</td>
<td>126</td>
<td>13(10.3%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>1691</strong></td>
<td></td>
<td><strong>106(6.26%)</strong></td>
</tr>
</tbody>
</table>
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 & Nuhn. 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.

REFERENCES