



Case Study

Mucocele Involving the Glands of Blandin and Nuhn: A Rare Case Report

Naseemoun Shaik^{1,*}, Raghavendra Shanbhog², Brindha Suhas Godhi³, Sai Krishna Degala⁴

¹ PG Student, Department of Pedodontics & Preventive Dentistry, JSS Dental College & Hospital, JSS University, India

² Reader, Department of Pedodontics & Preventive Dentistry, JSS Dental College & Hospital, JSS University, India.

³ Reader, Department of Pedodontics & Preventive Dentistry, JSS Dental College & Hospital, JSS University, India

⁴ Professor & head of the department, Department of oral and maxillofacial surgery, JSS Dental College & Hospital, JSS University, India.

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Abstract: Mucocele of the glands of Blandin and Nuhn of the minor salivary glands in the oral cavity, which is the rare entity resulting from the retention or extravasation of mucus into the surrounding tissues of lamina propria. They were located most frequently in the lower labial mucosa (87,25%) but the occurrence in the ventral aspect of the tongue(4.9%) is rarely seen. This article, reports a case of mucocele of the glands of Blandin and Nuhn in a 7-year-old female patient and its management.

Keywords: Mucocele, Blandin, Nuhn, Salivary gland.

Corresponding author *

Dr. Naseemoun Shaik

Post-graduate student,

Department of Pediatric Dentistry,

JSS Dental College and Hospital (A constituent of JSS

University), Mysuru.

E-mail : dr.naseemounshaik@gmail.com

1. INTRODUCTION

Mucocele is an asymptomatic, benign, mucus-containing cystic lesion caused by pooling of saliva at the site of injured minor salivary glands. Mucoceles represent the 15th most common oral mucosal lesion, with a prevalence of 2.4 cases per 1000 people.^{1, 2} Based on the histologic features of the cyst wall mucocele can be of an extravasation type (mucous pools surrounded by granulation tissue (92%) or a retention type (mucous pools surrounded epithelial lining (8%).^{3, 4}

Mucocele were located most frequently in the lower labial mucosa (87.25%), followed by the floor of the mouth (6.86%), ventral surface of the tongue (4.90%) and buccal mucosa(0.98%)⁵. Mucoceles of Blandin and Nuhn glands are quite uncommon, represents an estimated 2–8% of all mucoceles.^{2, 6} The current case report describes the clinical and histopathological feature of a mucocele of Blandin–Nuhn glands in a 7 years old female patient.

2. CASE REPORT

7 years female child reported to the Department of Pedodontics and Preventive Dentistry with the chief complaint of swelling which was gradually increased in size on the ventral surface of the tongue since one month. Extra-oral examination revealed no asymmetry of the neck and no cervical lymphadenopathy. On intraoral examination, a solitary swelling was found on the left ventral surface of the tongue not crossing the midline measuring 2 X 1.5 cm. The mass was superficial, protruding, fluctuant, soft on palpation pale blue in color, with a smooth surface and no ulcerations. (Fig. 1) On palpation, the swelling was smooth, non-tender, freely mobile on all planes with firm attachment, non-compressible and did not blanch under digital pressure. No history of bleeding or any discharge from the swelling. The patient denied episodes of trauma to the maxillofacial region. No other relevant past medical or dental history was found. There was no evidence of calcification or retained foreign body in a radiograph of the soft tissue in this area. Based on the history and clinical examination a provisional diagnosis of mucocele involving Blandin - Nuhn glands was given and excisional biopsy was planned before which the routine hemogram was conducted and the values were found to be normal. An excisional biopsy was carried out under local anesthesia. The lesion was excised by dissection down to muscle layer along with associated gland to avoid recurrence (Figure 2). The wound was closed primarily with vicryl sutures (Figure3). The specimen immediately fixed in 10% formalin and sent for histological evaluation. Patient was regularly recalled and checked for the recurrence of the lesion.

The histopathologic report suggested connective tissue stroma consisting of areas of mucous pooling, salivary acini, inflammatory cells and blood vessels suggestive of mucous extravasation phenomenon (Figure 4).

3. DISCUSSION

The Blandin - Nuhn glands are a group of small mixed mucous and serous salivary glands situated on both sides of the midline of the ventral aspect of the tongue arranged as a horseshoe-shaped masses surrounded by lingual musculature. These glands are not encapsulated, each gland measures about 1-8mm wide, 12- 25mm deep and consist of several small independent glands. These glands drain by means of 5-6 small ducts which open near the lingual frenum.⁷ Mucoceles of the glands of Blandin – Nuhn is rare.

The first case of mucocele of glands of Blandin Nuhn was reported in 1970 by Heimansohn embedded within the musculature of the anterior tongue ventral surface^[8] which is covered only by a thin mucous membrane. Mucoceles involving the glands of blandin–nuhn are often histologically diagnosed as being extravasation type and likely to occur in young patients. The differential diagnosis in the present case include lesions known to affect the tongue contains adipose, connective tissue, blood vessels, nerves, and salivary glands, so pathosis of any of these tissues is possible. The various differential diagnosis to be considered is Oral Lymphangioma, Oral Hemangioma, soft irritation fibroma, Gingival cyst, Benign or malignant salivary gland neoplasm, Venous varix, Soft tissue abscess. At times Superficial mucoceles may be confused with Cicatricial pemphigoid, Bullous lichen planus, and Minor aphthous ulcers. Palpation of the lesion may aid in developing the differential diagnosis as some lesions such as lipomas and salivary gland tumors do not exhibit fluctuance, whereas cysts, mucoceles, abscesses, and hematomas have a fluid-filled consistency. As their clinical appearance may be similar to rule out a vascular cause or a cystic mucoepidermoid tumour,^[9] needle aspiration might be performed. In the present case report lesion was pale blue in color, with a smooth surface, no ulcerations and discharge from the lesion, non-tender, non-mobile, non-compressible.

Extravasation and mucus retention phenomenon has identical characteristics so it is difficult to differentiate clinically. Regardless of their location, mucoceles present as a soft, painless swelling varying from deep blue to normal pink in colour. Lesions superficial to the mucosa usually present with a bluish colour, whereas the overlying tissue of deeper lesions can have normal colouration.^[7] Blanching under digital pressure, which distinguishes them from other pigmented lesions such as nevi, hematomas, and melanomas.¹⁰ Females are more affected than males by the ratio of 4:1. The lesions are usually asymptomatic and relatively small in size ranging from 2mm in diameter to 20mm. Sometimes they can grow relatively large enough to cause feeding difficulties in babies or difficulty in speech and mastication in adults.⁷ Majority of the cases mucocele of Blandin and Nuhn are usually located in the tip of the ventral surface of the tongue rarely, these lesions are presented lateral to the midline. In the present case report, mucocele presents on the laterally, left the side of the tongue which measures 2×1.5 cm, 0.5cm away from the tip of the tongue.

Mucocele involving the glands of Blandin and Nuhn are often histologically diagnosed as being extravasation type. Histopathologically, in the case of retention mucoceles, which are less frequent and seen particularly in elderly patients, a cyst cavity can be found. This is generally well defined with an epithelial wall covered with a row of cuboidal or squamous cells produced from the excretory duct of the salivary glands. Compared to extravasation mucoceles commonly found in individuals less than 30 years old and

account for over 80% of all mucoceles, retention mucoceles show no inflammatory reaction and are true cysts with an epithelial covering. Extravasation mucoceles are pseudocysts without defined walls. The extravasated mucous is surrounded by a layer of inflammatory cells and then by a reactive granulation tissue made up of fibroblasts caused by an immune reaction. In the present study microscopic appearance of lesion reveals connective tissue stroma consisting of areas of mucous pooling, salivary acini, salivary gland ducts, inflammatory cells and blood vessels. According to Surgerman et al. and Baurmash, the technique for managing moderate-to-large Blandin and Nuhn mucoceles is to completely unroof the lesion along its entire periphery to visualize and remove all of the glands. Healing without complication or recurrence should follow.^{7, 11, 12} In small mucocele cases, they are completely excised with primary closure, with rapid and uneventful healing. On the other hand, larger lesions may also be managed by marsupialization,⁷ cryosurgery,¹³ laser ablation,¹⁴ and micro marsupialization.⁷ Alternatives to surgery include steroid injections¹⁵ and a method where the cystic cavity is filled with rubber impression material pre-surgically, improving the visual access for surgical excision¹⁶. During surgery, the glands of Blandin and Nuhn which are deep in the musculature, resulting in recurrence of the lesion. Careful clinical evaluation and preoperative awareness of the surgical anatomy of the glands of Blandin and Nuhn, may minimize the need for repeated surgical procedures. The current case was treated by excision under local anesthesia, followed by careful dissection of the affected minor salivary glands. The prognosis was good with no sign of recurrence with a 6 month follow up period. (Figure5)



Fig 1: Mucocele on the ventral surface of the tongue



Fig 2: Surgical excision of the lesion



Fig 3: Primary closure with sutures

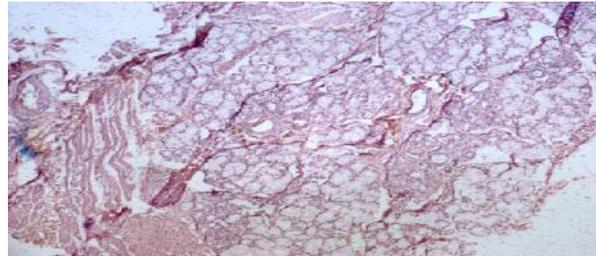


Fig 4: Histopathologic image of the mucocele



Fig 5: Post operative 6 month follow up

4. CONCLUSION

Although mucocele is benign and simple in their presentation, however, differential diagnosis becomes important due to their clinical resemblance to many other vesiculobullous, benign or malignant swellings, and ulcerative lesions of the oral cavity. Diagnosis is mainly based on clinical findings like the appearance, consistency, location of mucoceles, variations in size, color, history of trauma, and rapid appearance.

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