Mucous Retention Cyst on Lower Buccal Mucosa

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ABSTRACT

A 12-year-old male patient reported to the department of pediatric dentistry with translucent swelling on right lower buccal mucosa. The swelling was nontender and painless. The history was nonsignificant. Fine needle aspiration cytology (FNAC) was performed which showed increase in amylase and protein content. Excisional biopsy with complete removal was performed for the lesion. The histopathological examination was conclusive of mucocele. Patient was recalled for examination. On 3 and 6 months follow-up, patient showed progressive healing.

Keywords: Cysts, Extravasation, Marsupialization, Mucocele.

INTRODUCTION

A mucocele is a benign, painless, dome-shaped, soft-tissue mass that results from trauma or obstruction of the salivary gland ducts. The lateral aspect of the lower lip is the most common site of occurrence. However, other sites, including the upper lip and the buccal mucosa, can also be affected.1 The clinical appearance of a mucus cyst is a distinct, fluctuant, painless swelling of the mucosa.2 Mucoceles typically present as single, recurrent, painless, well-circumscribed and bluish nodules.3 The swelling of mucocele has to be distinguished from other selling like oral hemangioma, oral lymphangioma, lipoma, and soft-tissue abscess.

CASE REPORT

A 12-year-old male patient presented to the department of pediatric dentistry with a 2-month history of a 3 × 3 cm solitary, red-colored, translucent swelling lower side of cheek. The swelling was smaller in size earlier and has increased gradually.

Examination

Solitary, well-defined, translucent swelling present on right lower buccal mucosa which was soft, fluctuant and nontender on palpation and painless (Fig. 1). The patient had no family history of similar lesions and had no previous relevant medical history, including no history of local trauma or previous surgeries on that site.

Investigations

Fine needle aspiration cytology (FNAC) was done, and 1 ml of thick, viscous, sticky, and blood-mixed mucus secretion was collected and sent for chemical analysis which showed increase in amylase and protein content. A final diagnosis was formulated as mucocele from the clinical features, and investigation (chemical analysis, excisional biopsy). The histopathological examination showed a circumscribed cavity lined by granulation tissue, compressed fibrous connective tissue and fibroblasts. The connective wall shows infiltration of abundant number of polymorphonuclear leukocytes, lymphocytes and plasma cells, which lead to the diagnosis of mucocele (Figs 2 and 3).

Differential Diagnosis

The various differential diagnoses are Blandin and Nuhn mucocele, oral hemangioma, oral lymphangioma, lipoma, and soft tissue abscess. Lipomas and tumors of minor
salivary glands present no fluctuation while cysts, mucoceles, abscess and hemangiomas do. Mucoceles are mobile lesions with soft and elastic consistency depending on how much tissue is present over the lesion. Fibromas vary in consistency from soft to very firm. They are the most common intraoral soft tissue lesion, and are seen most frequently on the lips (no distinction between upper and lower lips). Lipomas, neoplasms consisting of mature adipose tissue, are uncommon in the oral cavity, but can occur on the lips. However, many lipomas are soft and fluctuant, so when this lesion does occur, it is commonly mistaken for traumatic fibroma or mucocele. The lower lip is also the most common intraoral site of squamous cell carcinoma; however, unlike the previously mentioned lesions, this one presents with variations of white and red crusting and ulceration. Salivary duct cysts occur in the minor salivary glands of the lip, but only rarely. This type of cyst develops from dilatation of a salivary gland duct but is distinguished from a mucus retention cyst by the fact that it does not typically contain pools of mucin. The differential diagnosis of swelling of the lips in children should also include vascular malformations, such as hemangiomas and varices. Usually blue in color, these blanch under digital pressure, which distinguishes them from other pigmented lesions, such as nevi, mucoceles, hematomas and melanomas.

**Treatment**

Lesion can be excised completely or treated with an unroofing procedure (marsupialization) because excision or dissection is problematic and risks vital structures, such as the labial branch of the mental nerve. Simple incision with subsequent drainage of the cavity is unsuccessful in 100% of the cases. Excisional biopsy was performed, and the wound was closed with 4-0 sutures (gut for deep closure and silk superficially).

On intraoral examination, a solitary, well-defined, dome-shaped swelling was seen on the right buccal mucosa measuring around 3 × 3 cm in size, which was oval in shape, with a smooth surface and a bluish translucent hue. The swelling was soft in consistency, nontender, fluctuant, compressible, nonreducible, and nonpulsatile, with no increase in temperature. Since the lesion was not very large, complete excision of the lesion was done. The lesion was first marked to know the extent of the lesion. After making the extent of the lesion, incision was placed on the periphery on one side the whole of the growth was raised from below including all the nodules to prevent the recurrence (Figs 4 and 5). All the fluid filled nodular remanents were removed. Followed which sutures were placed. The tissue was sent for histopathologic investigation which revealed a mucin-filled cyst-like cavity beneath the mucosal surface (Fig. 6). The patient was kept under observation.

**Outcome and Follow-up**

Patient was called for regular check-up. On 3 and 6 months follow-up, the lesion showed progressive
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**DISCUSSION**

A mucocele is a benign mucous retention phenomenon that results from extravasation or retention of mucus in the surrounding tissues. It typically presents as a translucent, bluish nodule on the lateral aspect of the lower lip. Trauma, such as from biting the lip, is assumed to cause most mucoceles. Mucoceles typically present as single, recurrent, painless, well-circumscribed, bluish nodules. Most mucoceles range in size from 2 to 10 mm in diameter. On the basis of histopathologic examination, mucoceles can be divided into two categories. The first category includes extravasation mucoceles, the more common type of mucoceles, which arise from ductal damage that causes mucus pooling in the adjacent tissue. The second category includes retention mucoceles, which result from obstruction of the excretory duct, leading to the retention of secretions and subsequent dilation of the duct. Extravasation mucocele results from a broken salivary gland duct and consequent spillage into the soft tissue around this gland. Retention mucocele appears due to decrease or absence of glandular secretion produced by blockage of salivary gland ducts. The histological difference between extravasation and retention cyst is that the extravasation type has no epithelial lining and is formed by a mucus pool surrounded by granulation tissue and the retention cyst has an epithelial lining. The history and clinical findings lead to the diagnosis of a mucocele.

Conventional treatment for mucocele commonly involves surgical extirpation of the surrounding mucosa and glandular tissue down to the muscle layer. With a simple incision of the mucocele the content would drain out but the lesion would reappear as soon as the wound heals. Small mucoceles can be removed completely with the marginal glandular tissue before suture. In the case of larger mucoceles, marsupialization would avoid damage to vital structures. Cryosurgery and CO2 lasers can also be used for excision of mucocele. Marsupialization will only result in recurrence, but large lesions are best treated with unroofing procedures (marsupialization). It is done to prevent significant loss of tissue or to decrease the risk for significantly traumatizing the labial branch of mental nerve.

**Learning Points**

- History taking, clinical examination and histopathological assessment are necessary steps to form a proper diagnosis.
- During surgical excision care should be taken to eliminate all the glandular acini to prevent recurrence.
- Care should be taken to avoid injury to adjacent vital structures during excision.

**REFERENCES**


