Case Report

An Appraisal of Oral Mucous Extravasation Cyst Case with Mini Review

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Received: 08-12-2013

Revised: 18-01-2014

Accepted: 22-01-2014

Abstract

A mucocele is a mucus retention phenomenon of the major and, more commonly, the minor salivary glands. This lesion has also been called a mucus extravasation phenomenon. Mucocele is the common salivary gland disorder and it is second most common benign soft tissue tumor in the oral cavity. By definition, they are not true cysts. In the present case the tentative diagnosis of a mucocele was made from the clinical history, clinical presentation and palpation, and the definitive diagnosis was made by histopathology. Conventional treatment of the mucocele was done with excision along the associated overlying mucosa and the glandular tissue down to the muscle layer.

Keywords: Mucocele, Mucus extravasation cyst, Minor salivary gland, Lower lip.

This article may be cited as: Laller S, Saini RS, Malik M, Jain R. An Appraisal of Oral Mucous Extravasation Cyst Case-Mini Review. J Adv Med Dent Scie 2014;2(2):166-170.

Introduction

Mucocele is defined as mucous filled cavities that can appear in the oral cavity, appendix, gall bladder, paranasal sinuses or lacrimal sac. The term mucocele is derived from Latin word, mucus and coele means cavity. Mucocele is seventeenth most common salivary gland lesions seen in the oral cavity. Two types of mucocele can appear - extravasation and retention. Yamasoba et al. highlight two crucial etiological factors in mucoceles: traumatism and obstruction of salivary gland ducts. The incidence of mucoceles is generally high, 2.5 lesions per 1000 patients, frequently in the second decade of life and rarely among children under one of year of age. According to many studies there is no difference between genders. There is no clinical difference between extravasation and retention mucoceles. Mucoceles are usually asymptomatic, though in some patients they can cause discomfort by interfering with speech, chewing, or swallowing. Treatment options for mucoceles include surgical excision, marsupialisation, micromarsupialization,

cryosurgery, laser vaporization, and laser excision. Mucocele is a common lesion and affects the general population. For this reason we felt it would be interesting review the clinical characteristics of mucoceles, and their treatment and evolution in order to aid decision making in daily clinical practice.[1-4]

Case Report

An Indian patient, 26 yrs male presented to KD Dental College and Hospital, Mathura (UP), India with complain of swelling on inner aspect of lower lip since 6 days. Swelling was small initially and then increased gradually to attained the present size. Swelling was painless initially but mild pain is present since 1 day. On intra-oral examination a round, solitary, fluctuant, unilateral swelling measuring 4-6 mm, of pink color with bluish tint in centre was seen. Swelling was present 2-3mm below the vermillion border and extending inferiorly towards the lingual vestibule, measuring 4-6 mm approx (Fig-1).

Figure 1: Dome shape swelling of lower lip

Site, size, shape and number of swelling were confirmed and swelling was found tender, soft and smooth on palpation. He could not recall an episode to the maxillofacial region. On the basis of clinical examination and history, a provisional diagnosis of mucocele of lower lip is put forward. There was no evidence of calcification or retained foreign body in a radiograph of the soft tissue in this area. Excisional biopsy was performed with the overlying associated overlying mucosa and the glandular tissue down to the muscle layer, the wound was closed with sutures (Figure 2).

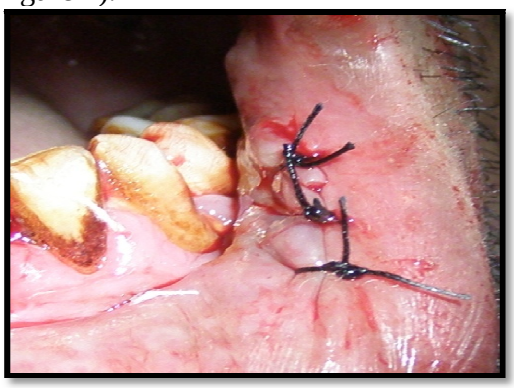

Figure 2: Closed wound after excision of lesion.

A soft tissue specimen measuring 2x1 cm, irregular surface, and soft, pink-white with irregular border was immediately fixed in 10% formalin and sent for histologic examination. The pathology report described: the section shows well circumscribed cavity in the connective tissue stroma which is not lined by epithelium. The wall of the cavity is lined by compressed fibrous connective tissue and fibroblasts; vascular channels lined by endothelial cells. The lumen of cyst like cavity shows mucin like material. The section also shows mucous glands, muscle fiber and inflammatory cell infiltration (Figure 3).

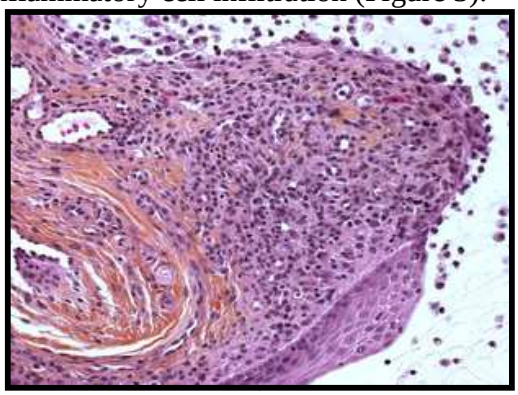

Figure 3: Microphotograph showing cystic cavity devoid of epithelium. (H& E; 10X)

The definitive hitopathological diagnosis of Extravasation mucocele was given. No recurrence was observed at 1-month; 2-month and 3-month follow up period.

Discussion

The incidence of mucoceles in the general population is 0.4% to 0.8% with very less differences between gender. When considering the site of mucocele in the oral cavity, most reviewers consider the lower lip to be the most frequently affected location (40% to 80% of all cases), followed by the cheek mucosa and floor of the mouth.[2,5]

There are mainly two important etiological factors which are commonly followed. They are trauma and obstruction of salivary gland duct. Mainly physical trauma can cause spillage of salivary secretion into surrounding submucosal tissue. After that the inflammation may become obvious in later stages due to stagnate mucous. Habit of lip bitting and tongue thrusting are also one of the aggravating factors.

When considered clinically there are of two types, extravasation and retention type. Extravasation type is due to the leaking of fluid from the broken salivary gland ducts and acini into the surrounding soft tissues. This type of mucocele is seen in minor salivary glands. Retention type is due to the blockage of salivary gland ducts. Clinically there is no difference between extravasation and retention type of mucoceles. When this mucocele is located in floor of the mouth it appears as the underbelly of a frog, so it is called as ranula.[3]

Extravasation mucoceles undergo three evolutionary phases. In the first phase, mucous spills diffusely from excretory duct into conjunctive tissues where some leucocytes and histiocytes are seen. Granulomas appear during the resorption phase due to histocytes, macrophages and giant multinucleated cells associated with a foreign body reaction. In the final phase connective cells form a pseudocapsule without epithelium around the mucosa.[1]

Mucoceles present as a bluish, soft and transparent cystic swelling which frequently resolves spontaneously. The blue colour is caused by vascular congestion, and tissular cyanosis of the tissue above and the accumulation of fluid below. Coloration can also vary depending on the size of the lesion, proximity to the surface and upper tissue elasticity. Lesion duration is not constant, from a few days to 3 years. Mucoceles of the minor salivary glands are rarely larger than 1.5 cm in diameter and are always superficial. Mucoceles found in deeper areas are usually larger. Mucoceles can cause a convex swelling depending on the size and location, as well as difficulties in speaking or chewing. The lower lip is the most frequent site for a mucocele as it is the most probable place for a trauma, especially at premolar level. A study of 312 patients showed 230 lesions on the lower lip (73.7%), with the tongue as the second most common location (15.4%). These locations are followed by the buccal mucosa and palate; and are rarely found in the retromolar region and posterior dorsal area of the tongue. Occasionally mucoceles can involve the glands of Blandin-Nuhn.[1,6,7]

Sizes may vary from few millimeters to centimeters and may occur single in number, rarely bilateral. They are usually dome shaped swelling with the intact epithelium over it. The appearance of mucocele is pathognomoic and so that data about the lesion location, history of trauma, rapid appearance, variations in size, bluish color and the consistency, which depends on tissue present over the lesion. History and clinical finding will lead to the diagnosis of superficial mucocele.[3]

The differential diagnosis in a case such as this one should include lesions known to cause swelling of the lips. The lip contains

adipose, connective tissue, blood vessels, nerves and salivary glands, so pathosis of any of these tissues is possible. Literature reviewed the clinical differential diagnosis, listing mucocele, fibroma, lipoma, mucus retention cyst, sialolith, phlebolith and salivary gland neoplasm as possibilities. 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. Sialoliths usually present as firm, movable nodules, most often in the fifth to seventh decades. Phleboliths, which result from calcification of intravascular thrombi, may also be considered. Both sialoliths and phleboliths, unlike mucoceles, may have an opaque appearance in radiographs. The most common malignant lesion of the salivary glands of the lower lip is mucoepidermoid carcinoma. This tumour occurs over a wide age range, with equal frequency among men and women. The differential diagnosis of swelling of the lips in children should also include vascular malformations such as hemangiomas and varices. Usually blue in colour, these blanch under digital pressure, which distinguishes them from other pigmented lesions such as nevi, mucoceles, hematomas and melanomas.[8,9] The appearance of mucoceles is pathognomonic and the following data are crucial: lesion location, history of trauma, rapid appearance, variations in size, bluish colour and the consistency. A simple technique known as fine needle aspiration biopsy (FNAB) is very helpful, especially when differential diagnosis of angiomatous lesions is involved. Abundant mucosa without epithelial components is found within mucoceles as well as many inflammatory cells, especially histiocytes. A histopathologic study is crucial to confirm the diagnosis.[1]

Chemical analysis shows high amylase and protein content. Radiographs are the contributing factors in cases of ranulas. Localization of these lesions is done by computed tomography and magnetic resonance imaging. Conventional surgical removal is a most common method used to treat this lesion. Other treatment options include CO_2 laser ablation, cryosurgery, intralesional corticosteroid injections, micro marsupialization, marsupialization and electrocautery.[3,10]

Conventional treatment is commonly 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. A study of 14 pediatric patients describes micro marsupialization techniques with 85% success. Some studies have reported using cryosurgery in treating mucoceles with encouraging results. CO_2 laser has a high water absorption rate and is well absorbed by all soft tissues with high water content. In addition its effects on adjacent tissues are minimal. These properties make CO_2 laser the perfect surgical treatment for oral soft tissues.[1,10]

Conclusion

Mucocele is the most common benign self-limiting condition. It is commonly seen in young males. Trauma was the most common cause and majority of these lesions are seen in the lower lip. Because of the possibility

that a lesion in this location might be a tumour, excision is warranted for definitive diagnosis. Different types of treatment options are available but CO_2 laser treatment shows more benefits with less relapses as mucocele is painless, dentists are the one who notice these types of lesions and diagnose. This review suggests that the clinician should have a high index of suspicion for any lesion occurring in the lip.

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Source of support: Nil
Conflict of interest: None declared