



Case Report

IJDR 2017; 2(1): 15-17
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Oral mucocele or mucous escape reaction an obstructive disorder: A report of 2 cases

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Abstract

The mucous escape reaction or Mucocele as it is called is a salivary gland lesion of traumatic origin which is formed when the main duct of a minor salivary gland is torn with subsequent extravasation of the mucus into the fibrous connective tissue. In due course a cyst like cavity is produced which is filled with mucin. This lesion is described by number of names including mucus retention phenomena or mucus retention cyst, and Ranula. Common site of occurrence of Mucocele is said to be lower lip, followed by the floor of mouth and buccal mucosa. The treatment of mucocele must be planned in such a way, taking into consideration the various clinical parameters and any oral habits that are probable as these lesions have a propensity of recurrence. This paper gives an insight into the phenomenon, clinical characteristics along with histopathology features, and clinical management of mucocele. More over it is essential for a dentist to visually recognize oral lesions such as mucocele and be aware of functional problems associated with such an entity in daily clinical practice.

Keywords: Cyst, Mucocele, Mucus retention cyst, Obstructive, Salivary gland.

INTRODUCTION

Mucocele is a Latin terms were Mouco means mucus and coele means cavity. They are also, known as cavities filled with mucus or a mucous cyst of the oral mucosa^[1]. Mucocele is defined as a pooling of mucus in a cavity within the connective that is not lined by epithelium. This lesion is described by number of names including Mucous escape reaction / mucus retention phenomena, mucocele, ranula and mucus retention cyst of which mucocele and mucus retention phenomena are probably the most frequently used terms^[2].

Mucocele usually present as either a fluid filled blister or vesicle in the superficial mucosa or as a fluctuant nodule deep within the connective tissue. They may appear as, small translucent discrete, soft, painless swelling of the mucosa ranging from normal pink to deep blue in color. The blue color is caused by vascular congestion, cyanosis of the tissue above or by accumulation of fluid below the mucosa. Coloration can also vary depending on proximity of the mucocele to the surface, upper tissue elasticity and also on the size of the lesion,^[3] Lower lip is the most frequent site for mucocele, Tongue is the second most common location followed by the buccal mucosa. Mucocele are occasionally, seen on the upper lip, retro molar region, palate and posterior dorsal area of tongue^[3,4]. They may occur at any age, but are seen most frequently in children, adolescents and young adults and have no sex predilection^[3,5].

Mucocele are usually identified visually off which few of mucocele ruptures away without any special treatment, but most of time undergoes cycles of appearance and disappearance repeatedly or might remain as a slow growing bump in the lip or other sight causing discomfort in speech and chewing and has to be removed by surgical process. Many a time Mucocele can have very similar features with other oral lesions. Thus, a dentist must be aware of such an entity and other obstructive lesion which might resemble like mucocele. More so than anything else It's the duty of the dentist to inform patients on functional problems associated with the lesion it not treated properly.

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Figure 1: Clinical presentation of mucocele on lower right side lip

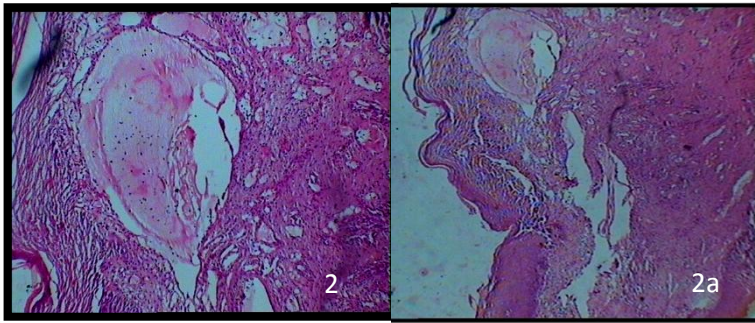


Figure 2, 2a: Photomicrograph showing cystic cavity devoid of epithelial lining Filled with mucin and inflammatory cells (H&E stain, 100x magnifications & 40 X magnifications)

This article describes two case of oral mucocele arising on the lower lip in minor patients.

CASE REPORT 1

A 2 years old Female child was brought to the private clinic by her mother with the chief complaint of a painless growth on right side of the lower lip for the past 1 to 2 months. The growth on the lower lip was very small when the mother first noticed it, but had grown rapidly over the past two week to attain the present size. A detailed history elicited from the accompanying parent revealed that the child had a fall two months back. On Clinical examination swelling was oval shape measuring 1 cm in diameter, soft, fluctuant, nontender, and superficially placed in the inner aspect lower lip (Figure 1). The Final clinical diagnosis of Mucocele was considered, based on the of the history of the fall and clinical features. The lesion was surgical removal by applying EMLA for 5 minutes to attain psychological and pharmacological benefits. An incision was placed vertically; therefore splitting the overlying mucosa and separating the lesion from the mucosa. Finally, the Mucocele was resected from the base so that chances of reoccurrence are less. The excised tissue was subjected to histopathological examination which exhibited a cystic cavity containing eosinophilic mucinous material along with chronic inflammatory and fomy histiocytes called mucinophages. The wall was lined by compressed fibrovascular connective tissue as well as granulation tissue with absences of epithelial lining in the cavity (Figure 2, 2a). Thus the diagnosis of mucous extravation phenomenon /Mucocele was confirmed.

CASE REPORT 2

A 12 years old Male child visited the dental clinic with the chief complain of Swelling in the lower lip since 3 months. (Figure 3) The history of present illness consisted of white colored swelling on inner aspect of lower lip against teeth 31 and 32 region since 2 months. patient first noticed a small red colored growth which eventually grew

bigger and became white. Patient gave history of a self inflicted traumatic bite in relation to lower lip, resulting in swelling of the soft tissue at the same site within 2-3 days. Patient gave a history of similar red color swelling 1 year back which ruptured in few weeks and healed by itself. This time the swelling was white in color and the patient felt uncomfortable but did not have any difficulty in speech. Clinical examination revealed a soft white colored, circular swelling in the labial mucosa in relation to 31, 32 region lateral to the midline. The overlying mucosa of the swelling also showed the presence small papillary projection on the surface of the swelling. The child had mixed dentition with calculus and no obvious malocclusion. Oral prophylaxis was performed on the first visit and oral hygiene instructions were given. Differential diagnosis of Papilloma, Irrational fibroma, mucocele was considered.

Surgical removal of the lesion was planned. An elliptical (half-moon) incision was placed on the most dependent part of the lesion. Flap was reflected cautiously and the Lesion was resected completely along with proper curettage to remove the blocked part of the minor salivary gland duct. The surgical site was irrigated with povidone iodine - saline solution and closed primarily with 3-0 silk sutures Patient was advised not to tamper with the sutures. All post-operative instructions were given and analgesics were prescribed. The specimen was placed in 10% formalin and sent for histo-pathological examination. One week later the sutures were removed, with normal healing being observed. Gross Examination of the excised tissue showed a White colored Well circumscribed, lesion with irregular surface (Figure 4). Histopathological examination of H & E stained sections showed the presence of surface epithelium which was of stratified squamous type showing features of hyperplasia and hyperkeratosis. The underlying connective tissue was collagenous and consisted of cavity along with pool of extravasated mucin, and inflammatory cells mainly in the form of polymorphs and lymphocytes. Minor salivary gland ducts were also present in the proximity to the cavity (Figure 5). The histopathological study confirmed the lesion to be a mucocele/ Mucous Extravasation Phenomenon With Epithelial hyperplasia and Hyperkeratosis.



Figure 3: Extraoral appearance of mucocele



Figure 4: Gross appearance of mucocele after resection

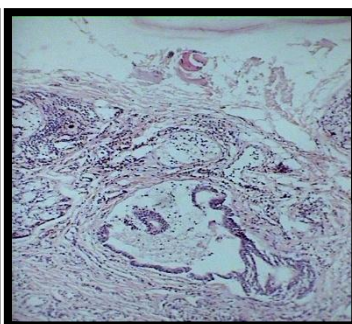


Figure 5: Photomicrograph showing cystic cavity Cystic filled with mucinous material. Minor salivary gland ducts are seen in the proximity to the cavity (H&E stain, 100x Magnifications)

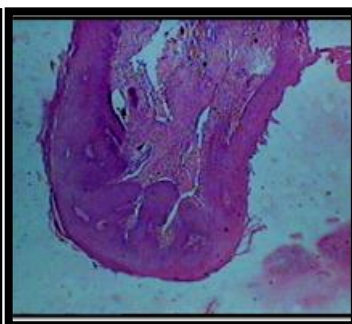


Figure 5a: Surface epithelium showing epithelial hyperplasia and hyperkeratosis. (H&E stain, 40x Magnifications)

DISCUSSION

Obstructive disorders are some of the uttermost common disorders of the minor and major salivary glands which occur as a result of traumatic severance of salivary gland ducts, stasis of salivary secretions in ducts and complete or partial blockage of the excretory ducts. Among the various obstructive lesions seen in the oral cavity Oral mucocele is one of the common mechanical obstructive disorders of the oral mucosa that results from an adaptation of minor/major salivary glands due to mucus accumulation causing limited swelling^[2].

Mucocele is a clinical term that includes mucus extravasation phenomenon and mucus retention cyst. Because each has a distinctive microscopy & pathogenesis they are considered separately^[8]. The three clinical types of mucous extravasation phenomena that differ only in their glands (i.e. ducts) of origin but have a similar pathogenesis and development are as follows Mucoceles when seen in minor salivary gland, Ranula when seen in sublingual gland and Sialocele when seen in major glands like parotid gland and submandibular gland^[2,4,5].

Extravasation mucocele results from a ruptured or broken salivary gland duct mostly due to mechanical trauma to the excretory duct of the gland and consequent spillage of secretory product into the connective tissue around this gland forming a pool of mucus that distends the circumferential tissue. The acinar cells will continue to secrete saliva into the severed duct^[7].

On the other hand Retention mucocele appears due to epithelial proliferation of a partially obstructed salivary duct or by complete obstruction of a salivary duct^[7] by a calcified mass called sialolith^[2]. The retention type is less common than extravasation type, seen frequently on upper lip, hard palate, floor of mouth and maxillary sinus. They are more commonly seen affecting older individuals^[10].

The histological difference between extravasation and retention cyst is that the extravasation type is a pseudocyst with no epithelial lining and is formed by a mucus pool surrounded by granulation tissue. In contrast retention cyst has an epithelial lining and is a true cyst^[6,7].

Mucocele is most commonly seen in patients with Para functional habits like biting or sucking of lip or cheek, and in people playing games like we're there is "head-on collision" like boxing, football, basketball etc which may cause damage or disrupt the ducts^[4,6].

Although mucocele are benign and simple in their presentation, however differential diagnosis becomes important due to their clinical resemblance with many other vesiculobullous, benign or malignant swellings, and ulcerative lesions of oral cavity^[9,10]. The various differential diagnosis to be considered are 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^[5]. Diagnosis is mainly based on clinical findings like the appearance, consistency and location of mucoceles, variations in size, bluish-color, history of trauma, rapid appearance.

Treatment

Various invasive and noninvasive treatments have been proposed to treat mucocele. Invasive methods like surgical excision of the lesion with or without removal of the associated gland. Noninvasive methods include cryosurgery, laser micro marsupialization, Gluconate-Mercurius Heel Potentised Swine Organ Preparations, CO₂ laser ablation, topical and intralesional injection of corticosteroids^[4,11].

CONCLUSION

Mucocele are mostly benign and have a self-limiting nature, primarily diagnosed based on clinical findings followed by definitive diagnosis based on the histopathology. Most of the reported literature shows that mucocele arise from self-inflicted trauma like habitual lip or cheek, biting or sucking, causing mucocele to grow to a large size and spontaneously recur. Above all such kind of lesions, indirectly affect the oral functions such as chewing, speaking and oral hygiene of children having it. Dentist should have a good knowledge of the clinical presentation of this kind of obstructive disorder as well as treatment options prior to the beginning of any form of treatment. Since Mucoceles commonly occur in children's as this group is mainly susceptible to local trauma. An attempt to conduct a school-based educational awareness program for both children and parent about the interception of the oral habit and mucocele among children should be done.

Conflict of interest: None.

Financial support and sponsorship: Nil.

REFERENCES

1. Singh N, Chandra P, Agarwal S. Oral Mucocele : A Case Report. *Journal of Dentofacial Sciences* 2014; 3(1): 47-50.
2. Ellis G, Auclair P, Gnepp D. *Surgical Pathology Of Salivary Glands*, Volume-25, p. 26-38.
3. Baumash HD. Mucoceles and ranulas. *J Oral Maxillo fac Surg* 2003; 61:369-78.
4. Neville BW, Damm DD, Allen CM, Bouquot JE. *Oral and maxillofacial pathology*, 2nd p.389-91.
5. Shafers, *Text Book Of Oral Pathology*, 8TH Edition, p. 92.
6. Tabassum R, Shelat S, Parab S, Extravasation Mucocele- A Case Report, *Int J Life Sci Scienti Res* 2016; 2(4):404-06.
7. I Z Mustapha, Stanley A. Boucree Jr. Mucocele of the Upper Lip: Case Report of an Uncommon Presentation and Its Differential Diagnosis. *Journal of Canadian dental association*. 2004; 70(5):318-21.
8. Regezi J, James J. Sciubba, Richard CK. *Jordan Oral Pathology: Clinical Pathologic Correlations*, 7th edition.
9. Boneu F, Vidal E, Maizcurrana A, Gonzalez J. Submaxillary gland mucocele: Presentation of a case. *Med Oral Patol Oral Cir Bucal* 2005; 10:1804.
10. Karthikeyan M, Varghese AK, Vasupradha G, Dinakaran J. Mucocele: A diagnostic dilemma! *Journal of Pharmacy and Bioallied Sciences* 2016; 8:168-70.
11. Baharvand M, Sabounchi S, Mortazavi H. Treatment of Labial Mucocele by Intralesional Injection of Dexamethasone: Case Series. *JDMT* 2014; 3(3):128-33.