

Mucocele -A case Report.

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Abstract:

Oral mucocele is the most common benign minor salivary gland lesion. It is caused due to mechanical trauma to the excretory duct of the salivary gland and obstruction of the salivary gland duct. Clinically they are characterized by single or multiple, soft, fluctuant nodule, ranging from the normal to deep blue in colour. It affects at any age and is equally present in both sexes with highest incidence in second decade of life. They are mainly classified as extravasation or retention type of cyst. Histologically there is cystic cavity with epithelial lining which may or may not be present. Conventional surgical removal is the most common method used to treat this lesion. Other treatment options include CO2 laser ablation, cryosurgery, intralesional corticosteroid injection, marsupialization and electrocautery. This article would give a comprehensive presentation of etiopathogenesis, clinical features, investigations, treatment modalities and a case report of Mucocele involving lower lip.

Keywords: Mucocele, Oral Cavity, Extravasation, Retention

Introduction

Mucocele is a benign lesion occurring in the major and minor salivary glands. It is also known as mucous retention phenomenon. It is traumatic in origin or caused by retention phenomenon due to obstruction or stricture of the duct of a salivary gland. (1, 2 3)

The term mucocele is derived from a Latin word, mucus and cocele means cavity (Yagüe-García et al., 2009). Mucocele is seventeenth most common salivary gland lesions in the oral cavity (Flaitz and Hicks, 2006). (4, 5)

Mucoceles may appear anywhere on the mucosa, however, they appear most commonly on the lower lip, or less frequently on the cheek, palate or tongue mucosa (6,7).

It ranges from 1 to 2 mm to few centimeters in size. They are most common in children and young adults and can also occur in older individuals (8). They are mostly dome shaped swellings with intact epithelium over it. It is characterised by accumulation of mucoïd material with rounded, wellcircumscribed transparent, bluish coloured lesion of variable size. The bluish discoloration is mainly due to the vascular congestion and cyanosis of the tissue above and the fluid accumulation below. Swelling is soft and fluctuant, asymptomatic with rapid onset which resolves spontaneously. Lesion duration is not constant, but it varies from a few days to 3 years. (1, 9, 10)

Types of mucocele

There are two types of mucocele clinically, extravasation and retention type.

Extravasation type is due to the leaking of fluid from the salivary gland ducts and acini to surrounding soft tissues. This type of mucocele is seen in minor salivary glands.

Retention type is due to the obstruction of salivary gland and duct and is commonly seen in major salivary gland ducts (Boneu-Bonet et al., 2005). Clinically there is no difference between extravasation and retention type of mucocele. (9) Though clinically these two types can not be differentiated but history would lead to accurate diagnosis. Though rate of recurrence may not vary according to the type of Mucocele, Ata-Ali J et al stated that the key point in avoiding recurrence is to eliminate the adjacent surrounding glandular acini and removing the lesion down to the muscle layer (1).

Etiopathogenesis

The two main etiological factors for mucocele are; (8)

- 1) Traumatic injuries
- 2) Obstruction of salivary gland duct

The pathogenesis of extravasation type occurs in three phases. In the first phase, there is spillage of mucin from salivary duct into the surrounding tissue in which some leucocytes and histiocytes are seen. In second phase,

granulomas appear with the presence of histiocytes, macrophages, and multinucleated giant cells reaction. In the last phase pseudocapsule formation occurs.

In retention type, there will be obstruction of salivary gland duct which leads to accumulation of salivary fluid into the duct, resulting in small balloon formation and as time progresses, the balloon increases in size and bulges into the oral cavity (4)

Diagnosis

Diagnosis of mucocele is simple. It can be identified and diagnosed clinically. The appearance of mucoceles is pathognomonic and lesion location, history of trauma, rapid appearance, and variations in size, bluish colour and the consistency is important for the diagnosis. Other method for diagnosis of mucocele is fine needle aspiration biopsy (FNAB), especially when differential diagnosis of angiomatous lesion is involved. USG shows Mucocele as cystic masses that sometimes contain fibrillar processes produced by fibroblasts seen in minimal numbers within the mucinous area

The clinical differential diagnosis for mucocele are fibroma, lipoma, haemangioma, varix, epidermoid cyst, salivary duct cyst, traumatic neuroma, mucoepidermoid carcinoma, pyogenic granuloma, granular cell carcinoma, lymphangioma and blue nevi which can be differentiated and a final diagnosis arrived at by histopathological examination (1,2,8,11)

Histopathology

In retention type mucoceles, cystic cavity with well-defined epithelial wall lined with cuboidal cells are present. This type shows less inflammatory reaction. The extravasation type is a pseudo cyst without epithelial wall and shows inflammatory cells and granulation tissues (1, 2, 12, 13)

Case report

A 12 years old female patient reported with the chief complaint of swelling and discomfort in lower lip region since 20 days. On clinical examination, intraorally there was soft, dome shaped swelling, approx 1.5 to 2 cm in size, slightly bluish pink in colour was noted on lower right side of lip mucosa. The swelling was painless. History of trauma was positive a month before.

The lesion was surgically excised under local anaesthesia and histology showed parakeratinized stratified squamous epithelium. The underlying connective tissue shows cystic cavity lined by

granulation tissue, which contains spilled mucous. Clinicopathologic features were suggestive of Mucous Extravasstion Cyst. Patient is under review since 60 days and no recurrence is noted.



Fig: 1 Clinical picture of Mucocele at lower Right side of lip mucosa.

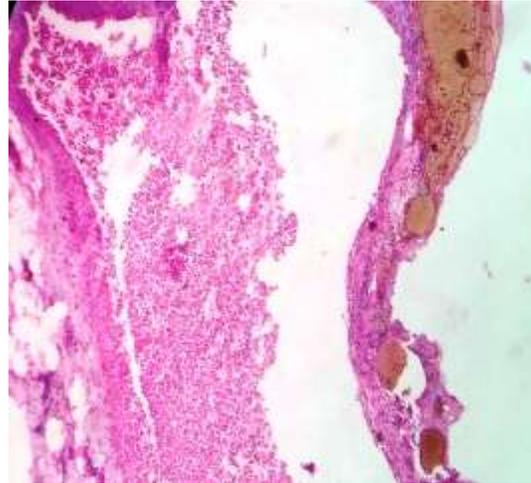


Fig: 2 H& E stain 10x showing Stratified squamous Epithelium and Cystic lumen and connective tissue.

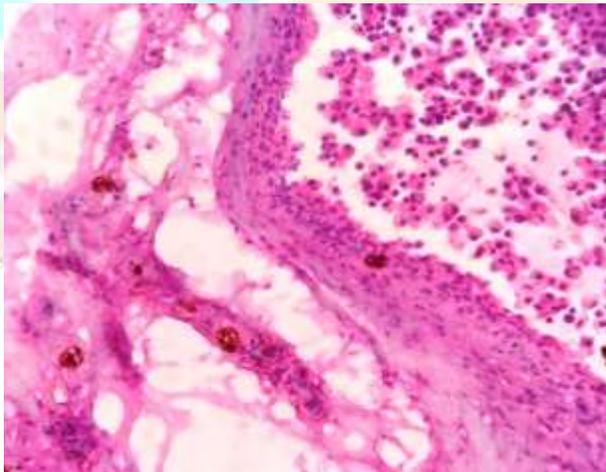


Fig: 3 H& E stain 40x showing parakeratinized Stratified squamous Epithelium and Cystic lumen lined by granulation tissue, which contains spilled mucous.

Treatment alternatives

Conventional surgical removal is the most common method used to treat this lesion. Other treatment options include CO₂ laser ablation, cryosurgery, intralesional corticosteroid injection, micro marsupialization, marsupialization and electrocautery, sclerosing agent or steroid injection.

Some studies suggested that the initial cryosurgical approach or intralesional corticosteroid injection in the treatment of these lesions but cases of relapses in these techniques is more (4, 8).

Small sized mucoceles are removed with marginal glandular tissue and in case of large lesions marsupialization can be carried out. The recurrence rate is not common for mucocele. Small and superficial mucoceles do not require treatment because they often heal after spontaneous rupture.

Surgery procedures have several disadvantages such as trauma, pain, lip disfigurement, damage to adjacent vital structures and ducts leading to development of satellite lesions and can also be expensive to the patient. Therefore, sinha et al had undertaken a nonsurgical treatment protocol with highly potent corticosteroids (betamethasone). Intralesional corticosteroids act as the most potent anti-inflammatory agent inhibiting the expression of multiple inflammatory genes. It also act like a sclerosing agent causing shrinkage of the dilated salivary ducts. (1,2,4,)

Conclusion

Mucocele is commonly seen in young males. Trauma is the most common cause and majority of these lesions are seen in lower lips. Majority of these cases can be diagnosed clinically however sometimes biopsy is required to rule out any other types of neoplasm.

This case is mucous extravassation type which was surgically managed by excisional biopsy and there is no recurrence up till now. Although very commonly encountered, the lesion needs early detection and appropriate treatment for esthetic consideration and discomfort.

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