

**A LARGE RARE CASE OF MUCOUS EXTRAVASATION PHENOMENON
(MUCOCELE) ON LOWER LIP WITH BRIEF REVIEW OF LITERATURE**

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Article Received on 26/08/2024

Article Revised on 16/09/2024

Article Accepted on 06/10/2024

ABSTRACT

Mucocles are painless, rapidly forming swellings that fluctuate in size. They can appear as fluid-filled blisters on the surface or as deeper nodules within the connective tissue. Extravasation mucocles occur when trauma to the salivary gland duct causes mucous to spill into the surrounding soft tissues. This present case shows a 50 years old female patients was suffering from swelling and ulcerated overlying mucosa at anterior portion of lower lip since 5 years. Patient also have a history of trauma on the same anatomical region 6 years back. Based on the clinical presentation and past history a provisional diagnosis of mucocle was given. Total excision of the lesion was done under local anaesthetics. Histopathological findings was suggestive of Mucous Extravasation Phenomenon.

KEYWORDS: Mucous Extravasation Phenomenon, Mucocles, Fluid-filled blisters, Ranula.

INTRODUCTION

A mucocle is defined as a mucus-filled cavity that can develop in various areas, including the oral cavity, appendix, gallbladder, paranasal sinuses, and lacrimal sac. The term "mucocle" is derived from the Latin words for mucus ("mucus") and cavity ("cocele"). In the oral cavity, mucocle is the 17th most common type of salivary gland lesion, resulting from the accumulation of mucoid material due to alterations in minor salivary glands, leading to localized swelling. Mucocles are characterized by their round, well-defined, and transparent appearance, often exhibiting a bluish tint. They can vary in size, are generally soft to the touch, and may fluctuate upon palpation. Typically painless, mucocles have a tendency to recur.^[1] They are not true cysts by definition. Mucocles are the sixteenth most common salivary gland lesion in the oral cavity, with a notable prevalence of 2.5 lesions per 1,000 people.^[2] Mucocle is a common oral mucosal lesion caused by alterations in minor salivary glands, leading to mucous accumulation and localized swelling. There are two types of mucocle: extravasation and retention. Extravasation mucocles occur when trauma to the salivary gland duct causes mucous to spill into the surrounding soft tissues. Retention mucocles arise from a decrease or absence of

glandular secretion due to blockage of the salivary gland ducts.^[3] Extravasation mucocles progress through three distinct phases. In the initial phase, mucus leaks diffusely from the excretory duct into the surrounding connective tissues. During the resorption phase, a foreign body reaction leads to the formation of a granuloma. Finally, in the last phase, a pseudocapsule forms around the mucosa.^[4] The lower lip is the most common site for mucocles in the mouth; however, they can also occur on the tongue, the floor of the mouth (known as a ranula), and the buccal mucosa.^[5] The color of the lesion can vary based on its size, proximity to the surface, and the flexibility of the underlying tissue. When a mucocle occurs on the floor of the mouth, it resembles the underside of a frog, which is why it is referred to as a ranula.^[2] Mucocles are typically asymptomatic, but they can occasionally cause discomfort by interfering with speaking, chewing, or swallowing. Treatment options include surgical excision, marsupialization, micromarsupialization, cryosurgery, laser vaporization, and laser excision.^[2]

CASE REPORT

A 50 years old female patient reported to the department of Oral Medicine and Radiology with a chief complaint

of pain and swelling on anterior surface of lower lip since 5 years. The patient reports a history of trauma to the same area six years ago. Swelling gradually increased in size and reached the present size. No significant medical or dental history.

Extra oral findings showed facial symmetry with swelling in lower anterior portion of lip. On inspection swelling was found to be 1.5cm X 2cm approximately on lower lip extending from 32 to 35 region mesio-distally which was soft in consistency, non-tender on palpation, non reducible but compressible in nature. Intra oral findings shows swelling and redness at the labial surface of lower lip. Overlying mucosa of the lesion was ulcerated. [Figure:1] Lymph nodes were non tender and non palpable. On the basis of clinical finding a provisional diagnosis of Mucocele was given.

A written informed consent was taken from the patient for excisional biopsy, all preoperative findings were within normal range. Surgery was performed under local anesthesia by intra oral approach. Multiple tissue specimens were received for histopathologic examination in 10% buffered formalin, dark brown in color soft in consistency which measures about length x breadth x height as follow, A1- 15mm x 10mm x 9mm, A2- 14mm x 8mm x 8mm, A3- 8.5mm x 8.5mm x 7mm and A4- 6.5mm x 6mm x 6.5mm. Representative tissue specimens were taken for processing. [Figure:2]

The microscopic view of Haematoxylin & Eosin stained soft tissue sections shows stratified squamous epithelium overlying a fibro-cellular connective tissue stroma. The connective tissue stroma shows loosely arranged collagen fibers in association with fibroblasts, numerous muscle bundles, adipose tissue, mucin pulling areas, endothelial lined blood vessels filled with RBCs and chronic inflammatory cells infiltrate predominantly consisting of lymphocytes and plasma cells. [Figure:3,4] On the basis of histological findings final diagnosis of

Mucous Extravasation Phenomenon was given. There was no post operative complication and after 2 years of follow-up there was no sign of recurrence.

DISCUSSION

Mucocele is a painless, rapidly forming swellings that fluctuate in size. They can appear as fluid-filled blisters on the surface or as deeper nodules within the connective tissue.^[6] Mucoceles occur in 0.4% to 0.8% of the general population, with minimal variation between males and females. The lower lip is the most commonly affected area (40% to 80% of cases), subsequently cheek mucosa and the floor of the mouth.^[7] It typically appears as a single lesion, but in cases of superficial mucoceles, multiple small blisters may also be present.^[8]

The exact mechanism of mucocele formation remains unclear, but trauma is considered a more likely cause than obstruction.^[9] The two primary causes are: a) Obstruction of the salivary gland duct b) Trauma² c) The use of orthodontic treatment could be used as one among the causes, but these cases are relatively fewer.^[10] d) Tartar-control toothpaste, hydrogen peroxide-based mouth washing with its deodorant and anti-plaque solutions are known to be other irritating factors and possible causes of mucocele.^[11]

Chaudhry *et al.* demonstrated that severing the excretory salivary ducts allows mucus to escape into surrounding tissue, leading to mucocele formation.^[12] Conventional surgical excision is the most widely used method for treating this lesion. Here are the various differential diagnoses: Blandin and Nuhn mucocele, Ranula, Benign or malignant salivary gland neoplasms, Oral lymphoepithelial cyst, Gingival cyst in adults.^[3] Alternative treatment options include CO2 laser ablation, cryosurgery, intralesional corticosteroid injections, micro marsupialization, marsupialization, and electrocautery.^[1] There are a brief review of mucocele present in oral cavity. [Table: 1]

Table no. 1: Brief review of mucocele present in oral cavity.^[1,5,13,19]

SL no	Author's name and year	Age & gender	Site of the lesion	Final Diagnosis	Treatment
1.	Rini Gangwal Badjatia <i>et al</i> (2014) ^[3]	8 Years / F	Lower lip	Mucous Retention Cyst (Mucocele)	Excision
2.	G h. Ansari <i>et al</i> (2017) ^[5]	2 Years / F	Lower lip	Benign Mucocele.	Surgically removed
3.	R. Muthukumaran <i>et al</i> (2018) ^[1]	18 Years / F	Lower lip	Mucocele (Extravasation phenomena type)	Excision
4.	Shakir Hussain Rather <i>et al</i> (2020) ^[4]	5 Year / F	Lower lip	Mucocele	Surgical removal
5.	Nagwan Elsayed <i>et al</i> (2021) ^[13]	74 Year / M	Maxillary gingiva	Mucocele	Surgical removal
6.	Pranada Deshmukh <i>et al</i> (2021) ^[2]	10 Years / F	Lower lip	Mucocele	Surgical excision
7.	Saurabh R. Nagar <i>et al</i> (2021) ^[14]	11 Years / F	Tongue	Mucocele	Surgical excision
8.	Anvika Deshpande <i>et al</i> (2022) ^[15]	14 Years / F	Lower lip	Mucocele	Surgical excision

9.	Divya Subramanyam (2022) ^[16]	14 Years / F	Lower lip	Mucocele	Surgical excision
10	Reshma Pawar <i>et al</i> (2022) ^[17]	17 Years / F	Lower lip	Mucocele	Surgical excision
11.	Lucas Morita <i>et al</i> (2023) ^[18]	34 Years / M	Lower left perioral region	Mucocele	Surgical excision
12.	Dhananjay B Ghunawat <i>et al</i> (2024) ^[19]	25 Years / F	Lower lip left side	Mucocele	Surgical excision
		32 Years / F	Lower lip right side	Mucocele	Surgical excision

CONCLUSION

Mucocele can involve any part of oral cavity and any age group. Most common involved area is lower lip. Surgical removal is the best treatment option for mucocele.

FIGURES



Figure 1: Clinical presentation of the lesion shows swelling and ulceration at lower lip.

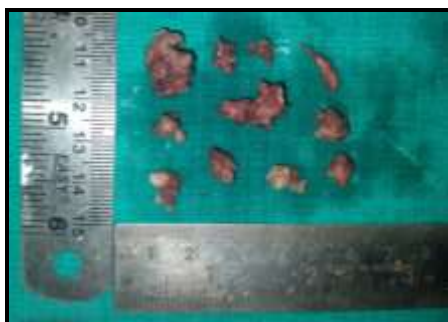


Figure 2: Excised gross tissue specimens.

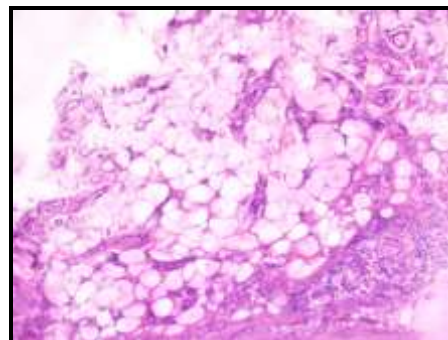


Figure 3: Microscopic view shows mucin pulling at 10x magnification.

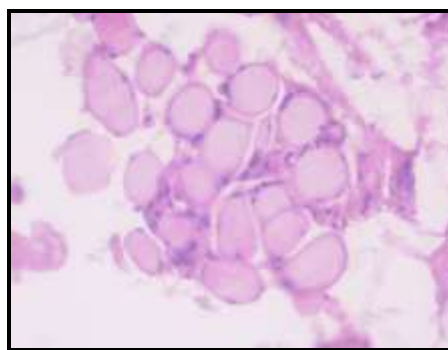


Figure 4: Microscopic view shows mucin pulling at 40x magnification.

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