



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

International Journal of Current Research  
Vol. 10, Issue, 10, pp.74703-74705, October, 2018

DOI: <https://doi.org/10.24941/ijcr.32783.10.2018>

INTERNATIONAL JOURNAL  
OF CURRENT RESEARCH

## RESEARCH ARTICLE

### EXCISION OF THE MUCOCELE: A CASE REPORT

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#### ARTICLE INFO

##### Article History:

Received 24<sup>th</sup> July, 2018  
Received in revised form  
14<sup>th</sup> August, 2018  
Accepted 19<sup>th</sup> September, 2018  
Published online 31<sup>st</sup> October, 2018

##### Key Words:

Mucocele,  
Minor Salivary Gland,  
Surgical Excision.

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Citation: Dr. Deepa T. Pazare, Dr. Nilima Rajhans, Dr. Nikesh Moolya, Dr. Nilkanth Mhaske, Dr. Carol fernandes and Dr. Pravin munde, 2018. "Excision of the mucocele: A case report", *International Journal of Current Research*, 10, (10), 74703-74705.

#### ABSTRACT

Salivary duct cysts, of different types, clinically referred to as mucoceles comprise 6-9% of salivary gland diseases. Mucoceles are cavities filled with mucous. When they occur in the floor of the oral cavity, they are called ranulas. Mucous is the exclusive secretory product of the accessory (minor) salivary glands and the more prominent product of the sublingual (major) salivary gland. These lesions can be superficial, classic or deep. Various treatments are available for its removal such as Surgical excision, Marsupialization, Laser ablation, cryosurgery, and electrocautery with variable success. In this case a 25 yr old male patient underwent conventional surgical removal of the lesion. Biopsy reports confirmed mucocele.

#### INTRODUCTION

Mucocele is a common lesion of the oral mucosa that results from an alteration of minor salivary glands due to mucus accumulation causing limited swelling (Bangan Sebastin *et al.*, 1990). It is a mucus filled cyst that can appear in the oral cavity, appendix, gall bladder, paranasal sinuses or lacrimal sac (Baurmash, 2003; Ozturk *et al.*, 2005). Oral mucoceles (OMs) are benign soft tissue masses and are clinically characterized by single or multiple, painless, soft, smooth, spherical, translucent, fluctuant nodule, which is usually asymptomatic (Hayashida *et al.*, 2010). The term mucocele is derived from a latin word, muco means mucus and cocele means cavity (García *et al.*, 2009). Mucocele is seventeenth most common salivary gland lesions seen in the oral cavity (Flaitz, 2006). It comprise 6-9% of salivary gland diseases (Seifert, 1996; Tal *et al.*, 1984). When they occur in the floor of the oral cavity, they are called ranulas (rana = Frog and ula = Little) because the swelling resembles the vocal or air sacs of the frog. Mucous is the exclusive secretory product of the accessory (minor) salivary glands and the more prominent product of the sublingual (major) salivary gland These lesions can be superficial (located directly under the mucosa), classic (in the upper submucosa) or deep (in the lower corium) (Jani, 2010).

The extravasation type is a pseudocyst without defined walls and are caused due to mechanical trauma to the excretory duct of the gland leading to transection or rupture, with consequent extravasation of mucin into the connective tissue stroma and are seen frequently on lower labial mucosa, buccal mucosa and retromolar area; they are not lined by epithelial lining (Ata-Ali *et al.*, 2010). The mucus extravasation triggers a secondary inflammatory reaction. Many patients report the periodic discharge of viscous fluid from the lesion. The retention type is less common than extravasation, usually affects older individuals and is seen frequently on upper lip, hard palate, floor of mouth and maxillary sinus (Ata-Ali *et al.*, 2010; Daniels, 2005; Re Cecconi *et al.*, 2015). In mucous retention phenomena, mucus may be retained in the duct and/or acini as a result of duct obstruction by sialolith or strictures (De Camargo Moraes *et al.*, 2009). The ductal narrowing can occur due to frequent mouth washing with hydrogen peroxide, deodorant mouthwashes, tartar-control toothpastes or anti-plaque solutions, which are possible causes of irritation (Re Cecconi *et al.*, 2010).

**Case report:** A twenty five year old male patient reported to the Department of periodontics Y.C.M.M. and RDF'S dental college in Maharashtra, with chief complaint of painless swelling and discomfort on the inner aspect of lower left lip region since 3 month. History revealed that he bite on his lip during mastication. Swelling was small initially and then was increasing gradually to attain the present size.

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**Fig. 1.** Preoperative photograph of the soft tissue lesion 'mucocele' on the inner aspect of the lower left lip region



**Fig 2.**After surgical excision



**Fig. 3.** Excised tissue



**Fig. 4.** Interrupted sutures given



**Fig. 5.**post operative photograph 1 week later



**Fig. 6.**photomicrograph showing Connective tissue stroma with cystic spaces filled with homogenous, hyaline material showing mucous

There was no significant medical history. On intraoral examination, a round, solitary, fluctuant swelling was seen on the inner aspect of the lower lip at the left lateral and canine region. Swelling was 2–3 mm below the vermilion border of the lower lip and extending inferiorly toward the lingual vestibule, measuring approximately 1.5 x 1.5 cm. Color of the swelling was the same as that of the adjacent mucosa (Figure 1). On extraoral examination, there was mild asymmetry on the left side close to the angle of the mouth. No other oral anomalies were detected. Patient had a positive history of lip biting during mastication. There was difficulty in speaking and chewing. The lesion was diagnosed as a mucocele based on the clinical features and history of lip biting. It was treated under local anesthesia using scalpel by placing an incision circumferentially (Figure 2). Lesion was resected from the base and the specimen was sent to the Oral Pathology Department for histopathologic examination. (Figure:3).

Intermittent sutures were placed (Fig:4), and suture removal was done after 1 week. (Fig:5). Histopathological report confirmed the diagnosis as mucocele. On 6-month follow-up, there was no history of recurrence of the lesion. Single bit of H and E stained section under microscopic examination revealed mucous acini lined by flattened epithelial cells. Connective tissue stroma demonstrate cystic spaces filled with homogenous, hyaline material showing mucous.

These cystic spaces are not lined by epithelium indicating extravasation of mucous from ruptured salivary gland acini and ducts. Supportive connective tissue stroma demonstrate collagen fiber bundles, fibroblasts, blood vessels and few polymorphonuclear neutrophils (Fig:6).Clinicopathologic correlation showing Mucous Extravasation Cyst.

## DISCUSSION

The clinical appearance of a mucus cyst is a distinct, fluctuant, painless swelling of the mucosa. About 75% of the lesions are smaller than 1 cm in diameter; however, rarely, the size can vary from few millimeters to several centimeters. Superficial lesions take on a bluish to translucent hue, whereas deep lesions have normal mucosal coloration and bleeding into the swelling may impart a bright red and vascular appearance. The patient may relate a history of recent or past trauma to the mouth or face or the patient may have a habit of biting the lip. The various differential diagnoses are Blandin and Nuhn mucocele, oral hemangioma, oral lymphangioma, lipoma, and soft tissue abscess (De Camargo Moraes et al., 2009). The incidence of mucoceles in the general population is 0.4–0.9%. There is no gender predilection (Jinbu et al., 2003). Thorough history taking and examination of the lesion is crucial for diagnosing OMs correctly. Although diagnosis is mainly clinical, anamnesis should be carried out correctly, searching for trauma (Ata-Ali et al., 2010). The appearance of mucocele is pathognomonic, and the following points are crucial: Location, history of trauma, rapid appearance, variations in size, bluish color and the consistency (Yadav et al., 2011). Mucoceles are mobile lesions with soft and elastic consistency depending on how much tissue is present over the lesion. Despite this fluctuation, a drained mucocele would not fluctuate and a chronic mucocele with a developed fibrosis would have less fluctuation (Ata-Ali, 2010). For specific cases, the diagnosis may require routine radiographs, ultrasonography or advanced diagnostic methods - computed tomography and magnetic resonance imaging for better visualizing the form, diameter, position and determination of the lesion origin. Fine-needle aspiration is a useful diagnostic technique for evaluating patients with salivary gland nodules and enlargement, especially when differential diagnosis of angiomatous lesion is involved (Syebile, 2010). High amylase and protein content can be revealed by the chemical analysis (Gupta et al., 2007).

## Conclusion

Surgical excision with removal of the accessory salivary glands has been suggested as the treatment. Marsupialization will only result in recurrence, but large lesions are best treated with unroofing procedures (marsupialization). Laser ablation, cryosurgery, and electrocautery are approaches that have also been used for treatment of the conventional mucoceles, with variable success (Ata-Ali, 2010; Daniels, 2005).

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