

## MUCOCELE OF LOWER LIP-CASE REPORT AND ITS DIFFERENTIAL DIAGNOSIS

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### SUMMARY:

The Mucocele or Mucus retention phenomenon is a salivary gland lesion of traumatic origin, formed when the main duct of a minor salivary gland is torn with subsequent extravasation of the mucus into the fibrous connective tissue so that a cyst like cavity is produced. The wall of this cavity is formed by compressed bundles of collagen fibrils and it is filled with mucin. Mucoceles are usually associated with the minor salivary glands and hence are less likely to occur on the anterior hard palate and the attached gingiva, which do not typically possess minor salivary glands. This report describes a lesion of the lower lip that was definitively diagnosed by histologic examination as a mucocele or mucous retention phenomenon.

**Key Words:** Mucocele, Lower lip, Minor salivary gland.

### INTRODUCTION:

The mucocele is one of the most common of the benign soft tissue masses that occur in the oral cavity. Mucoceles (*Mouco* - mucus and *coele* - cavity), by definition, are cavities filled with mucus. They are described as either the extravasation phenomenon is term used when the spillage of mucin into the connective tissue around the gland. The term mucous retention cyst is used to describe a cyst with retained mucin which is lined by ductal epithelium<sup>[1]</sup>. They may occur at any age, they are seen most frequently in the second and a third decade of life. This lesion has no sex predilection and occurs more frequently in children, adolescents and young adults. Mucoceles appear as discrete, small, translucent, soft, painless swelling of the mucosa ranging from normal pink to deep blue in color. Mucoceles can be single or multiple often rupturing and leaving slightly painful erosions that usually heal within few days.<sup>[2]</sup>

Mucocele are usually formed secondary to rupture of an excretory duct of a salivary gland, which leads to an out pouring of saliva into the surrounding tissues. The resulting pool of glandular secretion is first surrounded by inflammatory cells and later by reactive granulation tissue consisting of fibroblasts. This granulation tissue reflects an immune response (i.e., to wall off the mucin). Although there is no epithelial lining surrounding the mucin, it becomes well encapsulated by this granulation tissue and is therefore categorized as a false cyst or pseudocyst. In contrast, a mucus retention cyst is a true cyst, lined epithelial proliferation of a partially obstructed salivary duct. Complete with epithelium. This type of cyst appears to be caused by

obstruction of a salivary duct by a calcified mass is called a sialolith, also known as a salivary calculus or stone.<sup>[3]</sup>

### Case report

A 10 year old female patient visited to the dental clinic. The patients chief complaint was that she had a recurrent episodic increase & decrease in size of swelling on left inner side of the lower lip (Fig. 1). The history of present illness consisted of swelling in lower lip in 32 and 33 region. It has been increasing in size and decreasing intermittently since 1.5 year. It was pain less and no history of fever or malaise was present. It was soft fluctuant and palpable with no increase in temperature & oval in shape.

Other findings were Ellis class II fracture with 21. Lab investigation like HB, CT, and BT were found to be normal. Differential diagnosis were mucocele, fibroma, lipoma, mucus retention cyst, sialolith, phlebolith and salivary gland neoplasms possibilities. measuring 10

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mm × 10 mm on the inner labial mucosa; the lesion did not blanch under digital pressure. The patient had been aware of the swelling for about a year and a half and she reported episodic increase or reduction in size. she could not recall an episode of trauma to the maxillofacial region. There was no evidence of calcification or retained foreign body in a radiograph of the soft tissue in this area.

Excisional biopsy was performed, and the wound was closed with 4-0 sutures (Fig. 2) (gut for deep closure and silk superficially). The biopsy sample (Fig. 3) was immediately fixed in 10% formalin and sent for histologic evaluation (Fig. 4). The pathology report described the tissue as a tanned, round nodule, with no evidence of malignancy. The definitive diagnosis was mucocele of the left lower lip. No recurrence was observed at 1-month, 3-month, and 1 year follow-up examinations.



**Fig. 1: Bluish non tender nodule on inner mucosa of lower lip.**



**Fig. 2: Sutures were given.**



**Fig. 3: Post-operative gross appearance of the lesion.**



**Fig. 4: Lesion fixed in formalin.**

#### **DISCUSSION:**

Parafunctional habits such as lip biting may contribute to the lower lip being the most commonly described location of mucoceles. Cohen and others observed that, of 63 mucoceles, 82% were found on the lower lip, 8% on the buccal mucosa, 3% on the retromolar area, and 1% on the palate.<sup>[4]</sup> The Armed Forces Institute of Pathology collected data on 2,339 cases of mucocele and found that 33.0% occurred on the lower lip, 7.7% on the buccal mucosa, 6.3% on the floor of the mouth, 6.1% on the tongue and only 0.4% on the upper lip<sup>[5]</sup>.

The lesions are painless, asymptomatic swellings with a rapid onset and fluctuant nature. The patient may relate a history of trauma or a habit of lip biting. These vesicles rupture spontaneously and leave ulcerated surface that heals within a few days. Their deep blue colour results from tissue cyanosis and vascular congestion associated with the stretched overlying tissue and translucent character of the accumulated mucin beneath. The variation of the colour depends upon the size of the lesion, its proximity to the mucosal surface and the elasticity of the overlying tissue<sup>[6]</sup>. In the present case, the patient gives history of

trauma and the lesion is asymptomatic and offluctuant nature.

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. Daley<sup>[7]</sup> reviewed the clinical differential diagnosis of a swelling of the lower lip, listing mucocele, fibroma, lipoma, mucus retention cyst, sialolith, phlebolith and salivary gland neoplasm as possibilities. In patients under 20 years of age mucocele is the most common nodular swelling of the lower lip; this lesion is slightly more common in males<sup>[8]</sup>. Another common nodular lesion is fibroma, which, like the mucocele, can be initiated by trauma. 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 intra-oral site of squamous cell carcinoma; however, unlike the previously mentioned lesions, this one presents with variations of white and red crusting and ulceration<sup>[9]</sup>.

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. Low-grade mucoepidermoid carcinoma may resemble a mucocele on clinical examination, because the predominant cell type in this tumour produces mucin.<sup>[4]</sup> Acinic cell adenocarcinoma is the most common malignant lesion of the salivary glands of the upper lip. It, too, can occur over a wide age range but appears predominantly among women.<sup>[10]</sup>

The differential diagnosis of swelling of the lips in children should also include vascular malformations such as haemangiomas 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.<sup>[11]</sup>

Palpation of the lesion may aid in developing the differential diagnosis. Cysts, mucoceles, abscesses, hematomas, lipomas and salivary gland tumours may exhibit fluctuance. However, a mucocele that has ruptured would not be fluctuant, and a chronic mucocele that has developed fibrosis may lose some degree of fluctuance<sup>[3]</sup>. The patient described in this case report had the lesion for about a year and a half, and the lesion was non tender on palpation.

Mucus retention cysts occur more commonly on the upper lip than the lower lip. The occurrence of mucus retention cysts peaks in the seventh and eighth decades. Swelling of the lower lip is also commonly caused by sialolithiasis, mineralization that occurs in the ducts of the salivary glands. 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<sup>[4]</sup>.

Surgical excision with removal of the involved accessory salivary gland should be done to avoid the recurrence. The excised tissue should always be submitted for the pathological investigation to confirm the diagnosis and to rule out other pathology of the salivary glands.

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