Mucocele: A diagnostic dilemma!!

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ABSTRACT

Oral mucocele is the most common benign lesion of minor salivary gland caused due to any form of mechanical trauma to the excretory duct of the gland. It is of two types – mucous extravasation phenomenon and mucous retention type. Extravasation type is more common. Here, we report a case of a 65-year-old male patient with a complaint of painful swelling in the lower lip for 1 month with a history of trauma in the lower lip. It was clinically diagnosed as traumatic fibroma, and an excisional biopsy was done. However, the histopathology was basically that of mucous extravasation phenomenon coexisting with the features of a reactive lesion implicating the potential role of chronic irritation in the impairment of normal healing process. Considering the fact that long-standing chronic inflammation in a benign lesion can even lead to malignant transformation of that lesion; here, we highlight the role of a good clinicopathologic correlation and the significance of prompt intervention and treatment. Furthermore, emphasizing the potential need for postoperative follow-up by the dentist, how much even trivial the lesion may appear to be in the best interest of the patient.

KEY WORDS: Chronic irritation, clinicopathologic correlation, malignant transformation, mucocele

Here, we present a case of mucocele and the diagnostic dilemma associated clinically and histopathologically owing to the superadded chronic irritation.

Case Report

A male patient, 65 years of age reported to Adhiparasakthi Dental College and Hospital outpatient department with a chief complaint of painful swelling in the lower lip for 1 month. Patient revealed a history of trauma to the lower lip few months back. Personal history revealed smoking habit for the past 20 years. Extraoral examination showed no significant abnormality. On intraoral examination, a well-defined sessile swelling of size 1 cm × 1.5 cm was noticed in the lower lip. Secondary surface changes such as pseudomembrane was noticed over the swelling [Figure 1a], and it was tender on palpation and firm in consistency. Hard tissue examination showed a generalized attrition of the teeth. The oral hygiene status was poor.
Based on the clinical findings, provisional diagnosis of traumatic fibroma was made. Surgical excision of the lesion was done [Figure 1b] under 2% lignocaine local anesthetic solution and submitted for histopathologic examination in 10% formalin fixative solution.

On histopathologic examination, a layer of hyperplastic stratified squamous epithelium with bulbous rete ridges was noticed with an underlying inflamed connective tissue [Figure 2]. Fibrinopurulent membrane replaced the epithelium at one end of the section [Figure 3]. The underlying connective tissue showed a wide distribution of chronic inflammatory cell infiltrate amidst which foci of acute inflammatory cells mainly neutrophils were evident. Areas of mucin spillage were noticed which were surrounded by a connective tissue wall made of granulation tissue. Large cells with a foamy cytoplasm resembling macrophages were seen in the areas of mucin spillage along with chronic inflammatory cells. Some dilated salivary ducts were noticed. Mucous salivary glands were also seen; however, the architecture was lost. Large areas of adipose tissue were seen in the connective tissue [Figures 3 and 4]. Based on the histopathological report, it was diagnosed as mucous extravasation phenomenon with the adjoining reactive lesion.

**Discussion**

Mucous extravasation phenomenon often undergoes cycles of appearance and disappearance. Resolution of mucocele can happen by means of enzymatic digestion of acini by neutrophils and macrophages. In this case, mucocele was not the provisional diagnosis because it did not present as a soft fluctuant mass with a bluish tinge. Instead, the lesion appears as a firm mass with yellowish surface changes which was more in favor of traumatic fibroma. As such mucocele is a benign lesion. However, in this case, repeated insult to the lesion has prevented it from autoresolution, and the persistent chronic irritation has prompted the reactionary features to set in. The repeated trauma can be attributed to the reduction in the occlusal height due to generalized attrition of teeth which makes the swelling in lower lip more vulnerable to irritation.

Acute episodes of trauma could be the reason for the foci of acute inflammatory cells seen amidst the sea of chronic inflammatory cells in the long-standing lesion. The replacement of epithelium by fibrinopurulent membrane with subjacent dense chronic inflammatory cells again shows the effect of body’s response to chronic irritation. This is responsible for the yellowish discoloration seen over the surface of the swelling. Loss of mucous salivary gland architecture could be attributed to the long-standing chronic inflammation.

![Figure 1: Preoperative (a) and postoperative (b) photographs of the lesional area](image1)

![Figure 2: Hyperplastic epithelium, loss of acinar architecture, largely replaced by adipose tissue, and areas of mucin pooling walled off by granulation tissue wall, (H and E stained section, ×10)](image2)

![Figure 3: Replacement of epithelium by fibrinopurulent membrane with dense inflammation underneath, (H and E stained section, ×10)](image3)

![Figure 4: Foci of acute inflammatory cells amidst a sea of chronic inflammation, (H and E stained section, ×40)](image4)
One interesting aspect of the lesion is the increased adipose tissue found in the hematoxylin and eosin section. This prompted us to think in terms of lipoma. However, the fact that with advancing age, the normal salivary glands are replaced by adipose tissue made us to consider this as a normal response to aging and thus lipoma was ruled out.\(^8\) The habit of chronic smoking could also be the reason for the change observed. This shows the importance of detailed case history taking along with the necessary correlation with the histopathological picture before the final diagnosis.

One thing of concern is the hyperplastic epithelium with bulbous rete ridges pushing into the underlying connective tissue. It could be the reason for the parallel arrangement of fibers observed subepithelially giving the effect of a fibrous capsule. The basilar hyperplasia and acanthosis clearly show that the epithelium is making an attempt to overcome the effects deleterious associated with persistent irritation and protect the underlying structures. The basement membrane was intact indicating that there was no risk of malignancy in this patient as the lesion has been excised in toto.

However, the risk of uncontrolled proliferation of epithelial cells leading to invasive carcinoma could have happened due to persistent irritation had it not been intervened at this stage.\(^9\) The quality of life of patient could be severely compromised if that be the case. This implies the importance of early surgical intervention and to histopathologically examine any excised tissue which will guide us to plan the postoperative follow-up schedule in the best interest of the patient.

**Conclusion**

This case report is an effort to emphasize the importance of good clinicopathologic correlation and also to understand the basic concept as how the body’s response to chronic irritation can transform a trivial benign lesion to reactive lesion and possibly to malignancy. The vigilant role of a dentist in the handling of a lesion is reinforced through our case report.

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**Conflicts of interest**

There are no conflicts of interest.

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