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Case Report

Occurrence of a reactive and traumatic lesion of the oral cavity: a report depicting two consecutive events

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ABSTRACT

The oral tissues are often exposed to various forms of injury and irritation leading to various reactive or traumatic lesions. These lesions frequently present as a lump or mass, ulcers or patches of varying color. They are generally benign in nature, subside to a greater extent after the removal of the stimulus and rarely recur after complete surgical excision. We report a unique occurrence of a reactive lesion, an irritational fibroma and a traumatic lesion, a mucocele arising consecutively on the right buccal mucosa.

Keywords: Trauma, Irritation, Tissue, Growth, Benign

INTRODUCTION

Reactive and traumatic lesions are commonest entities the oral cavity can frequently encounter. Although they are clinically and histopathologically distinct, both arise as a response to tissue injury or irritation.[1] Reactive lesions are generally low-grade response to a long-term irritation whereas traumatic lesions are direct consequence of a single specific injury. Reactive lesions are generally asymptomatic, unless secondary infected and may resolve spontaneously or partially regress after the irritant is removed. While traumatic lesion often associates with pain, swelling, functional impairments and rarely with neurological deficits. We report a case of a successive occurrence of reactive lesion and a traumatic lesion on the right buccal mucosa.

CASE REPORT

A 44-year-old male patient reported with a complaint of growth on the inner aspect of his right cheek for 2 years. He claimed that the growth had insidious onset and had gradually aggravated to the present size. The patient also gave a history of discomfort while chewing food and occasional ulceration over the growth due to accidental bite which subsided after taking over the counter topical anesthetics. There are no associated symptoms such as pain, bleeding or pus discharge from the growth. There is no similar growth elsewhere and there was no relevant medical history and personal history. Clinical examination suggested the presence of a solitary dome shaped well defined growth on the right buccal mucosa at the level of occlusal plane. The growth measured roughly about 3×1.5 cm in size in greatest dimensions. The growth extended antero-posteriorly at the level of the distal aspect of the right canines towards the mesial aspect of right first molars. Superio-inferiorly it extended from the level of middle crown third of right premolars towards the middle crown third of lower premolars. The growth appeared to be sessile; the surface was smooth and was pale pink in colour (Figure 1).

There were no visible pulsations and secondary changes such as bleeding or pus discharge from the growth. The tooth in the vicinity (left maxillary canine and mandibular canine) showed the presence of attrition and loss of

cuspal integrity and was in close approximation with the growth. On palpation, all inspectory findings regarding its number, size, shape, extent, borders, surface and surrounding area were confirmed. The growth was soft to firm in consistency, compressible and had a broad base. It was non-tender; there was no bleeding or pus discharge on provocation. Based on the clinical features a provisional diagnosis of fibroma was thought of. Considering the size and the nature of the growth, a complete excision was done and absorbable sutures were placed; additionally reductive coronoplasty of the sharp cusps in the vicinity of the growth was also done. To enhance healing and prevent secondary infection antibiotics (Amoxicillin 500 mg thrice daily, Metronidazole 400 mg thrice daily and analgesics (Aceclofenac 100 mg twice daily) for five days were advised. While, the patient was advised to report a week later for review; the specimen was sent for histopathological analysis. Microscopic examination of the specimen showed dense fibrous tissue connective stroma with a covering mucosal epithelium. The stroma predominantly appeared dense and fibrous with collagen bundles arranged in a hapahazard fashion, there were few fibroblasts with minimal vascularity and sparse chronic inflammatory cell infiltrate. A small lobule of mucous acini is also evident within. The overlying epithelium is of para keratinized stratified squamous epithelium of variable thickness. The features were suggestive of fibroma (Figure 2).

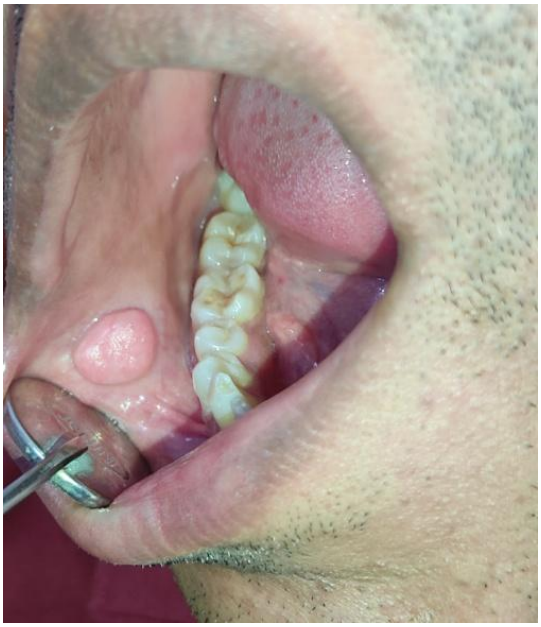

Figure 1: Irritation fibroma on the right buccal mucosa.

As advised, the patient did not report for the follow up; he rather reported three weeks later with a dome shaped swelling in the same region. The patient did not recall any history of trauma to that region. He claimed that he had noticed recurrent fluid filled swellings a few days following the excision.

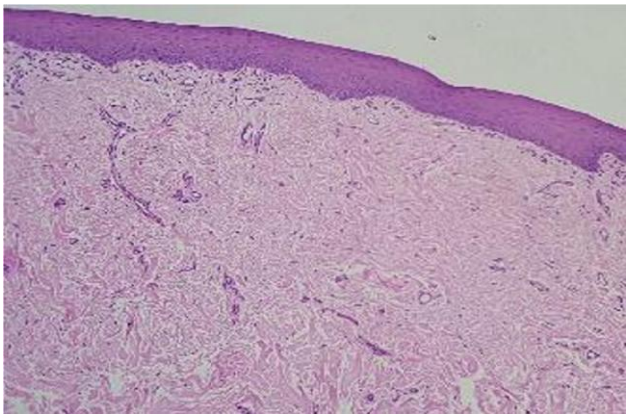

Figure 2: Histopathological specimen (10x) showing dense fibrous connective tissue stroma.

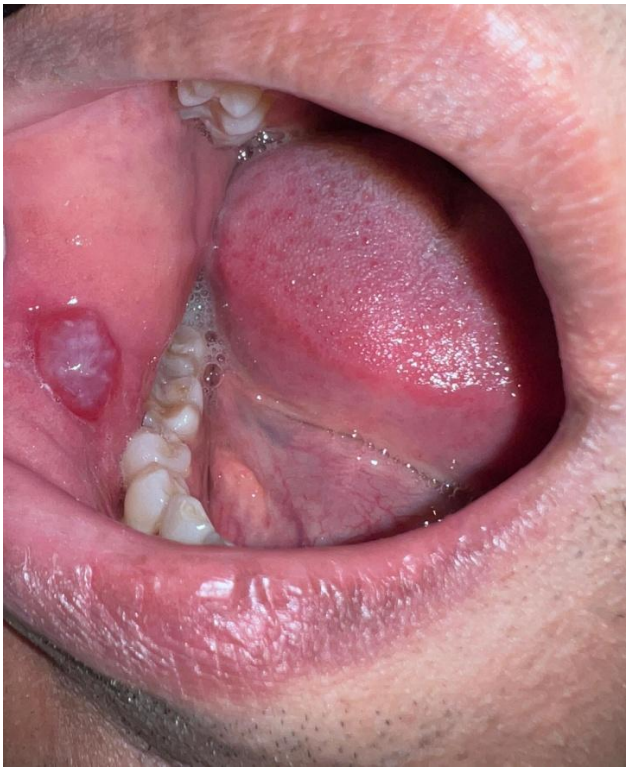

Figure 3: Mucocele on the right buccal mucosa.

There were three such occurrences and each time the swellings had ruptured spontaneously after 2-3 days. The present swelling was for the past 10 days; it has not ruptured and had gradually increased to attain the present size. Patient also complained of mild pain and discomfort due to interference of the swelling during chewing food. There were no other associated symptoms like bleeding or pus discharge. On Clinical examination a well-defined, dome shaped swelling over the healing site on the right buccal mucosa in relation to the canine-premolar region was noted. The swelling was about 2×1 cm in size in its greatest dimensions. The swelling appeared to be soft, fluid filled, bluish colored with a pearly to semi-cleared appearance. The overlying mucosa had focal areas of white keratotic patches. In addition, 23 and 33 showed

few areas of marked attrition and was in close approximation with the swelling (Figure 3). On palpation, the swelling was soft, compressible, non-pulsatile, non-tender and the diascopy test was negative. Based on clinical appearance, a provisional diagnosis of mucocele was given. Although the patient denied any traumatic episode or compulsive grinding of teeth, our treatment plan included a fabrication of an occlusal guard. In the subsequent visit, the lesion was excised with a diode laser of wavelength of 980 nm using a fiberoptic tip of 300 micrometers in a continuous mode with power a setting of 2 watts. Additionally, secondary reductive coronoplasty of 23 and 33 was done and the patient was advised to wear the fabricated soft occlusal guard.

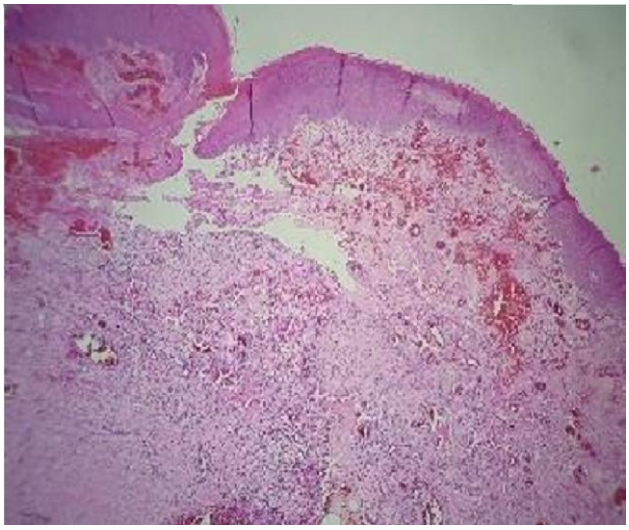

Figure 4: Histopathological specimen (10x) showing areas of mucin pooling.

The excised specimen upon histopathological analysis showed areas of mucin pooling surrounded by connective tissue admixed with chronic inflammatory cells. The mucin pooling areas are lined by granulation tissue composed of fibroblasts, lymphocytes, macrophages. The adjacent stroma is fibro cellular composed of fibroblasts, several engorged capillaries and areas of hemorrhage. The overlying epithelium is hyperparakeratinized stratified squamous epithelium of variable thickness (Figure 4). The features were suggestive of mucocele. Currently, the patient is under follow-up for the past 6 months without any recurrence.

DISCUSSION

The oral cavity is susceptible to various insults among them the frequent ones are irritational fibroma and mucocele. While irritational fibroma is generally considered as a reactive hyperplastic reaction to long term irritation, mucocele occurs as a result of short and direct effect of trauma.[1,2] Occurrence of two lesions (i.e. Irritational fibroma and mucocele) subsequently from the same site, as seen in our patient is an extremely rare entity. The following are the general characteristics of reactive and traumatic lesions and our case met them perfectly.[1,3] Excessive proliferation of tissue in the form of swelling/growth, ulcers/erosions or patches in response to stimulus. Some kind of stimulus should be present-acute trauma, low grade irritation or injury. Remission or partially regress after an appropriate treatment and removal of the stimuli.

The most prevalent reactive lesions of the oral cavity are irritational fibroma, pyogenic granuloma, peripheral ossifying fibroma, peripheral giant cell granuloma and peripheral odontogenic fibroma. Although the pathogenesis of most of these lesions are related to response to stimulus from trauma or frictional forces; few lesions are related with hormonal changes, pregnancy and puberty as well.[4] Clinically, all these lesions have varied stages of progression ranging from initial raw erythematous surface exhibiting bleeding to late firm, sessile or pedunculated, avascular fibrous growth. Few conditions even resemble a neoplastic proliferation; hence a thorough acquaintance vital for diagnosis. Irritational fibroma as seen in our case is a reactive, non-neoplastic growth affecting any part of the oral cavity. It is more commonly seen on lips, tongue, gingiva and buccal mucosa and is often caused by an irritation from a malposed or sharp tooth, calculi, overhanging restoration, orthodontic braces or due to accidental bite.[1] Fibroma clinically present as a solitary, smooth, soft to firm well circumscribed, pale to pink coloured, sessile or pedunculated, painless mass which slowly enlarges in size.[3,4] In the present case, the growth was seen on the right buccal mucosa, possibly occurred due to constant impingement of sharp cusp of right maxillary and mandibular canines, the growth was asymptomatic in nature and gradually grew to cause interference in mastication.

On the other hand, mucoceles are traumatic in nature and arise as a result of blockage or rupture of the minor salivary gland which leads to accumulation or spillage of mucous within the surrounding tissue. This spillage initiates an inflammatory reaction and a connective tissue wall formation predominantly with granulation tissue which confines the cystic cavity. Mucocele usually presents as a dome shaped, painless, soft, bluish or transparent fluid filled cavity. They are frequently seen on lower labial mucosa and less commonly on floor of the mouth, ventral surface of tongue, buccal mucosa and palate.[5] It can rupture spontaneously or due to accidental bite and recurs after accumulation of mucin. Recurrent mucoceles often becomes painful due to secondary infection. The mucocele in our case, which had occurred subsequently after the surgical excision of fibroma could be iatrogenic (unintentional damage to minor salivary gland during surgical exploration) in origin or due to accidental bite by the patient during the healing phase or due to persistent irritation of maxillary and mandibular cusp (as evident with focal keratosis over the mucocele surface).

Over the years, various modalities such as surgical excision, marsupialization, cryotherapy, electrocautery and laser ablation were performed for treatment of mucocele. Amongst them laser ablation appears to be promising as it is safe, painless, provides bloodless field and thereby reduces operating time. In addition, laser delivers good analgesic, antibacterial effect and photo biomodulation which promotes tissue healing and regeneration. [6] In the present case, taking into account the possibility of the occurrence of mucocele secondary to an unidentifiable traumatic event, laser ablation was performed. In addition; considering the constant injury form the right maxillary and mandibular canine, an occlusal soft splint was advised. Literatures suggest that the soft splint minimizes irritation from teeth, creates an environment which is conducive for healing and prevent recurrence.[7] The above facts proved valuable in our case too, as our patient was followed up for six months without any recurrence.

CONCLUSION

Reactive and traumatic lesions of the oral cavity are common and are generally benign in nature. However, with the higher chance for recurrence and the possibility of malignant transformation, it is crucial to detect them early, identify the underlying cause and treat accordingly.

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