

Habitual biting of oral mucosa: A conservative treatment approach

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Abstract

Chronic biting of oral mucosa is an innocuous self inflicted injury, commonly seen in children suffering from developmental and psychological problems and has rarely been reported in normal unaffected individuals. The management strategies vary from counseling, prescription of sedatives to different prosthetic shields. The paper highlights the efficacy of a simple approach using soft mouth guard in the management of self inflicted lesions due to habitual biting of oral mucosa in two normal healthy children.

Keywords: Morsicato mucosae oris, normal healthy children, polyvinyl sheet

Introduction

Chronic biting of oral mucosa or Morsicato mucosae oris is a form of factitial/unintentional injury that is observed commonly on the buccal and labial mucosa and lateral surface of tongue.^[1] Habitual lip or cheek biting usually occurs as an unconscious psychogenic habit caused by a wide range of emotions. This mild form of self mutilation may sometimes emerge as a response to oral stimuli or as an attempt to gain attention from family members or caretakers^[2] and may even be precipitated with traumatic injury. This factitial injury in children is transient in nature and tends to wane with time; however, periods of stress such as school examination, competition in sports and other activities may aggravate this condition.^[1] In some individuals, habitual lip and cheek biting becomes a fixed neurosis and the frequency and severity of the biting behavior could be directly related to the stress experienced. These injuries usually present a vicious cycle, whereby trauma leads to inflammation and inflammatory lesion further leads to more injury due to persistent habit. In children, this behavior most of the times go unnoticed or is not a cause of concern because usually it is asymptomatic

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and is less objectionable than non-nutritive sucking habits, i.e., digit sucking or nail biting.

Pediatric dentists are usually the first ones to diagnose such behavior in children or may be the ones consulted for the problem. Various forms of treatment options have been instituted and reported in the literature in an attempt to prevent or control habitual trauma to oral mucosa which can be broadly classified as (a) reconditioning the patient to avoid abnormal behavior with counseling, relaxation techniques, and sedatives, (b) targeting the habit and protection of mucosa from injury by oral appliances like various types of removable shields which protect tongue,^[3,4] lips,^[5] and cheek mucosa^[6] for chronic lesions or those with widespread involvement, and (c) selective occlusal grinding of sharp edges of teeth^[7] even extracting the offending teeth in case of extreme conditions,^[8] where lesions do not heal at all. The treatment modality should be determined carefully depending on the nature and severity of the lesion. Two such cases of non-healed chronic lesions on oral mucosa that occurred due to traumatic biting of oral tissues and the simple conservative treatment modalities offered are being discussed.

Case Reports

Case 1

An 8-year-old boy was referred to the Pediatric unit of the Oral Health Sciences Center by a private practitioner with chief complaint of "soft tissue growth" on right cheek mucosa, which did not heal with local application of ointment and was gradually increasing in size over a period of 4 months. An intraoral examination of the patient showed hypertrophic, soft, roughened, non-pedunculated growth of about 2 mm × 2 mm on right mucosa of cheek. The growth was opaque white, non tender, without any ulceration [Figure 1a]. The patient gave the history of traumatic injury to cheek while eating after which the tissue started growing in size and had resulted in a habit of cheek biting. The growth was evident along the masticatory surfaces of the primary molars. The patient was aware of the habit of

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cheek biting during the day and occasionally during his sleep. No lymphadenopathy or other constitutional signs/symptoms were detected. As the history and clinical findings were suggestive of cheek biting, surgical excision of the soft tissue growth was done using cautery [Figure 1b], after which the patient presented with uneventful healing. The excised tissue was sent for histopathological examination which showed evidence of hypertrophic tissue. After 2 months, however, patient again reported with a growing tissue of almost similar dimensions as the previous one and present at the same site due to persistence of habit, as revealed by the parents [Figure 1c]. Fabrication of mouth guard was planned to prevent any further trauma to cheek mucosa and to promote healing. Maxillary and mandibular impressions were made using irreversible hydrocolloid. Mouth guard was fabricated from soft polyvinyl sheet of thick resilient material (Bioplast® Scheu Dental GmbH Iserlohn Germany) of 2 mm thickness after occluding the dental casts and placing sheet in a vacuum formed pressure molding device (Biostar® Scheu Scheu Dental GmbH Iserlohn Germany) with a thermally controlled infrared heater [Figure 2a]. The sheet extended laterally from first molar region on the left side to first molar region on right side [Figure 2b]. The patient was directed to wear the appliance during daytime after school hours and at night during his sleep. Patient was reviewed every 2 months

till 6 months and he presented with uneventful healing, with no recurrence. After 6 months, the appliance was discontinued. The patient was again recalled and reviewed 6 months after the discontinuation of appliance; the tissue remained healed with no sign of recurrence of any traumatic lesions on the cheek mucosa [Figure 3a and b].

Case 2

A 7-year-old boy reported to the department with edematous growth on left side of lower lip. Growth occurred two months prior to presentation to dental clinic. Parents informed that the child had a previous episode of trauma to lower lip after which the growth appeared and started increasing in size over the period of time [Figure 4a]. The child was seen biting his lower lip in the region of growth all the time while sitting in the dental chair and parents also confirmed regarding this habit of their child. It was planned to target the habit with habit breaking appliance instead of surgically treating the lesion. Soft polyvinyl sheet of 2 mm thickness (Bioplast® Scheu Dental GmbH Iserlohn Germany) was molded in vacuum formed pressure molding device on the maxillary arch cast (Biostar® Scheu Scheu Dental GmbH Iserlohn Germany). Patient was told to wear the appliance after school hours and even while sleeping [Figure 4b]. After 2 weeks of continuous wearing of the appliance, patient presented with progressive



Figure 1: (a) Original presentation to the clinic demonstrating fibrous growth on buccal mucosa. (b) Healed lesion after surgical excision. (c) Recurrence of growth after 2 months

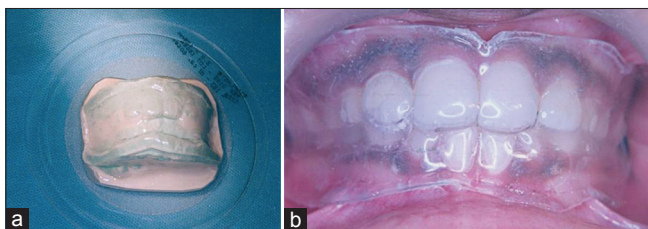


Figure 2: (a) Soft mouth guard fabricated with soft polyvinyl sheet in vacuum formed pressure molding device after occluding upper and lower models. (b) The soft mouth guard in position

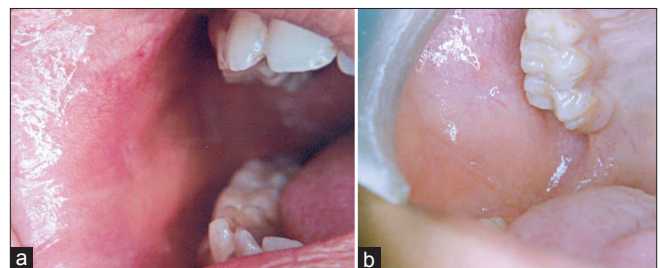


Figure 3: (a) Healed lesion after 2 months. (b) Presentation after 6 months of discontinuation of appliance



Figure 4: Case 2 (a) Intra-oral presentation of the lesion on the lower lip. (b) Appliance in place. (c) Presentation after healing of the lesion

regression of the lesion. He was instructed to continue to wear the appliance for 4 more weeks. After 4 weeks, the lesion had completely regressed so the appliance was discontinued and patient was kept under review [Figure 4c].

Discussion

Biting of oral mucosa is an oral habit that is prevalent in 750 out of every one million individuals^[9] with females affected more compared to males. The largest study of 23,785 patients, attending a Mexican dental school clinic, found cheek-biting lesions to be fifth most common oral mucosal finding with a prevalence of 21.7 cases per 1,000 patients.^[10] In the Third National Health and Nutrition Examination Survey (NHANES III), when 10,030 non-institutionalized children aged 2-17 years were evaluated, the point prevalence for cheek and lip biting was found to be 1.89%.^[11] Repeated biting leads to a chronically traumatized area, which is sometimes thickened, scarred and paler than the surrounding mucosa or may present as white frayed to macerated surfaces that may or may not be tender and sometimes present as edema, purpura and erosions. Wide spectrum of oral conditions such as genetic mucosal diseases white sponge nevus, chronic allergic contact stomatitis, and smokeless tobacco lesions etc., may mimic the biting lesions.^[1] When formulating a differential diagnosis, it is important to remember that mucosal areas that approximate the plane of occlusion presenting with pathologic alteration like irregular surfaces with white tags of desquamated epithelium could be due to traumatic injury. Such a condition is usually innocuous and the lesions are not precancerous. A wide spectrum of habitual biting behavior exists and numerous treatment methods have been described and the most important consideration in managing self injurious behavior is to tailor the treatment to the severity of the condition. Individualized approach is needed for each child in the management of such habits. The most effective treatment is the one that addresses the cause of such behavior. In case I, where habit was not targeted initially leads to persistence of biting, which caused recurrence of the lesion even after complete excision of the fibrous growth. Usually patients who have self injurious behavior are unaware of their habit and will not aid in the diagnosis. An important aspect of such a lesion in children is that this may be the initial presentation of some serious underlying medical/psychological problems. Counseling, biofeedback, relaxation techniques, and hypnosis or psychiatric treatment have been suggested along with the dental management of the effects of habit.

A variety of dental appliances have been reported in literature for controlling biting of oral mucosa. Although, a dental appliance does not resolve the cause of biting of oral mucosa, it is an effective means of controlling this self-mutilation. Use of various types of removable shields specifically designed using silicone soft relining material which protect tongue;^[3,4]

lip bumpers soldered on orthodontic bands to prevent lip biting;^[12] soft mouth guards,^[13] occlusal coverage/splint,^[14] oral screen in clear acrylic extending from maxillary vestibule to mandibular vestibule, a removable appliance with two lateral acrylic shields joined by a round stainless steel wire^[6] to prevent injury to buccal vestibule have been put forth by different authors. When planning prosthesis, it is important to choose the design that is appropriate for the type and severity of injury, patient's age, general health and patient's ability to co-operate with the treatment plan. In the two above mentioned case, intraoral prosthesis in the form of soft splint was planned using polyvinyl sheet in pressure molded device. Keeping in mind the patient's age and the fact that patient used to bite on the cheek while studying, soft splint was designed so that it could provide total coverage and prevent the trauma. The patient was comfortable with the appliance which was well accepted. In the second case, the parents and the child were aware of the habit, so simple habit breaking appliance was good enough to heal the existing lesion and to prevent further trauma by breaking the vicious cycle of biting on the soft tissue. In the second case, the presentation was of a soft edematous lesion on the lower lip after trauma, but the lesion persisted due to the chronic habit of biting on the lip, thus a shield of soft splint acting as habit breaking appliance was good enough to initiate healing and regression of the lesion.

Conclusion

Before treating any oral mucosal lesion, it is advisable to rule out the underlying cause of the lesion such as persistent habit as simply concentrating on treatment such as surgical excision may lead to recurrence of the lesion. The prosthesis described in the two cases presents a conservative treatment approach in managing habitual biting of oral mucosa. The appliance fabricated from soft polyvinyl sheet is a simple, easy to wear prostheses, which can be designed or modified tailoring to the need of the patient.

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