



## Complications of an unrecognized cheek biting habit following a dental visit

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### Abstract

*Cheek biting is a chronic, usually innocuous, self-inflicted injury that is occasionally seen in children. This case report describes the characteristic features of this entity in an 8 year-old girl, including an unfortunate complication following an inferior alveolar mandibular block for restorative dental care. (Pediatr Dent 22:511-512, 2000)*

Chronic biting or chewing lesions of the oral mucosa, also known as morsicatio mucosae oris, are examples of factitial injuries that are observed on the buccal and labial mucosa and lateral tongue. Frequently both the child and parent are aware of this condition, but it is usually not a cause of concern because it is asymptomatic and is less objectionable than non-nutritive sucking habits or nail biting behaviors. A prominent illustration of cheek biting in a school age child is described, in addition to a traumatic complication following restorative dental care. The distinguishing features of cheek biting are compared with other diffuse white plaques that may occur in this age group and suggestions for managing this oral habit are discussed briefly.

### Case history

Following the placement of a stainless steel crown on the mandibular second molar, a shy, 8 year-old girl returned the next day for an emergency appointment. The child presented with 2 diffuse ulcerations with irregular margins, involving the right lower lip (Fig 1a) and buccal mucosa (Fig 1b), located along the occlusal plane. The ulcerated mucosa was edematous and covered by a creamy white, fibrinous exudate, which was tender to palpation. The lesions were first noticed about 2 hours after the restorative treatment when the lip was no longer anesthetized. Except for mild submandibular lymphadenopathy, no other constitutional signs or symptoms were detected. On the contralateral side, a prominent linea alba was observed along with diffuse white patches on the labial and buccal mucosa (Fig 2). These rough, adherent patches had an irregular, shredded surface and were adjacent to the teeth. Neither the child nor mother was aware of these mucosal changes; however, the parent was aware of perioral grimacing when she was doing her homework.

### Clinical impression

Based on the clinical appearance and temporal relationship with the restorative care appointment, these mucosal changes are



Fig 1a. Macerated ulcer of the lower lip as a postoperative complication following the administration of a local anesthetic.



Fig 1b. Macerated ulcer of the lower lip and buccal mucosa.

consistent with masticatory trauma. The local anesthetic complication could have been predicted based on the concurrent cheek and lip chewing habit. Although this condition is not a rare finding, there is minimal information regarding the occurrence of this condition in the young pediatric population. Prevalence rates in adolescents and young adults range from 1 to 7% with increased numbers diagnosed in adolescents attending reform school (1-3). Contributing factors to this self-injurious habit include emotional, physical and psychological stressors. While most of these lesions in young individuals appear to be transient in nature, there is a subset of children in

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which the habit remains well established. Nibbling the mucosa with the incisal or occlusal surfaces of the teeth is the primary cause for these changes; however, identical lesions can be induced with the fingernails, orthodontic appliances and athletic mouthpieces. Desiccating mouthrinses, thick petroleum-based lip coating agents and irritating toothpastes may aggravate the problem because the mucosal lining may feel irregular, thick and swollen.

Biting lesions present as translucent to opaque white, frayed to macerated tissues that are usually nontender. Edema, purpura and erosions are observed in aggressive habits and may be associated with mild irritation. Most biting lesions occur on the cheeks with bilateral involvement, but the lips and lateral tongue may be affected either alone or in combination with the buccal mucosa. All involved sites can be contacted by the masticatory surfaces of the teeth, which is an important clinical feature when distinguishing this lesion from other white entities. Although some children are unaware of their habit, usually family and friends notice the perioral contortions when the intraoral biting occurs.

### Treatment and prognosis

Most cases of cheek biting habits do not require any specific management because it is often a temporary response to stress. However, children with chronic lesions and widespread involvement may benefit from an occlusal coverage, removable appliance. Oral lubricants, such as OralBalance gel (Laclede, Inc, Rancho Dominguez, CA) may temporarily smooth the surface so that the mucosal roughness does not perpetuate the habit. As always, if an underlying psychological disorder is suspected, especially anxiety, depression or more serious self-destructive behaviors, referral to a mental health professional is indicated. Chronic cheek biting is an innocuous condition and does not increase the risk for the development of oral cancer in the future.

### Differential diagnosis

Diffuse, adherent, white plaques that may mimic cheek biting lesions in children include genetic mucosal diseases, chronic allergic contact stomatitis, and smokeless tobacco lesions. White sponge nevus is an autosomal dominant disorder that affects the oral mucosa and appears in early childhood. Symmetrical, white, thickened plaques with a wrinkled or corrugated surface characterize this benign condition. The primary site of involvement is the buccal mucosa but a widespread mucosal distribution is typical. Although this asymptomatic mucosal condition may resemble prominent cheek biting, the development of lesions at sites away from the teeth and a familial history are important distinguishing features. Besides white sponge nevus, other inherited disorders that present with rough white plaques of the oral mucosa in a young child include hereditary benign intraepithelial dyskeratosis and pachyonychia congenita (4).

The chronic form of allergic contact stomatitis may appear as diffuse, white, rough plaques that have a shaggy, thickened surface. Sensitivity to flavoring agents, especially cinnamon oil, found in candy, gum, toothpastes and mouthrinses are a common cause for this condition (5). Although the buccal mucosa and lateral border of the tongue are the most frequently affected sites, distinguishing features of this allergic reaction include focal erythema along with a burning sensation. Most young children do not like spicy flavoring that



Fig 2. Diffuse white plaques with a shredded surface on the buccal mucosa, consistent with chronic cheek biting.

burns the mucosa and, therefore, this mucosal disease is usually found in adolescents and adults.

Smokeless tobacco lesions are found in less than 1% of school-age children in the United States (6). It is characterized by a diffuse, filmy white, wrinkled patch, which is usually found in the mandibular vestibule. Gingival recession, staining of the teeth and the location of the lesion help to differentiate the smokeless tobacco lesion from cheek biting.

### Pediatric significance

Although this factitial injury tends to wax and wane, periods of stress such as school examinations, competition in sports and even the anticipation of a dental appointment may aggravate this habit. In the present case the child was unaware of her cheek and lip biting habit. This resulted in maceration of the anesthetized tissues, producing diffuse and painful oral ulcerations. Although it is not always possible to prevent this unfortunate complication from a local anesthetic in a very young child, it could have been predicted in this dental patient. Management of oral discomfort of this complication should include systemic analgesics and not topical coating agents or local anesthetics, which could exacerbate the problem, resulting in more aggressive chewing and tissue damage.

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