Painful tongue lesions associated with a food allergy

Catherine M. Flaitz, DDS, MS Carmen Chavarria, DDS

Dr. Flaitz is professor, Oral and Maxillofacial Pathology and Pediatric Dentistry, and Dr. Chavarria is assistant professor, Department of Pediatric Dentistry and Private Pediatric Dentistry Practice, Houston, Texas. Correspond with Dr. Flaitz at Catherine.M.Flaitz@uth.tmc.edu

Abstract

Transient lingual papillitis is an inflammatory disease of the tongue that can be very symptomatic in children. This case report describes the clinical features of transient lingual papillitis in a 7-year-old boy that was associated with a food allergy. The potential causes of this condition are reviewed and a differential diagnosis is provided. (Pediatr Dent 23:506-507, 2001)

Painful and recurrent lesions of the oral mucosa are especially problematic diseases in children because they interfere with normal everyday activities. Transient lingual papillitis (TLP) is an example of such a lesion that has not been well described in children. In contrast to common ulcerative lesions, this reactive disease may be very symptomatic, and yet, difficult to detect because of its small size and minimal surface changes[1]. In addition, the specific cause for this tongue lesion is not known but a wide range of triggering factors has been implicated. This case report describes the clinical features of a transient lingual papillitis in a school-age child that was triggered by an undiagnosed food allergy.

Case history

An overweight 7-year-old Hispanic boy was referred for evaluation of a painful tongue that was first noticed 9 months ago. The symptoms coincided with the placement of a lower lingual holding arch but did not resolve once the space maintainer was removed. The tongue was only periodically tender but seemed to be aggravated by certain foods, in particular, fish and tomato sauce. The sores began as a single blister that quickly spread along the side of the tongue. Occasionally, both sides of the tongue were affected. When the lesions on the tongue developed, the child had difficulty speaking and eating and was unable to attend school because of the pain. The tongue was tender for about 2 days and then it subsided. The mother was aware that her child had benign migratory glossitis (BMG), which had been diagnosed at the age of 4, but it had never been symptomatic. Significant medical history included attention deficit disorder, which was being managed with methylphenidate, and bronchitis, for which he occasionally used albuterol.

Clinical examination revealed a linear aggregate of painful white papules on the right lateral border of the tongue. The area was mildly edematous and erythematous with scalloping on the affected lateral border. Except for a generalized white coating of the dorsal tongue, no other abnormalities were identified. The mother was informed that the child had a condition that was most consistent with transient lingual papillitis. It was explained that the exact cause of this lesion was unknown, but it might be associated with a hypersensitivity reaction or benign migratory glossitis. Because certain foods seemed to trigger the tongue lesions, the child was referred to a pediatrician for further evaluation. For palliative management, a 1:1 mixture of diphenhydramine and aluminum hydroxide/magnesium hydroxide suspension was prescribed. In addition, the child was scheduled for a follow-up appointment in 6 weeks.

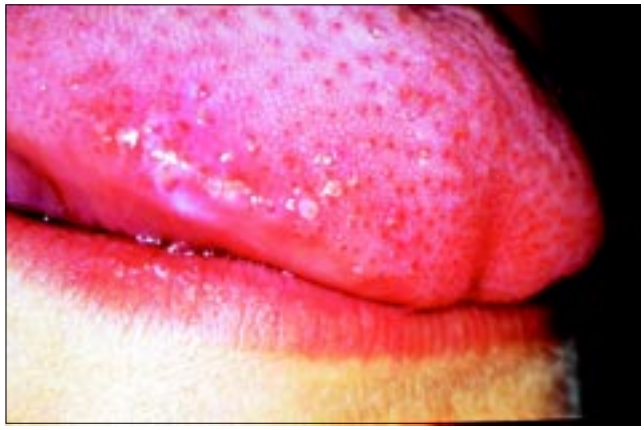

Fig 1. Transient lingual papillitis of the lateral tongue

During that period, the child was seen in the emergency room for generalized urticaria, wheezing, and a swollen, painful tongue. Intramuscular epinephrine and diphenhydramine were administered to the child for the acute management of the allergic reaction. The offending allergen was discovered to be fish, and the mother was advised to eliminate all types of fish from the child's diet to prevent a recurrence. At the recall visit, focal, red, annular lesions of the dorsal tongue, consistent with BMG, were observed. However, since the elimination of fish from the child's diet, the child had not experienced swelling or tenderness of the tongue.

Discussion

Transient lingual papillitis is a localized form of glossitis that is a relatively common, symptomatic condition. Infrequently described in the literature, it has been referred to as papillitis , hypertrophy of the fungiform papillae and eruptive familial lingual papillitis.[1,2] The cause of this tongue lesion is uncertain but it has been associated with local irritation, stress, gastrointestinal upset, hormonal fluctuation, upper respiratory infection, viral infections, and sensitivity to foods, beverages, and oral hygiene products. Fractured teeth, oral appliances, and

Received October 23, 2001 Accepted October 25, 2001

dental restorations, including stainless steel crowns, may trigger these lesions.[3] Although typically described in adults, this entity affects a wide age range and has been diagnosed as early as 3 months of age.[2] The prevalence of this condition is not known, but it was detected in <1% of preschool children in a recent study that documented a variety of tongue conditions in this age group.[4] Clinically, these lesions are of acute onset and are present as white or red papules that have a pseudopustular appearance. They vary in number from one isolated papule – which may be difficult to detect – to multiple lesions with a clustered or diffuse distribution. Typically, these lesions are found on the anterior tip or lateral border of the tongue, but occasionally a more generalized papillitis is observed on the dorsal surface. A characteristic feature of this condition is that the pain is disproportionate to the size of the lesion. At times, the symptoms are not as sharp in quality and are described as a burning, tingling, or itchy sensation. As suddenly as these lesions develop, they tend to disappear with the majority resolving in 24 to 48 hours.[1] However, in young children in whom a viral etiology is suspected, the symptoms may last up to 7 days.[2] Concurrent tongue conditions that may be present with transient lingual papillitis include crenated tongue and BMG in children. A candidal or herpetic infection has not been identified with these tongue lesions.[2]

Of interest in this case is that the triggering agent for TLP was an undiagnosed food allergy to fish. Food-allergic reactions may affect up to 6% of children of preschool- and school-aged children and is seen in up to 5% of children with asthma.[5,6] Milk, egg, peanut, tree nut, soy, wheat, fish, and shellfish are the most common foods to cause IgE-mediated allergic reactions in children.[7,8] Reactions to this type of food allergies include atopic dermatitis, urticaria, angioedema, and gastrointestinal problems, including oral allergy syndrome, anaphylaxis and, rarely, rhinitis and asthma.[7,8,9] In this child, the mild tongue swelling following the periodic ingestion of fish most likely contributed to the development of the painful papillitis along the lateral border. However, it was not until the child developed concurrent respiratory problems and urticaria that the association with a fish hypersensitivity reaction was made.

Since the exact cause for transient lingual papillitis is variable and elusive, management of this condition is usually palliative.[1] Topical anesthetics and coating agents are recommended for pain relief. Occasionally, topical steroids may be beneficial if they are applied at the onset of symptoms. When recurrences are frequent, it is important to attempt to identify the triggering agent, which may be chronic irritation or an allergen. Referral to a pediatrician is important when concurrent cutaneous, gastrointestinal, and respiratory symptoms are associated with a tender, swollen tongue. In general, a biopsy of a lesion is not necessary, and microbial cultures are not recommended.

Differential diagnosis

Painful, recurrent conditions of the tongue in children that may mimic transient lingual papillitis include herpetiform aphthous ulcers and recurrent herpes simplex infection. Similar to transient lingual papillitis, recurrent herpetic infections and aphthous ulcers are of sudden onset and may be triggered by trauma, stress, illness, and hormonal fluctuations. However, herpetic ulcers appear as vesicles that rupture, forming a coalescing, irregular to curvilinear ulcer that heals within 5 to 7 days. Typically, these viral-induced lesions have a predilection for the periosteum-bound mucosal sites and occur infrequently on the dorsal tongue. Although aphthous ulcers are common in children, the herpetiform variant is unusual for this age group. This condition presents as multiple punctate ulcers with a diffusely, erythematous mucosal background. These lesions have a predilection for the nonkeratinized mucosa, and therefore would favor the ventral tongue surface. This painful condition has a multifocal distribution, erupts into showers of lesions, and heals within 3 to 6 weeks. Of importance, the presence of frank ulcerations is most helpful in distinguishing these symptomatic and recurrent diseases from transient lingual papillitis.

Pediatric significance

Transient lingual papillitis is a tender to painful condition of the tongue that is frequently difficult to diagnose due to the subtle mucosal changes. Because these lesions may be challenging to detect, it is important not to dismiss the child as being a malingerer or an attention seeker. When these lesions recur frequently, it is necessary to determine if local or systemic causes are triggering the onset of this condition. Furthermore, it is important to assess if TLP is a consequence of recent orthodontic or restorative treatment or if it is occurring as a secondary lesion, in response to a generalized swelling of the tongue.

References

1. Whitaker SB, Krupa JJ, Singh BB: Transient lingual papillitis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 82:441-5, 1996.
2. Lacour J-P, Perrin C: Eruptive familial lingual papillitis: a new entity? *Pediatr Dermatol* 14:13-16, 1997.
3. Flaitz CM: Oral and maxillofacial pathology case of the month. Fungiform papilla. *Tex Dent J* 116:47,88, 1999.
4. McCandless G, Flaitz C, Seybold S, Hicks J: Prevalence of dorsal tongue conditions in preschool children: A clinical study. *Pediatr Dent* 22:248, 2000.
5. Bock SA: Prospective appraisal of complaints of adverse reactions to foods in children during the first 3 years of life. *Pediatrics* 79:683-8, 1987.
6. Sicherer SH, Sampson HA: The role of food allergy in childhood asthma. *Immunol Allergy Clin North Am* 18:49-60, 1998.
7. Nowak-Wegrzyn A, Conover-Walker MK, Wood RA: Food-allergic reactions in schools and preschools. *Arch Pediatr Adolesc Med* 155:790-95, 2001.
8. Rance F, Kanny G, Dutau G, Moneret-Vautrin D-A: Food hypersensitivity in children: clinical aspects and distribution of allergens. *Pediatr Allergy Immunol* 10:33-8, 1999.
9. Sicherer SH: Food allergy: When and how to perform oral food challenges. *Pediatr Allergy Immunol* 10:226-34, 1999.