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Case Report

Allergic contact stomatitis masquerading as apthous stomatitis: a case report

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ABSTRACT

Allergic contact stomatitis is a rare disorder, which most clinicians are not familiar with. These lesions may be indistinguishable clinically and histopathologically from various other lesions. We present a case of a young female who visited us with a complaint of painful ulcers over her tongue for the past 5 days. After a thorough history and clinical examination, a provisional diagnosis of apthous stomatitis was made and treated accordingly but with no relief. On carefully eliciting the history again, the patient confirmed using a new herbal toothpaste. The patient was advised topical corticosteriods and to avoid the new toothpaste. All the lesions healed completely in a week.

Keywords: Allergic contact stomatitis, Apthous stomatitis, Topical corticosteroids

INTRODUCTION

Contact allergy is the body's readiness to develop an inflammatory reaction against a specific substance of low molecular weight (hapten) at contact.[1] Contact dermatitis is the most frequent form of immunotoxicity among humans.[2] Other diseases caused by contact allergy include allergic contact stomatitis, allergic contact conjunctivitis, allergic vaginitis, or systemic reactions.[1] Allergic contact stomatitis accounts for only a small proportion of oral disorders and is therefore little known among dentists.

Allergic contact stomatitis may be caused by a wide range of substances, including the aromatic compounds found in chewing gum and toothpaste, the most common being carvone, spearmint essential oil, menthol essential oil, cinnamaldehyde and cinnamon essential oil. These substances are also used in ice cream, soft drinks, candies and mouthwash. Latex (gloves, orthodontic elastics), the acrylates used in making dentures and several metals including nickel (orthodontic brackets, nickel-titanium arch wires, extra oral headgear appliance), chromium and cobalt (orthodontic brackets and wires), palladium, gold and mercury used in dental amalgam may also cause contact stomatitis.[3,4] Hereby presenting a case of allergic contact stomatitis after using a herbal toothpaste by a young female patient.

CASE REPORT

A 24 year old female patient reported to our department with the complaint of painful ulcers over her tongue for the past 5 days. Patient was relatively asymptomatic 5 days back when she noticed ulcers over her tongue. The ulcers were preceded by vesicles which eventually ruptured to form painful ulcers. Pain was severe, constant, burning and aggravated on taking food. She also complained of increased salivation, altered taste, difficulty in speech and brushing. She visited a dentist on the 4th day and was advised mucopain gel and Vit B complex capsules. There was no relief. There were no

systemic manifestations and no history of similar episodes in the past. There was no significant personal and family history.

On examination, erythema was present over the ventral, lateral surface and tip of the tongue. Numerous minute shallow ulcers less than 1 cm size seen over the tip, right and left borders, dorsal and ventral surface of the tongue, floor of the mouth, maxillary and mandibular labial mucosae and mucobuccal fold region (Figure 1-5). The ulcers were regular in outline, floor was covered by a yellowish white slough and surrounded by an erythematous halo. There was no discharge associated with the ulcers. On palpation, the ulcers were extremely tender with no discharge.

Figure 1: Ventral surface of tongue.

Figure 2: Lateral border of tongue.

Figure 3: Lateral border of tongue.

Figure 4: Maxillary labial mucosa and mucobuccal fold.

Figure 5: Mandibular labial mucosa and mucobuccal fold.

A provisional diagnosis of Apthous stomatitis was made with anaemic stomatitis, stomatitis secondary to nutritional deficiencies and gastrointestinal disorders, contact allergic stomatitis and oral allergy syndrome as the differential diagnosis.

The patient was advised amlexanox gel (5% Amlexanox oral paste, anti-inflammatory) - a dab of paste 4 times daily, anabel gel (Lignocaine analgesic, Choline salicylate anti-inflammatory, benzalkonium chloride antiseptic)- one to two drops of gel to cover the ulcers 3-4 times daily, Cap Cynomycin (minocycline 50 mg antibiotic) – dissolve the constituents in water and gargle 2-4 times a day. Patient was also advised to get a complete blood picture and serum iron profile done and recalled after 7 days. No significant improvement was seen after 7 days and all the reports were within the normal range. Fresh ulcerations were seen over the hard palate, upper and lower labial mucosae and mucobuccal fold region (Figures 6-12).

Patient was again thoroughly enquired about the habits and she revealed that she had changed her toothpaste to a new herbal one few weeks back. A working diagnosis of contact allergic stomatitis was made. Patient was advised not to use her new toothpaste. Anabel gel (lignocaine analgesic, choline salicylate anti-inflammatory,

benzalkonium chloride antiseptic)- one to two drops of gel to cover the ulcers 3-4 times daily, Kenacort gel (Triamcinolone acetonide 0.1%) - 3-4 times a day for 7 days. Allergy test was advised and was recalled after 7 days.

Complete healing was seen after 7 days (Figures 13-17). The patient did not get her allergy testing done and later lost follow up.

Figure 6: Ventral surface of tongue.

Figure 7: Lateral border of tongue on right side.

Figure 8: Lateral border of tongue on left side.

Figure 9. Maxillary labial mucosa and mucobuccal fold.

Figure 10: Mandibular labial mucosa and mucobuccal fold.

Figure 11: Hard palate on left side.

Figure 12: Hard palate on right side.

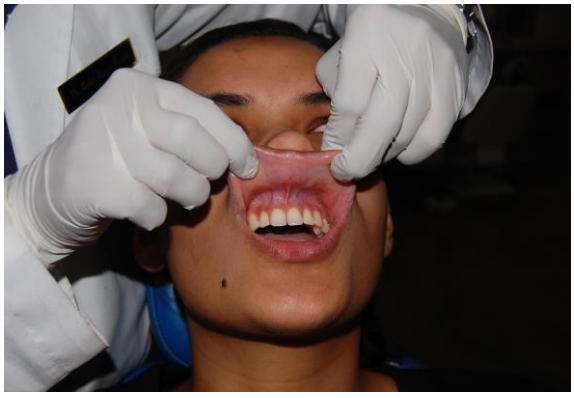

Figure 13: Maxillary labial mucosa and mucobuccal fold.

Figure 14: Mandibular labial mucosa and mucobuccal fold.

Figure 15: Hard palate.

Figure 16: Ventral surface of tongue.

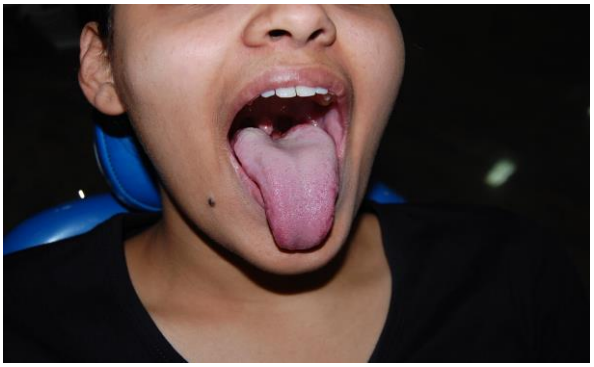

Figure 17: Dorsal surface of tongue.

DISCUSSION

Allergic contact stomatitis is a hypersensitivity reaction (type IV) that affects only individuals who have previously been sensitized to the allergen. Contact stomatitis does not become evident until several hours or even days after exposure to the antigen; hence the term "delayed hypersensitivity reaction". The allergic process develops in 2 phases: the induction phase, which sensitizes the immune system to the allergen, and the effector phase, during which the immune response is triggered.[2]

Allergens infiltrate the mucosal epithelium and bind to epithelial proteins. In the induction phase, on first contact with the antigen, they are phagocytized by specialized cells (macrophages) and are then recognized by the helper T cells, which subsequently enter the stimulation and division phase, leading in turn to the production of memory and cytotoxic T lymphocytes. The memory T lymphocytes remain in the body for life, a more aggressive, more rapid immune response will be triggered whenever the antigen is encountered again. The effector phase of the process begins when the cytotoxic T lymphocytes (CD8+ cells) produced in the first phase bind to the epithelial cells and cause the death of cells that present the complexes.[5]

Oral mucosa is less commonly prone to contact allergic reactions compared to skin, due to various biologic and physiologic differences. Saliva acts as a solvent that solubilizes, dilutes, digests potential allergens and washes them there by limiting the duration and number of molecules that contact oral mucosa. Limited keratinization makes hapten binding more difficult and the limited number of antigen presenting cells in the oral mucosa decreases the chance of antigen recognition. Irritants and allergens that do contact the oral mucosa are removed more quickly because of higher vascularity and faster epithelial renewal rates than in keratinized skin.[6]

The clinical appearance of allergic contact stomatitis depends on the exposure time, the concentration of the causal agent and the type of exposure. These reactions can be either acute or chronic. Acute lesions develop soon after antigenic exposure. Patients with acute lesions may present with burning or redness. Vesicles are rarely seen and if present rupture in a short while after formation. Some patients may experience edema, itching or stinging sensation.[6]

Chronic lesions typically present as areas of erythema, edema, desquamation and occasionally ulceration. In addition, allergic contact stomatitis can also present as erosions with rough surface and irregular borders, often surrounded by a red halo. These lesions may be indistinguishable from aphthous ulcers, traumatic ulcers, burns from hot foods, radiation and caustic chemicals.[6]

The oral delayed-type hypersensitivity reaction can cause different other oral manifestations like medicamentous allergic stomatitis, fixed drug reaction (eruptio fixa) and stomatitis (cheilitis) venenata.[7]

Identification and elimination of the allergen that initiated the reaction is essential to treat the condition, as well as

to prevent recurrences. When suspecting allergy, thorough history and clinical examination should be performed. Skin testing can be done by different methods, depending on the allergy type suspected. Prick method (prick test) and scratching of the skin (scratch test) will prove hypersensitivity, whereas testing of contact with the skin (patch or epicutaneous test) will prove type IV or delayed-type allergy reaction. Patch test is the generally-accepted method of choice and the "gold standard".[8] Patch (epicutaneous) test is used to determine and identify type IV allergic reaction and contact hypersensitivity to different chemicals. It is performed by applying allergic preparations onto patches, which are stuck to the skin of the back. The result of this test is read twice, at 48 h and 72 h. It is important to note that the patient should not be taking anti-allergic drugs and should be informed of that during examination.[7]

The treatment of allergic contact stomatitis involves eliminating the allergenic agent. Complete disappearance of the lesions can take up to 2 weeks. Antihistamines, topical anesthetics and topical corticosteroids are the commonly used pharmacological agents. Use of antihistamine suspensions in a swish and swallow method provide the advantage of both local and systemic action.[6].

CONCLUSION

The clinical presentation and histopathological features of allergic contact stomatitis are not very specific and can be easily confused with other oral mucosal lesions. Hence careful history taking is plays a crucial role in the diagnosis. Health practitioners should consider contact allergic stomatitis in the differential diagnosis of nonspecific oral lesions so as to provide proper treatment and avoid recurrences.

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