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Case Report

Allergic contact stomatitis associated with traditional medicine in an elderly female patient

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Abstract Allergic contact stomatitis is caused by T cell-mediated delayed-type hypersensitivity immune reaction to an allergen in direct contact with the oral mucosa. This is the first reported case of a patient reacting to the medicinal plants; *Angelica dahurica* and *Ligusticum chuanxiong*. An elderly female suffered allergic contact stomatitis associated with traditional medicine.

Key words
Allergy, contact stomatitis, oral ulceration, traditional medicine, elderly.

Introduction

Hypersensitivity reactions to substances taken systemically or applied topically not only affect the skin but may also affect the oral mucosa. Oral hypersensitivity reactions are relatively infrequent when compared with cutaneous hypersensitivity reactions.[1] Clinically, oral hypersensitivity reactions may present with diverse manifestations like erythema, edema, vesicle, blister, erosion, or ulceration of the oral mucosa accompanied by pain, burning sensation, or itchiness. Thus, the differential diagnosis from other vesiculobullous, ulcerative, or desquamative mucosal lesions, including herpetic stomatitis, oral candidiasis, oral lichen planus, lupus erythematosus, aphthous stomatitis, pemphigus, and pemphigoid is essential in the diagnosis and treatment planning.[1-4]

Allergic contact stomatitis is an immunoinflammatory disorder caused by an antigen-specific T cell-mediated delayed-type hypersensitivity immune reaction to an allergen in direct contact with the oral mucosa.[1,2] Etiologic factors or allergens may consist of cosmetics, dentifrices, chewing gum, mouthwashes, dental materials, metals, and topical medications.[1-3] The lesions can be localized or diffusely noticeable on the oral mucosa and usually appear 24-72 hours after contact with allergen.[4] Diagnosing allergic contact stomatitis relies on a detailed history and physical examination.[1,2] A biopsy may be performed to rule out other diagnoses. Patch testing is often used to assess patients suspected of oral hypersensitivity reactions to dental materials, flavoring agents, and preservatives[1]. Once diagnosed, the allergen should be promptly eradicated, followed by appropriate management, which finally leads to the lesions' complete resolution.[4,5]

Traditional medicines are in widespread use because they are easy to obtain as over-the-counter drugs. They are and considered positively natural and mostly harmless.[6,7] This is the first reported case of a patient reacting to the medicinal plants; *Angelica dahurica* and *Ligusticum chuanxiong*. An elderly female with allergic contact stomatitis due to traditional medicine is described here.

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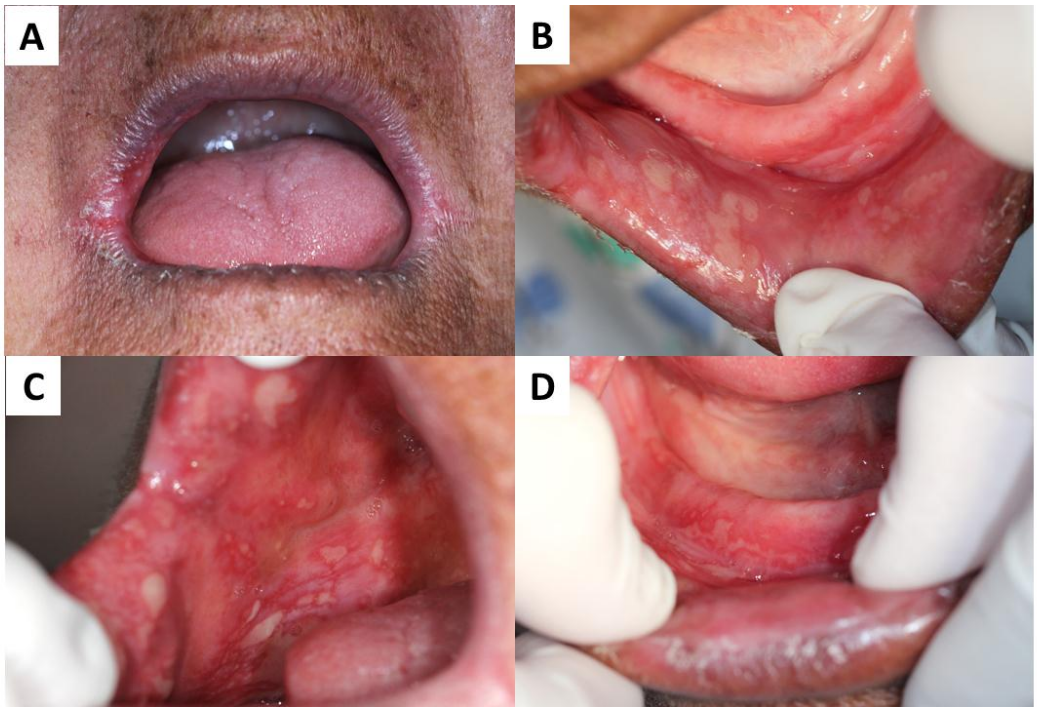

Figure 1 Painful oral ulcerations on the right oral commissure, the lower labial mucosa, buccal mucosa, and mandibular edentulous area.

Case report

A 66-year-old female patient was referred for diagnosis and treatment with five-day-old multiple painful oral ulcerations in the oral cavity. History revealed that the patient developed the lesions 48 hours after using topical traditional herbal medicine containing *Angelica dahurica* and *Ligusticum chuanxiong* roots. The patient had no history of smoking, alcohol, or any record of allergy. The patient's medical history revealed that she was suffering from hypertension and received amlodipine 5 mg once daily. An extra-oral examination of the patient revealed cheilitis on the right oral commissure **(Figure 1A)**. An intraoral examination revealed edentulous ridges with multiple painful oral ulcers on the right side of the lower labial mucosa **(Figure 1B)**, buccal mucosa **(Figure 1C)**, and on the right mandibular edentulous area **(Figure 1D)**. The lesions were associated with severe pain and a burning sensation. She did not have cutaneous, ocular, nasal, or genital lesions.

The author's clinical diagnosis was that the patient was suffering from allergic contact stomatitis associated with the medicinal plants in topical traditional medicine. The patient was advised to avoid using this medicine and was treated with benzydamine hydrochloride mouthwash and 0.1% fluocinolone acetonide gel to be applied three times daily for one week. The patient's signs and symptoms were ultimately resolved after one week **(Figure 2)**. Follow-up 12 months later showed normal oral mucosa.

Discussion

The clinical manifestation of allergic contact stomatitis varies widely and depends on the nature, potency, concentration of the allergen, and the period of exposure.[1,2] A common oral presentation of allergic contact stomatitis consists of ulceration with a pseudomembrane, in which the lips and commissures are usually involved, as found in this case report. However, allergic contact stomatitis has no specific clinical or histopathological features. The

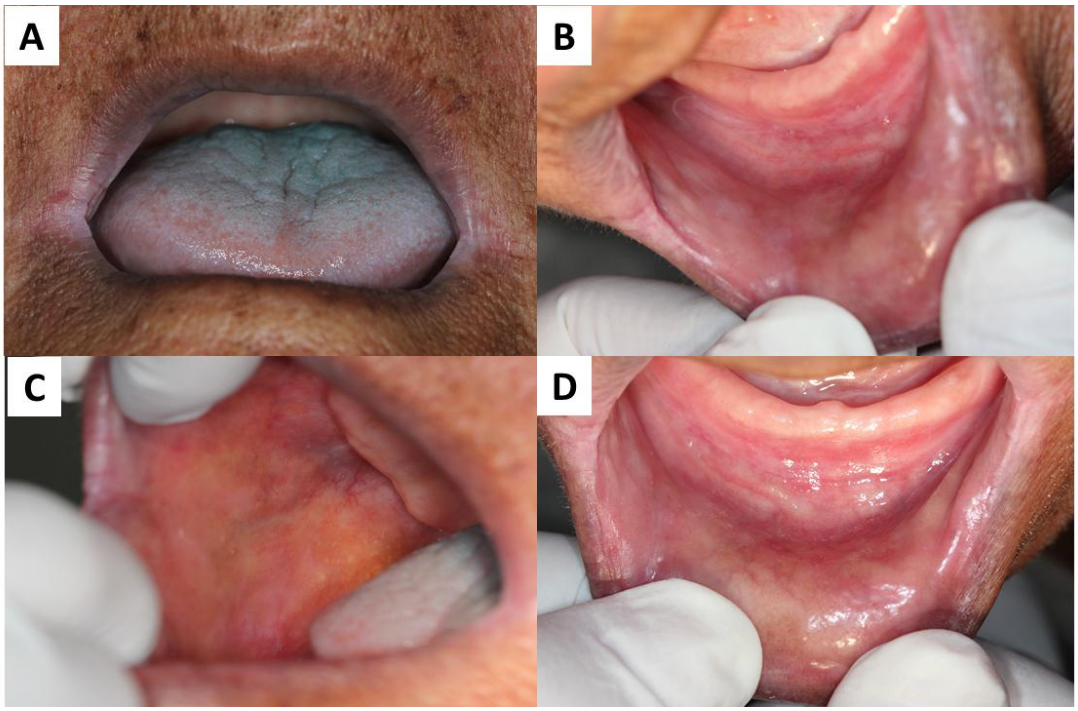

Figure 2 A one-week follow-up was showing the remission of oral lesions.

diagnosis is generally assumed and can be confirmed only by the remission of symptoms after the suspected allergen has been removed,[1,2] in this case, medicinal plants in traditional medicine.

Patch testing is the gold standard for diagnosing allergic contact dermatitis on the skin. The strength of evidence for patch testing in allergic contact stomatitis is less potent than allergic contact dermatitis.[1] Although patch testing is often mandatory to identify the allergen, a positive reaction to a patch test may be only an indication of immunological sensitization. Therefore, the diagnosis of allergic contact stomatitis must be supported by a related history and clinical findings.[1,4] Management of allergic contact stomatitis involves patient education, avoidance, or removal of the implicated allergen and the use of topical or systemic corticosteroids.[1,2]

Angelica dahurica and *Ligusticum chuanxiong* have long been widely used as a traditional Chinese herbal medicine in folk remedies and functional food.[8,9] *Angelica dahurica* has high furanocoumarin compounds in roots and is used for various treatments such as pain reliever, anti-inflammation, laxative, sedative, antifungal cream, as well as treating swollen gingiva and toothaches.[8] *Ligusticum chuanxiong* has chemical components, including alkaloids, phenolic acids, phthalide lactones, and essential oil, which exhibit vasorelaxation and antioxidant anti-inflammation, anti-proliferation, and other activities.[9]

Conclusion

Clinicians should carefully take the precise history of the patients with suspected allergic contact stomatitis, a detailed history of the patient's specific concerns to include onset and time course of oral symptoms. The investigation of everything that goes into the mouth is crucial because food, beverages, prescription medications, non-controlled medications, dental restorations and prostheses, oral hygiene

products, and cosmetics have all been implicated.[1-4] The present case report highlights clinicians' need to be aware of the traditional medicines' potential of causing contact allergen.

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