Erythema multiforme major secondary to a cosmetic facial cream: first case report

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Background. Oral erythema multiforme (EM) major is an acute immune-mediated disorder typically involving the oral mucosa, triggered by a hypersensitivity reaction to an antigen.

Case Summary. A 59-year-old woman presented to an oral medicine clinic with a chief complaint of "mystery disease" of 1 year's duration. The condition was described as repeated episodes of severe, painful, asymmetric oral lesions that responded to systemic steroid therapy. A previous oral biopsy described fibrinoid necrosis, mixed inflammation, and granulation tissue. A regimen of descending-dose prednisone was administered, and 3 weeks later the tissues appeared to be partially healed. Direct immunofluorescence staining of a biopsied oral mucosal lesion was negative. To rule out a drug causation, the patient discontinued hydrochlorothiazide and escitalopram oxalate. However, on steroid tapering, episodic lesions recurred. The patient was placed on combination systemic prednisone and azathioprine. The oral lesions resolved again, but new episodes occurred immediately after tapering. The patient's daily facial cosmetics were evaluated, and she was asked to stop using cosmetics with the active ingredient octocrylene. After eliminating the use of facial cosmetics containing octocrylene, the episodes no longer recurred.

Conclusions. We report a case of cosmetic-induced EM major and suggest that the triggering allergen is octocrylene. (Oral Surg Oral Med Oral Pathol Oral Radiol 2016;121:e10-e15)

Facial cosmetic—induced oral mucosal hypersensitivity reactions and associated allergic reactions such as erythema multiforme (EM), Stevens-Johnson syndrome (SJS), and toxic epidermal necrolysis (TEN) are rare. Cosmetics encompass a broad range of products, including facial makeup; skincare products; perfumes; hair and nail products; shaving gels/creams; and personal hygiene products such as toothpastes, mouthrinses, and deodorants. It is difficult to estimate the adverse reaction frequency for these products. It is assumed that the prevalence of adverse reactions is underestimated at approximately 1%. Cosmetic adverse reactions include irritation reactions, type IV hypersensitivity, TEN, contact urticaria, photosensitization, pigmentary disorders, oral mucosal lesions, hair and nail damage, paronychia, acneiform eruptions, folliculitis, and the exacerbation of dermatologic conditions. Allergic contact dermatitis typically occurs at the site where the allergen was applied and may present as pruritic papules, vesicles, or bullae. More than half of hypersensitivity reactions to cosmetics occur on the face and periocular region. The lips are the most commonly affected oral site for such cosmetic hypersensitivity reactions, although intraoral reactions to toothpaste and mouthrinses have also been reported.[1-6]

EM major is a relatively rare immune condition that, although usually mild and self-limiting, may result in relatively severe mucosal lesions. EM major is often recurrent and typically presents with multiple ulcerations of the oral mucosal surfaces and, in many instances, prominent involvement of the lips. The progression of the condition first produces erythematous macules followed by multiple papules and vesicles and, later, superficial erosions covered by a yellow pseudomembrane. Oral mucosal lesions occur in more than 70% of EM major cases. The episodic frequency and the severity of EM major are highly variable. Skin lesions may or may not be present. Cutaneous lesions are usually atypical targetlike papules and plaques and are limited to less than 10% of the skin. Although EM has a strong association with HSV, other infections, including mycoplasma pneumoniae and candidiasis, have been noted. EM is associated with infections in more than 70% of cases, and EM may be induced by medications. This condition is rarely seen in patients older than age 50 or younger than age 3.[7-15]

We present a case of facial cosmetic—induced EM major and believe that the inducing chemical within the cosmetic is probably octocrylene. To our knowledge,

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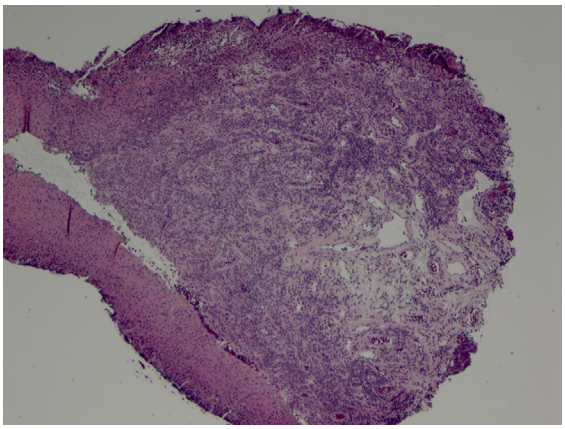

Fig. 1. Low-magnification (×4) hematoxylin-eosin–stained histopathologic examination shows both connective tissue and denuded epithelium, with loss of epithelium with necrosis, and generalized inflammation, as well as granulation tissue.

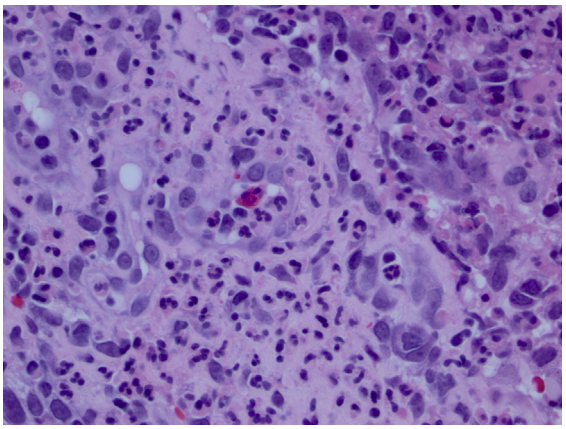

Fig. 2. High-magnification (×40) hematoxylin-eosin–stained histopathologic examination shows a section of granulation tissue exhibiting eosinophils, neutrophils, and lymphocytic infiltrate.

this is the first case report of EM major oral mucosal lesions induced by a facial cosmetic.

CASE REPORT

The patient, a 59-year-old woman, presented to an oral medicine clinician in mid-November 2013 with a chief complaint of "mystery disease." The patient reported that the condition began in October 2011. The patient first experienced swollen glands and a swollen mouth. Tetracycline rinses were prescribed by her physician, but the rinses were ineffective. The condition persisted through November 2011 and then abated. In July 2012, the condition recurred. The patient was referred to an otolaryngologist, who prescribed valacyclovir. The antiviral therapy was not effective. The patient was then placed on topical dexamethasone, which slowly resolved the condition. The condition recurred in April 2013, and the patient again was placed on valacyclovir, which at this time seemed to be helpful. However, the condition recurred in May 2013. Another physician examined the patient; the valacyclovir was discontinued and the lesions were cauterized. A prescription was written for a prednisolone dose pack and the lesions resolved. The next recurrence was in June 2013, the physician prescribed 40 milligrams (mg) of prednisone burst therapy for 1 week, and the lesions resolved within the next week. The patient underwent rheumatologic screening blood studies, which did not reveal abnormalities. The erythrocyte sedimentation rate (ESR) was 2. In August 2013, the patient's physician biopsied a lesion of the buccal mucosa, which indicated necrotic squamous mucosa overlying granulation tissue. The low-magnification (Figure 1, ×4) histopathologic examination indicated the loss of the epithelium (denuded epithelium), granulation tissue, necrosis, and generalized inflammation. The higher-powered magnification (Figure 2, ×40) indicated granulation tissue exhibiting eosinophil and neutrophil cells, along with a lymphocytic infiltrate. The findings were reported as nonspecific, with a tentative diagnosis of an ulcerative variant of lichen planus. The patient was referred to a university oral medicine clinic. At the time, there was no history of cutaneous lesions, although the patient did note some minor skin bumps. The patient reported that the lesions seemed to occur in areas of her mouth that were injured secondary to eating hard foods such as crackers. The university-based oral medicine clinician (E.S.) referred the patient to a private oral medicine clinician (R.S.B.) in November 2013.

The patient's medical history was noted for hereditary hemochromatosis for which she had been treated at regular 3-month intervals with iron overload therapy by her primary care physician, a rheumatologist. The drug history noted hydrochlorothiazide (HCTZ) for moderate hypertension and escitalopram oxalate for treating depression. The patient reported a long-term pack-a-day cigarette habit but had cut down from heavy smoking 6 months before. The patient reported being a social drinker of wine. The patient reported no known drug allergies.

The clinical examination revealed no lymphadenopathy. Oral ulcerative lesions were noted under the tongue, on the midline of the maxillary anterior vestibule, the left buccal mucosa, the central hard palate, and the left posterior hard and soft palate. The lesions were approximately 4-5 cm in diameter and irregularly shaped with central pseudomembrane and an erythematous periphery (Figures 3 and 4). The back of a dental mirror was used to stroke the oral mucosa, and the clinician noted the appearance of minor erythema consistent with mucosal dermatographia. The initial differential diagnostic assessment included benign mucous membrane pemphigoid (BMMP), EM major, and oral lichen planus. The patient was placed on 80 mg of prednisone daily in a descending-dose regimen that lasted approximately 3.5 weeks. The patient was also placed on twice daily 500 mg capsules of valacyclovir for EM suppressive therapy in case of a herpesvirus-associated trigger. At 3 weeks (early December 2013), the oral lesions appeared to be almost completely healed (Figures 5 and 6), with the exception of an erythematous area of the right buccal mucosa. The oral medic performed a biopsy of subdued lesions of the right buccal mucosa