

Ulcerative vulvar irritant contact dermatitis from eutectic mixture of local anesthetics cream in 2 patients



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INTRODUCTION

Vulvar pruritus and irritation are common and can be chronic and disabling, affecting around 10% of women.¹ Rather than seeking medical attention, many choose to treat their symptoms with over-the-counter products, which may alleviate symptoms in the short term but paradoxically worsen the irritation over time. Topical anesthetics, such as eutectic mixture of local anesthetics (EMLA), are short-term solutions that may be used chronically without knowledge of their adverse effects; one study found that 7% of women use topical anesthetics for this purpose.² In this article, we present 2 cases of ulcerations in the groin and on the labia majora following chronic EMLA use to relieve vulvar symptoms.

CASE REPORT

Case 1

A 64-year-old woman presented with intense pruritus and burning of the vulva for 9 months after initial estradiol vaginal insert use. She reported having tried many prescription and over-the-counter medications without improvement, except for EMLA, which she applied many times per day with symptomatic relief. The other irritants had been discontinued. The initial physical examination of the labia majora revealed bilateral ulcers with raised borders and yellow purulent exudate. The medial thighs had bilateral annular punched-out ulcers with surrounding erythema (Fig 1).

A biopsy was obtained, and the histopathology showed spongiosis with prominent plasma cell infiltrate and occasional eosinophils, consistent

Abbreviation used:

EMLA: eutectic mixture of local anesthetics

with dermatitis. Owing to the purulent discharge, swabs were performed for bacterial culture and sensitivity. When the culture revealed an *Escherichia coli* infection, she was prescribed amoxicillin/clavulanic acid 875 mg orally twice daily for 10 days. Viral polymerase chain reaction was negative for herpes.

The management involved discontinuing EMLA use as well as any irritants. We prescribed cyclosporine 5 mg/kg, 250 mg, orally twice daily, beta-methasone valerate 0.1% ointment twice daily, and plain petroleum jelly. Cyclosporine was chosen, as the patient had already failed an 8-week course of prednisone for initially diagnosed pyoderma gangrenosum.

After 4 weeks of cyclosporine treatment, dermatologic improvement and healthy granulation tissue were observed. On the bilateral labia majora, the ovoid ulcerations were observed to be more superficial, reduced in size, and with decreased surrounding erythema. The ulcerations and erythema in the groin folds had nearly healed.

At the last visit (10 weeks since beginning cyclosporine), the dermatitis had improved with almost complete resolution of the ulcers with scarring (Fig 2). Once the ulcerations healed, the cyclosporine was tapered off over 10 weeks. Patch testing was negative to EMLA, lidocaine, and prilocaine. She had no recurrence at 4 months.

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Fig 1. Initial presentation of the dermatitis of the labia majora revealed bilateral ulcers with raised borders and a yellow, purulent exudate. The groin folds exhibited bilateral annular punched-out ulcers with surrounding erythema.



Fig 2. Dermatitis improved with almost complete resolution of the ulcers after 10 weeks of cyclosporine and discontinuation of EMLA cream.

Case 2

A 64-year-old woman presented with chronic pruritus, irritation, and pain of the vulva for 6 months after being prescribed EMLA for nerve pain from an undiagnosed vulvar nodule. She was also applying clobetasol cream and using personal care wipes. Upon initial examination of the labia majora and groin folds, there were large ulcerations, erosions, and well-demarcated erythematous edematous plaques (Fig 3). She was instructed to discontinue EMLA and other topical irritants and prescribed petroleum jelly and cyclosporine 5 mg/kg, 200 mg, orally twice daily. Since the cyclosporine worked well for our first patient, it was chosen as the initial treatment for this patient as well.



Fig 3. Initial examination of the labia majora and groin folds revealed large ulcerations, erosions, and well-demarcated, erythematous, edematous plaques.

After 3 weeks of treatment, both the erosions and erythematous edematous plaques had improved, while the ulcerations had decreased in size. A bacterial swab was obtained, which revealed *Serratia marcescens* and *Proteus mirabilis*; the patient was therefore treated with cefadroxil 500 mg orally twice per day for 10 days.

Cyclosporine was discontinued after 6 weeks due to hypertension and increasing creatinine, and it was replaced with an oral prednisone taper, 40 mg orally daily for 7 days then decreasing by 5 mg every 5 days until finished, and betamethasone valerate 0.1% ointment twice daily. After 4 more weeks, the ulcerations healed completely, and the patient's blood pressure and creatinine had normalized. The initial nodule could then be visualized and subject to biopsy, which revealed an invasive squamous cell carcinoma. Patch testing was negative for everything, including to EMLA, lidocaine, and prilocaine. She had no recurrence at 3 months.

Discussion

EMLA, composed of a 1:1 mixture of lidocaine and prilocaine) is a topical over-the-counter anesthetic that is generally considered safe with only rare and mild side effects.^{3,4} Reports in the literature of cutaneous side effects of EMLA include irritant and allergic contact dermatitis, contact urticaria, bullae, hyperpigmentation, petechiae, and purpura.⁵⁻⁹ Both lidocaine and prilocaine are included in EMLA and have been implicated in irritant and allergic contact dermatitis.¹⁰

Vulvar pruritus, pain, and burning sensation can lead to self-administered management with topical anesthetics. This is concerning, as many may be self-treating vulvar conditions or neoplasms with topical anesthetics rather than seeking professional care. Our 2 cases demonstrate the risk of long-term, excessive topical EMLA cream use on the vulva. Ideally, patients with vulvar presentations should be advised to avoid all contact with irritants such as topical anesthetics, despite the temporary pain relief they provide, until assessed by a physician.

To our knowledge, no other reports of vulvar contact dermatitis from EMLA have been documented in the literature. Our cases demonstrate the importance of considering severe contact dermatitis with or without infection in the differential diagnosis of ulcerations on the vulva.

Conflicts of interest

None disclosed.

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