Improvement in malodor with topical metronidazole gel in Darier disease

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INTRODUCTION

Darier disease, also known as keratosis follicularis, is a chronic and rare autosomal dominantly inherited dermatologic condition with various phenotypic expression. Patients typically present in the second decade of life. Cutaneous manifestations include red-brown to yellow, pruritic, hyperkeratotic papules in a seborrheic, flexural, or hands-only distribution.[1] Most patients with Darier disease have affected fingernails, with linear erythronychia or notching and splitting of nail borders and ridges. An oral, pharyngeal, esophageal, and anogenital mucosal examination may reveal white papules coalescing into plaques resembling a cobblestone pattern.[2-4] No curative therapy exists for Darier disease, and treatment is aimed at improving lesions, providing relief from symptoms, and preventing or managing secondary skin infections. Malodor of lesions has been reported to be present in up to 44% of patients, and although strong malodor may be associated with secondary infection, pruritis and malodor may be present without overt indications of secondary infection.[1,5] We present a case in which a patient with Darier disease had subjective improvement in malodor with topical metronidazole 1% gel.

CASE REPORT

A 49-year-old woman with Darier disease presented to the dermatology clinic for a flare of her cutaneous symptoms. The patient presented with new greasy, scaly, erythematous papules that had appeared on her chest, abdomen, face, arms, and legs; the associated malodor was particularly bothersome to her. She expressed having similar flares in the past. On examination, there was no clinical evidence of secondary infection; however, no cultures or swabs were obtained. The patient had been recently titrated off of her oral acitretin 10 mg daily because of concern about pseudotumor cerebri. She stated that her flare began within several weeks of stopping acitretin. She was currently managed on topical clobetasol propionate 0.05% solution and betamethasone dipropionate 0.05% ointment. The patient was instructed to further withhold oral acitretin, but to continue her topical therapies. Topical metronidazole 1% gel daily was added to her treatment regimen to be applied to affected areas to treat the associated malodor. At 2-month follow-up, the patient reported that the malodor had completely resolved with topical metronidazole 1% gel despite persistence of her skin lesions. However, she did note that if topical metronidazole was not applied, the malodor reoccurred the following day. The treatment was well tolerated and she did not report any adverse effects.

DISCUSSION

Improvement of malodorous wounds can have a significantly positive effect on patient health-related quality of life.[6] Malodor of lesions in Darier disease is a distressing complication for many patients and no standardized therapy currently exists for management. Topical metronidazole in a gel or crushed pill form has been reported to reduce or eliminate odor in wounds, abscesses, and ulcerated tumors, as well as treat cellulitis, improve wound appearance, decrease pain, and halt tissue necrosis.[7,8] In our patient, 2 months of topical 1% metronidazole gel applied daily was effective in improving malodor associated with Darier disease lesions.

Topical metronidazole has been reported in the management of rosacea.[9] Nevertheless, its use in other

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inflammatory skin conditions has not been widely reported. It is thought to be effective for malodor by targeting anaerobes that flourish in areas with a compromised, moist skin barrier. The application of metronidazole eliminates the aromatic volatile acid metabolites produced by these anaerobic microorganisms.[10] In contrast with oral metronidazole therapy, topical metronidazole is associated with fewer adverse effects and equal or greater efficacy.[7,8,10] Oral metronidazole may produce nausea, headache, metallic taste, or a disulfiram-like reaction, whereas topical metronidazole has been reported to cause skin irritation.[7] Additional, high-quality studies on the efficacy and safety of topical metronidazole in the treatment of malodorous wounds and lesions are needed. In the meantime, dermatologists in clinical practice should consider this readily available topical therapy as an option in the management of Darier disease malodor.

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