ONLINE EXCLUSIVE

An erythematous facial rash

Two months of treatment with doxycycline provided no improvement. A biopsy of the patient's cheek led to a proper diagnosis.

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The authors reported no potential conflict of interest relevant to this article.

A 59-YEAR-OLD WOMAN presented to our clinic with a large asymptomatic facial rash that had developed several months earlier. The rash had been slowly growing but did not change day to day. Her past medical history was significant for hypertension, hyperlipidemia, and cutaneous lymphoma, which was localized to her arms. She denied the use of any new products, including hair or facial products, nail polish, or any new medications.

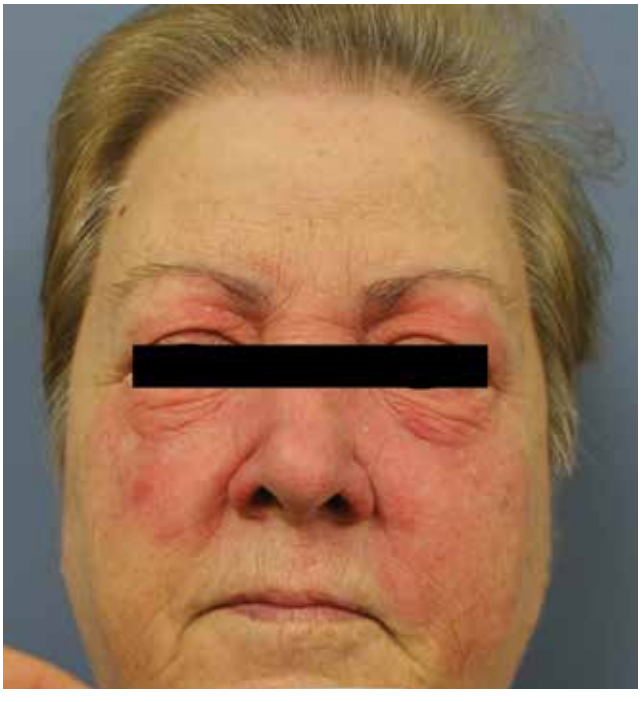
Initially, she was presumed (by an outside provider) to have rosacea, and she received treatment with doxycycline 100 mg/d for 2 months. However, the rash did not improve.

Physical examination revealed a large erythematous rash involving her cheeks, nose, and periocular area with no other significant findings (**FIGURE**).

A biopsy of her right cheek was performed.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE
A large asymptomatic facial rash.



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Diagnosis: Mycosis fungoides

Following the biopsy of her right cheek, a histopathologic analysis demonstrated an atypical lymphocytic infiltrate positive for CD3 and CD4. These histopathologic features led to a diagnosis of recurrent mycosis fungoides (MF), a type of cutaneous lymphoma. (Our patient's cutaneous lymphoma had been in remission for a year following local radiotherapy.)

MF is the most common type of cutaneous lymphoma, with an incidence of 6.4 to 9.6 cases per million people in the United States.[1] There are also 2 rare subtypes of MF: the psoriasiform and palmoplantar forms. Psoriasiform MF presents with psoriasis-like plaques, while palmoplantar MF initially presents on the palms and soles.

Patients with classic MF typically present with patches and plaques—with the late evolution of tumors—on non–sun-exposed areas.[1] Our patient's clinical presentation was atypical because the rash manifested on a sun-exposed area of her body.

MF and other cutaneous lymphomas should always be part of the differential diagnosis for an unexplained persistent rash, especially in a patient with a history of MF. The development of lymphomas is thought to be a stepwise process through which chronic antigenic stimulation results in an accumulation of genetic mutations that then cause cells to undergo clonal expansion and, ultimately, malignant transformation. Genetic, environmental, and immunologic factors that contribute to the disease pathogenesis have been identified.[2]

Once clinical features point toward MF, the diagnosis can be further differentiated from other benign inflammatory mimics with a biopsy demonstrating cerebriform lymphocytes homing toward the epidermis, monoclonal expansion of T cells, and defective apoptosis.[3]

Differential includes rosacea and seborrheic dermatitis

The diagnosis of MF can be difficult as it often imitates other benign inflammatory conditions.

Rosacea manifests as an erythematous facial rash but usually spares the nasolabial folds and eyelids. There are several forms, including ocular (featuring swollen and irritated conjunctiva), erythematotelangiectatic (with visible blood vessels), and papulopustular (with acneic lesions). Over time, the skin may develop a thickened, bumpy texture, referred to as phymatous rosacea.[4] A history of acute worsening with exposure to certain hot or spicy foods, alcohol, or ultraviolet light suggests a diagnosis of rosacea.

Seborrheic dermatitis classically presents as yellow scaling on a mildly erythematous base and often involves nasolabial folds and eyebrows. Seborrheic dermatitis can be associated with human immunodeficiency virus, Parkinson's disease, and other chronic medical conditions.

Allergic contact dermatitis can look identical to MF, but in our case, there was no new allergen in the history. A thorough history regarding new medications, creams, and household supplies is integral to differentiating this diagnosis.

Misdiagnosis can lead to advanced-stage disease

This case of persistent facial erythema, originally treated as rosacea, highlights the importance of having a low threshold of suspicion of MF, especially in a patient with a prior history of MF. A recent study by Kelati et al[3] indicated that certain subtypes of MF are easily misdiagnosed and treated as psoriasis or eczema respectively for an average of 10.5 years.[3] These years of misdiagnosis are significantly correlated with the development of advanced-stage MF, which is more difficult to treat.[3]

Treatment with topical desonide and mechlorethamine

There are multiple treatment options for MF, depending on the stage, starting with topical therapies and advancing to systemic therapies in more advanced stages. Topical treatments include steroids, nitrogen mustard, and retinoids.[5] Our patient was referred to a multidisciplinary lymphoma clinic, where topical treatment was initiated with desonide cream .05% and mechlorethamine gel .016%. Our patient experienced a 50% improvement in skin

involvement at 3 months.

As MF progresses to more advanced stages, treatment often combines skin-directed therapies with systemic immunomodulators, biologics, radiation, and total skin electron beam therapy.[6] TSEBT is a low-dose full-body radiation treatment that targets the skin surface and therefore effectively treats cutaneous lymphoma. Although TSEBT is usually well tolerated, there have been documented acute and chronic adverse effects, including dermatitis, alopecia, peripheral edema, cutaneous malignancies, and infertility in men.[7]

While the use of topical desonide and mechlorethamine was initially favored over radiation due to eyelid involvement, our patient developed new patches on her legs 11 months after her initial visit. When biopsies indicated MF with large cell transformation, she received 1 course of low-dose TSEBT (12 Gy), with complete response noted at the 2 month follow-up. JFP

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