

How Do You Solve a Problem Like This Leg Rash?



Joe R. Monroe, MPAS, PA, practices at Dermatology Associates of Oklahoma in Tulsa. He is also the founder of the Society of Dermatology Physician Assistants.



Over the past 10 years, this now 52-year-old woman has seen several different primary care providers for evaluation of a rash on her leg. The latest, after labeling the problem a resistant fungal infection, refers her to dermatology.

During her decade-long odyssey, the patient has been prescribed innumerable topical and oral medications, including corticosteroid creams, foams, and ointments and antibacterial creams (eg, triple-antibiotic cream and mupirocin). She also has taken several courses of oral prednisone, which helped for the duration of treatment; alas, upon cessation, the rash would promptly reappear. Modest relief from itching was achieved with some of the products tried—particularly, the topical steroids.

The pink, scaly rash covers most of the medial aspect of her left foot and calf. On the latter is a round, scaly, well-defined plaque. A similar rash covers the rim of her right foot but does not extend upward onto the calf. No other rashes or skin abnormalities are noted.

The patient's overall health has been reasonably good, considering her history of smoking (30+ pack-years) that led to early COPD. She lives with her husband and her elderly mother; there are no pets or children in the household.

A reasonable next step to diagnosis would be to perform:

- a) A KOH prep, looking for fungal elements
- b) A swab culture for fungal organisms
- c) A punch biopsy, including the history and differential on the requisition
- d) All the above

ANSWER

The correct answer for this case is all of the above (choice "d").

DISCUSSION

This very scenario is encountered regularly in dermatology practices around the world. In most primary care settings, the emphasis is on empirical treatment, as in "let's try this." In dermatology practices (ideally),

the initial effort is to establish the correct diagnosis, which will then guide appropriate treatment. It's the difference between throwing darts at an invisible dartboard and throwing them at a visible, known target.

Any of the listed answer choices would be reasonable in that they would likely establish the correct diagnosis: dermatophytosis, also known as *tinea corporis*. The simplest of the three options would be a KOH prep, which can be done in less than 5 minutes. For those unable to do this, a culture would suffice (although you will wait 3 weeks for results). A punch biopsy would probably reveal fungal organisms via a PAS stain (routinely performed by pathology in such cases)—but this test yields a surgical

wound that must be closed with sutures, along with all the inherent risks that entails.

An important note about this case: The condition's longevity, and the diagnostic confusion, were due not only to the lack of a definitive diagnosis but also to the periodic injudicious use of steroids. These medications were probably responsible for the infection's spread from the patient's foot onto her leg. This is a common occurrence, the notation of which is crucial in making the diagnosis.

TREATMENT

The patient was successfully treated with a combination of topical econazole and oral terbinafine (250 mg/d for 3 weeks). **CR**