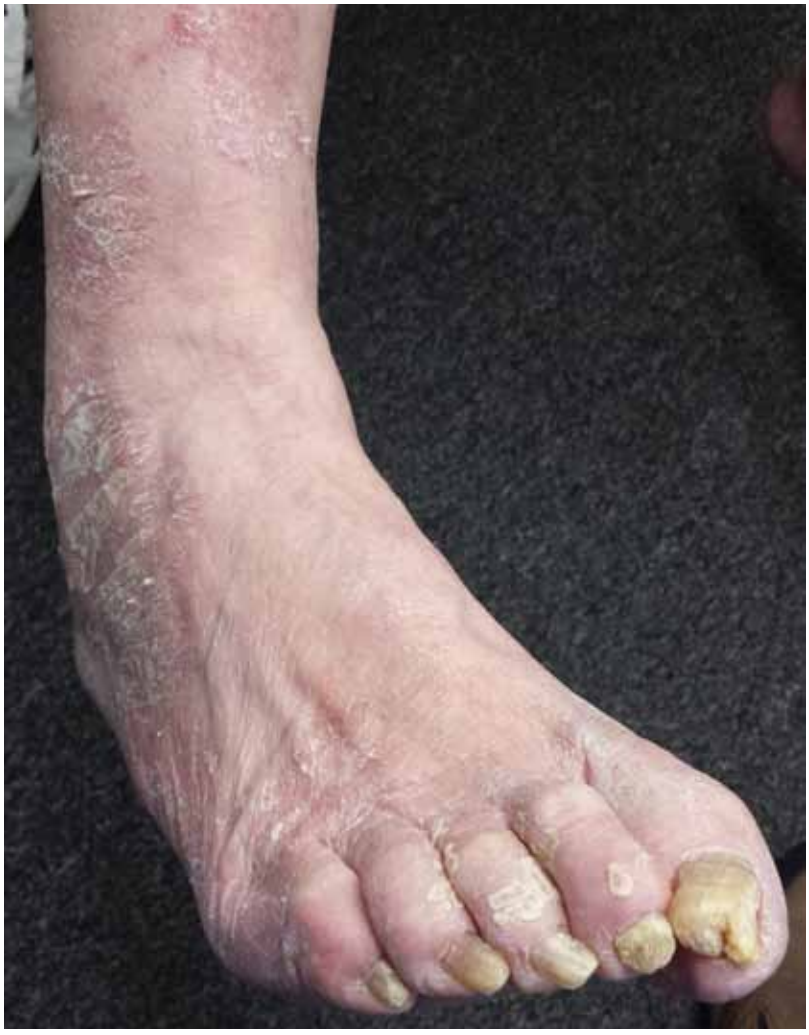
# Foot Rash + Gnarly Toenails = Man in Need of a Diagnosis

For several years, a 66-year-old man has had an itchy rash on his right leg; recently, it has become more bothersome. In general, he has noticed that when cold weather arrives, the rash improves slightly, but it inevitably worsens again as winter progresses.

Over the years, the providers he has consulted have prescribed a number of topical products—among them, antifungal and steroid creams. Each of these products seems to help for a short period, then stops; at that point, the patient switches to a different product, with similar mixed results. The patient says he doesn't have any other skin problems.

Examination reveals patches of dry skin scattered from the knee to the top of the patient's foot. Most have a faintly erythematous surface and arciform borders. These patches blend into a similar rash that covers the sides of both feet. All 10 toenails are grossly dystrophic, yellowed, and overgrown. The skin on the patient's other leg is somewhat dry but otherwise unaffected.



**The most logical next step to help this patient would be to**

a) Recommend a good moisturizer

b) Perform a KOH exam on scrapings from his rash

c) Perform a punch biopsy

d) Prescribe a nystatin/triamcinolone cream for bid application

**Joe R. Monroe, MPAS, PA,** practices at Dawkins Dermatology Clinic in Oklahoma City. He is also the founder of the Society of Dermatology Physician Assistants.

## ANSWER

The correct answer is to perform a KOH examination (choice "b"), which takes just five minutes and offers the chance to establish the fungal origin of the rash. Although the patient's skin is quite dry, the use of a moisturizer (choice "a") is unlikely to address the overall problem. A punch biopsy (choice "c") would be a logical choice if the KOH failed to solve the mystery. The use of combination creams (choice "d") that contain a steroid (triamcinolone) and an antifungal (nystatin) is essentially an admission of the lack of

a definitive diagnosis. For reasons discussed below, this strategy has almost no chance of helping.

## DISCUSSION

In this case, the KOH prep showed numerous hyphal elements, confirming suspicions of a fungal origin. One potential source of these organisms was the patient's feet, where fungal infection had been present for years ("more than 30," questioning revealed).

A common scenario is one in which the patient applies a steroid cream to a bit of dry skin just above the feet, which allows the fungi to gain a "foothold" from which to spread upward onto the leg; this progress is assisted through scratching and additional steroid application. If no firm diagnosis is ever established, definitive treatment cannot be undertaken and the problem never resolves.

In my opinion, there is never a reason to prescribe a product containing nystatin. In 1950, when it was discovered by researchers working in New York State laboratories (after which it was named), its efficacy against *Candida* species represented a notable advance, given the limited drug choices available for that purpose. But it has little, if any, activity against the dermatophytes causing our patient's problems. And the steroid (triamcinolone) in this combination product, far from adding any therapeutic benefit, effectively diminishes any natural immune response.

The other reason to refrain from prescribing nystatin is that, since its discovery, at least three generations of products that treat both fungi and yeast (the azoles, such as clotrimazole, econazole, and fluconazole) have become available and have been found to be very effective.

The more important issue in this case, however, is finally having an accurate diagnosis: tinea corporis, probably caused by the most common dermatophyte, *Trichophyton rubrum*. The patient's body is obviously a very happy home for this ubiquitous organism, to the extent that our chances of eliminating it are quite small. But we can at least make the patient more comfortable.

Treatment entailed ketoconazole foam (applied bid to his legs) and a two-month course of oral terbinafine (250 mg/d), which cleared up most of the skin problem. For his overgrown toenails, the patient was advised to establish care with a podiatrist for regular trimming.

In terms of a differential, this patient might have had psoriasis or eczema—and may still have one or both, since there's no law against having more than one condition in the same location. In time, we may have to reconsider our solitary diagnosis. **CR**