

Can You Treat These Feet?

Two years ago, asymptomatic lesions appeared on this 17-year-old girl's left foot. Diagnosed as "ringworm" by primary care, the spots have not responded to topical econazole or oral terbinafine and have instead grown and darkened.

Five intradermal plaques are found on the dorsal aspect of the patient's left foot. Round and reddish brown, they measure 3 to 4 cm each. There is modest induration on palpation, but no increased warmth or tenderness. None of the lesions have an epidermal component (ie, scaling, vesiculation); in short, there is nothing to scrape for KOH examination.

The patient has no lesions elsewhere and denies any other health problems. Her mother, who is present, is certain that no one else in the family has had similar lesions. There are no pets in the house.

Which of these diagnoses does *not* belong in the differential?

- a) Granuloma annulare
- b) Sarcoidosis
- c) Tinea corporis
- d) Cutaneous mycobacterial infection

ANSWER

The item that does not belong is tinea corporis (ringworm; choice "c"). There are several reasons this presumed, "obvious" diagnosis does not belong: First, there was no known source (human or animal) from which the patient could have contracted such an infection. Second, what should have been

adequate treatment for a fungal infection had no effect. And finally, cutaneous fungal infections almost always disrupt the outer layer of skin; the relevant signs (eg, scaling, vesiculation, follicular granulomas) were absent in this case.

The correct diagnosis is granuloma annulare (GA; choice "a"), an extremely common, benign condition that is often misdiagnosed and treated as fungal infection. Histologically, GA is characterized by palisading (row-like) collections of cells that group together to form *granulomas*.

Similar patterns can be seen with sarcoidosis (choice "b") and cutaneous mycobacterial infection (choice "d"), but ad-



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ditional distinguishing histologic features must be sought to confirm those diagnoses.

DISCUSSION

Virtually every medical provider has fallen for this clinical canard, referring an alleged “fungal infection” to dermatology when it fails to respond to treatment. This case was archetypical of GA, a condition most commonly found on the feet of young women.

It manifests on the extensor surfaces of the extremities as brownish red, round-to-oval, intradermal plaques devoid of surface disruption. The borders of the lesions are

often raised enough to produce an apparent valley (delling) in the center.

There is a rather wide spectrum of GA variants (eg, generalized, subcutaneous, vesicular), which are obscure enough to warrant biopsy. And while the evidence is purely anecdotal, performing a biopsy on a GA lesion has been known to “scare” it away.

Many treatments have been used (including topical or intralesional steroids and liquid nitrogen), but none are particularly effective. Fortunately, most cases eventually clear on their own and do not involve associated morbidity. **CR**