

## Answer to Dermacase continued from page 2113

### 4. Tinea incognita

Dermatophytes are a group of fungi that can infect the skin, hair, and nails because of their ability to use keratin. The organisms colonize keratin tissues, and inflammation is caused by the host response to metabolic by-products. Dermatophyte infections are called ringworm or tinea and are classified by their location on the body. Tinea of the face (excluding the beard area in men) and limbs is called tinea corporis.<sup>1</sup>

An infection can occur at any age and is more common in warm climates. There is a range of manifestations, and, depending on host immunity and the species of dermatophyte, lesions can vary in size, depth of involvement, and degree of inflammation; however, the most common lesion morphology is annular. Lesions begin as flat scaly spots and develop a raised border that extends in all directions at varying rates. This “advancing” scaly border often contains red papules or vesicles. As the border progresses outward, the central area becomes brown or hypopigmented and less scaly. There might be 1 or more annular lesions, which could be either pruritic or asymptomatic.<sup>1</sup>

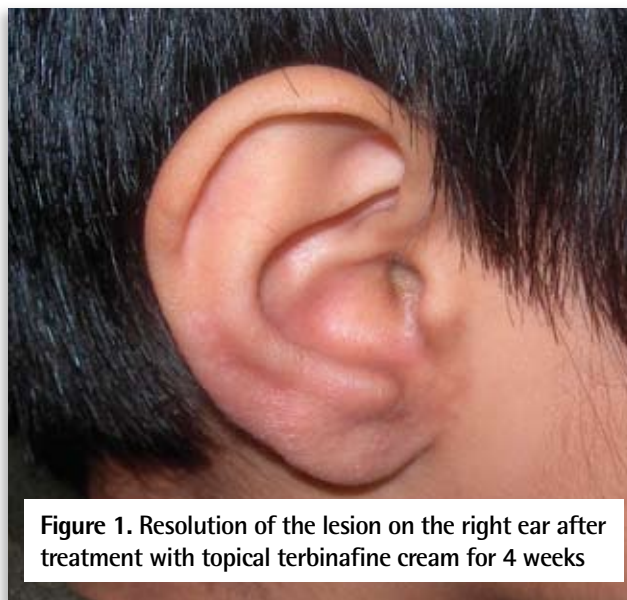
Identifying the typical pattern of inflammation in different body regions and accurately interpreting a potassium hydroxide (KOH) wet-mount preparation of a scale are sufficient to diagnose dermatophyte infections of the skin, as all dermatophytes respond to the same topical and oral agents. However, species identification by culture is ideally warranted for hair and nail infections. Scalp-hair infections in children can originate from an animal that carries a typical species of dermatophyte. The animal can then be traced and treated to prevent future infections. In contrast, nail plates can be infected with nondermatophytes.<sup>1</sup>

Tinea incognita is the name given to a dermatophyte infection treated with topical or oral corticosteroids, which then loses some of its characteristic features. Corticosteroids might decrease inflammation and give a false impression that the rash is improving, while dermatophytes flourish because of immune suppression.<sup>1</sup> Once the treatment is stopped the rash returns but looks different. Scaling at the margin and a well-defined border might be absent, and the rash might have greatly expanded to demonstrate diffuse erythema, telangiectasia, scattered papules, pustules, and hyperpigmentation.<sup>2</sup>

### Diagnosis

Tinea incognita is most often seen on the groin, face, and dorsal aspect of the hand, and is often misdiagnosed as eczema and treated with topical steroids; however, hyphae can still be recognized on a KOH wet-mount preparation.<sup>1</sup>

To obtain an adequate specimen, steroid medications should be stopped for about 1 week. By then the lesion will again appear scaly. Obtain a sample of scale by holding a No. 15 surgical blade perpendicular to the skin's surface



**Figure 1. Resolution of the lesion on the right ear after treatment with topical terbinafine cream for 4 weeks**

and drawing it along the active border. Place the fragments of scale on a microscope slide and soak them with a few drops of 10% to 20% KOH solution. Additional stains such as chlorazol fungal stain,<sup>3</sup> Swartz-Lamkins fungal stain, or Parker blue ink<sup>4</sup> can be used. Apply a coverslip with gentle pressure over the specimen; the slide can be heated over a lighter or Bunsen burner until the preparation darkens but does not boil. The presence of translucent, branching septate hyphae confirms the diagnosis.<sup>1</sup>

### Treatment

Treatment includes the immediate to gradual cessation of all steroid medication, which can lead to transient flaring of the rash, and implementation of an appropriate antifungal regimen.<sup>1</sup> Patients should be warned not to reinstitute the use of steroids on their own.

Our patient improved with topical terbinafine cream applied to the ear twice daily for 4 weeks (**Figure 1**). His case highlights the ease and importance of performing a KOH wet-mount preparation on any scaly lesion and the value of suspecting a dermatophyte fungal infection when lesions persist despite treatment with corticosteroids. 🌿

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### Competing interests

None declared

### References

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