Multiple Erythematous Scaly Plaques on the Face in a 62-year-old Woman

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CASE REPORT

A 62 year-old woman presented with a 6-week history of gradually progressed multiple erythematous pruritic eruptions on the face. She denied any systemic disease or drug history, except the photosensitivity history. She also kept a dog as a pet for 10 years.

On examination, multiple erythematous scaling papules and plaques on the face and ears were noted. (Fig. 1). Patches of hair loss on the scalp were also found. The facial cutaneous lesions were exacerbated by sun exposure. Potassium hydroxide preparations from the facial eruption scrapings were negative. The laboratory studies were as followed: ANA, anti-RNP, anti-Sm, anti-SSA, anti-SSB, anti-Scl-70, and anti-Jo-1 were all negative; WBC and differential counts were within normal limits. Potassium hydroxide preparation of broken hair from scalp and fungal culture was done.

A skin biopsy from a scaly plaque on the face was performed and the tissue specimen was stained with H & E (Fig 2) and PAS stain. (Fig 3).

![Fig. 1](image1)

![Fig. 2](image2) (H & E stain, X200)

![Fig. 3](image3) (PAS stain, X400)

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DIAGNOSIS: Tinea Faciei et Capitis with Vellus Hair involvement caused by inthoplytern spp.

DISCUSSION

Tinea faciei may resemble a number of different dermatoses and this can lead to misdiagnosis. Moreover, tinea faciei can coexist with DLE or clinically and histopathologically mimic cutaneous lupus erythematosus. One third of the patients with tinea faciei have a history of photoexacerbation, which may lead to misdiagnosis of a photosensitive dermatosis, treatment of which with systemic steroid or antimalarials may carry a substantial risk to the patient.

A nonscalp hair infection by dermatophyte is unusual. It has been postulated that hairs in a resting state, such as those found on glabrous skin, do not provide a “suitable substrate” for fungal growth. In fact, hair follicles that are not actively growing at the time of follicular invasion should not be susceptible. In the literature, one case of nonscalp hairs infection in a patient with acquired immunodeficiency syndrome has been reported and the authors hypothesize that cell-mediated immunity plays a role in inhibiting vellus hair infection. Perhaps hair infection represents a balance between the “substrate” available in actively growing hairs and the inhibitory effects produced by the immune system. Deeper dermatophyte infections are uncommon and are often limited to those patients with immunosuppression, such as diabetic or atopic individuals, who can display an impaired immunity to multiple antigen. However, this patient did not have any immunodeficiency, diabetes or atopic diathesis.

The patient’s vellus and terminal hairs were infected by dermatophytes simultaneously, but the lesions on the face responded to oral itraconazole therapy faster than the ones on the scalp. We know the pharmacokinetics of itraconazole in hair follow two routes: the faster route is incorporation of the drug in hair via the sebum, and the slower method is incorporation of drug into the hair follicle. The growth rate of terminal hairs is faster than that of vellus hairs, but the sebaceous glands on the face is more active than those on the scalp. In addition, the diameter of vellus hairs is smaller than the one of terminal hairs. As a result, the drug concentration in vellus hairs may reach minimum inhibitory concentration more quickly than the one in terminal hairs; therefore, the fungal infection in vellus hairs responded to antifungal drug faster than that in terminal hairs.

In conclusion, tinea faciei should be kept in mind at all times in the differential diagnosis of facial eruptions. Deep scrapings or skin biopsy may be required, because potassium hydroxide preparations may be negative due to the location of the fungus within the hair follicles. Besides, Shanon and Raubitschek postulated that the fungus is often not found in the superficial scale due to frequent face washing. On the other hand, topical therapy may be ineffective since penetration of antifungals is limited and they rarely appear in the bulbar region. Therefore, systemic therapy is recommended, and the fungal infection in vellus hairs may need a shorter treatment course than that in terminal hairs.

REFERENCES