

Papulosquamous Dermatophytid Reaction in a Child With Tinea Capitis

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PRACTICE POINTS

- Dermatophytid (id) reactions can manifest as papulosquamous eruptions after cutaneous infections or inflammatory skin conditions.
- High clinical suspicion for id reaction in patients of the appropriate age group and demographic—pediatric patients of African descent—is imperative for reaching the correct diagnosis.
- Repeat cultures of the scalp may be indicated in patients with high clinical probability for an id reaction despite a negative fungal culture or empiric systemic treatment.

To the Editor:

Tinea capitis is a common childhood infection seen worldwide and is more prevalent in children of African descent.¹ Treatment can be effective; however, the diagnosis may be delayed due to variability in presentation, camouflage of scalp scale with ointment, and the diagnostic experience of the provider. A common complication of tinea capitis is the dermatophytid (id) reaction, which commonly manifests as multiple 1- to 2-mm monomorphic papules. We report a case of a papulosquamous variant of an id reaction secondary to tinea capitis.

An 8-year-old African American child presented with annular hyperpigmented patches on the face and trunk of several months' duration. There was no preceding

fever, illness, scalp pruritus, or alopecia according to the patient's mother. The hyperpigmented patches persisted despite use of hydrocortisone and antifungal creams prescribed by a primary care provider. A fungal culture of a scalp specimen was negative. Physical examination during the initial dermatology visit revealed multiple annular hyperpigmented patches on the trunk and extremities. No plaques were evident; however, the mother reported that when the lesions first developed, they were raised and mildly pruritic. The patient was prescribed triamcinolone ointment 0.1% twice daily as needed for itching, and sun protection was emphasized.

At the follow-up visit weeks later, the patient's mother reported that the ointment had helped the lesions resolve faster, but new lesions continued to appear. Physical examination at this visit was notable for scattered hyperpigmented patches, annular hyperpigmented plaques, and erythematous plaques on the trunk, arms, and legs, in addition to papulosquamous plaques and hyperpigmented patches on the forehead (Figure 1). Suspicion for tinea capitis was discussed, a repeat scalp fungal culture was performed, and oral terbinafine 250 mg once daily was started empirically. The culture was positive for *Trichophyton tonsurans* supporting the diagnosis of concomitant tinea capitis. The rash resolved with terbinafine, and annular patches of postinflammatory hyperpigmentation remained.

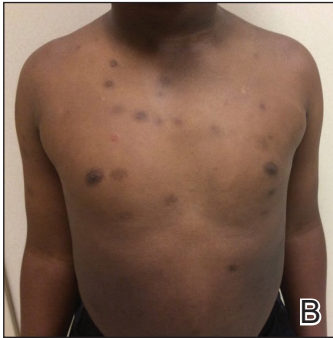
Dermatophytid reactions are immunologically mediated, disseminated, eczematous eruptions occurring after cutaneous infections or inflammatory skin conditions.

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A and B, Scattered hyperpigmented patches, annular hyperpigmented plaques, and erythematous plaques on the posterior neck to the mid back and anterior aspect of the torso, respectively, consistent with papulosquamous id reaction in a patient with tinea capitis. C, Scattered annular papulosquamous eruptions were present on the forehead, with postinflammatory hyperpigmentation in areas following resolution of prior plaques.

Reactions occur days to weeks after exposure to antigens of dermatophytes causing tinea pedis or capitis.²

Common culprits include *Microsporum canis* and *T tonsurans*.³ Dermatophytid reactions with tinea capitis

exhibit morphologic variability including a symmetric distribution of grouped or diffuse,⁴ pruritic, erythematous or flesh-colored, follicular papules on the trunk, with or without progression to the face, torso, upper extremities, and/or lower extremities.³ Other reported manifestations include erythema multiforme, erythema nodosum,³ or lupuslike lesions, and crops of dyshidrotic vesicles on the hands in the setting of *Trichophyton mentagrophytes*-induced tinea pedis.⁵

The papulosquamous variant id reaction should be considered in a wider differential that includes psoriasis, nummular eczema, and pityriasis rosea. Unlike psoriasis, the id reaction is not chronic and responds to systemic antifungal therapy. Nummular eczema can be ruled out, though not entirely, by a lack of personal or family history of atopy. The characteristic cleavage lines of pityriasis rosea on the trunk are absent in patients with an id reaction, and there would be no preceding illness or herald patches seen in the id reaction.

Tinea capitis may cause a variety of id manifestations, including the papulosquamous phenotype. This case addresses practice gaps that may lead to delayed diagnosis. It also highlights the importance of recognizing uncommon morphologies, performing repeat cultures of the scalp after a negative fungal culture, and lowering the threshold of suspicion for tinea capitis in the appropriate age group and demographic, specifically pediatric patients of African descent.

REFERENCES

1. Sharma V, Silverberg NB, Howard R, et al. Do hair care practices affect the acquisition of tinea capitis? a case-control study. *Arch Pediatr Adolesc Med.* 2001;155:818-821.
2. Cheng N, Rucker Wright D, Cohen BA. Dermatophytid in tinea capitis: rarely reported common phenomenon with clinical implications. *Pediatrics.* 2011;128:e453-e457.
3. Mayser P. Dermatophyte: current situation [in German]. *Hautarzt.* 2017;68:316-323.
4. Nowicki R. Allergic phenomena in the course of dermatomycoses [in Polish]. *Pol Merkur Lekarski.* 2003;14:532-534.
5. Boralevi F, Léauté-Labrèze C, Roul S, et al. Lupus-erythematosus-like eruption induced by *Trichophyton mentagrophytes* infection. *Dermatology.* 2003;206:303-306.