THE CASE

A 7-year-old boy presented with a one-week history of a pruritic rash, which first appeared on his back and continued to spread across his entire body. The patient’s medical history was significant for a scalp lesion (FIGURE 1) that was being treated with oral griseofulvin (started 3 days earlier). He had no history of seasonal allergies, asthma, recent illness, or recent immunizations.

The physical exam was significant for a body-wide, nonerythematous, papular rash (FIGURE 2). There was evidence of excoriation due to itching. No mucosal involvement was appreciated. The remainder of the examination was unremarkable.

QUESTION

Based on the patient’s history and physical exam, which of the following is the most likely diagnosis?

A. Gianotti-Crosti syndrome
B. Atopic dermatitis
C. Dermatophytid reaction
D. Morbilliform drug eruption.

FIGURE 1
A scalp lesion preceded the body-wide, pruritic rash

FIGURE 2
Diffuse, nonerythematous, papular rash
THE DIAGNOSIS
The answer is C, dermatophytid reaction.

DISCUSSION
A dermatophytid reaction is a type of id reaction, or autoeczematization. An id reaction is when a localized dermatitis becomes a generalized pruritic eruption. In this case, the patient’s dermatitis was the result of a dermatophyte infection (tinea capitis), but an id reaction can also occur in response to noninfectious dermatitides and may be of an atopic, contact, or seborrheic nature.1

Dermatophytid reactions occur in up to 5% of all dermatophyte infections (most commonly tinea pedis) and are proposed to be type IV hypersensitivity reactions to the release of fungal antigens.2 These reactions can occur either before or after the initiation of antifungal treatment. They manifest as symmetric, pruritic, papulovesicular eruptions with fine scaling and commonly affect the face, trunk, extremities, palms, and interdigital spaces.1

What about other possible diagnoses?
Gianotti-Crosti syndrome is an asymptomatic, symmetric, papulovesicular dermatosis that involves the face, limbs, and buttocks of children 2 to 6 years of age.2 The lesions develop in response to a respiratory or gastrointestinal illness.2 They are typically associated with Epstein-Barr virus, hepatitis B, cytomegalovirus, respiratory syncytial virus, and coxsackievirus, but can occur with bacterial infections or following administration of routine immunizations.2

The lesions are self-limited and resolve within 2 months.2 Symptomatic lesions may be treated with oral antihistamines or steroids (topical or systemic).2

Atopic dermatitis is characterized by symmetric involvement of the flexural surfaces of the body with a pruritic, erythematous rash that may have a fine scale.3 It usually manifests prior to 2 years of age, is recurrent, and is commonly associated with allergic rhinitis and asthma.3 Treatment involves trigger avoidance, topical emollients, topical corticosteroids, dilute bleach baths, and topical calcineurin inhibitors.3,4 For patients with significant nocturnal symptoms and sleep loss, oral antihistamines may be helpful.4

Morbilliform drug eruptions are the most common type of dermatologic drug reaction.5 These rashes occur approximately one to 2 weeks after exposure to a causative drug; they consist of pruritic, erythematous papules or macules that start centrally and may spread to the proximal extremities.5 Treatment involves discontinuation of the offending agent. Symptomatic relief may be achieved with oral antihistamines or topical or systemic corticosteroids.5

Treatment of dermatophytid reactions
While the initial impulse in the treatment of a dermatophytid reaction may be to discontinue oral antifungals, these treatments help resolve the underlying dermatophyte infection and should be continued. For children with tinea capitis, at least 6 weeks of treatment with an oral antifungal agent is warranted. Medications approved by the US Food and Drug Administration include terbinafine (for patients >4 years of age) and griseofulvin (for patients >2 years of age). Dosages are weight-based. (Fluconazole and itraconazole are not approved for this indication.) Lubricants, topical corticosteroids, and oral antihistamines can be used for acute management of pruritus.1

Our patient was treated successfully with griseofulvin and an oral antihistamine. However, he experienced headaches attributed to griseofulvin and was switched to terbinafine 5 mg/kg/d for 4 weeks. His tinea capitis was resolved at 8 weeks.