

A circinate rash in a child

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CASE PRESENTATION

A previously healthy 2-year-old female patient presented with a 2-day history of a pruritic rash, which appeared as annular and polycyclic erythematous and edematous wheals with central clearing over the face, chest, back, arms, legs, palms, and soles (Figures 1,2). She had mild edema of the dorsal hands and feet and dermatographism on examination. All individual lesions were transient, lasting <24 hours. She was otherwise well with no fever or systemic symptoms.



FIGURE 1



FIGURE 2

One week prior to onset, the patient was hiking in the woods with her family and received numerous mosquito bites which elicited a robust cutaneous reaction. In the month prior to presentation, she received no new medications or vaccinations, and parents denied antecedent respiratory or gastrointestinal infections. She had no previous relevant dermatologic history.

Prior to presenting to us, she was given oral diphenhydramine and oral corticosteroids at an urgent care center with minimal change. We initiated treatment with scheduled antihistamines and an over-the-counter lotion containing menthol and camphor as needed for pruritus. The development of pruritic plaques resolved within 2 days of initiating antihistamines.

WHAT IS THE DIAGNOSIS?

Diagnosis: Urticaria multiforme

DISCUSSION

Urticaria multiforme (UM) may be distinguished by the transient nature of the lesions and lack of significant systemic symptoms.¹ Individual lesions typically resolve within 24 hours, with full resolution of the appearance of urticarial plaques within 10 days without residua.¹⁻⁵ The presence of dermatographism and acral edema also supports a diagnosis of UM.¹

Urticaria multiforme has been reported in association with both viral and bacterial upper respiratory infection, otitis media, pharyngitis, gastroenteritis, vaccinations, and medications including furazolidone or amoxicillin.¹⁻⁴ It is a clinical diagnosis made based on its distinct appearance and accompanying acral and facial edema and dermatographism.^{1,4} Because lesions may have a central bluish or dusky hue, the condition must be distinguished from erythema multiforme (EM), serum-sickness-like reaction (SSLR), and serum sickness (SS).^{1,6} UM may have target lesions; however blistering or involvement of mucous membranes is not seen as in EM. Additionally, the lesions, like typical urticaria, are transient in nature lasting <24 hours in a single location.⁶ In EM, lesions typically persist for >24 hours and may evolve beyond the typical targetoid appearance.⁷

Serum-sickness-like reaction is primarily a drug reaction with a rash similar to UM but tends to have accompanying fever and arthritis.⁶ SSLR may also have additional extracutaneous symptoms including malaise, lymphadenopathy, and GI upset.⁶ The urticarial plaques of SSLR also tend to be more erythematous than in UM and typically evolve to ecchymotic patches, but may be very difficult to distinguish from UM without accounting for systemic systems.⁸ SS may also present with urticarial lesions, but is accompanied by a purpuric rash on the hands and feet and the presence of systemic systems, which can include fever, arthralgias, lymphadenopathy, vasculitis, and nephritis.¹ Severe systemic symptoms such as vasculitis and nephritis are not

typically seen in SSLR.¹ SS is due to immune complex formation in response to foreign protein administration and is very rare in children.¹

Laboratory testing for UM including CBC, CRP, and ESR are typically normal, but some patients have elevated serum IgE.^{2,5} UM has been described as an allergic hypersensitivity reaction, which may be IgE-related.^{1,5} It has a typical duration less than 10 days, and antihistamines are recommended for symptomatic relief.^{4,5}

Our patient demonstrated a robust cutaneous reaction to arthropod assault the week prior to the development of this widespread urticarial reaction. The time course of appearance of urticarial wheals could represent a delayed hypersensitivity reaction; however, a possible subacute viral infection may have also triggered her UM, which has been more widely reported.

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