

Dermatology Digest

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FIGURE 1
Suspicious rash on
a young boy's knee

A rash and swelling around a puncture mark

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›CASE

The patient is a 6-year-old boy who noticed a small red bump on his knee before going to bed. The next morning, he found redness and swelling around the initial bump, and the area felt itchy but not painful. He was able to bend his knee and walk without difficulty. He felt well otherwise and denied any fever, chills, headache, sore throat, congestion, or joint pain. No symptomatic treatments were administered. The medical history included seasonal allergies and recent otitis media that was treated successfully with amoxicillin. The patient was allergic to dust, pollen, and animal dander but had no medication allergies.

Concerned that her son was bitten by a tick, the patient's mother sent photos of his knee to the clinic via e-mail. The next day, she brought the patient into the clinic for further evaluation. A circular area of blanchable erythema was seen on examination of the knee. In the center of the erythema was a small puncture mark with no central clearing. No fluctuance was seen, and no discharge was produced. The knee was slightly swollen with no effusion. The patient was ambulating well and had full range of motion of his leg, knee, and foot. His vital signs were stable, and he was afebrile. The remaining examination findings were normal.

›WHAT IS YOUR DIAGNOSIS?

- *Erythema migrans*
- *Insect bite*
- *Cellulitis*
- *Medication reaction*

›DISCUSSION

This rash was most likely the result of an insect bite. The typical response to an insect bite is local erythema and edema with pruritus. The rash rarely becomes bullous and necrotic or progresses to systemic symptoms. Treatment consists of applying cool compresses and calamine lotion. If needed,

antihistamines can be administered to relieve pruritus.¹

Comment Unlike this rash, the clinical features of a cellullitic infection from a scrape or open wound include a widespread area of erythema that is typically painful and tender to palpation. Occasionally, lymphangitic streaking along with regional adenopathy is noted. Other associated symptoms are sudden onset of fever and chills, and even vomiting.

Once a person is inoculated by a tick infected with *Borrelia burgdorferi*, the spirochetes begin to replicate, which produces the erythema migrans (EM) lesion. EM starts as a small macule or papule and enlarges within days, forming an annular lesion that ranges from 3 to 68 cm with a distinct red border that may be clear in the middle. Common sites for such lesions include the thigh, groin, and axilla. Diagnostic clues include flulike symptoms of myalgia, cephalgia, fever, and possible joint pain in a person living in or having visited an endemic area.

Reactions to amoxicillin can be delayed for 1 to 2 weeks after taking the medication. The rash usually manifests as bright erythema in a widespread, symmetric distribution. In children, the rash may be limited to the face and extremities.

Treatment Our patient's mother was instructed to apply cool compresses to the patient's knee. The rash resolved completely in 3 days. Reactions to even the most ordinary insect bites can range from mild to severe. In this case, the offending insect was never determined. However, at the insistence of the patient's mother, Lyme titers were performed 6 weeks later; results were negative. **JAAPA**

Joe R. Monroe, PA-C, MPAS, department editor

REFERENCE

1. White GM, Cox NH. Infestations and tropical disorders. In: White GM, Cox NH. *Diseases of the Skin: A Color Atlas and Text*. Edinburgh, UK: Harcourt Publishers Limited; 2000.