

Painful Lesion Hasn't Responded to Antibiotics



A 57-year-old woman is referred to dermatology for “cellulitis” that has persisted despite several courses of oral antibiotics (including cephalexin and trimethoprim/sulfamethoxazole). She denies taking any other medications and has no significant medical history.

She states that the problem manifested as discrete red nodules, which eventually coalesced into a single large patch. At the time, she had just recovered from a sore throat and still felt a bit ill, although she denies cough, fever, and shortness of breath.

Examination reveals a large (12 x 14 cm) red edematous plaque in

the skin over her right anterior tibia. The deep intradermal and subdermal edema is exquisitely tender to touch, considerably warmer than the surrounding skin, and highly blanchable. No other changes are noted on the epidermal surface.

A deep 5-mm punch biopsy is performed. Results show a dense lymphohistiocytic infiltrate in the pannicular septae.

Given the history, physical, and biopsy results, the most likely diagnostic explanation for this patient’s complaint is

- Erythema induratum
- Urticaria
- Erythema nodosum
- Erysipelas

ANSWER

The correct answer is erythema nodosum (EN; choice “c”), a reactive form of septal panniculitis with many potential triggers.

Erythema induratum (choice “a”) is a manifestation of lobular

panniculitis, which affects the fat lobules but not the septae. It too has numerous triggers, but it tends to manifest with more discrete nodules, which eventually open and drain. It is far less common than EN.

Urticaria (choice “b”), also known as *hives*, presents as itchy, stingy wheals that are typically evanescent (eg, they appear suddenly, within seconds, and disappear within hours). Despite the itching and stinging, urticaria rarely hurts when it presents on the skin.

Erysipelas (choice “d”) is a superficial form of skin infection. More superficial than cellulitis, it usually is caused by a member of the *Streptococcus* family. It has a bright red appearance and sharply demarcated margins, with a *peau d'orange* (dimpled, like an orange peel) effect on its surface. It is acute in origin and responds readily to most common antibiotics.

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DISCUSSION

Erythema nodosum, a reactive process involving fibrous septae that support and separate subcutaneous adipocytes, is notable for the complete lack of epidermal change (eg, scaling, broken skin, pointing, draining). The incidence is about 2 in 10,000 population, with women outnumbering men at a rate of 4:1 and the 18-to-34 age-group most affected. The anterior leg is involved in the vast majority of cases.

EN often starts with flulike symptoms, followed by the appearance of discrete, bright red nodules, measuring 2 to 4 cm, on the anterior legs; these darken and coalesce over a period of seven to 10 weeks. New lesions can continue to appear for up to six weeks. As they progress, the lesions often become ecchymotic.

Idiopathic cases (at least 20%) can last months.

Notable triggers include Crohn disease flares and use of drugs such as sulfa, gold salts, and oral contraceptives. Several infections have been identified as triggers, including strep, mycoplasma, and campylobacter, as well as deep fungal infections (histoplasmosis, blastomycosis, coccidioidomycosis, and sporotrichosis). More unusual causes include pregnancy and diseases such as sarcoidosis, tuberculosis, Behçet disease, and leukemia/lymphoma.

The diagnostic workup for EN includes punch biopsy of deep adipose tissue and throat culture, and when indicated, ASO titer (if strep is suspected) and chest films (to rule out tuberculosis and sarcoid). In most cases, the diagnosis can be made on clini-

cal grounds alone, although the triggering entity may be difficult to identify. The identification and elimination of the underlying trigger is nonetheless crucial for diagnosis and treatment.

That issue aside, most cases of EN resolve with minimal treatment; this can include the use of NSAIDs and elevation of the limbs when possible. In this particular case, the intense pain the patient was experiencing called for stronger therapy (ibuprofen 800 mg tid, plus a two-week taper of prednisone 40 mg). She responded quite well, and the problem was almost totally resolved at a follow-up visit several weeks later.

In the absence of findings to the contrary, it is likely that the trigger for this patient's EN was strep, given the timing of its manifestation after a sore throat. **CR**

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