A Skin Lesion in a Patient from Kentucky

(See the Photo Quiz on page 429)

Figure 1. Erythema migrans–like skin lesion on the patient’s right shoulder.

Figure 2. An adult female Amblyomma americanum tick

Diagnosis: Southern tick-associated rash illness (STARI).

STARI manifests as a skin lesion (figure 1) and is considered indistinguishable from erythema migrans, a characteristic skin manifestation of Borrelia burgdorferi infection (Lyme disease) [1–4]. As was the case with our patient, some patients with STARI recall that the rash was preceded by the bite of an Amblyomma americanum tick, also known as the “lone star” tick because of the appearance of a distinctive white spot on the dorsal surface of the adult female of this species (figure 2). The adult male and the nymph (figure 3) of this tick do not manifest this spot.

Borrelia lonestari, a species phylogenetically distinct from B. burgdorferi, is considered to be a possible etiologic agent for this illness, on the basis of its identification by PCR in ~2% of A. americanum ticks from many locations in the southeastern and south-central United States [5–7]. In a single case, DNA of B. lonestari was amplified from both the erythema migrans–like skin lesion and the associated A. americanum tick [6]. However, Wormser et al. [8; in this issue] studied skin biopsy specimens from 30 patients from Missouri with erythema migrans–like skin lesions and could find no microbiologic evidence that either B. lonestari or B. burgdorferi is the cause of this illness. Acute-phase and convalescent-phase serum samples from our patient tested negative by ELISA for antibody reactivity to B. burgdorferi. Genus-specific PCR targeting the flagellin gene found no evidence for B. lonestari (or B. burgdorferi) infection in either of the A. americanum ticks removed from our patient.

Cases of STARI have been reported from Georgia, Maryland, Missouri, North Carolina, and South Carolina [1–4, 6, 9], and a similar illness following the bite of an A. americanum tick has been reported from New Jersey [10]. Since at least the mid-1980s, patients from Kentucky who have not traveled to other states have developed erythema migrans–like skin lesions [11]. At least 11 cases of erythema migrans were reported to the Kentucky State Health Department in 2003, and 7 cases had been reported in 2004, as of October (personal communication, Michael Auslander, Kentucky Cabinet for Health Services).

The role of antimicrobial therapy in STARI is unclear. The skin lesion in our patient rapidly resolved without antimicrobial
therapy, and the patient was asymptomatic 3 months after presentation. The etiology of STARI and its treatment remain uncertain.

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References