



Case illustrated

Ulceroglandular tularemia transmitted by tick bite

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A 17-year-old girl from Long Island presented to the clinic in August with an ulcer on her left upper back. Two weeks earlier she had removed without incident a “small, black tick” attached for an unknown duration at that location. Three days after removing the tick she developed an erythematous papule at the site of the bite associated with low grade fever. Over the next few days, the papule began to ulcerate and she complained of discomfort in her left armpit with restricted range of motion of her left shoulder.

On examination there was a 15 mm x 10 mm ulcer with raised edges and a fibrinous base (Fig. 1). Her left axillary lymph nodes were swollen and tender. Bacterial cultures from a superficial swab of the lesion were negative. Given the clinical suspicion for tick-transmitted ulceroglandular tularemia, *Francisella tularensis* serology was ordered and both IgM (> 100 U/mL) and Ig (97 U/mL) were strongly positive. Three months after completing a 10-day course of ciprofloxacin the lesion had healed leaving behind a faint scar.

Tularemia is a rare zoonotic infection caused by the bacterium *Francisella tularensis*, which is endemic throughout the northern hemisphere. [1,2] Transmission of the ulceroglandular form of disease occurs through inoculation via the bite of arthropod vectors such as ticks or deer flies, or by handling infected tissue from natural animal reservoirs such as rabbits or small rodents. [1,2] Other routes of exposure to contaminated fluid or aerosols may result in oropharyngeal, oculoglandular, pneumonic, or systemic “typhoidal” disease.

Clinical suspicion may be supported by serologic testing, with a four-fold rise in titers considered confirmatory. [2] Treatment historically required intravenous aminoglycosides, however recent experience has



Fig. 1. Ulcer at the site of a tick bite in a 17-year-old girl with ulceroglandular tularemia.

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demonstrated that oral antimicrobials such as ciprofloxacin or tetracycline are effective in milder cases. [2] While still a relatively uncommon diagnosis, the global incidence of tularemia may be anticipated to increase along with the increasing density and expanding geographic range of its tick vectors. [3].

Author Statement

All authors contributed to the content, concept, design, writing or revision of this manuscript.

Conflicts of Interest

The authors have no conflicts of interest to disclose.

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