KEY ADVANCES
SUGGESTION FROM THE LITERATURE

Lyme Disease Prophylaxis
after an Ixodes scapularis Tick Bite

**Why is this topic important?** Patients with tick bites often come to the emergency department for tick removal and/or Lyme disease prophylaxis. An approach to treating tick bites with the intention to prevent Lyme disease has not been rigorously studied. The authors of this paper recommend a single 200-mg dose of doxycycline for Lyme disease prophylaxis. (1)

**How will this change my clinical practice?** This study suggests that a single dose of a low-risk antibiotic, if taken within three days of an *Ixodes scapularis* bite, could significantly reduce the risk of developing Lyme disease.

**Focus Point:** According to the authors, a single 200-mg dose of doxycycline may be given within 72 hours to prevent Lyme disease when a patient is bitten by an *I. scapularis* tick.

**Background:**
This study was a randomized, double-blind, placebo-controlled trial of treatment with a single 200-mg dose of doxycycline in 482 subjects who had removed an attached *I. scapularis* tick from their bodies within the previous 72 hours. Only 1 in 235 subjects (0.4%) who received doxycycline developed erythema migrans at the bite site compared to 8 of 247 (3.2%) in the placebo group (P<0.04). The study was relatively small in size and the 95 percent confidence internals for efficacy were wide (25% to 98%), warranting cautious interpretation of the investigators’ findings. No patients developed extracutaneous signs of Lyme disease. Treatment with doxycycline was associated with some adverse effects, specifically nausea 15.4% and vomiting 5.8%.

The authors concluded: “A single 200-mg dose of doxycycline given within 72 hours after an *I. scapularis* tick bite can prevent the development of Lyme disease.”

This is level 2b evidence. (2)
References:
