Clinical Images and Case Reports Journal

Clinical Image | Vol 5 Iss 12

Erythema Migrans and Tick Bite

Giovanni Ghigliotti[1] and Franco Rongioletti[2*]

[1]Dermatological Consultation, Genoa, Italy

[2]Dermatology Clinic, IRCCS Hospital San Raffaele and University Vita-Salute San Raffaele, Milan, Italy

[*]**Corresponding author:** Franco Rongioletti, MD, Dermatology Clinic, IRCCS Hospital San Raffaele and University Vita-Salute San Raffaele, Milan, Italy. E-mail: franco.rongioletti@me.com

Received: December 25, 2023; **Accepted:** January 06, 2024; **Published:** January 15, 2024

Figure 1A: Erythema migrans. Annular erythematous lesion with central clearing and a tick attached in the middle of the ring on abdomen.

Figure 1B: The tick was identified as Ixodes Ricinus on dermatoscopy.

Clinical Image

A woman in her 60s, farmer, presented with an asymptomatic abdominal erythema that had been expanding for 5 days. She denied having fever, headache, arthralgias, or myalgias. On examination, a nontender, 18 cm in diameter, annular erythematous lesion with central clearing and a tick attached in the middle of the ring, consistent with erythema migrans (EM) was noted (Figure 1A). The tick was identified as *Ixodes ricinus* on dermatoscopy (Figure 1B). The *Borrelia burgdorferi* antibody test (Western blotting) showed an increased serum anti-Borrelia IgM levels. These findings confirmed the diagnosis of Lyme borreliosis. The tick was removed using a small forceps. Doxycycline 200 mg/day/was prescribed for 14 days, and EM cleared after 7 days.

Lyme borreliosis (LB) is a vector-borne disease caused by *Borrelia burgdorferi* spirochetes, found in Europe, North America, and Asia. The tick *Ixodes ricinus* is the dominant vector in Europe while the *Ixodes scapularis* is the principal vector of *B. burgdorferi* in North America [1]. Ticks contract *B. burgdorferi* from infected rodents, birds, and deer. Early LB signs include EM, appearing in over 70% of cases within a month of a tick bite. Spring and early summer infections are common, but climate change reshapes LB dynamics, expanding tick habitats and extending activity seasons due to warmer temperatures. Ticks can feed on any part of the body, often going unnoticed due to painlessness. A tick must be attached for 36-48 hours to transmit Borrelia. EM is usually solitary, yet 10%-20% of patients present multiple lesions, resulting from hematogenic bacterial spreading. While ticks are attached, an erythematous lesion might indicate hypersensitivity reaction, distinct from EM. Hypersensitivity lesions are <5 cm, non-expansive, and tends to resolve within two days [2]. Single EM cases require antibiotic treatment (e.g., oral doxycycline for 10-21 days) to prevent later complications such as carditis, neuroborreliosis, or arthritis [3].

REFERENCES

1. Mead P. Epidemiology of Lyme Disease. Infect Dis Clin North Am. 2022; 36: 495-521.
2. Burke G, Wikel SK, Spielman A, et al. Tick-borne Infection Study Group. Hypersensitivity to ticks and Lyme disease risk. Emerg Infect Dis. 2005; 11: 36-41.
3. Musonera JB, Valiquette L, Baron G, et al. Management and clinical outcomes of Lyme disease in acute care facilities in 2 endemic regions of Quebec, Canada: a multicentre retrospective cohort study. CMAJ Open. 2022; 28; 10: E570-E576.