CLINICAL IMAGES

Eschar: a clue to scrub typhus

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Figure 1: Lower abdomen of a 33-year-old febrile man from a rural Taiwanese village showing an eschar, a necrotic lesion induced by a mite bite, measuring 15 mm.

A 33-year-old man from a rural Taiwanese village was admitted with a three-day history of fever, headache, muscle pain and skin rashes. On examination, he was febrile (39.2°C) with generalized macular patches and an eschar measuring 15 mm on the left lower quadrant of his abdomen (Figure 1). His leukocyte count was normal, but he had an elevated C-reactive protein level of 83 (normal 0–8) mg/L, an aspartate aminotransferase level of 183 (normal 0–37) U/L and an alanine aminotransferase level of 166 (normal 0–41) U/L. His blood cultures showed no growth.

Based on a working diagnosis of scrub typhus, we prescribed doxycycline. The patient's condition improved dramatically within two days, and he had a full clinical recovery by the eighth day of treatment. The diagnosis of scrub typhus was confirmed serologically using the indirect fluorescent method, with a greater than fourfold increase in antibody titers between two samples drawn two weeks apart.¹

Scrub typhus is a potentially fatal mite-borne rickettsial infection caused by *Orientia tsutsugamushi*. It is endemic to the Asia-Pacific region, which has an estimated 1 million instances per

year.² Among North American travellers returning from Asia, rickettsial diseases account for 1.0%–1.6% of febrile illness.³ Those affected may have headache, myalgias, hearing loss and rash, in addition to fever. Encephalitis, hepatitis, and pulmonary and cardiac involvement can occur.^{2,4}

Scrub typhus is often diagnosed clinically based on exposure to endemic regions and its characteristic eschar, which usually appears on the lower extremities, axillae or genital region.^{2,4} Still, the diagnosis can be tricky, and similar eschars can be caused by spider bites, Mediterranean spotted fever, Queensland tick typhus, African tick-bite fever and anthrax (Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.101929/-/DC1). Early recognition and prompt treatment with empirical doxycycline can be life-saving.

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