

# Eschar: an important clue to diagnosis

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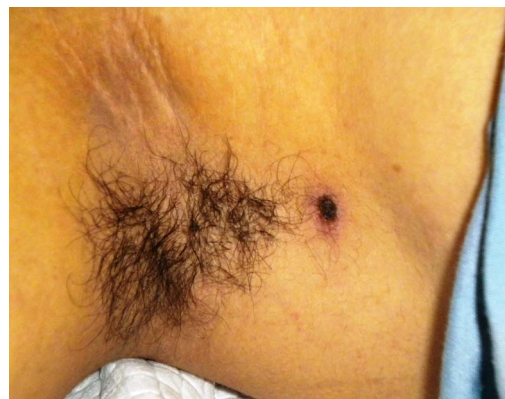
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## DESCRIPTION

A 35-year-old woman, a farmer by occupation, resident of Uttranchal (a sub-Himalayan area) in India, presented in the emergency department with complaints of fever for 1 week and breathlessness for 2 days. Fever was high grade, intermittent, associated with chills, myalgia and headache. Breathlessness was of rapid onset, progressive to the extent of dyspnoea at rest by the next day. It was exertional and associated with orthopnoea. There was no history of chest pain, cough with sputum or wheeze. She also gave a history of a small eruptive lesion under right axilla, noted 2 days prior to onset of fever. There was no history of spider or insect bite, and she was not on drugs like warfarin. She was not immunocompromised (organ transplant, high dose steroids, uncontrolled diabetes, chemotherapy) thus predisposing to disseminated fungal infection. On examination she was febrile, with a pulse rate of 130/min and blood pressure of 106/64 mm Hg. An erythematous lesion with a black necrotic centre (eschar) was present in the right axilla. This site is uncommon for tularaemia and cutaneous anthrax which generally involve the forearm and hand. Moreover, the former is associated with lymphangitis, painful regional lymphadenopathy, and the latter with extensive surrounding oedema, blisters and serous fluid discharge. Chest examination was suggestive of crackles in bilateral lower lung fields. On investigation, ANA, ANCA and HIV were non-reactive. Tularaemia tube agglutination test was negative. Weil–Felix test was positive with OXK antigen in titre of >1 : 320, thus confirming Scrub typhus and ruling out Rickettsial pox and Indian tick typhus. Later, IgM ELISA for *Orientia tsutsugamushi* came positive. Chest radiograph had inhomogenous opacity in bilateral lung fields, and arterial blood gas analysis was suggestive of Type 1 respiratory failure (PaO<sub>2</sub> to FiO<sub>2</sub> ratio of 134.6 mm Hg), thus consistent with acute respiratory distress syndrome. As the patient presented with respiratory failure, suspecting severe lower respiratory tract infection, the patient was empirically started on piperacillin/tazobactam and levofloxacin. Mechanical ventilator support for ARDS was given. Following positive Weil–Felix test, she was started on doxycycline (100 mg twice a day) and azithromycin (500 mg once a day), given for 2 weeks. She made a complete recovery. Scrub typhus is a miteborne zoonotic rickettsial illness. About a billion people live at its risk and a million cases occur annually, mostly in tropical Asia and islands of western Pacific Ocean.<sup>1</sup> Eschar develops at the site of painless bite by the mite. They often go unrecognised as they are non-itching, painless and can precede fever by 1–2 weeks. Perineum, groin, axilla and underneath breast are common sites for eschar (Figure 1).<sup>2</sup> Its incidence in previous studies varies from 46% to 85% cases.<sup>3</sup> Rapid diagnosis is possible



**Figure 1** Eschar in the right axilla having an erythematous halo and giving a cigarette burn appearance.

by performing PCR on eschar extract. Important differential diagnoses of eschar forming illness are: spider bite, post-trauma, spotted fever rickettsiosis, tularaemia, anthrax and disseminated fungal infection. All patients presenting with fever and without any localising signs should be examined carefully for eschar.

## Learning points

- ▶ Scrub typhus is difficult to diagnose as the presentation is very non-specific. An eschar at the site of bite is pathognomonic and the single most useful diagnostic clue.
- ▶ Eschar is painless, non-itching lesion and is common in warm damp areas of body where skin surfaces meet or clothes bind (perineum, groin and axilla). It develops following the bite of mites which is also painless. Hence, though it can clinch the diagnosis, it often goes unnoticed.

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**Patient consent** Obtained.

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## REFERENCES

- 1 Silpapojakul K. Scrub typhus in the Western Pacific region. *Ann Acad Med Singapore* 1997;26:794–800.
- 2 Aggarwal P, Mahesh DM, Ravi Kumar V, et al. Atypical eschar sites in scrub typhus in sub-himalayas. *J Assoc Physician India* 2009;57:153.
- 3 Kim DM, Won KJ, Park MY, et al. Distribution of eschars on the body of scrub typhus patients: A Prospective Study. *Am J Trop Med Hyg* 2007;76:806–9.

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