Clinical picture

Scrub typhus after a trip to India

A 49-year-old man presented severely unwell with sepsis, fever, hypotension (80/70 mm Hg), bilateral thigh pain and vomiting. Seventeen days earlier, while walking in the countryside of the northern Punjab, his young son had poked him playfully in the back with a stick.

Examination revealed a black eschar (Figure 1) at the site of injury. Blood cultures were consistently negative. Biochemistry showed deranged liver enzymes and hypoalbuminaemia, along with thrombocytopenia and a marked persistent leucocytosis (white cell count >24 x 10⁹/l). Tests for malaria, dengue and typhoid were negative. Serology later revealed immunoglobulin-M positivity for scrub typhus. Initially treated with ceftriaxone and clarithromycin, the patient recovered well and was discharged after 8 days, on a further 2 weeks of doxycycline.

Scrub typhus (also known as ‘tsutsugamushi disease’, derived from the Japanese words for ‘dangerous bug’) is caused by the intracellular bacterium Orientia tsutsugamushi, transmitted by the bite of the larval Leptotrombidium mite (chiggers). Clinically similar to Old World tick typhus, scrub typhus was responsible for thousands of cases amongst troops during WWII and subsequent conflicts in the Far East (Korea and Vietnam). It is endemic in an area extending from northern Japan in the east to northern Australia in the south and as far west as Pakistan. This region is termed the ‘tsutsugamushi triangle’.²

While a significant risk in the regions described, it is rarely reported in the UK. Virulent strains of O. tsutsugamushi can precipitate multi-organ failure and disseminated intravascular coagulation. Untreated, the case fatality rate may reach 30%.³ However, the disease may be mild and usually responds well to doxycycline or macrolide antibiotics.

Scrub typhus is an important cause of culture negative pyrexia. The characteristic eschar, present in up to 80% of patients, helps distinguish it from other infectious diseases (typhoid, dengue, malaria, legionella, leptospirosis) in an unwell patient returning from this region.

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References