PREVALENCE OF RELATIVE BRADYCARDIA IN ORIENTIA TSUTSUGAMUSHI INFECTION

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We investigated 100 febrile patients infected with Orientia tsutsugamushi (the etiologic agent of scrub typhus) for the presence of relative bradycardia, defined as in increase in heart rate of < 10 beats/minutes/°C increase in temperature. The median heart rate response for the entire febrile scrub typhus population was 9.3 beats/minute/°C and the prevalence of relative bradycardia was 53%. The occurrence of relative bradycardia was independent of patient age or gender. There were no differences in median basal temperature or febrile temperature between those patients exhibiting relative bradycardia and those with a normal febrile pulse increase. However, febrile patients with relative bradycardia had a significantly higher resting pulse rate following recovery from infection than did patients who had a normal pulse increase during their illness. These data demonstrate that relative bradycardia frequently accompanies mild infection with O. tsutsugamushi and that baseline cardiovascular parameters may affect the febrile heart rate response to scrub typhus.


SCRUB TYPHUS AND TROPICAL RICKETTSIOSES

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PURPOSE OF REVIEW: Recent developments in molecular taxonomic methods have led to a reclassification of rickettsial diseases. The agent responsible for scrub typhus (Orientia tsutsugamushi) has been removed from the genus Rickettsia and a bewildering array of new rickettsial pathogens have been described. An update of recent research findings is therefore particularly timely for the nonspecialist physician. RECENT FINDINGS: An estimated one billion people are at risk for scrub typhus and an estimated one million cases occur annually. The disease appears to be re-emerging in Japan, with seasonal transmission. O. tsutsugamushi has evolved a variety of mechanisms to remain viable in its intracellular habitat. Slowing the release of intracellular calcium inhibits apoptosis of macrophages. Subsets of chemokine genes are induced in infected cells, some in response to transcription factor activator protein 1. Cardiac involvement is uncommon and clinical complications are predominantly pulmonary. Serious pneumonitis occurred in 22% of Chinese patients. Dual infections with leptospirosis have been reported. Standardized diagnostic tests are being developed and attempts to improve treatment of women and children are being made. Of the numerous tick-borne rickettsioses identified in recent years, African tick-bite fever appears to be of particular importance to travellers. The newly described flea-borne spotted fever caused by Rickettsia felis may be global in distribution. SUMMARY: Rash and fever in a returning traveler could be rickettsial and presumptive doxycycline treatment can be curative. Recent research findings raise more questions than answers and should stimulate much needed research.