

An interesting case of scrub typhus; not an uncommon entity in tropical countries

Gopika Ambalathara Gopinath, Mohandas D and Sen Amit

NHS England, UK

A 36-year-old gentleman presented to the emergency department with a 7 days history of high fever, lethargy and generally unwell. He had no significant past medical history. Physical examination showed he was tachycardiac with temperature of 103 degree Fahrenheit (39 degree Celsius) and systolic BP of 100mm hg. He was slightly icteric with a few palpable groin lymph nodes and a 3cm palpable Liver. Blood tests showed WBC count of 6000 per cubic millimetre or 6×10^9 cells per liter, liver functions were slightly deranged with a bilirubin of 52 and ALT OF 75u/l. Blood for Malaria parasites, Dengue NS 1 antigen was negative, urine dipstick as negative, chest x ray as normal, ultrasound scan of abdomen revealed enlarged liver. Patient was suspected as having Enteric fever- (Typhoid). He was started treatment with intravenous Ceftriaxone. But patient became more unwell and was transferred to HDU. A further thorough clinical examination revealed a dark scab in the abdomen as shown in the photo below. Patient had further set of blood tests to screen for other tropical infection such as Scrub typhus, Leptospirosis, and it showed positive for scrub typhus IgM antibody scrub typhus. Patient was started on Doxycycline 100mg twice daily and he recovered in a few days.



Discussion: Tropical fevers with organ failure is one of the leading cause of ICU admissions in India. Commonest tropical fevers that leads to organ failure and ICU admission are Malaria, Dengue and Enteric fever. Scrub typhus and Leptospiral disease are less common and are often missed. Scrub typhus is caused

by intracellular parasite *Orientia tsutsugamushi* belonging to rickettsia group, arthropod Trombiculid mite is a vector for this disease. It is endemic in Asia-Pacific region being less common in India. Scrub typhus is manifested with fever, headache, myalgia and flu like symptoms, approximately 5-14 days of being bitten by infected trombiculid mite. An eschar at the site of the bite is a classical feature of the disease as shown in the figure. It begins as a papule which ulcerates and then form a dark scar, like a cigarette burn. It is mainly seen in the anterior part of the body. Severe complications include liver failure, acute kidney injury and acute lung injury. Often patients can have severe neurological manifestations such as encephalitis and meningitis. The mortality rate is between 6%-70%. Diagnostic test for scrub typhus includes indirect immunofluorescence test, indirect immune-peroxidase assay, ELISA test, immunochromatographic test. Immunofluorescence test and ELISA test are quick, high specificity (84%-100%) with sensitivity of (70%-100%). Cell culture and antigen detection has high specificity (100%), with low sensitivity (50%) it is time consuming and expensive. Treatment consists of Doxycycline for 10 days. Azithromycin is an alternate drug.

Biography

Gopika Ambalathara Gopinath completed her MBBS from India and currently she works in the UK. She aspires to become an Emergency Medicine Practitioner in the NHS.