## INFECTIOUS DISEASES - II

# SCRUB TYPHUS: THE RE-EMERGING INFECTION

## \*Atul Kulkarni \*\*Ashutosh V Yajurvedi

Abstract: Scrub typhus is an important re-emerging infection caused by the Orientia tsutsugamushi transmitted by the bite of trombiculid mite. The larval stage of the mite (Chigger) can also transmit infection. The clinical manifestation is a triad of fever, myalgia and headache and the spectrum can range from a mild disease to multiorgan dysfunction and death. Eschar is pathognomonic of scrub typhus. Even though difficult to diagnose in early phases, delayed diagnosis is synonymous with complication and death. Doxycycline is the drug of choice which causes rapid defervescence of fever. Prevention can be achieved by avoidance of mite bite.

**Keywords:** Scrub typhus, Doxycycline, Chigger, Eschar.

Scrub typhus is one of the oldest known mite borne acute febrile illnesses caused by Orientia (Previously known as rickettsia) tsutsugamushi. Literature about scrub typhus which comes from China dates back to 3<sup>rd</sup> century.¹ World war II was the period during when the understanding of scrub typhus greatly increased because of thousands of cases and deaths in Asia-pacific region.²

- \* Associate Professor, Ashwini Rural Medical College, Solapur
- \*\* Consultant Pediatrician, Yajurvedi Hospital, Solapur email: dratulkulkarni@rediffmail.com

### **Points to Remember**

• Scrub typhus caused by O. tsutsugamushi is transmitted by trombiculid mites and its larva, chigger.

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- It is characterised by a triad of fever, headache and myalgia.
- Eschar is pathognomonic of scrub typhus but the frequency of finding it is variable to the extent of 50%-80%.
- Drug of choice is doxycycline.
- Prevention is mainly by avoidance of bite of mite as no vaccine or post exposure prophylaxis exist.

#### References

- 1. Browning JS, Raphael M, Klein EF, Coblenz A. Scrub typhus. Amer J Trop Med 1945; 25:481-492.
- 2. Kelly DJ, Richards AL, Temenak J, Strickman D, Dasch GA. The past and present threat of rickettsial diseases to military medicine and international public health. Clin Infect Dis 2002; 34(Suppl 4): S145-169.
- 3. Bonell A, Lubell Y, Newton PN, Crump JA, Paris DH. Estimating the burden of scrub typhus: A systematic review. PLoSNegl Trop Dis 2017; 11(9):e0005838.
- 4. Parmar V. Scrub typhus. In: PG Textbook of Pediatrics. New Delhi: Jaypee Brothers Medical Publishers; 2013; pp1309-1312.
- 5. Mansueto P, Vitale G, Cascio A, Seidita A, Pepe I, Carroccio A, et al. New Insight into Immunity and Immunopathology of Rickettsial Diseases. Clin Dev Immunol 2012; 2012:1-26.
- Sonthayanon P, Chierakul W, Wuthiekanun V, Phimda K, Pukrittayakamee S, Day NP, et al. Association of high Orientia tsutsugamushiDNA loads with disease of greater severity in adults with scrub typhus. J Clin Microbiol 2009; 47:430-434.
- 7. Kulkarni A. Rickettsial infections. In: IAP textbook of infectious diseases. 1<sup>st</sup> edn. New Delhi: Jaypee Brothers Medical Publishers; 2013; pp376-385.
- 8. Reller ME Dumler JS. Rickettsial Infection. In: Nelson's Textbook of pediatrics. Robert M Kliegman, Bonita F Stanton, Joseph W St Geme III, Nina F. Schor (Eds), 20<sup>th</sup> edn. 1<sup>st</sup> South Asia Edition Read Elseiver India Pvt. Ltd, New Delhi 2015; pp1497-1511.

- 9. Kim SJ, Chung IK, Chung IS, Song DH, Park SH, Kim HS, et al. The clinical significance of upper gastrointestinal endoscopyin gastrointestinal vasculitis related to scrub typhus. Endoscopy 2000; 32:950-955.
- 10. Premaratna R, Chandrasena TG, Dassayake AS, Loftis AD, Dasch GA, de Silva HJ. Acute hearing loss due to scrub typhus: a forgotten complication of a re-emerging disease. Clin Infect Dis 2006; 42: e6-8.
- 11. La Scola B, Raoult D. Laboratory diagnosis of rickettsioses: current approaches to diagnosis of old and new rickettsial diseases. J Clin Microbiol. 1997; 35:2715-2727.
- Rathi N, Kulkarni A, Yewale V. For Indian Academy of Pediatrics Guidelines on Rickettsial Diseases in Children Committee. IAP guidelines on rickettsial diseases in children. Indian Pediatr 2017; 54(3):223-229.
- 13. Rahi M, Gupte MD, Bhargava A, Varghese GM, Arora R. DHR-ICMR. Guidelines for Diagnosis and Management of Rickettsial Diseases in India. Indian J Med Res. 2015, 417-422.
- Taylor AJ, Paris DH, Newton PN. A Systematic Review of Mortality from Untreated Scrub Typhus (Orientia tsutsugamushi). PLoSNegl Trop Dis 2015; 9: e0003971.
- 15. Andrew R, Bonnin JM, Williams S. Tick typhus in North Queensland. Med J Aust 1946; 2:253-258.