

# Neurological manifestations of scrub typhus

Sir,

We read the article "First case of scrub typhus with meningoencephalitis from Kerala: An emerging infectious threat" by Saifudheen *et al.*<sup>[1]</sup> with great interest. As stressed by the authors, scrub typhus is rampant in northern, eastern, and southern India. Apart from these regions, recently it has also been reported from central India.<sup>[2]</sup> Because of wide geographic presence in India, sensitizing clinicians regarding varied presentations of this disease is very important. Besides, it is difficult to differentiate scrub typhus from other dengue fever like illnesses, especially after rains.<sup>[3]</sup> It is imperative to differentiate scrub typhus from other febrile illnesses and to start specific treatment at the earliest to decrease morbidity and mortality. Recognizing the full spectrum of clinical manifestations can help clinicians in considering appropriate differential diagnosis amongst the dengue fever like illnesses.

The authors have described two cases of meningoencephalitis due to scrub typhus in the present article. They have mentioned that seizures, delirium, cerebellitis, myelitis, cerebral hemorrhage, and hearing loss are the other neurological presentations of this infectious disease. In order to identify the whole spectrum of neurological manifestations of scrub typhus, we searched the PubMed to look for case reports/case series in this regard. We found various afflictions other than those mentioned in this article.

Meningoencephalitis due to scrub typhus usually presents without any focal neurological signs. However, focal neurological signs such as bilateral sixth and seventh nerve palsies have also been described.<sup>[4]</sup> Isolated abducens (VI) nerve palsy has been reported 2 days after initiation of treatment for scrub typhus.<sup>[5]</sup> Another report mentions development of bilateral simultaneous facial nerve palsy in convalescent period, which improved on administration of steroids.<sup>[6]</sup> Scrub typhus associated with opsoclonus, transient Parkinsonism, and myoclonus has been observed.<sup>[7,8]</sup> A patient of scrub typhus with pain indistinguishable from trigeminal neuralgia was reported, who improved clinically after treatment.<sup>[9]</sup> An isolated case report of brachial plexus neuropathy with scrub typhus who improved on treatment also finds a place in literature.<sup>[10]</sup> One female patient presented with Guillain-Barré syndrome 2 weeks after receiving treatment for scrub typhus.<sup>[11]</sup> Polyneuropathy along with cerebral infarction has been recognized as a neurological complication of scrub typhus.<sup>[12]</sup> Acute disseminated encephalomyelitis is yet another dreadful neurological complication of scrub typhus.<sup>[13]</sup> Chung *et al.*, have demonstrated persistence of viable *Orientia tsutsugamushi* in patients 1-18 months after recovery from scrub typhus. Interestingly, one of these patients suffered from transient ischemic attack 8 months later.<sup>[14]</sup> Though no conclusions can be drawn from this, patients with risk factors for atherosclerosis and scrub typhus should be followed up for long term.

To conclude, scrub typhus may present with a wide spectrum of neurological manifestations. Knowledge of these manifestations will enable clinicians to consider scrub typhus as one of the differential diagnosis of acute febrile illnesses with neurological involvement.

**Sameer Gulati, Anu Maheshwari<sup>1</sup>**

Departments of Internal Medicine, St Stephens Hospital,  
<sup>1</sup>Paediatrics, Lady Hardinge Medical College,  
Delhi, India

**For correspondence:**

**Dr. Sameer Gulati**, Department of Internal Medicine,  
St. Stephens Hospital,  
Delhi - 54, India.

E-mail: drsameergulati@gmail.com

## References

1. Saifudheen K, Kumar KG, Jose J, Veena V, Gafoor VA. First case of scrub typhus with meningoencephalitis from Kerala: An emerging infectious threat. *Ann Indian Acad Neurol* 2012;15:141-4.
2. Rathi NB, Rathi AN, Goodman MH, Aghai ZH. Rickettsial diseases in Central India: Proposed clinical scoring system for early detection of spotted fever. *Indian Pediatr* 2011;48:867-72.
3. Gulati S, Maheshwari A. Dengue fever like illnesses – How different are they from each other? *Scand J Infect Dis* 2012;44:522-30.
4. Kim DE, Lee SH, Park KI, Chang KH, Roh JK. Scrub typhus encephalomyelitis with prominent focal neurological signs. *Arch Neurol* 2000;57:1770-2.
5. Lee YH, Yun YJ, Jeong SH. Isolated abducens nerve palsy in a patient with scrub typhus. *J AAPOS* 2010;14:460-1.
6. Lin WR, Chen TC, Lin CY, Lu PL, Chen YH. Bilateral simultaneous facial palsy following scrub typhus meningitis: A case report and literature review. *Kaohsiung J Med Sci* 2011;27:573-6.
7. Chiou YH, Yang CJ, Lai TH. Scrub typhus associated with transient parkinsonism and myoclonus. *J Clin Neurosc* 2012
8. Nam TS, Choi SM, Park KH, Kim MK, Cho KH. Opsoclonus associated with scrub typhus. *Neurology* 2010;74:1925.
9. Arai M, Nakamura A, Shichi D. Case of tsutsugamushi disease (scrub typhus) presenting with fever and pain indistinguishable from trigeminal neuralgia. *Rinsho Shinkeigaku* 2007;47:362-4.
10. Ting KS, Lin JC, Chang MK. Brachial plexus neuropathy associated with scrub typhus: Report of a case. *J Formos Med Assoc* 1992;91:110-2.
11. Lee SH, Jung SI, Park KH, Choi SM, Park MS, Kim BC, *et al.* Guillain-Barré syndrome associated with scrub typhus. *Scand J Infect Dis* 2007;39:826-8.
12. Kim JH, Lee SA, Ahn TB, Yoon SS, Park KC, Chang DI, *et al.* Polyneuropathy and cerebral infarction complicating scrub typhus. *J Clin Neurol* 2008;4:36-9.
13. Chen PH, Hung KH, Cheng SJ, Hsu KN. Scrub typhus associated acute disseminated encephalomyelitis. *Acta Neurol Taiwan* 2006;15:251-4.
14. Chung MH, Lee JS, Baek JH, Kim M, Kang JS. Persistence of *Orientia tsutsugamushi* in humans. *J Korean Med Sci* 2012;27:231-5.

### Access this article online

Quick Response Code:



Website:

www.annalsofian.org

DOI:

10.4103/0972-2327.107701