

IS THIS A POST-INFECTIOUS OPTIC NEURITIS AFTER TSUTSUGAMUSHI INFECTION OR NMO SPECTRUM DISORDER?

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AQP4-autoantibody is specific for neuromyelitis optica (NMO) disorders and so becomes a valuable tool in the differential diagnosis between NMO and the different forms of optic neuritis (ON) such as idiopathic, autoimmune diseases, infection, parainfectious causes and inflammatory immunological responses. Scrub typhus is mite-borne acute febrile disease caused by *Orientia tsutsugamushi*. Neurological complications are uncommon such as guillain barre syndrome, meningoencephalitis and polyneuropathy and cerebral infarction.

We report an 82-year-old woman with no significant medical history who showed progressive mono-ocular visual disturbance for 2 weeks, began 20 days after *O. tsutsugamushi* infection. When she visited our hospital, the vision was lost. Ophthalmological examination revealed optic disc swelling and a relatively afferent papillary defect in the right eye. The fat-suppressed orbital MRI showed diffuse swelling and enhancement in right optic nerve and ill-defined enhancement of right orbital fat tissue and retrobulbar area. Serological studies of both CSF and blood for *O. tsutsugamushi* infection were positive and other serological studies for autoimmune disease were negative except for AQP4-autoantibody. Methylprednisolone (1000mg/day i.v.) was started for 5 days and then clinical status was improved. Recently, concept of NMO disorder is expanded to NMO spectrum disorder due to discovery of AQP-4 autoantibody. Furthermore, NMO spectrum disorders presented with various clinical symptoms. However, the ON associated with scrub typhus is extremely rare. The exact cause of ON remains uncertain in this patient. Scrub typhus infection may be coincidental or could trigger the immunological alteration in a lifelong asymptomatic patient with AQP-4 autoantibody.