

Answer: Transverse myelitis

### **Discussion**

The answer is C) Transverse myelitis (TM) as the patient met the diagnostic criteria suggested in Transverse Myelitis Consortium Working Group<sup>1</sup>; sensory or motor dysfunction, bilateral signs and/ or symptoms, clearly defined sensory level, no evidence of compressive cord lesion, and the signs of inflammation in cerebrospinal fluid analysis. The patient was treated with high-dose methylprednisolone and fully recovered after three months of therapy.

TM is an acquired immune-mediated spinal cord disorder that can present with the rapid onset of weakness, sensory loss, and bowel or bladder dysfunction. Guillain-Barre syndrome, multiple sclerosis and neuromyelitis optica should also be in the differential diagnosis of these presenting symptoms. For this patient, there was no albuminocytological dissociation in the cerebrospinal fluid, no white matter lesions in the brain were observed, and serum Aquaporin-4 antibody was negative, excluding Guillain-Barre, multiple sclerosis and neuromyelitis optica respectively. However, some reports indicate that 5-10% of patients with TM will progress to multiple sclerosis at some point<sup>1</sup>. Most experts recommend methylprednisolone as the standard of care and first-line therapy, although there are no placebo-controlled trials<sup>2</sup>. Plasma exchange is only indicated for patients with failure to respond to high-dose steroids.

**Conflicts of Interest:** None

**Contributors:** None

**Funders:** No internal or external funding sources

**Prior presentations:** None

### **References**

1. Transverse Myelitis Consortium Working Group. Proposed diagnostic criteria and nosology of acute transverse myelitis. *Neurology*. 2002 Aug 27; 59 (4): 499-505.
2. Scott TF, Frohman EM, De Seze J, et al. Evidence-based guideline: clinical evaluation and treatment of transverse myelitis: report of the Therapeutic and Technology Assessment Subcommittee of the American Academy of Neurology. *Neurology*. 2011 Dec 13; 77 (24): 2128-2134.

### **Figure Legends**

Figure. 1: High-intensity area in C5-C6 region (*arrowhead*)

### **Brief Biography**

Yoshinosuke Shimamura MD

Chief Fellow, Japanese medical fellow program, United States Naval Hospital Yokosuka, Japan