Multifocal very short myelitis as a first manifestation of neuromyelitis optica spectrum disorder

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Background: Longitudinally extensive transverse myelitis (LETM, extending ≥3 contiguous vertebral segments) is one of the most characteristic features supporting the diagnosis of neuromyelitis optica spectrum disorder (NMOSD). And peripheral located multifocal short segment myelitis is common typical feature of multiple sclerosis. However, this NMOSD case presented with very short and multifocal peripheral located myelitis, resulting in diagnostic delay and severe further relapse. Case: A 41-year-old Korean woman presented with paresthesia and allodynia below T4 sensory dermatome for 3 months. Neurological examination revealed left side minimal hypesthesia below T7 dermatome. Spine MRI showed spinal cord lesions at T2 posterior column and T9 left eccentric portion without enhancement. Brain MRI was unremarkable. Anti-aquaporin-4 (AQP4) antibody was not tested. She received steroid treatment for 2 months and her symptom was fully recovered after 9 months. Fifteen months later from the 1st attack, she presented with both leg severe weakness and voiding difficulty. Spine MRI showed LETM (C6-T9 lesion with T2-T4 enhancement) and AQP4 antibody was positive. Her paraparesis was aggravated during steroid pulse therapy and improved after plasmapheresis. With long-term immunosuppressive therapy, there has been no further relapse for 28 months. Conclusion: Although multifocal very short myelitis, AQP4 antibody should be tested especially for Asian female patients. Furthermore, short myelitis does not exclude the possibility of NMOSD diagnosis. AQP4 antibody is essential to make an accurate and timely diagnosis in patients with short myelitis.