척수재활

게시일시 및 장소 : 10 월 19 일(토) 08:30-12:30 Room G(3F)

질의응답 일시 및 장소 : 10 월 19 일(토) 11:00-11:30 Room G(3F)

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Diagnostic Ambiguity of Neuromyelitis Optica Spectrum Disorder and Transverse Myelitis:A Case Report

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Introduction

Transverse myelitis is an acute inflammatory disease of the spinal cord. In some cases, it may be associated with optic neuritis with positive anti-aquaporin 4 Ig G antibody (AQP4-Ab) and can be diagnosed with neuromyelitis optica spectrum disorder (NMOSD). We experienced and report a case with ambiguity to diagnose accurately due to the change of laboratory test result.

Case Presentation

Thirteen-year-old girl presented with tingling sensation and motor weakness on both lower extremities. She fell down in her attempt to stand up and was unable to either move or walk in a short distance. In physical examination, motor weakness of both lower extremities was prominent with MRC grade 3 and increased deep tendon reflexes were seen on both knee. She had no visual symptoms, nor specific past and personal history on it except her father's history of diplopia few years ago without definite diagnosis. The patient underwent simple X-rays, brain magnetic resonance image (MRI), and laboratory tests. There were no signs of abnormality suggesting brain injury, optic neuritis, fracture, and/or infections. On electrodiagnostic study, there was no abnormality suggestive of peripheral neuropathy and visual evoked potential study was normal. Then, she underwent contrast enhanced MRI of the spine and it showed hyperintensity and enhancement from T1 to T5 level spinal cord on T2 weighted image, especially bilateral dorsal column area. In cerebrospinal fluid (CSF) study, there was no protein elevation, however, AQP4-Ab titer was shown to be 1:10 as weak positive. In follow-up study after 1 to 2 weeks, AQP4-Ab was converted to negative. Initially, she was treated with steroid pulse therapy following intravenous IG and physical therapy including gait training and strengthening exercise of lower extremities. According to diagnostic criteria for NMOSD, she was initially diagnosed with NMOSD, however, her diagnosis was changed into transverse myelitis after negative conversion of AQP4-Ab. After 4 weeks, she was discharged with remarkable improvement of motor and sensory symptoms on both legs.

At 1 month follow-up after discharge, her symptoms were improved almost completely enough to walk and climb up the stairs.

Conclusion

According to diagnostic criteria for NMOSD and the result of initial study, she was diagnosed with NMOSD although there was no optic involvement. However, considering her clinical appearance and follow-up laboratory test result, her diagnosis was changed into transverse myelitis. This case implies that current diagnostic criteria for NMOSD and transverse myelitis is ambiguous and it needs to be complemented in the future. In addition, clinicians have to be able to diagnose with NMOSD or transverse myelitis differentially because clinical characteristics and prognosis of both two diseases may be different.