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Acute Flaccid Myelitis in a Korean Adult

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Acute flaccid myelitis (AFM) is a rare myelitis subtype characterized by acute flaccid paralysis owing to spinal cord gray matter involvement of various viruses including poliovirus. Recently, AFM garnered global attention due to the fear of polio recurrence in polio-free countries. In Korea, to our knowledge, there has been no reports of AFM in adult. A previously healthy 28-year-old woman presented with one-day history of sudden onset quadriparesis. Two weeks earlier, she had severe gastrointestinal symptoms of vomiting and diarrhea and a fever as high as 38.3°C. Cervical spine magnetic resonance imaging (MRI) at three hours of symptom onset revealed no definite abnormal findings (Fig. 1A). Neurologic examination revealed near complete motor weakness in the upper limb. Cerebrospinal fluid (CSF) study revealed mild pleocytosis (12/mm3) and proteins were in the normal range. CSF samples for common neurotropic virus were negative as determined using polymerase chain reaction. A nerve conduction study at 3 days revealed normal sensory nerve conduction and decreased motor nerve conduction amplitude. She was presumptively diagnosed with Guillain-Barré syndrome and was treated with 5 days of intravenous immunoglobulin (IVIG). Seven days after IVIG treatment, her arm weakness was markedly improved. Contrary to initial evaluation, DTRs in the upper limb were slightly increased. Owing to unusual upper motor signs, cervical spine MRI was re-examined. MRI showed T2 hyperintensity in the anterior cord between C3 and C7 with ventral root enhancement (Fig. 1B-F). Considering acute upper limb paralysis with involvement of the anterior horn cell on MRI, a diagnosis of acute flaccid myelitis (AFM) was made. Intravenous methylprednisolone (1g/day) was administrated for 5 days. Two years later, strength improved to near normal, but asymmetric weakness of C5 myotome on right and C7 myotome on left remained. In Conclusion, clinicians should consider AFM in patients presenting with acute flaccid paralysis following respiratory or gastrointestinal symptoms.

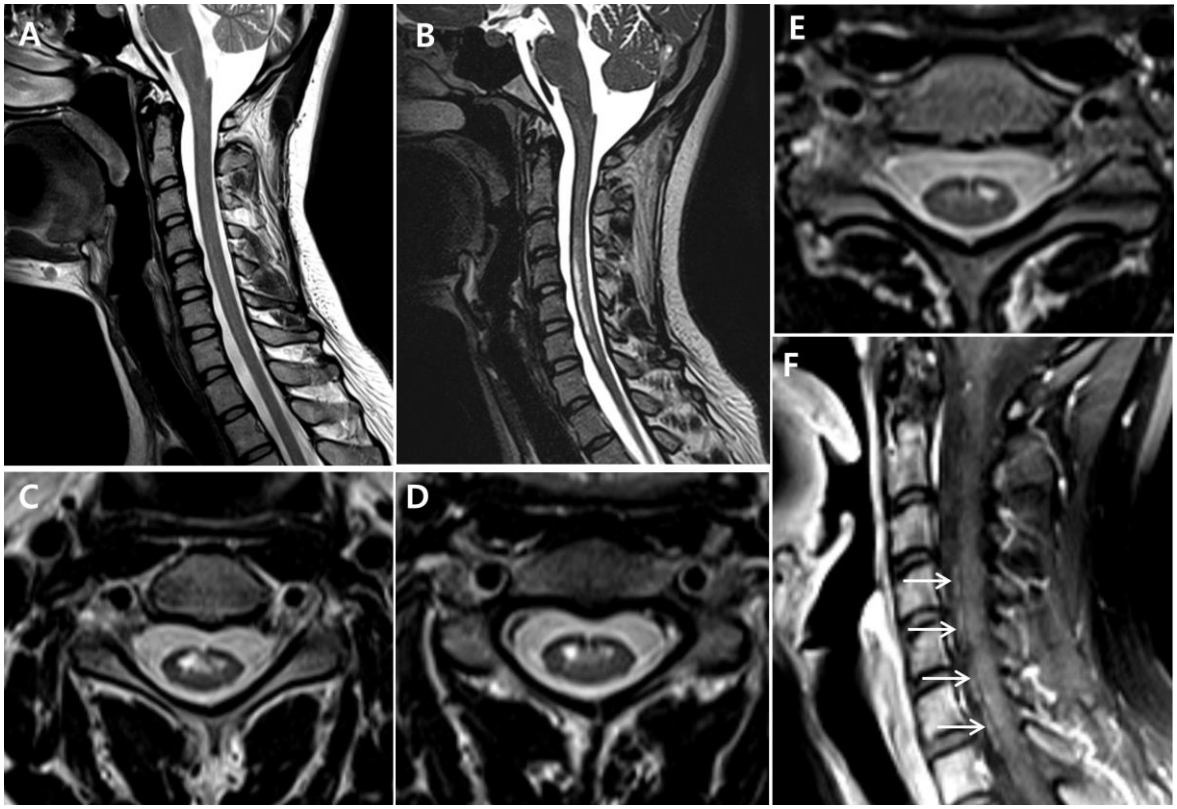

Fig. 1. Magnetic resonance imaging (MRI) findings. (A) MRI scans within three hours of symptom onset revealed no definite abnormalities in cervical cord. (B) At 2 weeks after the onset of neurological symptoms, cervical spine MRI revealed T2-hyperintensity within the anterior spinal cord. (C-E) Axial T2 weighted image revealed prominent anterior horn cell involvement at C4 and 5 level on right and C6 level on left. (F) Gadolinium-enhanced T1 weighted image showed ventral root enhancement over C4-7 vertebral levels on paracentral area (arrow).