

中文題目：突發性四肢癱瘓於一位急診室腦性麻痺患者

英文題目：Sudden tetraplegia in a patient with spastic cerebral palsy at emergency department

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Background : Sudden tetraplegia is a neurological emergency and is most often caused by traumatic spinal cord injury, spinal epidural bleeding or brainstem ischemia. Less frequently was noted by medial disc herniation or spinal ischemia. We present an interesting patient who suffered from sudden onset of tetraplegia after taking muscle relaxant due to neck pain beginning 24 hours before visiting our ER. The importance and difficulty of early diagnosis is stressed.

Case presentation : A 40-year-old man was admitted to our emergency department (ED) for acute tetraplegia. He had a medical history of cerebral palsy, spastic type, following up at the medical center. The patient was brought to other ED due to severe neck pain progressively worsened over the last 72 hours. His pain was refractory to muscle relaxant, but experienced mild relief after taking NSAID. However, acute onset of tetraplegia after taking muscle relaxant was noted after taking a nap, and was transferred to our ED.

After initial evaluation by the ED provider, there was no trauma or fall shortly before the onset of the neurological deficits. Initial vital sign was stable. Medical Research Council (MRC) scale showed grade 0/5 of both arms and 0/5 of both legs without involvement of cranial nerves or impaired consciousness. There were no signs of sensory deficits. He did not present with any cerebellar symptoms. Further clinical examination revealed loss of tendon reflexes and absent pyramidal signs on both sides. Besides, the digital rectal examination did not showed discernable pressure.

His laboratory studies revealed a white blood cell count of 9660 /mm³ (SEG:69.5%; LYMPH:21.8%; MONO:8.0%), hemoglobin 13.8 g/dL, platelet count of 200000, CRP 4.39 mg/dL, procalcitonin <0.05 ng/mL and a lactic acid of 1.1 mmol/L as well as an unremarkable comprehensive metabolic panel. brain computed tomographic(CT) scan without contrast revealed brain atrophy only. The patient's right leg had transient partial muscle power recovery (MRC scale score 3). Acute inflammatory demyelinating polyradiculoneuropathy(AIDP) was suspected. A lumbar puncture was performed, CSF analysis revealed only mild traumatic tapping without WBC. Glucose(CSF)=56 mg/dL, total protein(CSF)=82.2 mg/dL, LDH(CSF)=15 U/L. Hemophilus influenza Ag (CSF): negative, Group B streptococcus Ag(CSF): negative. TB smear and culture(CSF) revealed negative findings eventually.

As a result, magnetic resonance imaging of brain and C-spine without and with contrast was arranged under sedation. Surprisingly, MRI did not reveal spinal cord compression or signs pointing towards spinal cord ischemia. However, stenosis found at the C2-C4 levels

with bilateral neural foraminal narrowing at C2-C3 C3-C4 levels. Due to personal reason, he was again transferred to medical center for further evaluation.

Discussion : Sudden tetraplegia represents a neurological emergency. In the majority of cases the tetraplegia is caused by acute mechanical spinal cord affection(1), for example spinal cord contusion or medial disc herniation, or by vascular spinal cord pathology, for example spinal epidural bleeding, spinal or brainstem ischemia(2).

During a research of nontraumatic spinal cord injury, spinal stenosis was the leading cause (3). We describe a surprising and unusual cause of acute tetraplegia; in this special case, though muscle relaxant was seem to be the initial cause, immediate diagnostic steps had to be prompted to rule out progressive and potentially reversible spinal cord injury such as mechanical compression. This case report underlines the need to consider unusual causes of tetraplegia in an emergency situation apart from spinal cord or brain stem injury, especially in spastic cerebral palsy. The spasticity could usually lead to very early onset of muscle-stress symptoms like arthritis and tendonitis, especially in ambulatory individuals in their mid-20s and early-30s, which may lead to cervical spinal stenosis.

References

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