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Cerebellar Mutism Resulting From Cerebellar Intracranial Hemorrhage in An 11-year-old Male Child

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Introduction

Cerebellar mutism is a rare neurological condition characterized by speechlessness. It is reported that most cases Result from posterior fossa surgery for brain tumor in children. Cerebellar mutism can be divided into two phases: the mutistic phase and the post-mutistic phase. The duration of the mutistic phase is variable, lasting from a few days to several months. During the mutistic phase, high-pitched crying is the only form of vocalization, frequently accompanied by behavioral disorders and emotional disorders such as emotional lability, apathy and autistic like behavior. Three subtypes are reported in the post-mutistic phase: dysarthria accompanied by a higher language disorder; language disorder without dysarthria; and behavioral disturbance after mutism.

Case report

An 11-year-old male child presented symptoms of vomiting followed by loss of consciousness. The patient showed deep stupor mentality and brain computed tomography(CT) and angiography showed a spontaneous intracranial hemorrhage on the vermis and right hemisphere of cerebellum with intraventricular hemorrhage in both lateral and 3rd ventricles and crowding of vascularity of posterior fossa. Suboccipital craniectomy and removal of ICH was carried out on the day of the incident. The patient was transferred to rehabilitation department on 48 days post-ictus. He had bilateral weakness, mutism, cognitive defect, ataxia, dysmetria, oropharyngeal dyspraxia due to involuntary tongue movement, dysphagia and voiding difficulties. In the mutistic phase, the patient was only able to vocalize high pitched sounds. In the Language and Speech Evaluation, abnormalities were detected in breathing, speaking, resonance and articulation. The patient scored 40 points, one to seven percentile, in The Korean Version Boston Naming Test for Children (K-BNT-C). Because of the patient had mutism, the examination was conducted as an analogy between words and lips. Language therapy was carried out to improve voice breathing and oro-motor function. In the post-mutistic phase, about three weeks after initiating treatment, the patient was able to speak using vowels, though the patient's speech was still difficult to understand. About seven weeks after initiating treatment the patient was able to pronounce a consonant sound and three syllables. In our most recent evaluation, about four months after initiating treatment, the patient scored 47 points, 42~51 percentile in K-BNT-C. In receptive and expressive vocabulary delay test (REVT), the patient scored 122 points, below ten percentile in receptive vocabulary, 104 points, below ten percentile in expressive vocabulary. The

patient had dysarthria and higher language disorder. The patient frequently omitted grammatical elements and talked slowly with short sentences.

Conclusion

This case reports treatment progress of a language impairment of a rare neurological condition, cerebellar mutism due to posterior fossa surgery for cerebellar ICH.

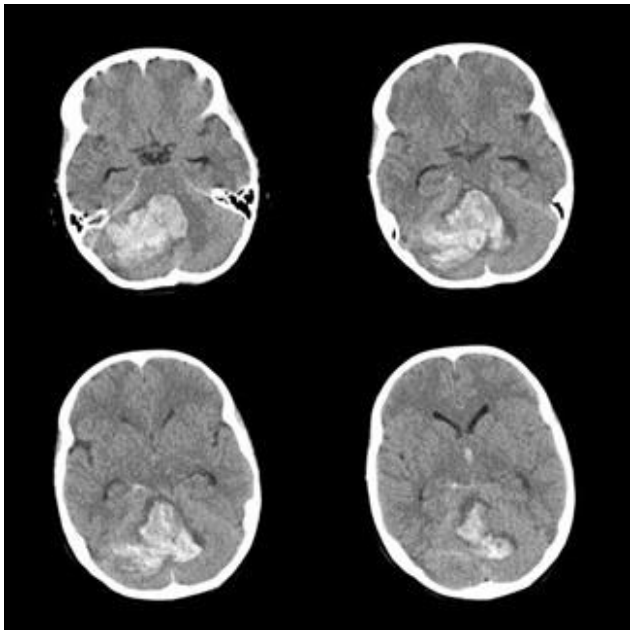

Fig 1. Axial brain CT images. Large amount ICH on the vermis and right cerebellum.