뇌신경재활

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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## Increased thalamocortical connectivity from the affected thalamus to the unaffected hemisphere

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Consciousness is controlled by complicated actions of various neural structures. The thalamocortical connections between the central thalamus and cerebral cortex is considered an important neural structure for consciousness. Here, we report a stroke patient who showed increased thalamocortical connectivity from the affected thalamus to the unaffected hemisphere through interthalamic adhesion.

A 79-year-old female patient underwent decompressive craniectomy for brain swelling due to infarction in the right intracerebral artery territory at the neurosurgery department of a university hospital. She was transferred to the rehabilitation department of the same university hospital at ten weeks after onset. Brain magnetic resonance imaging showed a leukomalatic lesion in the right fronto-parieto-occipito-temporal lobes, subcortical white mater and midbrain. The patient showed a vegetative state, with a Glasgow Coma Scale (GCS) score of 6 (eye opening: 1, best verbal response: 1, and best motor response: 4) and Coma Recovery Scale-Revised (CRS-R) score of 3 (auditory function: 0, visual function: 0, motor function: 2, verbal function: 1, communication: 0, and arousal: 0). In this patient, DTT revealed that the majority of the thalamocortical connections between the thalamic ILN and the cerebral cortex in the right (affected) hemisphere were connected from the right thalamus to the left (unaffected) hemisphere through the interthalamic adhesion in a stroke patient. The central thalamus is a core structure of consciousness because it directly links to the cerebral cortex, brainstem and basal forebrain, and indirectly links to the cortico-basal ganglia-thalamo-cortical loop system. It appears that the increased thalamocortical connection from the thalamic ILN of the affected hemisphere to the unaffected hemisphere in this patient is a compensatory phenomenon to the severe damage of the affected hemisphere.

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