White Matters in the Cerebrum Through Fiber Dissection

최 찬 영
인제대학교 일산백병원 신경외과

Choi, Chan-Young, MD, PhD
Department of Neurosurgery, IlsanPaik Hospital, Inje University

Background: The purpose of this study is to understand three dimensional relationships of white matter fibers and subcortical gray matters in the cerebrum.
Methods: The lateral, medial and basal aspects of cerebral hemispheres were dissected, applying the fiber dissection technique under the microscope.
Results: The central core between the insula and sagittal midline of the cerebrum includes the extreme, external, and internal capsules; claustrum; putamen; globus pallidus; caudate nucleus; amygdala; diencephalon; substantia innominata; fornix; anterior commissure; mammillothalamic tract; fasciculus retroflexus; thalamic peduncles, including optic and auditory radiations; ansa peduncularis; thalamic fasciculus; and lenticular fasciculus. It is attached to the remainder of the cerebral hemisphere by the cerebral isthmus, which is composed of white matter fibers located between the dorsolateral margin of the caudate nucleus and the full circumference of the circular sulcus of insula. The rostral fibers of the corpus callosum are included in the frontal portion of the cerebral isthmus.
Conclusions: It is very useful to facilitate the understanding of spatial relationships in and around the central core with a highly complex anatomy by using fiber dissection.

Key Words: White matter tracts, Subcortical gray matters, Fiber dissection, Central core, Cerebral isthmus, Temporal stem