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C0118 - WHITE MATTER STUDY AND RELATIONSHIPS OF THE LIMBIC AND PARALIMBIC AREAS: SURGICAL CONSIDERATIONS

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Resumen

Objectives: Provide a detailed anatomical study of the White matter structures related to the limbic and paralimbic areas. Use this anatomical knowledge to improve surgical techniques and approaches for a successful course of surgery.

Methods: We studied 16 cerebral adult hemispheres of 8 brains that had been fixed in formalin solution for 60 days. After removal arachnoid membrane, the hemispheres were frozen, and the Klinger technique was used for dissection under magnification (× 6 to × 40). Transillumination technique of the ventricles was used to better understand this anatomy.

Results: In relation with the limen insula we find the uncinate fasciculus (UF) and it is the most important fascicle of interconnection between limbic and paralimbic areas. The temporal stem is a region located between the anterior region of the insula and temporal horn of the lateral ventricle with a length of 13 ± 2 mm that includes very important fascicles in the connections of the limbic and paralimbic system: UF, the anterior commissure, inferior fronto-occipital fasciculus and the inferior thalamic peduncle. The transillumination technique shows us with more clarity the relationships between the temporal horn and the most relevant fascicles at its surroundings. These results suggest new strategies to treat tumor lesions in these areas.

Conclusions: The White matter fiber dissection reveals the tridimensional intrinsic brain structure. This knowledge allows the neurosurgeon to better understand tumor's behavior and minimize neurologic disorders.