Dissection of White Fibers from the Lateral Surface of the Brain through the Klingler Method: Step by Step

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Clinical Images

Materials and methods
The method we present is a modification to the Klingler method with which we have obtained adequate results in the generation of anatomical demonstrative pieces for the teaching and learning of the internal structures of the encephalon. The modified Klingler method consists of: (1) Extraction, (2) Washing, (3) Fixation, (4) Conservation, (5) Removal of arachnoids, (6) Freezing, (7) Dissection. Before dissection, the arachnoid and cerebral arterial system are removed from the external configuration of the brain taking care not to injure the cerebral cortex, cerebellar or cranial nerves at their apparent origin. The brain is placed for a period of 8 days in freezing at -13 to -15 ° C. The freezing of the solution located between the fascicles, the cortex and the nuclei forms micro crystals that when thawed they perform a hydrodissection. After freezing, the brain is removed and placed in a tray to thaw at room temperature for 20 minutes. The color of the cortex becomes dark brown, the cortex is fragmented and easily removable from the white matter (Figures 1-12). These characteristics are ideal for initiating the dissection of the internal structures of the brain [1]. The study was performed in 4 cerebral hemispheres, from April to September 2017. Nine steps were used, each of which was detailed during the study. The dissection was performed under the supervision of Dr. Feres Chaddad Neto, Vascular Neurosurgeon and Head of the Microsurgical Neuro Techniques Laboratory of the Federal University of São Paulo - Brazil. After the dissection was placed the anatomical piece worked in glycerin for one hour to acquire a darker color of the gray matter and can be more easily related to the white matter, then after the required time the anatomical piece is placed in a clean field for 10 minutes so that the glycerin is drained from the part and proceed to the respective photographic shot [2]. The material used for the dissections were [3]:

1. Carl Zeiss OPMI peak f 170 microscope.
2. Dissection tray + non-sterile field.
4. Dissecting tweezers with and without teeth.
5. Scalpel sheet number 11.
6. Wooden stick adapted for dissection.
7. Glycerin.

References