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PO-022 - (22687) - POSTMORTEM BRAIN LIQUEFACTION IN A NON-FIXED CADAVER

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The authors declare that they have no conflict of interest.

Circumferential craniotomy has a long history, with humans seeking to open the cranium and examine the brain for various reasons throughout the centuries. Modern methods typically use oscillating saws for calvarial removal. This study aims to demonstrate the necessity of postmortem brain tissue fixation for anatomical and pathological studies.

The study was conducted in the Macroscopy Laboratory at Faculty of Medicine. We used a male cadaver head that had not been fixed with formalin and was frozen at -4°C. After identifying dissection lines and performing a craniotomy, the calvaria was removed, and the brain was extracted.

Upon removal of the calvaria, the dura mater and the arteries supplying the meninges remained intact. However, the brain tissue exhibited color changes, liquefaction, blurred cortical gyri, and was notably soft upon palpation. The structures of the basis cranii were observed to be normal after the brain was removed.

Autopsy studies and imaging findings indicate that brain tissue rapidly softens and undergoes liquefaction in bodies kept non-fixed. Although our cadaver head was preserved by freezing, the findings underscore the importance of 10% formalin fixation or plastination in preserving brain integrity. Our study suggests that using a larger number of unfixed cadavers and employing histological and radiological methods could further support these findings. The observed brain tissue changes favor softening and liquefaction in unfixed cadaver brains, and liquefaction significantly complicates dissection work.

Palavras-chave : liquefaction, fixation, craniotomy