Brain-cutting device for correlation of brain scan and autopsy sections

Technical note

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The authors describe a frame with guides to facilitate accurate correlation of the planes of brain-specimen sections with computerized axial tomography brain scans.

KEY WORDS · computerized axial tomography · brain scan · brain section

Figure 1 shows the orbitomeatal (O-M) line which is lost after separating the brain from the skull. Our O-M line is determined by the outer canthus of the eye and the auditory meatus. The occipitofrontal (O-F) line is drawn between the most inferior aspects of these lobes. The O-F line is used to align the brain specimen to the fixture for cutting. The CAT planes are illustrated by the dashed lines (Fig. 1 left), and correspond to the cutting slots in the lucite of the fixture (Fig. 1 right).

The neuropathologist positions the specimen in the hole on the supporting plate (Fig. 1 right). The underside of the frontal and occipital lobes are approximately aligned to the corrected scan cutting angles; that is, the 0°, 15°, or 25° lines. The knurled screws at either end of the supporting plate provide fine adjustment for elevation or depression of...

FIG. 2. Comparison of the postmortem brain cut using our fixture (right) and a corresponding CAT scan (left). This patient died as a result of multiple cerebral hematomas. Rupture of blood into the left anterior horn is demonstrated.

either end of the plate. The brain is held with one hand and cuts are made with a knife held in the other hand, starting from the top down. Either right- or left-handed cuts are possible.

Figure 2 shows the desirable correlation between a CAT scan and a cut brain specimen.

References

