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Supramastoid Crest, Safety Landmark for Craniotomy?

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Abstract

Background: Bony landmarks are important in identifying and avoiding various structures, and thus, decreasing surgical morbidity. Knowledge of frontal bone was studied to help surgeons with safe craniotomy as temporooccipital region study was rare.

Objective: To identify usefulness of supramastoid crest and relationship to venous and Labbe's vein.

Material and Method: Twenty fresh cadaveric heads, the vessels were injected with colorized silicone, were studied on both sides, yielded 40 sides. The relationship of the supramastoid crest to the transverse, sigmoid sinus, Labbe's vein was also determined and measured. The following distances were measured utilizing the digital caliper for all measurements.

Results: Supramastoid crest was found in all cadavers (100%) and skull opened along supramastoid crest 100% safe from injury to venous sinus. Anterior border of supramastoid crest was close in relation to middle cranial fossa floor, 85% on right side and 90% on left side and the same level of middle cranial. The authors defined supramastoid point with turning of supramastoid crest and found distance from supramastoid point to nearest venous sinus (always transverse sinus) 1.0-22.41 mm in range and average 12.94 mm on right side and 11.87 mm on left side. The last distance, from supramastoid point to nearest Labbe's vein, was measured and found to be 5.94-24.97 mm in range and average 17.23 mm on both sides.

Conclusion: Supramastoid crest is bony landmark and easy to identify in the adult cadaver and craniotomy along supramastoid crest and always safe from injuring the venous sinus and Labbe's vein. 87.5% anterior border of supramastoid crest is the same level for middle cranial fossa floor.

Keywords: Supramastoid crest, Safty landmark

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