



# Neurocirugía

<https://www.revistaneurocirugia.com>



## O-74 - DOES ABSOLUTE SIZE REALLY MATTER IN DECOMPRESSIVE CRANIECTOMIES?

G.A. Villalobos Sierra, E. Suárez Torrico, A. Arévalo Saénz, A. Carrascosa Granada, F. Ortuño Andériz, R. Pérez Alfayate

Hospital Clínico San Carlos, Madrid, Spain.

### Resumen

**Introduction:** Decompressive craniectomy (DC) is the treatment of choice for refractory intracranial pressure (ICP). Although the Brain Trauma Foundation guidelines recommend a large DC (#1 15 cm in diameter), no consensus exists regarding its proportionality to the patients cranial size.

**Objectives:** To determine whether absolute craniectomy size is the most relevant factor influencing mortality or if its impact is rather related to its proportion to the patient's cranial volume.

**Methods:** A retrospective descriptive study was conducted over the past 10 years in patients undergoing DC due to traumatic brain injury. A total of 46 patients who underwent fronto-temporo-parietal DC were included in the analysis. Cranial and craniectomy volumes were calculated using the ellipsoid formula to determine their volumetric ratio.

**Results:** The study included 36 men and 10 women (mean age: 52.87 years). Hospital mortality was 34.8% (16 patients). The mean cranial volume was 1,173.53 cm<sup>3</sup> (range: 815.78-1,559.34), while the mean craniectomy volume was 114.51 cm<sup>3</sup> (range: 67.01-190). The mean volumetric ratio was 10.59 (range: 7.36-14.82). Univariate analysis (Mann-Whitney U test) showed no statistically significant association between volumetric ratio and mortality ( $p = 0.42$ ).

**Conclusions:** Our findings suggest that the proportion between craniectomy volume and cranial volume may be a more relevant parameter in patient outcomes than absolute size alone, with potential implications for reducing mortality.