Decompressive craniectomies for malignant anterior circulation infarction—evaluation of in-hospital prognosis

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Abstract

Objective: Analyse the in-hospital prognosis of patients submitted to decompressive craniectomy (DC) for anterior circulation malignant stroke.

Methods: Retrospective analysis of consecutive patients submitted to DC for anterior circulation malignant stroke, for a period of 5 years in a tertiary centre. Demographic, imagiological and surgical data, as well as neurological outcome, were analysed; factors associated with in-hospital mortality were determined.

Results: Among 41 patients, the average age was 57.46±12.1 years, 56.1% were male and 53.6% had right-sided infarction. 32 of the surviving patients achieved a Rankin score >3. Mortality was 46.3%, and associated with higher ages (62.7±10.8 vs 53.4±11.8;p=0.013). Preoperative midline shift (MDS) of >10 mm was predictor of mortality (OR 4.2;p=0.038). Presence of anisocoria was associated with 66.7% mortality versus 33.3% (p=0.058) without its presence. No postoperative MDS was associated with 33.3% mortality versus 54.5% on those that maintained MDS (p=0.093). Patients under 65 years old with isolated middle cerebral artery infarction (MCA) (n=22) presented a mortality of 31.8% versus 57.8% on those that did not fulfilled one of these criteria. Mortality in patients over 65 years old reached 77.8%, with all survivors presenting an isolated MCA infarction. On the subgroup of patients with more than one ischemic territory and under 65 years, the mortality was 40% (versus 100% over 65 years), with only one patient reaching Rankin score ≤3.

Conclusion: Age and preoperative midline shift were associated to in-hospital mortality. Patients >65 years and/or >1 ischemic territory presented the worst prognosis.