

Decompressive craniectomy following traumatic brain injury: our experience

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Introduction

An uncontrollable rise of the intracranial pressure (ICP) after severe brain injury usually results in poor neurological outcome. The reduction of ICP after decompressive craniectomy (DC) is thought to improve recovery. Our experience with DC is discussed.



Results

Of 118 patients with severe brain injury, DC was employed in 19 patients, 43% of patients died, 12% remained in persistent vegetative state and 7% severely disabled.

A favourable treatment outcome was achieved in 38%. Rated by GOSE score (GOSE 1 to 4), poor treatment outcome was observed in 62% (average GOSE 1.4) and favourable in 36% (average GOSE 6.5). Before and after DC, the average ICP has fallen from 48mmHg to 14mmHg, respectively ($p=0.003$). Patients treated by DC later than 24 hours after injury, those with GCS rated from 6 to 8 ($p=0.0038$) and those younger than 50 years, had a better treatment outcome.

Conclusion

DC effectively reduces the rise in ICP following a severe brain injury. Patients with lower neurological dysfunction and patients younger than 50 years benefit the most. The successful treatment outcome was observed in 38% of patients.

Our observations confirmed the better outcome of DC when performed later than 24 hours after the injury.

Materials and Methods

In the retrospective study, 19 patients treated by DC were included. For every patient, the effect of treatment was scored by GOSE score at discharge and during follow-up. The influence of patient age, initial GCS score, time of surgery, pupillary light reflex, associated injuries, concomitant intracranial procedures and treatment outcomes were studied.