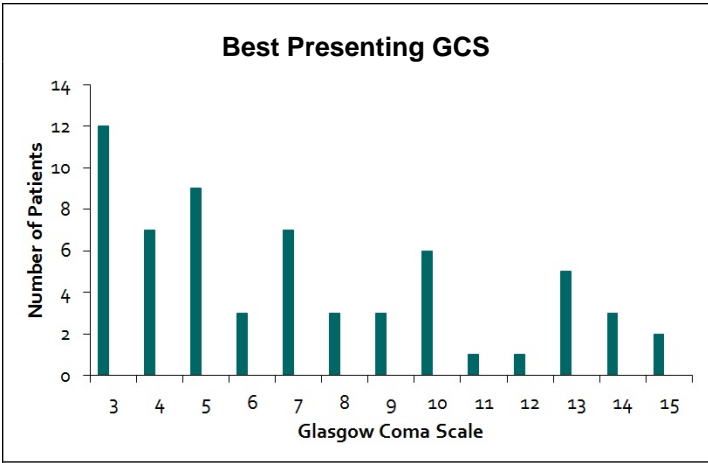


Introduction

A retrospective study measuring the outcomes post-decompressive craniectomy done for cases of traumatic head injury in a single centre.

Methods

Search of theatre cases where decompressive craniectomy has been done for trauma between years 2006 and 2013. Patient data collected include age and gender. Clinical details include the GCS on admission, time to surgery, type of decompression, presence of intracranial clots and intraparenchymal contusions, length of hospital and ICU stay. Glasgow outcome scores (GOS) were measured at time of discharge and on last follow up.



Results

62 patients underwent decompressive craniectomy for trauma with a median presenting GCS of 6. 12 patients had a GCS of 3 on arrival of which 42% died. There were 16 deaths in total accounting for 25.8% of all cases. 87% of cases had evidence of diffused axonal injury or intraparenchymal contusions on CT. Average time to decompressive was 28.7 hours. Average length of hospital stay was 19.5 days, with ICU stay averaging 6.5 days. 67.4% of patients who survived had a GOS of at least 4.

Comparison of Outcomes with Past Literature				
Author	Year	Mortality	Good recovery/Moderate disability (GOS >3)	N
Polin et al.	1997	23%	37%	26
Yoo et al.	1999	17%	33%	6
Taylor et al.	2001	-	54%	13
Whitfield et al.	2001	23%	69%	26
Aarabi et al.	2006	28%	51%	40
Skoglund et al.	2006	11%	68%	19
Jagannath et al.	2007	30%	81%	23
Olivecrona et al.	2007	14%	71%	21
Waikato	2013	26%	67.3%	62
Ho et al.	2008	38%	31%	16
Howard	2008	55%	30%	40
Williams et al.	2009	32%	56%	171
Daboussi	2009	31%	42%	26
Bao	2010	19%	54%	37
Eberle	2010	26%	42%	43

Note: Outcome percentages for Waikato are expressed as percentage of overall survivors, as are some other studies in this comparison

Conclusions

Decompressive craniectomy is a viable option for treating raised intracranial pressures that are refractory to medical management. Patient selection is important however in spite of this the mortality rate of severe head trauma remains significant.

Glasgow Outcome Scale	Overall Outcome	
	Number of Patients (%)	
	At discharge	6 months**
Independent with minor deficits	1 (1.6%)	25 (54.3%)
Independent with significant deficits	4 (6.5%)	6 (13.0%)
Dependent on cares	37 (59.7%)	8 (17.4%)
Vegetative state	4 (6.5%)	1 (2.2%)
Dead	16 (26%)	-

*6 patients lost to follow up; +Expressed as percentage of patients who survived; Note: All patients discharged to rehabilitation services hence majority of discharge GOS is 3

Learning Objectives

The usefulness of decompressive craniectomy as a surgical option to manage increased intracranial pressure as well as the complications and outcomes one might expect for a patient having such a procedure in the context of severe head trauma.