Pre-hospital and in-hospital parameters and outcomes in patients with traumatic brain injury: a comparison between German and Australian trauma registries

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INTRODUCTION

In Germany, physician-operated emergency medical services (EMS) manage most pre-hospital trauma care. Australia uses a different EMS system, deploying highly trained paramedics for road and air transport of trauma patients. The effect of these different systems on secondary insults to traumatic brain injury (TBI) patients is unclear. There is conflicting evidence regarding which system is preferable. To add to the body of evidence, we compared the profile of injury, pre-hospital management and outcomes of TBI patients from both populations.

METHODS

Cases aged > or = 16 years, with AIS head > or = 3, AIS other body parts < or = 3, recorded in the Victorian State Trauma Registry (VSTR) and Trauma Registry of the German Society of Trauma Surgery (TR-DGU) from 2002 to 2007 were compared.

RESULTS

10,183 cases (5665 German, 4518 Australian) were included. No difference in sex or median age was observed. There were major between-registry differences in type of injury, trauma circumstance, intent and severity of injury. German cases sustained more serious injury and received more pre-hospital interventions. Mortality was significantly higher amongst German patients even when adjusted for demographics, injury severity and in- and pre-hospital parameters. German patients had a longer hospital and ICU stay.

CONCLUSION

There were clear differences in injury characteristics and outcomes in TBI patients between Germany and Australia. As differences in coding, data collection and patient selection are evident, firm conclusions regarding the contribution of variations in pre-hospital care are not possible. The differences in outcome deserve further exploration in prospective studies.