

Clinical Outcomes of Mild Traumatic Brain Injury with Acute Traumatic Intracranial Hemorrhage on Initial Emergency Ward Neuroimaging

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Abstract : Objectives: Treatment of mild traumatic brain injury in emergency ward patients with any type of traumatic intracranial hemorrhage is flexible. The aim of this study is to assess the clinical outcomes of mild traumatic brain injury patients who had acute traumatic intracranial hemorrhage on initial emergency ward neuroimaging. Materials-Methods: From March 2011 to November 2012 in a retrospective cohort study we enrolled emergency ward patients with mild traumatic brain injury with Glasgow Coma Scale (GCS) scores of 14 or 15 and who had stable vital signs. Patients who had any type of intracranial hemorrhage on first head CT and repeat head CT within 24 hours were included. Patients with initial GCS < 14, injury > 24 hours old, pregnancy, concomitant non-minor injuries, and coagulopathy were excluded. Primary endpoints were neurosurgical procedures and/or death and for discharged patients, return to the emergency ward during one week. Results: Among 755 patients who were referred to the emergency ward and underwent two head CTs during first 24 hours, 302 (40%) were included. The median interval between CT scans was 6 hours (ranging 4 to 8 hours). Consequently, 135 (45%) patients had subarachnoid hemorrhage, 124 (41%) patients had subdural hemorrhage, 15 (5%) patients had epidural hemorrhage, 28 (9%) patients had cerebral contusions, and 54 (18%) patients had intra-parenchymal hemorrhage. Six of 302 patients died within 15 days of injury. 200 patients (66%) have been discharged from the emergency ward, 25 (12%) of whom returned to the emergency ward after one week. Conclusion: Discharge of the head trauma patients after a repeat head CT and brief period of observation in the emergency ward lead to early discharge of mild traumatic brain injury patients with traumatic ICH without adverse events.

Keywords : clinical outcomes, emergency ward, mild traumatic intracranial hemorrhage, Glasgow Coma Scale (GCS)

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