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Predictors of positive CT brain among head injury patients with normal GCS

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Objectives: There continues to be an ongoing debate regarding the usefulness of non contrast CT brain in patients with on admission normal Glasgow Coma Scale (GCS) following head trauma. The objective of this study is to determine the patient's clinical features and mechanism of injury which can predict the positive CT brain at the Emergency Trauma Center (ETC) of Teaching Hospital, Karapitiya.

Methods: Patients who were admitted to the ETC with normal GCS following Head injury during a period of 2 months (n=162) were included in this study. Their records on further management (CT scan, clinical features and follow up) were documented.

Results: Eighty nine patients (55%) underwent CT scan on admission. Only 30 (34%) had shown positive CT findings. However, only 6 (3.7%) patients underwent neurosurgical procedures (5 wound debridement and 1 EDH evacuation). Patients who had all following features- retrograde amnesia, vomiting, loss of consciousness and headache had positive CT findings (Pearson chi square=483.0, $p< 0.05$). When these factors were considered separately only amnesia had a significant association in detecting a positive CT finding.

Conclusions: We were able to demonstrate several factors which can be served as predictors of positive CT brain in patients with normal GCS following head injury. This study highlights some of the symptoms that may help in identifying head injury patients with normal GCS who might benefit from a CT brain.