Title:

## Does scheduled progress computed tomography of the brain alter management in patients with intracranial haemorrhage from traumatic brain injury?

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Abstract:

*Objective*

To evaluate the efficacy of scheduled progress CT brain in the management of traumatic brain injury with intracranial haemorrhage. Secondary aim is to identify patients with risk factors who would benefit from a scheduled progress CT brain.

*Method*

This is a retrospective cohort study. Inclusion criteria were patients who sustained a traumatic brain injury with the presence of intracranial haemorrhage in the year of 2020. Patients who underwent neurosurgical operation on arrival and those who received progress CT brain beyond 12 hours from the first scan were excluded from the study. Demographics analysed included age, gender, Glasgow Coma Scale (GCS), systolic blood pressure, mechanism of injury, pathology, time between first and scheduled progress CT brain, presence of neurological decline and drug history. Statistical analysis were carried out by SPSS with P value of <0.05 as significant cutoff.

*Result*

A total of 304 cases were recruited. After exclusions, 206 cases were analysed. Majority of injury mechanism was fall on same level (76.7%). Mean age was 68. Interval enlargement of intracranial haemorrhage in progress CT brain was observed in 11.7% of cases. 8.3% of cases underwent neurosurgical intervention subsequently, all of whom presented with a neurological decline. Warfarin use and the presence of intracerebral contusion were risk factors for neurological decline.

*Conclusion*

Scheduled progress CT brain does not alter neurosurgical intervention in patients without clinical deterioration. Patients with warfarin use or intracerebral contusion have a higher risk of neurological decline who might benefit from a progress CT brain.

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