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Repeat Neuro-Imaging in Patients Presenting with Traumatic Extra-Axial Intracranial Hemorrhage

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Repeat neuro-imaging in patients presenting with traumatic extra-axial intracranial hemorrhage

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Introduction: The management of extra-axial intracranial hemorrhage patients is complicated and lacks a systemic algorithm to determine the timing and necessity of head computed tomography (HCT). However, repeat HCTs weakly predict the need for an intervention after mild traumatic brain injury (TBI).

Objective: This study focused on assessing the safety, efficacy, and necessity of obtaining serial HCTs in patients presenting with subdural hemorrhages.

Methods: A retrospective chart review was conducted of patients with subdural hemorrhages and a GCS between 13-15 on admission (n=116). The total number of HCTs, time between repeat HCTs, duration of hospital stay, and factors necessitating surgery were studied. Fischer's exact was used to evaluate the association between 1 HCT or 2-3 HCTs and the need for surgical intervention.

Results: There was no statistical difference found in the need for an intervention between patients having one or greater than one HCT in the first 24 hours. The average age was 69 years old. The gender breakdown comprised of 49 females and 67 males. 80% (n = 93) of the patients did not require surgery during hospital stay.

Discussion: Our results suggest that there is no association found between the number of HCTs and surgical intervention. This study demonstrates the need for improved variables to assess TBI. We recognize the limitations found in this study and future analysis will need to assess other prognostic indicators to better predict the need for intervention in mild TBI patients.