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The criteria for CT brain in patients with minor head trauma

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Background & Aim: Head injury is recognized as a major public health problem that is a frequent cause of death and disability in young people and makes considerable demands on health services. More than 75% of recorded Traumatic Brain Injury (TBI) cases are considered minor considering their Glasgow Coma Scale (GCS) score. The aim is to improve the quality of care for patients with mild head trauma in Suez Canal University Hospital patients.

Method: This study was carried out as a prospective diagnostic study at Suez Canal University Hospital to develop an accurate and reliable decision rule for the utilization of Computed Tomography (CT) in patients with a Glasgow Coma Scale (GCS) score of 13-15, and to assess both sensitivity and specificity of the new rule in detecting patients with clinically important brain injury.

Result: The study included 528 cases, presented with mild head trauma, all were exposed to CT examination and this examination revealed positive findings in 75 patients (14.2%) and negative results in 453 patients (85.8%). Suez Canal score had the best sensitivity followed by New Orleans then Canadian score. On the other hand, Canadian rules had the best specificity followed by Suez Canal and then New Orleans score. The overall accuracy was higher in Canadian score followed by SC score and finally New Orleans score.

Conclusion: Suez Canal criteria has the highest sensitivity compared to both the Canadian and New Orleans criteria to predict positive CT finding, while the Canadian criteria was more specific. Logistic regression analysis was used to assess the best predictor of positive CT finding from the used criteria. It is found that old age, presence of seizures, suspected skull fracture and basal fracture were significant predictors of positive CT findings.

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