

Management of Mild TBI at UTMCK: An Opportunity for Improvement

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Background

- 223,135 TBI related hospital admissions in 2019. (CDC)
- Brain Injury Guidelines (BIG) and modified BIG (mBIG) have changed the paradigm of management of mild TBIs.
- UTMCK admitted 1873 patients with TBIs as a diagnosis code in 2021 out of 4923 total admitted trauma patients.
- The management at UTMCK of TBIs does not follow the proposed mBIG or BIG guidelines for management.
- The most common management of any TBI at UTMCK is a neurosurgery consult and is almost always followed by a repeat head CT at 6 hours.

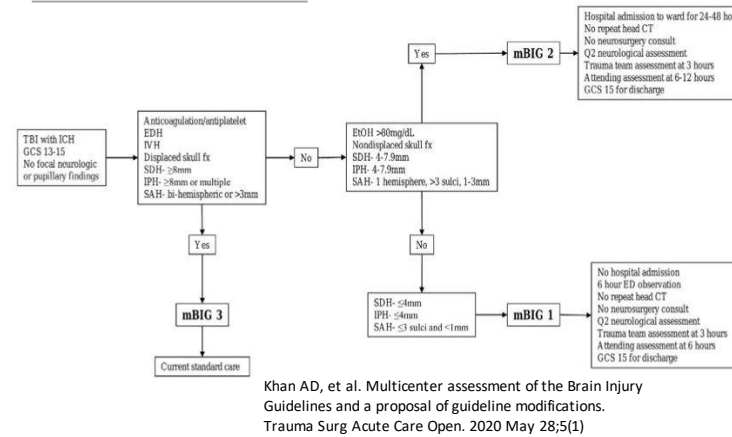
Question

- Is it necessary to obtain a repeat head CT at 6 hours on every TBI and is it safe and efficacious to follow these guidelines at our institution?

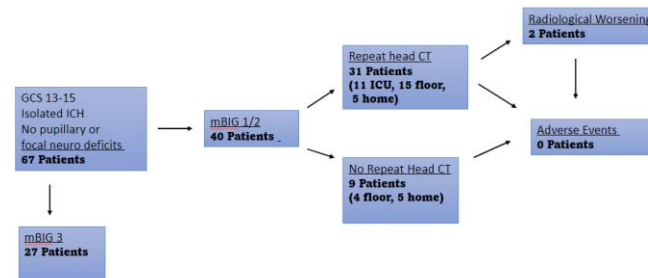
Methods and Materials

- Retrospective analysis.
- Inclusion Criteria: trauma patient, 1/2016- 4/2021, TBI, GCS 13-15, no pupillary changes or focal neuro deficits, no other injuries.
- Queried UTMCK trauma database for patients meeting these criteria.

Modified BIG Criteria



Our Results at UTMCK



Results

- 67 patients met inclusion criteria.
- 27 patients fell into mBIG 3 criteria.
- 40 patients fell under mBIG1/2 criteria, 9 did not receive repeat CT, 31 did.
- 11 went to ICU, 15 to floor, 5 home from ED.
- Only 6% (2/31) patients had radiological worsening but clinically insignificant, repeat scan was stable and they went home.
- There were 0 adverse events in either the repeat scan group or no repeat scan group. There was no neurosurgical interventions, transfer to the ICU or change in neurosurgical plan.

Conclusions

- The mBIG criteria has been validated at other institutions and this study helps to validate it at our institution for isolated mild TBI.
- Applying this criteria at UTMCK could significantly improve our cost effectiveness and throughput. Not only by decreasing CT scans but also by decreasing unnecessary admissions and consults.