30 Month Institutional Experience with Minor Blunt Head Trauma in Anticoagulated Veterans

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Background

The incidence of delayed intracranial hemorrhage (DICH) is poorly understood in Veterans with low-risk blunt head trauma (BHT) while on pre-injury anticoagulant or antiplatelet (ACAP).

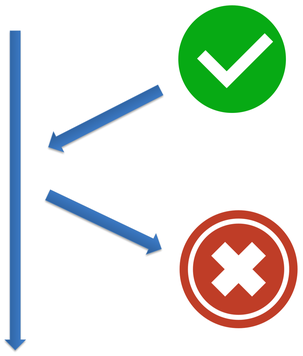
Objective

The purpose of this study was to evaluate the incidence of DICH within a single urban Veterans Affairs (VA) Emergency Department (ED).

Methods

A 30-month retrospective observational study (January 2017 – July 2019) was conducted using the VA Computerized Patient Record System. Data were collected using a standardized electronic form. Inclusion criteria consisted of patients presenting to the ED for evaluation of BHT with a negative initial head computed tomography scan (CTH) while on pre-injury ACAP. Patients with severe facial or skull fractures were excluded. Follow-up notes at least 5 days after index ED visit were reviewed for documentation of DICH.

30-month retrospective study (Jan 2017-July 2019)



Inclusion Criteria:

- Presentation to ED with Blunt Head Trauma
- Negative initial head CT
- GCS > 14
- On prehospital anticoagulation

Exclusion Criteria:

- Severe facial/skull fractures

- Follow-up via visit notes 5 days after index ED visit
- Identify patients with DICH

Demographics

There were 221/1298 patients (17.0%) that met our inclusion criteria. The study population was 98% male and had a mean age of 70.5 ⍰ 15.5 years. The most common mechanism of injury was ground-level falls (69.2%).

Met Criteria
221/1298 (17%)

Male
98%

Age
70.5 ± 15.5

Mechanism
Ground Level Fall (69.2%)

Results

188 patients (85%) were on pre-injury antiplatelet (157 aspirin, 30 clopidogrel, 1 ticagelor) and 69 patients (31.2%) on pre-injury anticoagulant (29 apixaban, 21 warfarin, 9 rivaroxaban, 4 dabigatran, 4 heparin compound, 2 edoxaban). There were 51 patients (23.1%) on dual ACAP (consisting primarily of aspirin/plavix).

Antiplatelet: 188 patients (85%)

- 157 aspirin
- 30 clopidogrel
- 1 ticagrelor

Anticoagulation: 69 patients (31.2%)

- 29 apixaban
- 21 warfarin
- 9 rivoroxaban
- 4 dabigatran
- 4 heparin compound
- 2 edoxoban

Dual Anticoagulation/Antiplatelet:
51 patients (23.1%)

- Primarily aspirin/clopidogrel

Main Outcome

No episodes of delayed intracranial hemorrhage

Conclusion

Delayed intracranial hemorrhage is an infrequent event in Veterans with low-risk BHT while on pre-injury ACAP. Prospective analysis is needed to determine the true incidence of DICH in this patient population.

Relevance & Impact

While the current protocol for BHT recommends thorough screening to rule out potential hidden injuries, this retrospective study of the Veteran population suggests that such workup may not be a high yield procedure. Because CTH adds to the financial burden of healthcare and increases risk of radiation exposure, it may not be a mandatory step in evaluating patients on pre-injury ACAP. However, the data presented does not completely exclude the use of CTH; in order to further validate the study, more datapoints are needed that demonstrate BHT patients on ACAP do not develop DICH.

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