

VCMC/SANTA PAULA HOSPITAL CLINICAL PRACTICE GUIDELINE

Minor Traumatic Brain Injuries (MTBI) for Anticoagulated Patients

The contents of this clinical practice guideline are to be used as a guide. Healthcare professionals should use sound clinical judgment and individualize patient care. This CPG is not meant to be a replacement for training, experience, CME or studying the latest literature and drug information.

Introduction

- CPG's (New Orleans, Canadian, Nexus and NICE) do not apply for anticoagulated patients with MTBI
- Anticoagulated patients include:
 - patients with coagulopathy
 - patients on Warfarin, Clopidigrel, Heparin, Lovenox and New Oral AntiCoagulants (NOAC's)
 - Dabigatran, Rivaroxaban, Apixiban
- All patients with MTBI on anticoagulation require Head CT irrespective of history or physical exam findings
- Prevalence of intracranial bleeds of anticoagulated asymptomatic patients (No LOC, No Vomiting, Normal Neuro Exam) on initial Head CT
 - Warfarin 11%
 - Clopidigrel 18%
 - NOAC's Unknown
- Prevalence of delayed bleeding on anticoagulated patients
 - Warfarin—0.6-6% per various studies
 - Clopidigrel—negligible
 - NOAC – unknown

Triage Nursing Evaluation/EMS Arrival:

Inclusion: any patient on an anticoagulant or antiplatelet therapy (Coumadin, Heparin, Plavix, Dipyridamole, Dabigatran, Rivaroxaban, Apixiban) with blunt trauma (including ground level fall)

- LOC
- GCS \leq 15
- Any signs of trauma to the head or neck
- Any changes in mental status
- Notify ER physician and bring patient back to a room for evaluation
- Check STAT Coags, CBC, Type and Screen
- Order STAT Head CT,
- Place IV when roomed

Disposition:

- Admit all anticoagulated patients with **Normal** Head CT if:
 - **Symptomatic Patients**—severe headache, persistent vomiting, intoxicated, changes in mental status, poor social support
 - **Asymptomatic Patient** if INR > 3 (high risk of delayed bleed)
 - **Asymptomatic Patients** with poor social situation or intoxication or physician discretion
 - **Asymptomatic Patients** on NOAC's

- **Asymptomatic Patients** therapeutic or supratherapeutic Coumadin/heparin AND antiplatelet agent
 - Consider admission on all patients after midnight with INR 2.4-3.0 for observation on Trauma Service
- Discharge Asymptomatic Patients Home with Normal Head CT after 4 hours of ED Observation if
 - Documented No changes in mental status
 - On Clopidigrel
 - INR < 2.4
 - May D/C if asymptomatic after 4-6 hours of ED Observation if INR between 2.4 - <3.0

References:

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- Cohn et al. Can Anticoagulated Patients be Discharged Home Safely from the Emergency Department after Minor Head Injury? J Emerg Med. 2014; 46(3): 410-417.
- Kaen et al. The Value of Sequential Computed Tomography Scanning in Anticoagulated Patients Suffering from Minor Head Injury. J Trauma 2010;68(4):895-8.
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- Peck et al. Delayed intracranial hemorrhage after blunt trauma: are patients on preinjury anticoagulants and prescription antiplatelet agents at risk? J Trauma 2010;68:895-8.