SUBJECT: Management of Major Bleeding following Trauma Guideline

SUPERSEDES: New

RECOMMENDATION(S): Dr. Kyle Kalkwarf

CONCURRENCE(S): Department of Anesthesia

PURPOSE:

To define a multidisciplinary approach and adherence to evidence-based guidance in patients with major blood loss.

GUIDELINE:

When MTP is activated (ABC score ≥ 2 or trauma attending gestalt)

- Send ROTEM and T&S immediately (should not delay definitive hemorrhage control)
- Give only whole blood or 1:1:1 to maintain SBP = 75-85 mmHg
  - MAP ~ 60mmHg is suggested if presumed severe TBI
  - Avoid crystalloid, albumin, & hyponatremic fluids (e.g. lactated ringers, ½ NS)
- Ensure good iv access
  - 2 x 18 gauge or greater (Cordis, RIC, etc.)
  - Upper extremities/IJ/subclavian preferred
- Place arterial line as soon as possible (prep with arms out)
- Start vasopressin drip (0.04 U/min)
  - Avoid other vasopressors & inform surgeon if they are being given
- If possible, don’t intubate until ready to operate
  - Anticipate a BP drop with induction
  - Use hemodynamically neutral drugs, if possible
- Keep the patient warm (Bair hugger, Belmont, room temp, warm irrigation fluid)
- Follow up ROTEM (should be back within 5-60 min)
  - If ROTEM ML >15% - give 2g TXA
    - Earlier is better – if more than 3 hours after injury check with the attending trauma surgeon because should only be given if still exsanguinating)
  - IF INTEM CT >= 240 sec or EXTEM CT >= 100, give plasma
  - If FIBTEM A10 <= 10mm, give cryoprecipitate
  - If FIBTEM A10 >= 10mm & EXTEM A10 <= 40mm, give platelets
- Give 3 g calcium gluconate (or 1 g calcium chloride (through CVL)) with each MTP cooler
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APPROVAL: 05/28/2020

CONCURRENCE(S): Department of Anesthesia

EFFECTIVE: 07/22/2020

- Stop bleeding as soon as possible (tourniquets for extremities, OR for non-compressible torso trauma)
- When massive surgical bleeding has stopped (discussion with surgeon), stop WB or 1:1:1 and correct ROTEM with plasma, platelet, or cryo and keep Hgb >7.
- Tell surgeon if patient’s hemodynamics quickly change or if you are having difficult maintain SBP = 75-85 mmHg
- Tell surgeon if using vasopressors other than vasopressin
- Try to wean off vasopressin if bowel anastomosis is being performed

References:


Schreiber, MA, et al. Unpublished data from RCT for giving TXA for severe TBI.