Paramedic

TRANEXAMIC ACID (TXA)

Description

Tranexamic acid (TXA) is a synthetic derivative of the amino acid lysine that inhibits fibrinolysis by blocking the lysine binding sites on plasminogen. TXA safely reduces the risk of death from bleeding in trauma (based on 2 large clinical studies).

Indications

- Adults with hemorrhagic shock with suspected need for massive blood transfusion
  - Clinical evidence of marked blood loss (internal or external bleeding)
  - Sustained tachycardia (greater than 110 bpm)
  - Sustained hypotension (less than 90 mmHg)
- Postpartum hemorrhage
- Evidence of traumatic brain injury (TBI)—signs or symptoms of significant TBI, or altered metal status associated with blast injury or blunt trauma [1]

TXA ADMINISTRATION REQUIREMENTS[2]

1. LESS THAN 3HRS SINCE INITIAL INJURY
2. PRESENCE OF AT LEAST ONE INDICATION ABOVE

Contraindications

- Non-hemorrhagic shock.
- Non-traumatic hemorrhagic shock.
- Hemorrhagic shock stabilized by other measures.
- Known allergic reaction to TXA.
- Pregnancy greater than 24 weeks.

Dosage

- ADULTS:
  - 1 gram mixed in 100 ml NS or D5 over 10 minutes; then 1g over 8hrs infusion (1g in 1000ml NS; 125ml/hr)
  - ALTERNATE: 2 grams IV/IO Push OVER AT LEAST 1MIN (too fast administration may cause hypotension)[3]
- PEDS: 20mg/kg over 10min (1g max dose); then 10mg/kg/hr infusion

[1] Newest evidence is showing benefits of administrating TXA to suspected head trauma and postpartum hemorrhage patients, in accordance with latest TCCC guidance.

[2] In addition to expanding the indications, these changes also reduce the requirements for administration to reflect the markedly more liberal use of TXA now in common practice. Also TXA now has recognized pediatric administration doses. The two administration requirements are in line with the latest trials and recommendations, particularly from the TCCC.

[3] Thought behind the 2g IV/IO bolus: There are situations in which setting up a drip, which requires is done ideally with an IV and the ability to hang the drip above a patient, is not feasible (for instance in an upside-down car). The evidence shows one of the main factors in the positive effects of TXA are maximized when given ASAP. The new TCCC guidance and data do not show notable adverse effects of more rapid administration given the cost benefit analysis, and add IO as a viable route. Additionally if an IV line cannot be established, and IO route is only route available, then we need an acceptable alternative to the IV-only administration currently in the protocol.

4 There is no readily available data on giving 1mg IV/IO push. Therefore the two separate administration options are listed. Until further data is available, we can leave the choice of which to the judgement of the provider.

- **Special Note**

- Use a separate IV. DO NOT give with blood products, factor VIIa, or Penicillin in the same IV.
- Effectiveness of TXA administration for treatment of hemorrhage is highly dependent on time administered relative to injury; the more quickly TXA is administered the higher the likelihood of positive effect.
-