Efficacy and Safety of Utilization of Tranexamic Acid in Civilian Adult Trauma Resuscitation in the Emergency Department

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Introduction

• TXA is an anti-fibrinolytic agent.1,5
• The CRASH-2 trial and MATTERs study demonstrated the impact of TXA on mortality reduction in cases of trauma-induced hemorrhagic shock in the international and combat setting.2,3

Purpose

• The current study seeks to assess:
  1. Impact of TXA administration on patient mortality in cases of trauma-induced hemorrhagic shock.
  2. Safety and feasibility of hospital TXA administration in trauma patients with signs of hemorrhagic shock within the framework of North American emergency medicine standards and protocols.

Methods

1. Intervention/Hospital Group
   • Two dose, 1st 10 mins, 2nd 8 hours
   • Administered by RNs after assessment and screening during trauma care
   • A total of 136 patients were included in the Hospital group.

2. Control Group
   • Chart review comparison using the trauma registry of each hospital A matched 136 patients were included in the Control group based on age, ISS, and mechanism of injury.

Results

• Primary outcome - mortality, measured at 24 hours, 48 hours, and 28 days.
• Additional outcomes - total blood product units transfused, occurrence of any known adverse events associated with TXA administration.

Discussion

• A statistically significant reduction in the 24 hours, 48 hours, and 28 days mortality.
• TXA was associated with decreased blood product use, shorter hospital LOS, and shorter ICU LOS, but the reduction was not statistically significant.
• Given 15% of trauma patients may be in a state of hyperfibrinolysis and 50% may be in a state of severe fibrinolysis upon arrival, we feel that TXA can still be administered without TEG or ROTEM data.2,6,10

Conclusion

• Hospital TXA administration showed statistically significant reduction at mortality at the 24, 48-hour and the 28 day mark.

References