POSTPARTUM HEMORRHAGE

Postpartum Hemorrhage: Management with Tranexamic Acid (TXA)

SUMMARY: Administration of TXA early in the treatment of postpartum hemorrhage may improve maternal outcome.

Rationale: Obstetric hemorrhage is the most common cause of maternal mortality worldwide. Activation of the fibrinolytic pathway appears to be linked with the onset of severe hemorrhage in different settings including trauma, heart and orthopedic surgery, and obstetrics. TXA is an anti-fibrinolytic agent that has been shown to decrease mortality in trauma patients when given within 3 hours of injury. Similarly, TXA has been shown to decrease surgical bleeding and blood transfusion requirements in heart surgery, neurosurgery, otorhinolaryngology, and liver transplantation, among other surgical fields. No increased risk for thromboembolism has been observed.

In the field of obstetrics, there are many (>30) studies that have investigated TXA for the prevention of obstetric hemorrhage. Most of these studies have demonstrated reduced blood loss with no significant increased risk of thromboembolic complications, but the quality of available evidence is very limited. For this reason, a large double-blind placebo controlled trial is planned by the Eunice Kennedy Shriver NICHD MFMU Network to determine whether TXA decreases the need for transfusion of blood products in women undergoing cesarean delivery. Until the results of that study are available, TXA for prevention of obstetric hemorrhage cannot be recommended.

A recent randomized, placebo-controlled, international clinical trial (WOMAN trial) showed that TXA administration early (<3 hours) in established post-partum hemorrhage reduced risk of death resulting from bleeding (1.5% versus 1.9%; RR 0.81, 95% CI 0.65-1.00). There was no significant reduction in death from all causes or hysterectomy within 42 days of delivery. Limitations of applicability of the WOMAN Trial to a US or western NC population include the following: (1) all of the sites were international (non-US) (2) many of these sites may have had limited resources and/or different practice patterns (3) the absolute demonstrated risk reduction was small with a confidence interval that included 1.00. Importantly, there was no increased risk of thromboembolic complications.

In patients with established postpartum hemorrhage, administration of IV TXA within 3 hours of birth, especially if other uterotonic agents have failed, may improve outcomes without an apparent increase in adverse outcomes.

Eligible patients: Women within 3 hours of birth who have a diagnosis of primary post-partum hemorrhage based on a clinically estimated blood loss of more than 1000 mL after vaginal birth or cesarean section OR any blood loss sufficient to compromise hemodynamic stability (especially if other uterotonics are contraindicated or have failed).

Exclusions:

- No evidence of post-partum hemorrhage.
- Patients more than 3 hours postpartum.
• Significant maternal renal disease (TXA is cleared by the kidney)

Technique:

1. If other uterotonics are contraindicated or have failed, eligible patients may receive 1 gm of TXA by slow IV injection (10 mL of a 100mg/mL solution administered at 1 mL per minute).
2. This may be repeated if bleeding continued after 30 minutes or stopped and restarted within 24 hours after the first dose (maximum 2 gm TXA in 24 hours).

Special Considerations:

• TXA cannot be currently recommended for prevention of post-partum hemorrhage.
• No adverse outcomes have been reported in children exposed to TXA through breastfeeding, and breastfeeding may continue with supervision and clinical follow-up of the infant.
• Higher doses of TXA (>2 gm/24 hours) should be avoided as they may result in thrombotic complications and/or seizure activity.
• TXA may be used to prevent bleeding in women with congenital bleeding disorders (e.g. von Willebrand disease or hemophilia). In these cases, oral administration may be indicated (a common dose regimen is 1gm orally TID), but should only be undertaken with hematology consultation.

References


Reviewed: 11/21/17