

PREVENTING POSTPARTUM HEMORRHAGE WITH TRANEXAMIC ACID

Madie DeLissa

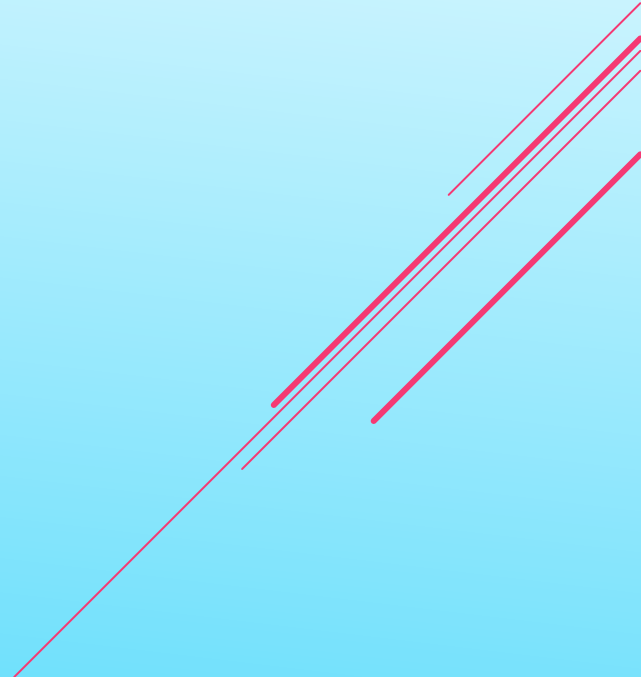
Pittsburg State University

RESEARCH QUESTION

- Is the incidence of postpartum hemorrhage reduced when tranexamic acid is implemented along side of active management of the 3rd stage of labor?



PICOT

- ▶ Population: Women experiencing postpartum hemorrhage
 - ▶ Intervention: Tranexamic acid
 - ▶ Comparison: Active management of 3rd stage of labor
 - ▶ Outcome: Reduction in maternal mortality rate from postpartum hemorrhage
 - ▶ Time: Just after giving birth to 24 hours postpartum
- 

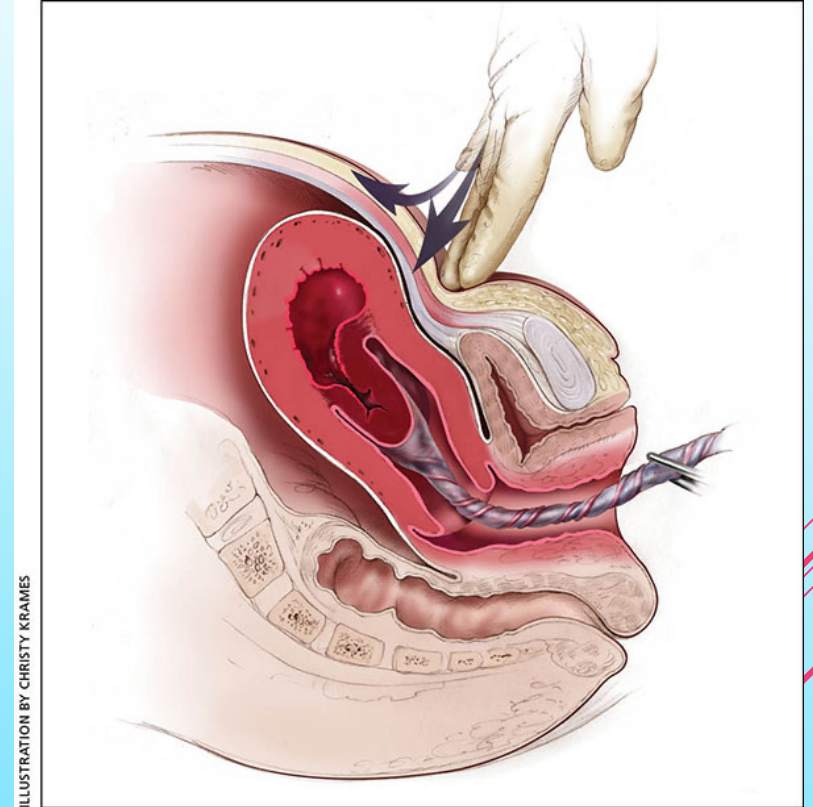
BACKGROUND INFORMATION ON POSTPARTUM HEMORRHAGE (PPH)

- ▶ PPH: blood loss ≥ 500 mL or severe ≥ 1000 mL after delivery
- ▶ Most common causes of PPH - Four T's: **T**one – uterine atony, **T**rauma, retained or invasive placental **T**issue, **T**hrombin – coagulopathy (Evensen et al., 2017).
- ▶ Oxytocin IV or IM is a first line prophylactic drug in postpartum hemorrhage management regardless of the route of delivery (Sentilhes et al., 2015).
- ▶ Second line defense: Carboprost (Hemabate), Methylergonovine (Methergine), Misoprostol (Cytotec), and **Tranexamic acid** (Cyklokapron) (Evensen et al., 2017).



BACKGROUND INFORMATION CONTINUED

- ▶ Blood transfusions may be necessary if PPH occurs.
- ▶ **Active management of 3rd stage of labor** – administer oxytocin after anterior shoulder is delivered, delivery placenta with controlled cord traction by Brandt-Andrews maneuver, uterine massage after placenta delivery (Evensen et al., 2017).



Brandt-Andrews Maneuver:
With one hand, apply firm traction to the umbilical cord and apply suprapubic counterpressure with the other hand.

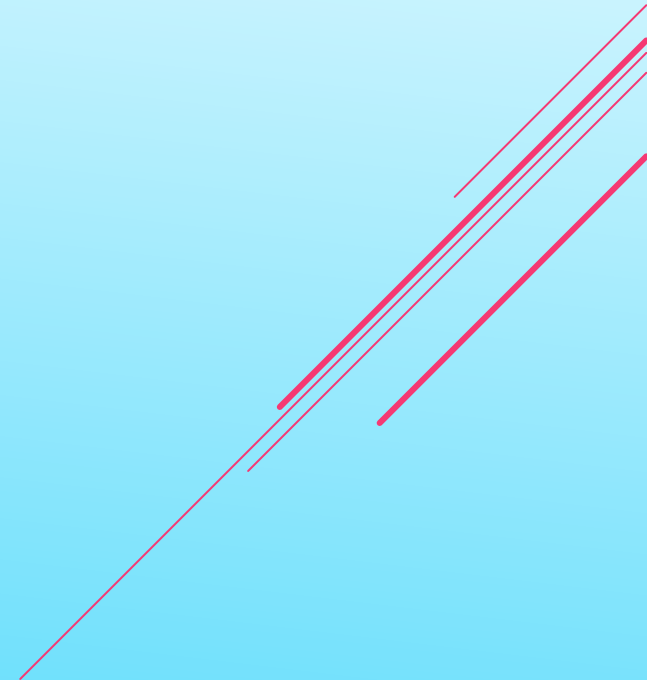
INTERVENTIONS – TRANEXAMIC ACID

- ▶ Tranexamic acid is an antifibrinolytic agent that has been effective in reducing blood loss in trauma patients, elective surgery, and menstrual blood loss (Sentilhes et al., 2017).
- ▶ If tranexamic acid is given to women with PPH in the first three hours after giving birth, it reduces maternal mortality due to bleeding, but not their overall mortality (Evensen et al., 2017).
- ▶ Tranexamic acid can be given 1 gram IV over 10 minutes and can be repeated after 30 minutes (Evensen et al., 2017).



TRANEXAMIC ACID STUDIES

- ▶ 1) Study Protocol. TRAAP – TRAnexamic Acid for Preventing postpartum hemorrhage after vaginal delivery: a multicenter randomized, double-blind, placebo-controlled trial
- ▶ 2) Tranexamic Acid for the Prevention of Blood Loss after Vaginal Delivery
- ▶ 3) Effects of early tranexamic administration on mortality, hysterectomy, and other morbidities with post-partum haemorrhage (WOMAN): an international, randomised, double-blind placebo-controlled trial



RESULTS OF TRANEXAMIC ACID STUDIES

- ▶ 1) This study involved 4,000 women planning a vaginal delivery at 35 weeks-term and involved all women getting prophylactic oxytocin and either getting tranexamic acid or a placebo just after birth. It resulted in the women who got tranexamic acid having significantly less postpartum blood loss; however, trials were of poor quality and the topic need to be explored deeper (Sentilhes et al., 2017).
- ▶ 2) This study involved 4,079 women planning a vaginal delivery at 35 weeks or greater; all women received 1 gram of tranexamic acid or a placebo IV and all were given oxytocin prophylactically. The results showed that the tranexamic acid group has a lower rate of PPH than the placebo group and was significantly less blood loss than the placebo group (Sentilhes et al., 2018)
- ▶ 3) This study involved 20,060 pregnant women who were given either 1 gram of tranexamic acid or a placebo in addition to the usual care. If postpartum bleeding continued after 30 minutes or had stopped and restarted within the first 24 hours postpartum, another 1 gram of tranexamic acid could be given. The results showed that the tranexamic acid group had a significant reduction in death due to bleeding with no adverse effects, specifically if given within 3 hours of birth. This study recommended giving tranexamic acid as soon as possible after the onset of bleeding (2017).

SUMMARY

- ▶ After reviewing these studies, tranexamic acid appears to be beneficial in reducing the risk of maternal mortality due to postpartum hemorrhage without any severe side effects.
- ▶ For the best outcomes, tranexamic acid should be given within the first 3 hours after birth or as soon as possible after the onset of bleeding.
- ▶ Tranexamic acid is inexpensive, simple to administer, and could be easily added to protocols for preventing postpartum hemorrhage.
- ▶ Additional research needs to be conducted with larger sample sizes in the labor and delivery setting.

REFERENCES

- ▶ Evensen, A., Anderson, J. M., & Fontaine, P. (2017, April 1). *Postpartum Hemorrhage: Prevention and Treatment*. American Family Physician. <https://www.aafp.org/afp/2017/0401/p442.html>.
- ▶ Mousa, H. A., Blum, J., El Senoun, G. A., Shakur, H., & Alfirevic, Z. (2014, February 13). *Treatment for primary postpartum haemorrhage*. The Cochrane database of systematic reviews. <https://pubmed.ncbi.nlm.nih.gov/24523225/>.
- ▶ Sentilhes, L., Deneux-Tharaux, C., Maillard, F., Winer, N., Senat, M.-V., Le Ray, C., ... Daniel, V. (2017, April 26). *Study protocol. TRAAP - TRAnexamic Acid for Preventing postpartum hemorrhage after vaginal delivery: a multicenter randomized, double-blind, placebo-controlled trial*. BMC pregnancy and childbirth. <https://pubmed.ncbi.nlm.nih.gov/26071040/>.
- ▶ Sentilhes, L., Vayssière, C., Deneux-Tharaux, C., Aya, A. G., Bayoumeu, F., Bonnet, M.-P., ... Goffinet, F. (2015, December 21). *Postpartum hemorrhage: guidelines for clinical practice from the French College of Gynaecologists and Obstetricians (CNGOF): in collaboration with the French Society of Anesthesiology and Intensive Care (SFAR)*. <https://www.sciencedirect.com/science/article/pii/S030121151500456X>.
- ▶ Sentilhes, L., Winer, N., Azria, E., Sénat, M.-V., Le Ray, C., Vardon, D., ... Deneux-Tharaux, C. (2018, August 23). *Tranexamic Acid for the Prevention of Blood Loss after Vaginal Delivery*. The New England journal of medicine. <https://pubmed.ncbi.nlm.nih.gov/30134136/>.
- ▶ WOMAN Trial Collaborators. (2017, May 27). *Effect of early tranexamic acid administration on mortality, hysterectomy, and other morbidities in women with post-partum haemorrhage (WOMAN): an international, randomised, double-blind, placebo-controlled trial*. Lancet (London, England). <https://pubmed.ncbi.nlm.nih.gov/28456509/>.