Prophylactic Tranexamic Acid for Reduction of Intraoperative Blood Loss during Cesarean Delivery: A Retrospective Analysis

Emily Ha, BS,[1] **Haley Mullins, BS**[1], Erin Dienes, Ph.D., Suzette Desty, M.D, Mark Norris,M.D[2]
Rachel Achu- Lopes M.D[2]
[1] Boston University School of Medicine, [2] Department of Anesthesiology, Boston Medical Center

BACKGROUND

- Postpartum hemorrhage (PPH) is the 2nd leading cause of pregnancy related mortality in the United States
- Although the prophylactic use of tranexamic acid (TXA) during cesarean delivery (CD) has been associated with decreased postpartum blood loss, evidence of this clinical benefit remains conflicting

AIM

- To investigate the efficacy of TXA prophylaxis on PPH and red blood cell transfusion rates during CD at our institution

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METHODS

All Patients with Cesarean Deliveries
—————
Urban Safety Net Hospital
—————
Jan 2020- July 2024

PPx TXA at Umbilical Cord Clamp
—————
October 2021

Medication used

1g Tranexamic Acid

Data Extracted from Electronic Medical Record
—————
Single center Retrospective analysis

Primary Outcome

- PPH:*QBL≥ 1000 ml
- RBC transfusion within 2 days of delivery

Secondary Outcomes

- Use of additional uterotonic agents
- PP transfusion of all blood products

*QBL- Quantitative blood loss
*RBC-Red blood cell
*PP-Post partum
*PPx-Prophylactic

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RESULTS

Outcome	TXA Group (N = 2859)	Control Group (N = 1321)	Unadjusted Difference (95% CI)	p-value
Postpartum hemorrhage (QBL ≥ 1000)	1206/2847 (42.4%)	343/1288 (26.6%)	15.7 (12.7 to 18.8)	**<0.001**
Additional uterotonic agents for excessive bleeding – #/total # (%)	1108/2859 (38.8%)	251/1321 (19.0%)	19.8 (16.9 to 22.6)	**<0.001**
Admitted to ICU – #/total # (%)	46/2859 (1.6%)	15/1321 (1.1%)	0.5 (-0.3 to 1.3)	0.295
Red-cell transfusion by day 2	255/2859 (8.9%)	29/1321 (2.2%)	6.7 (5.4 to 8.1)	**<0.001**
Blood transfusion	261/2859 (9.1%)	33/1321 (2.5%)	6.6 (5.2 to 8.0)	**<0.001**
No. of red-cell units transfused	1.9 ± 1.9	1.3 ± 0.9	0.6 (0.2 to 1.0)	0.003
Thromboembolism	14/2859 (0.49%)	9/1321 (0.68%)	(-0.0076 to 0.0038)	**0.5797**

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The Effectiveness of Abdominal Wall Blocks on Post Cesarean Section: A Retrospective Analysis

Conclusion

- At our institution, prophylactic administration of TXA during CD:
  - ***Did not lead to a lower incidence of PPH or red blood cell transfusion within 2 days of delivery***
  - Did not result in a lower incidence of hemorrhage related secondary outcomes
- Previous studies demonstrating improvement in these outcomes administered TXA prior to surgical incision
- Current protocol: Administration of TXA **10-20 minutes prior to surgical incision** with plan to reevaluate primary and secondary outcome measures

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