



Heather M. McClure BS¹; Gabrielle Caron BS¹; Kourosh Parham MD, PhD^{1,2}; Todd E. Falcone, MD^{1,2}

¹University of Connecticut School of Medicine, ²UConn Health Division of Otolaryngology-Head & Neck Surgery

Abstract

Introduction: Although tranexamic acid (TXA) is regularly used to manage surgical bleeding, its perioperative use for post-tonsillectomy hemorrhage (PTH) prevention remains less established. This QI study aimed to evaluate the efficacy of a prophylactic TXA dosing regimen combining IV and oral administration in reducing PTH occurrence at a single site in adults.

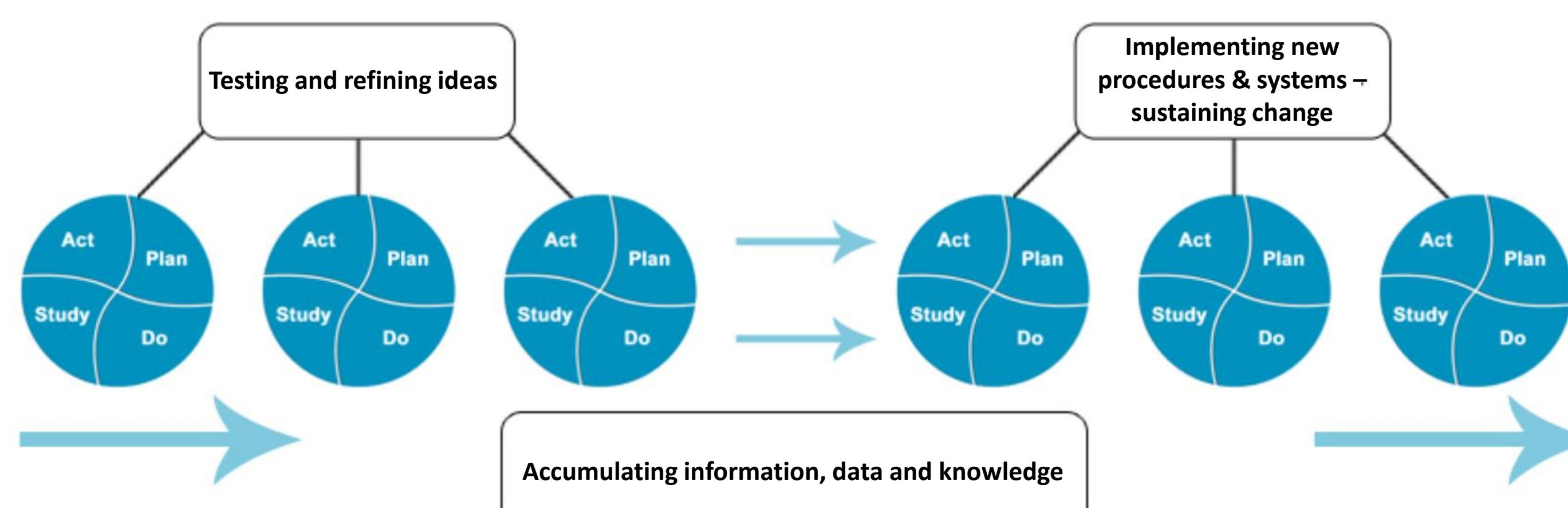
Methods: This QI study at UConn Health analyzed patients over 18 who underwent tonsillectomy from 2018 through 2024, using data from EPIC slicer-dicer. With the goal of decreasing the rate of PTH, two tonsil surgeons offered patients TXA postoperatively with the intent of using PDSA cycles to adjust the treatment protocol. Patients in the TXA group received a 1 g dose of TXA in 0.9% sodium chloride IV in the PACU following tonsillectomy and completed 1,300 mg of oral TXA three times daily for 5 days, starting on postoperative day 2. Those who were medically excluded from taking TXA, wished not to take TXA, or had an incomplete treatment course were placed in the non-TXA group. The non-TXA control group also consisted of the patients who underwent tonsillectomy prior to the surgeon's use of TXA. Demographics, surgical indications, and postoperative outcomes were collected via retrospective chart review. Statistical analyses included Fisher's exact t-test.

Results: Three hundred thirty (330) tonsillectomy patients were included; 72 qualified for the TXA group and 258 for the non-TXA control group. The control group had 20 hemorrhages requiring operative control, while the TXA group had none. This difference was statistically significant (Fisher's, $p < 0.05$). The attributable risk reduction was 8.4%, with an NNT of 12. This data represents the first PDSA cycle without protocol adjustments.

Conclusions: This single-center, small cohort QI study demonstrates that a postoperative TXA regimen may reduce PTH occurrence. This is the first study examining a postoperative treatment protocol for the prevention of PTH in adults. Replicating this study in a larger patient pool with the aim of refining the protocol is expected to lead to improved tonsillectomy outcomes.

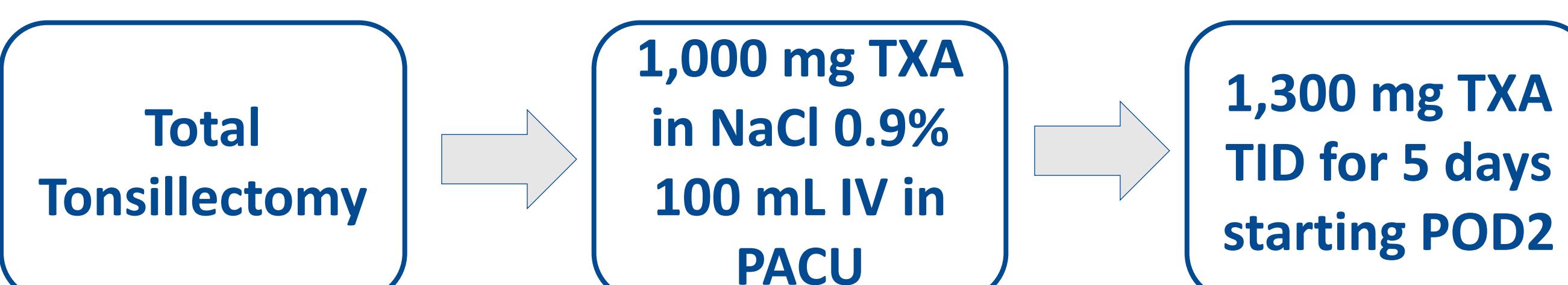
Introduction

- Although tranexamic acid (TXA) is regularly used to manage surgical bleeding, its perioperative use for post-tonsillectomy hemorrhage (PTH) prevention remains less established.
- Literature has demonstrated the success of TXA use intraoperatively in other surgical subspecialties to achieve hemostasis.
- Typical routes of TXA administration include nebulized, oral, intravenous, and topical.
- While some studies suggest a role for TXA in tonsillectomy, the literature lacks consensus on the use of TXA in preventing PTH including the best route and dosage.



Aim

- This QI study aimed to evaluate the efficacy of a prophylactic TXA dosing regimen combining IV and oral administration in reducing PTH occurrence at a single site in adults.



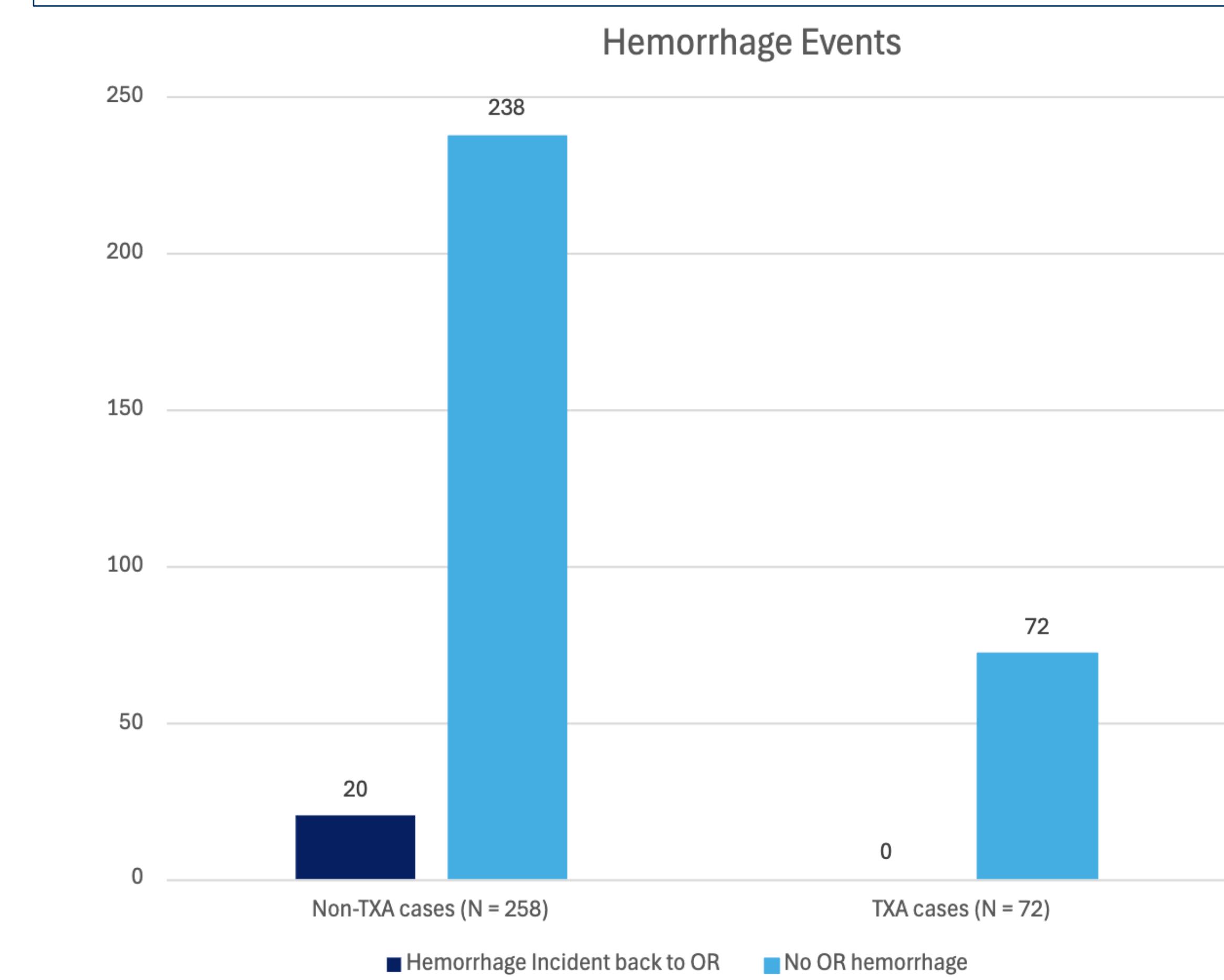
Methods and Materials

- This QI study at UConn Health analyzed patients over 18 years old who underwent tonsillectomy from 2018 through 2024, using data from EPIC slicer-dicer.
- With the goal of decreasing the rate of PTH, two tonsil surgeons offered patients TXA postoperatively with the intent of using PDSA cycles to adjust the treatment protocol.
- Patients in the TXA group received a 1 g dose of TXA in 0.9% sodium chloride IV in the PACU following tonsillectomy and completed 1,300 mg of oral TXA three times daily for five days, starting on postoperative day 2.
- Those who were medically excluded from taking TXA, wished not to take TXA, or had an incomplete treatment course were placed in the non-TXA group.
- The non-TXA control group also consisted of the patients who underwent tonsillectomy prior to the surgeon's use of TXA.
- Demographics, surgical indications, and postoperative outcomes were collected via retrospective chart review.
- Statistical analyses included Fisher's exact t-test.

	Non-TXA Patients (n=258)	TXA Patients (N=72)
No hemorrhage	238	72
Hemorrhage requiring operative control	20	0

Results

- Three hundred thirty (330) tonsillectomy patients were included.
 - 72 qualified for the TXA group.
 - 258 for the non-TXA control group.
- The control group had 20 hemorrhages requiring operative control, while the TXA group had none.
- This was statistically significant (Fisher's, $p < 0.05$).
- The attributable risk reduction was 8.4%, with an NNT of 12.
- This data represents the first PDSA cycle without protocol adjustments.



Conclusions

- This single-center, small cohort QI study demonstrates that a postoperative TXA regimen combining IV and oral administration may reduce PTH occurrence.
- Past studies on TXA usage in thyroidectomy have varying routes of administration and timing of dosing.
- This is the first study examining a postoperative treatment protocol involving combining different forms of TXA on a standard schedule for the prevention of PTH in adults.
- Replicating this study in a larger patient pool with the aim of refining the protocol is expected to lead to improved tonsillectomy outcomes.

Contact

Heather McClure | hmcclure@uchc.edu

Gabrielle Caron | gacaron@uchc.edu

University of Connecticut School of Medicine
263 Farmington Ave, Farmington CT 06032

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