

Routine Tranexamic Acid (TXA) use in elective LSCS – is it required?

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INTRODUCTION

In October 2022 a national alert was issued related to a shortage of available blood products. It was immediately recommended to reduce blood product use. During an Anaesthetic departmental meeting a decision was made to implement the routine use of Tranexamic Acid (TXA) in all elective and emergency caesarean sections (post-cord clamping) in SHSCT with the aim to reduce bleeding, and thus blood product usage. Evidence was based on the World Health Organisation’s recommendation that women with clinically diagnosed post-partum haemorrhage (PPH) receive 1g of TXA intravenously [1]. The OAA issued correspondence highlighting the current evidence for use of TXA in PPH [2]. NICE also recommends that surgery with expected blood loss greater than 500mls should receive prophylactic TXA [3].

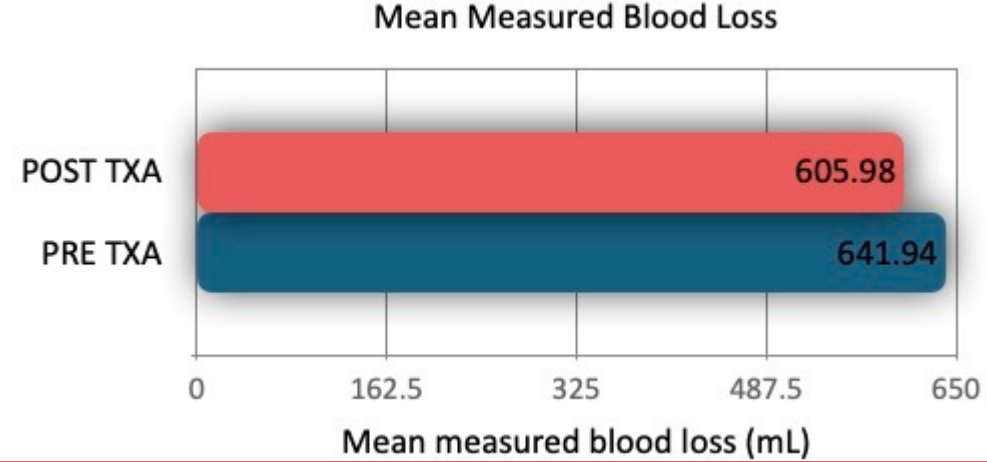
This project aims to assess the effectiveness of TXA at reducing blood loss and perioperative haemoglobin changes during our elective caesarean sections and to determine if routine use should be continued.

METHODS

We collected data from 100 patients prior to routine TXA use (October 2021-October 2022) and 100 patients with routine TXA use (October 2022-October 2023) undergoing elective caesarean section.

Inclusion criteria included elective caesarean sections performed in Daisy Hill Hospital (non-complex patients) whose anaesthetic chart was accessible via the online Anaesthetic Record. Lab results were accessed via Electronic Care Record (NIECR) to collect pre and post-operative Haemoglobin (Hb) levels. Discharge documentation via NIECR was used to gather measured blood loss. Mean Hb drop and mean blood loss were calculated and compared between the data sets.

Minimal difference observed in Hb drop and mean measured blood loss with TXA use in elective, non-complex caesarean sections



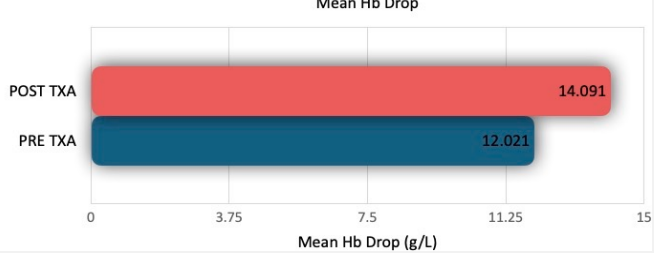
RESULTS

Pre-operative Hb was similar in both cohorts (116.4 vs 115.7).

Our results showed that the mean Hb drop prior to TXA use was 12.0g/L compared to 14.1g/L with TXA use.

Mean measured blood loss was 642ml prior to TXA use compared to 606ml with TXA use.

There was 6 (pre-TXA) vs 10 (post-TXA) patients diagnosed with PPH (>1000ml blood loss).



DISCUSSION

Our results show minimal difference in Hb drop and measured blood loss between the two data sets in non-complex elective patients. Unfortunately there is no statistical support in the SHSCT for more in-depth analysis of this data. We were able to identify that more patients in the TXA cohort (22 vs 4) were deemed well for discharge from hospital postnatally without a post-operative Hb check; these patients could not be included in the results for mean Hb drop.

We recognise this is a single-centre comparison with a small patient cohort. The data appears to echo conflicting results and inconclusive evidence for use of TXA in a low-risk population [4].

We have presented this data at our Anaesthetics / Obstetrics patient safety meeting and as a department have decided to cease routine use of TXA in elective caesarean sections for now. Since our data was presented, another meta-analysis has concluded that prophylactic use of TXA can significantly reduce blood loss in caesarean delivery [5].

For now, we continue to use TXA in PPH (as per AOA) and at the request of the obstetrician on discussion with anaesthetics. It will be interesting to see the future recommendations relating to TXA use in obstetric anaesthesia with further studies. The debate continues.

[1] WOMAN Trial Collaborators. Effect of early tranexamic acid administration on mortality, hysterectomy, and other morbidities in women with post-partum haemorrhage: an international, randomised, double-blind, placebo-controlled trial. Lancet. 2017 May 27;389(10084)

[2] Prophylactic tranexamic acid at delivery: if not now, when? Bamber J.H. IJOJ 2022 Feb 49; 103232

[3] NICE Quality Standard Blood Transfusion; QS138

[4] Tranexamic acid for the prevention of blood loss after cesarean section: an updated systemic review and meta-analysis of randomised control trials; Cheema H.A. Am J Obstet Gynecol MFM. 2023 Aug;5(8):101049

[5] Prophylactic TXA in Casarean delivery: an updated meta-analysis with a trial sequential analysis; Provinciatio H. Can J Anesth. 2024, 71 (465-478)