

Tranexamic Acid is Effective and Safe in High Risk Hip and Knee Arthroplasty Patients

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INTRODUCTION: Tranexamic acid (TXA) is an anti-fibrinolytic agent widely used to prevent blood loss in total joint arthroplasty (TJA), but there is a lack of data on TXA in patients with a history of venous thrombus embolism (VTE), cerebrovascular accident (CVA), myocardial infarction (MI), atrial fibrillation (A-fib), and/or vascular stent placement. This study aimed to assess TXA in “high-risk” patients through blood transfusion rates and complications.

METHODS: The study was a retrospective cohort performed at two institutions comparing high-risk TJA patients. A total of 360 patients who did not receive TXA were compared to 2,493 patients who did receive TXA. Mann-Whitney U tests were used to compare continuous data and Chi-Square or Fisher’s Exact were used for categorical data. Results were used to calculate the number needed to treat (NNT), number needed to harm (NNH), and a power analysis for future studies.

RESULTS: Patients were on average 71.1 years old, with no significant difference in sex, body mass index, and Charlson Comorbidity Score. In total, 13.6% of patients in the no-TXA group required a blood transfusion whereas 8.5% in the TXA group required a transfusion ($p= 0.003$). There was no significant difference in VTE rate between the no-TXA (1.4%) and TXA groups (1.3%). The NNH was 1,429 for the outcome of VTE. The NNT was 20 for the outcome of blood transfusion.

DISCUSSION AND CONCLUSION: TXA reduces the need for blood transfusion and does not increase the risk of VTE in high-risk hip and knee arthroplasty patients. Given this information, we would anticipate similar findings in a higher-powered study.