



Tranexamic Acid Reduced Blood Loss but not Transfusion after Hip Arthroplasty for Femoral Neck Fracture: A Randomized Clinical Trial of 138 Patients ◇

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Introduction: Tranexamic acid (TXA) has been shown to limit blood loss and transfusion in elective hip arthroplasty, but there is limited data on its use in arthroplasty for femoral neck fracture (FNF). Our goal was to investigate the effects of intravenous (IV) TXA on patients undergoing hip arthroplasty for acute FNF. Specifically, we asked: 1) does TXA reduce calculated blood loss, 2) does TXA reduce the incidence of allogenic blood transfusion, and 3) are there any observable differences in 30- and 90-day complications with TXA administration?

Methods: We performed a prospective, double-blinded, randomized controlled trial wherein patients undergoing either hemi- or total hip arthroplasty for acute FNF were administered TXA vs. placebo at the time of surgery. Of 281 patients eligible for review, 138 were randomized to receive either IV TXA or placebo (69 patients in each group). There were more patients with coronary stents in the TXA group, but demographics, medical characteristics, and surgical specifics were otherwise similar between groups. Follow-up was available for all patients through 90-days. Data included calculated blood loss, transfusion requirement, hospital readmission, and 30- and 90-day complications.

Results: TXA was effective in decreasing mean calculated blood loss (305 ml less for patients in the TXA group ($p=0.0005$)). Fewer patients received transfusions in the TXA group (17%) when compared to the placebo group (26%), but this was not statistically significant ($p=0.22$). TXA was safe with no differences in adverse events at 30- and 90-days.

Conclusion: This randomized clinical trial found TXA was safe and effective in reducing blood loss, but could not show a difference in transfusion for patients undergoing hip arthroplasty for femoral neck fracture. Whether 305 ml decrease in blood loss with TXA is clinically important or if a larger cohort would find a significant difference in transfusion is worthy of further study.

◇ The FDA has not cleared the pharmaceuticals and/or medical devices listed here. Tranexamic Acid