

IV Tranexamic Acid (TXA) Effectively and Safely Reduces Transfusion Rates in Revision Total Hip Arthroplasties[◇]

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Introduction: TXA has been shown to reduce transfusion rates in primary total hip arthroplasties (THAs), but data is limited in the revision setting. The purpose of this study was to compare the rate of blood transfusions and symptomatic venous thromboembolic events (VTEs) in revision THAs treated with or without IV TXA.

Methods: We performed a retrospective review of 3,264 revision THAs (2,645 patients) between 2005-2014, of which 1,142 patients received IV TXA (1g at incision and 1g at closure). The mean age was 65 years in the revision group with TXA (49% male), and 67 years in the revision group treated without TXA (45% male). Outcomes analyzed included rates of transfusion and VTE between cases treated with TXA and cases not treated with TXA. These comparisons were performed for the overall cohort, as well as within the subset of septic and aseptic cases. In order to minimize potential bias between these two subgroups, the analyses were weighted with inverse probability of treatment values based on a propensity score. Mean follow-up was 2 years.

Results: TXA significantly reduced the rate of blood transfusions after revision THA overall from 54% to 26% ($p < 0.001$; unadjusted RR 2.1, adjusted RR 1.6), with a significant reduction in both septic (73% to 53%, $p = 0.04$) and aseptic (49% to 18%, $p < 0.001$) revisions. The rate of VTE was minimal overall, with 3 events (0.3%) in the group with TXA and 4 events (0.2%) in the group without TXA. There were no significant differences in VTE rates in those who did or did not receive IV TXA based upon the procedures being septic or aseptic in nature.

Conclusions: The use of IV TXA in revision THAs is associated with a significant reduction in transfusion rates, and a very low rate of VTEs (0.3%).

◇ The FDA has not approved tranexamic acid for use in orthopaedics.