Does Tranexamic Acid Decrease Blood Loss and Transfusion in Acetabular Fixation?

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Purpose: Acetabular fractures requiring open reduction and internal fixation (ORIF) often result in high blood loss requiring perioperative transfusion, which increases the risk for surgical site infection. The purpose of this study was to evaluate the efficacy of tranexamic acid (TXA) to decrease blood loss and transfusion requirements during open acetabular fixation and determine its effect on postoperative infection rates and thromboembolic events. The authors hypothesized that TXA would decrease blood loss, transfusions, and postoperative infection rates, and not increase the risk of thromboembolic events.

Methods: A retrospective review of a prospectively collected database at a single Level I academic trauma center from January 2012 to December 2014 was performed. 450 patients with acetabular fractures who underwent ORIF were identified. 172 cases met inclusion criteria and were divided into two groups: 116 controls and 56 who received a 1-g intravenous dose of TXA preoperatively. For both cohorts, outcome measures included intraoperative estimated blood loss, intraoperative transfusion volume, transfusion-related adverse events such as deep venous thrombosis (DVT), and postoperative infection rates requiring surgical intervention.

Results: Mean estimated blood loss was not significantly different between the controls (839.1 mL) versus the TXA group (833.7 mL). Likewise, there was no significant difference between mean intraoperative transfusion volume for the controls (396.9 mL), and those receiving TXA (395.8 mL). The TXA group had a non-statistically significant increase in infection rate (7.1%) compared to controls (5.2%). The rate of DVT was higher in the control group (14.7%) than the TXA group (8.9%), but this also was not a statistically significant difference.

Conclusion: A single 1-g intravenous dose of TXA preoperatively does not significantly decrease blood loss and intraoperative blood transfusion requirements, nor change the risk for infection or thromboembolic events, for patients undergoing ORIF of acetabular fractures.

See pages 49 - 106 for financial disclosure information.