

Decreased Blood Transfusions following Revision Total Knee Arthroplasty using Tranexamic Acid

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Introduction: Revision Total Knee Arthroplasty (TKA) can lead to significant blood loss due to extensive soft tissue and bone trauma. Tranexamic Acid (TXA) has been used successfully in primary TKA. The purpose of this study is to determine its efficacy in revision TKA.

Methods: This is a retrospective review of 113 patients undergoing revision TKA. There were 68 patients in the control group that did not receive TXA and 45 patients in the treatment group that received one intravenous 10mg/kg dose of TXA 10 minutes prior to tourniquet release. Groups were stratified into patients receiving a femoral and tibial revision, single component revision, or an isolated liner exchange. Hemoglobin levels were evaluated pre and post operatively. The incidences of blood transfusion, number of units transfused, length of hospital stay, and the presence of thromboembolic events were assessed.

Results: There were no differences between groups with respect to age, preoperative hemoglobin, intraoperative blood loss, and length of hospital stay. In the control group, 13 out of 68 (19.1%) patients required a transfusion versus 2 out of 45 (4.4%) patients in the treatment group ($p=0.012$). The control group used 25 units of blood compared to 3 units used by the treatment group ($P=0.008$). When stratified by type of revision, there were more patients transfused in the control group when both the femur and tibia were revised ($p=0.013$). Each group had 1 patient with a post operative DVT. The control group had 1 patient with a PE.

Conclusion: Patients receiving TXA during revision TKA experienced a significant reduction transfusion and blood units utilized compared to the control group. Given the drawbacks of allogenic blood transfusion, we strongly recommend the use of TXA in revision TKA especially when two or more components are being revised.

