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CORR Insights

CORR Insights®: Does Tranexamic Acid Reduce Blood Loss and Transfusion Requirements Associated With the Periacetabular Osteotomy?

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Where Are We Now?

Intraoperative blood loss can occur in many different ways—hypotensive anesthesia or continuous epidural anesthesia methods, surgical technique, or prolonged operation time can all influence bleeding during surgery. In fact, patients undergoing periacetabular osteotomy (PAO) lose more blood during surgery and receive transfusions more frequently [3] compared to patients undergoing total joint arthroplasty. Although blood management strategies such as blood donation and blood salvage have been used to curb intraoperative blood loss for patients undergoing PAO, these approaches carry their own risks. Another approach to reducing intraoperative bleeding is the use of an antifibrinolytic agent, such as tranexamic acid (TXA). TXA has been shown to reduce blood loss and minimize transfusions in various surgical subspecialties [1, 2]. However, one concern associated with TXA is the possible increased risk of thrombosis. Additionally, there are no studies in the literature that have examined the effects of TXA on blood loss associated with PAO.

Where Do We Need To Go?

The current study by Wingerter and colleagues compared a group of patients immediately before after the implementation of TXA. Wingerter and colleagues found that TXA decreased both intraoperative blood loss and postoperative transfusions. Although they did not observe any deep vein thrombosis or pulmonary emboli, future studies will need to prove the safety of this approach for this patient population. Also, while the results of the study showed an approximate 30% reduction of total blood loss by using TXA during PAO surgery, patients still experienced more than 700 mL of total blood loss in the TXA group, suggesting that there is room to improve intraoperative blood pressure control perhaps by modifying our surgical techniques.

This CORR Insights® *is a commentary on the article* "Does Tranexamic Acid Reduce Blood Loss and Transfusion Requirements Associated With the Periacetabular Osteotomy?" *by Wingerter and colleagues available at:* DOI: 10.1007/s11999-015-4334-6.

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How Do We Get There?

While observational trials like this one are a start, they are no substitute for randomized controlled trials. Prospective randomized controlled trials would help determine whether patients undergoing PAO should receive TXA. Ideally, researchers would compare TXA to other approaches, such as red blood cell salvage or autologous blood banking, as well as investigate ways in which surgeons can improve intraoperative blood pressure control. Do we need to modify our surgical approaches for the entire patient population or just for a specific subgroup of patients? Finally, while the possibility for deep vein thrombosis following PAO is low, future studies must fully assess how to combat this potential risk.

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