Introduction

- Blood loss necessitating transfusion is potentially a major complication of spine surgery.
- Tranexamic acid (TXA) is an anti-fibrinolytic that has been widely used to reduce blood loss and need for transfusion in cardiac and orthopedic surgery.
- This study was to assess the efficacy and safety of intraoperative TXA in reducing transfusions and estimated blood loss in thoracolumbar spinal fusion.

Methods

- Single-center, retrospective, nonrandomized, observational study
- Subjects who underwent multilevel (≥ 4) spine fusion surgery
- Received or did not receive IV TXA
- Between 2016 and 2018.

Results

- 134 subjects
  - 88 (65.7%) did not receive IV TXA (control group) and 46 (34.3%) received IV TXA (TXA Group)
  - The use of TXA was significantly higher in subjects with ≥7 levels fused compared to the 4-6 level group (p<0.0001).
  - The patients in the control group with ≥ 7 levels fused had 1212.12 ml greater EBL on average than patients in the TXA group with ≥ 7 levels fused (95% CI: 298.6 to 2125.64; p-value=0.0097).
  - The control group with ≥ 7 levels fused received 2.26 more units of RBC on average than patients in the TXA group with ≥ 7 levels fused (95% CI: 0.27 to 4.25; p-value=0.0265).
  - There was not a difference in EBL or mean RBC transfusions between the TXA and control groups among those with 4-6 levels fused.

Conclusions

- The prophylactic use of intraoperative IV TXA could reduce intraoperative EBL and RBC unit transfusion, especially in subjects undergoing spinal fusion greater than 7 levels.