Reduction of blood loss in primary hip arthroplasty with tranexamic acid or fibrin spray.

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Abstract:

BACKGROUND AND PURPOSE: Previous studies have shown that either fibrin spray or tranexamic acid can reduce blood loss at total hip replacement, but the 2 treatments have not been directly compared. We therefore conducted a randomized, controlled trial.

PATIENTS AND METHODS: In this randomized controlled trial we compared the effect of tranexamic acid and fibrin spray on blood loss in cemented total hip arthroplasty. 66 patients were randomized to 1 of 3 parallel groups receiving (1) a 10 mg/kg bolus of tranexamic acid prior to surgery, (2) 10 mL of fibrin spray during surgery, or (3) neither. All participants except the surgeon were blinded as to treatment group until data analysis was complete. Blood loss was calculated from preoperative and postoperative hematocrit.

RESULTS: Neither active treatment was found to be superior to the other in terms of overall blood loss. Losses were lower than those in the control group, when using either tranexamic acid (22% lower, $p = 0.02$) or fibrin spray (32% lower, $p = 0.02$).

INTERPRETATION: We found that the use of tranexamic acid at induction, or topical fibrin spray intraoperatively, reduced blood loss compared to the control group. Blood loss was similar in the fibrin spray group and in the tranexamic acid group. ClinicalTrials.gov identifier: NCT00378872. EudraCT identifier: 2006-001299-19. Regional Ethics Committee approval: 06/S0703/55, granted

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