Effect of fibrin sealant on drain output and duration of hospitalization after multilevel anterior cervical fusion: a retrospective matched pair analysis.

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Abstract:

STUDY DESIGN: Retrospective matched pair analysis.

OBJECTIVE: To determine if fibrin sealant can decrease postoperative drain output and length of stay (LOS) after multilevel anterior cervical fusions.

SUMMARY OF BACKGROUND DATA: Despite careful hemostasis, bleeding after anterior cervical fusion can occur and may be life threatening. Although fibrin sealants are commonly used for hemostasis, no studies have been published on the efficacy of these products in achieving hemostasis after anterior cervical surgery.

METHODS: A retrospective age-, gender-, and fusion level-matched pair analysis was performed on 30 pairs of patients who underwent anterior cervical fusion >or= 3 levels. In the study group, after adequate hemostasis was obtained, before wound closure 2.0 mL of fibrin sealant was applied as a fine aerosolized spray over and around the plate/fusion sites and the soft tissues to seal the main operative field. A deep drain was used in all patients. Total drain output, time for the drainage to decrease to <or=20 mL per 8 hours shift, LOS, and number of readmissions were determined and analyzed by experienced and independent spine surgeons.

RESULTS: Total drain output averaged 47 mL in the study group and 98 mL in the control group ($P < 0.0001$). Time for the drainage to decrease to <or=20 mL per shift averaged 17 hours (range, 8-29 hours) in the study group and 24 hours (range, 7-43 hours) in the control group ($P = 0.0054$). LOS averaged 1.2 days (range, 1-4 days) in the study group and 2.1 day (range, 1-5 days) in the control group ($P < 0.0001$). Two patients were readmitted within 4 days of discharge in each group because of swallowing difficulty, dyspnea, or pneumonia ($P = 1.000$). There were no adverse reactions attributable to the fibrin sealant.

CONCLUSION: Application of fibrin sealant at the end of multilevel anterior cervical fusion can significantly decrease postoperative drain output and LOS.