

Topical Antibiotics for Infection Prophylaxis in Pelvic and Acetabular Surgery

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Background/Purpose: Application of topical antibiotics (TA) has been shown to reduce surgical site infection (SSI) in spine surgery. The purpose of this study was to determine if TA (vancomycin and tobramycin) reduces the incidence of SSI in open pelvic and acetabulum surgery. The authors hypothesize that TA will reduce incidence of infection without increasing incidence of renal failure.

Methods: A retrospective case control study of patients at a Level I trauma center undergoing operative fixation of the pelvis ring and acetabulum from March 2012 to November 2013 was conducted. Group 1 (10 months) had no topical antibiotics, and Group 2 (10 months) had TA applied to surgical site at time of closure. Statistical significance was determined using Fisher exact test and Student t test with $P < 0.05$. Univariate logistic regression determined effect of each covariate on the risk of infection with odds ratio $P < 0.05$.

Results: 153 patients were included. Group 1 ($n = 75$) and Group 2 ($n = 78$) were statistically similar for sex, age, ethnicity, and body mass index (BMI). The odds of infection for the non-vancomycin group were 3.52 times that for Group 2 ($P = 0.037$). Blood transfusions and intraoperative blood loss were also significant predictors of infection ($P = 0.029$ and < 0.001 , respectively). There were no adverse clinical outcomes from administration of topical antibiotics.

Conclusion: Topical antibiotics reduced the incidence of SSI following open pelvic and acetabulum fixation without increasing risk of renal failure. Increasing blood transfusions and intraoperative blood loss were associated with increased risk of infection.