Intrawound Vancomycin Use in Primary Total Hip Arthroplasty: A National Cohort Analysis

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INTRODUCTION:
Intrawound vancomycin has been proposed as an adjunctive measure to reduce risk of prosthetic joint infection (PJI). It is suspected that utilization of intrawound vancomycin is increasing despite unclear evidence regarding efficacy for prevention of PJI in total hip arthroplasty (THA).
METHODS:
We analyzed 613,446 primary THA cases from 2016-2024 using the Epic Cosmos national database. Patients receiving cefazolin or clindamycin as their preoperative antibiotic were grouped by exposure to intrawound vancomycin 187,801 to those without 425,645. Descriptive statistical analyses described utilization trends. Multivariable logistic regression analyses compared exposure to intrawound vancomycin to those without for risk of prosthetic joint infection and wound complication within 90 days, adjusting for sex, age, diabetes, obesity, and renal disease.
RESULTS:
There was increasing use of intrawound vancomycin annually across the study period from 12.9% in 2016 to 35.8% in 2024 (figure 1). Compared to those without, those with intrawound vancomycin use were associated with an increased risk of prosthetic joint infection (OR = 1.33; 95% CI =1.27-1.40; p<0.0001) and wound complication (OR =1.13; 95% CI 1.08-1.19, p<0.0001).
DISCUSSION AND CONCLUSION: Use of intrawound vancomycin during primary THA has risen dramatically. Despite its apparent integration into common clinical practice for THA, widespread use of intrawound vancomycin may not be appropriate for all patients. Further investigation into intrawound vancomycin application for high-risk patient populations is warranted.