

Topical Vancomycin and Dual Antibiotic Prophylaxis does not increase AKI in Elective Total Joints

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INTRODUCTION:

Routine administration of IV Vancomycin as part of the preoperative prophylactic regimen continues to be controversial. IV Vancomycin unfortunately is also associated with development of acute kidney injury (AKI). Recent studies have reported that use of intrawound vancomycin powder (IVP) in total joints has led to an increase in postoperative wound complications. We hypothesized that addition of IVP to dual IV antibiotic prophylaxis with cefazolin and vancomycin will not lead to an increase risk of development of postoperative AKI

METHODS:

We retrospectively reviewed all consecutive primary total joints of a single surgeon at our institution from 2015- 2023. Routine use of IVP prior to arthrotomy closure for that surgeon began in 2018. All patients from 2015-2018 received IV dual antibiotic prophylaxis (no IVP, Group 1 n=539) and all patients after 2018 received IVP in addition to IV dual antibiotic prophylaxis (Group 2 n=1482). BUN/CR levels in both groups were compared pre and postoperatively. Postoperative AKI was defined as increase of serum creatinine > 0.3 mg/dL or 1.5 to 2.0 times baseline. Primary outcome was incidence of AKI, secondary outcome was readmissions

RESULTS:

2021 patients were included. There was no statistically significant increase in postoperative Cr levels between the 2 groups (p-value 0.14). However, there was a statistically significant increase in postoperative BUN levels in group 2(p-value 0.022). Additionally, 108/539 (20%) of patients in group 1 had Cr changes >0.3, however only 241/1482 (16%) of patients in group 2 had Cr changes >0.3. This however was not found to be statistically significant (p-value 0.060). Our readmission rate was 2.6% in group 1 and 2.7% in group 2 which was also not statistically significant.

DISCUSSION AND CONCLUSION:

Addition of IVP to standard dual IV antibiotic prophylaxis did not lead to an increase in in AKI or readmissions.