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**Background**: Vancomycin is used for Gram-positive infections, including *methicillin-resistant staphylococcus aureus* and *Enterococcus faecalis*. The 2020 vancomycin guidelines provided an update on vancomycin dosing, which recommended an optimal AUC:MIC target of 400-600. In 2021, a pharmacy-driven AUC:MIC vancomycin dosing protocol was implemented across 12 Sentara Health System hospitals.

**Objective**: The primary objective of this study was to assess if the pharmacy-driven AUC:MIC vancomycin dosing protocol led to fewer AKI (acute kidney injury) rates compared to trough-based dosing. Secondary objectives included vancomycin duration, hospital length of stay, total amount of vancomycin, vancomycin labs drawn during standard lab times, and cost.

**Methods**: This was a retrospective study conducted across 12 hospitals in Virginia and North Carolina (11 community hospitals and 1 teaching hospital). The trough-based group included patients from April 1st, 2019 through August 31st, 2019 and the AUC:MIC-based group included patients from April 1st, 2021 through August 31st, 2021. AKI was determined as an increase in serum creatinine ≥0.3 mg/dL or ≥50% from start of vancomycin therapy on 2 consecutive occasions. Inferential statistics were used to analyze the results of this retrospective study.

**Results**: A total of 2,058 patients were included in the trough-based group and 2,471 patients were included in the AUC:MIC-based group. Nephrotoxin use was not statistically different among the two groups (80.1% (AUC:MIC group) vs. 80.2% (trough group), P=0.915). There were greater ICU admissions among the trough-based group (7.6% vs. 9.4%, P<0.05) and greater use of contrast dye among the AUC:MIC-based group (59.7% vs. 48.4%, P<0.05). The rate of AKI was 19.4% in the trough-based group and 17.5% in the AUC:MIC-based group (P=0.092). 52% of labs were obtained during standard lab times in the AUC:MIC group and 24% in the trough group. There were 2.1 labs drawn per person in the trough-based group and 2.3 labs drawn per person in the AUC:MIC-based group. The median total dose of vancomycin was 9,250mg in the trough-based group and 8,250mg in the AUC:MIC-based group (P<0.05).

**Conclusion**: There was no statistical difference in the primary outcome of rate of AKI between the AUC:MIC group and the trough group, however, the increased use of contrast dye in the AUC:MIC group may confound these results. From a feasibility and cost perspective, AUC:MIC dosing was associated with more lab draws during standard times, a lower percentage of labs drawn per person, and less total use of vancomycin.