Vancomycin is a glycopeptide antibiotic, commonly used to treat gram-positive infections. Intravenous (IV) vancomycin requires extensive clinical monitoring in both community and healthcare settings to maintain efficacy and reduce toxicity. Despite vigilant monitoring, nephrotoxicity is a common adverse drug event associated with vancomycin. Upon hospital discharge, patients often require home infusion services for continuation of therapy. In-clinic monitoring with frequent laboratory values, frequency of administration, and clinical judgment ensures therapeutic drug levels and patient safety. Further research is needed to confirm this experience.

Purpose

The primary objective of this study was to determine the percentage of patients requiring vancomycin dose reductions from the acute care setting to home infusion services. The secondary outcomes evaluated the incidence of acute kidney injury (AKI) and rates of nephrotoxicity following hospitalization. The primary objective of this study was to determine the percentage of patients requiring vancomycin dose reductions from the acute care setting to home infusion services. The secondary outcomes evaluated the incidence of acute kidney injury (AKI) and rates of nephrotoxicity following hospitalization.

Methods

This retrospective study included adult patients from the North Central United States receiving IV vancomycin during osteomyelitis between April 1, 2021 to June 30, 2021. Exclusion criteria consisted of patients receiving AUC-based vancomycin dosing and concomitant use of piperacillin-tazobactam. A retrospective review of electronic medical records determined the percentage of patients requiring dose reductions post-hospitalization. None of the patients in this study required dose reductions with the majority occurring within seven days post-hospitalization.

Results

Of the eight patients with reduced doses on Day 0, three (37.5%) patients were reduced by home infusion pharmacists for ease of administration. Of these, 47 (50%) patients required dose reductions throughout therapy, with 24 (51%) reductions occurring within the first seven days post-hospitalization. Overall, 50% of patients receiving empiric vancomycin dose reductions upon transition to home infusion services did not experience AKI or nephrotoxicity during therapy.

Conclusion

Empirically reducing vancomycin may correlate with decreased incidence of AKI as patients transition from acute care to home infusion for therapy continuation. Practitioners should continue to closely monitor all vancomycin modifications to ensure therapeutic drug levels and patient safety. Further research is needed to confirm the results of this study.

References


Disclosures

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