Assessment of first-dose antimicrobial infusion reactions in outpatient parenteral antimicrobial therapy (OPAT) service patients

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Background: The 2018 Infectious Diseases Society of America (IDSA) OPAT guidelines recommend that an outpatient-initiated first dose may be administered at home under the supervision of healthcare personnel who are trained to respond to IgE-mediated hypersensitivity reactions. This may involve a home health nurse, but if resources are limited, agencies may require a first-dose infusion to be completed in a monitored healthcare setting.

Objective: The objective of this study is to assess the incidence of immediate reactions in UVA OPAT patients who received a supervised outpatient first-dose infusion as part of care for long term antimicrobial management.

Methods: This single center, retrospective case series evaluated adult patients enrolled in the UVA OPAT program who received a first-dose antimicrobial infusion for initiation of or change in IV antimicrobial therapy at a UVA-affiliated infusion center between January 2019 and October 2021. The primary endpoint is the percentage of UVA OPAT patients who experienced an immediate reaction, which includes IgE-mediated and infusion-related reactions, after receiving a supervised first-dose infusion outpatient. Secondary endpoints include the percentage of UVA OPAT patients who previously received the same antimicrobial and timing of receipt in patients who experienced an immediate reaction and in those who tolerated the first-dose antimicrobial infusion. Data were analyzed using descriptive statistics.

Preliminary Results: There were 93 OPAT patients who received 115 first-dose infusions during the study timeframe. Daptomycin, ceftriaxone, and vancomycin accounted for 64% of first-dose infusions. Six patients (6%) experienced an immediate reaction, which included itching, erythema, and nausea. All patients received treatment for their reaction and were able to complete their infusion. Two patients who experienced an immediate reaction had received the same antimicrobial more than 12 months prior.

Conclusion: After receiving a first-dose antimicrobial infusion, few UVA OPAT patients experienced an immediate reaction, none of which were consistent with IgE-mediated reactions. These findings support the IDSA guidelines recommending a monitored first-dose infusion at home, particularly among those who recently tolerated the same agent. In the setting of limited home health nursing resources, the UVA OPAT program proposes that the institutional timeframe requirement for a monitored first-dose infusion could be modified to 12 months as opposed to 90 days.