Assessment of Inpatient Admissions and Readmissions Following One Hour Intravenous Oritavancin Administration in the Emergency Department

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Introduction

- Patients with acute bacterial skin and skin structure infections (ABSSSI) who present to the emergency department (ED) are commonly admitted for intravenous (IV) antibiotic treatment, often resulting in significant costs to the hospital system.
- Oritavancin (O-Kim) is a lipoglycopeptide antibiotic indicated for ABSSSI, administered as a single 1200mg IV dose given over one hour. One dose completes a full course of treatment and eliminates the need for patient hospitalization and compliance.
- At ARMC, O-Kim is utilized in the ED for ABSSSI to prevent costly admissions in select patients and to decrease ABSSSI readmissions.

Objective

The purpose of this study is to evaluate the frequency of hospitalization after receiving O-Kim for ABSSSI in our ED. A secondary outcome will be the rate of 30-day inpatient admissions in this population.

Methods

- Through a report generated by McKesson Explorer, an analytics software that runs pre-specified drug usage reports at our institution, subjects were identified for this retrospective study if they were administered O-Kim in our ED between January and August 2023. One hundred forty total patients were evaluated and included in this study.
- Patients were excluded from the study if they received O-Kim for indications other than ABSSSI.
- Medical records were reviewed and data collection included length of stay in the ED, the rate of inpatient admissions following O-Kim infusion, and all inpatient admissions for ABSSSI within 30 days of discharge.
- Reasons for hospital admission post-infusion and within 30 days of discharge are presented as applicable.
- Approval by the institutional review board at ARMC was obtained.

Results

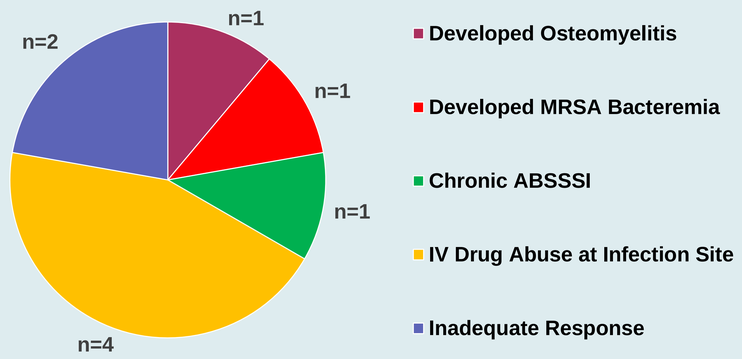
Table 1. Patient Characteristics & Findings (n=140)

Average age in years – no. ± SD	49.4 ±16.8
Male – no. (%)	99 (70.7%)
Caucasian – no. (%)	103 (73.6%)
Average time prior to O-Kim administration (hours) – no. (range)	3.2 (0-18)
Median time to discharge after O-Kim administration (hours) – no. (range)	2.0 (1-229)
Patients placed under observation – no. (%)	2 (1.4%)
Patients admitted to inpatient – no. (%)	3 (2.1%)

Table 2. Reasons for Admission Post-Infusion (n=3)

Leukocytosis – no. (%)	1 (0.7%)
Post-Infusion Reaction – no. (%)	1 (0.7%)
Diabetic Ketoacidosis – no. (%)	1 (0.7%)

Figure 1. ABSSSI Admissions Within 30 Days (n=9, 6.4%)



Discussion

- Following O-Kim administration in our ED, 96.4% of patients were discharged promptly and 97.9% avoided an inpatient admission. Of all 140 patients receiving O-Kim for ABSSSI, 5 (3.6%) were not discharged within 24 hours of ED presentation. Three patients (2.1%) were admitted after the infusion completed **(Table 1)**.
- Of the 3 inpatient admissions, 1 patient (0.7%) was admitted for concurrent diabetic ketoacidosis and another patient (0.7%) for leukocytosis - neither were candidates for O-Kim use per the ARMC protocol **(Table 2)**.
- Nine patients (6.4%) were admitted to the hospital within 30 days of ED discharge with ABSSSI **(Figure 1)**. Four were injecting into the ABSSSI wound site, and 1 had chronic ABSSSI (not ARMC protocol compliant). The 30-day readmission rate of 6.4% was less than our historical ABSSSI readmission rate which ranges from 15-24%.
- The study results demonstrate O-Kim is appropriately associated with admission prevention and same day ED discharge in patients with ABSSSI. The admission and readmission rates would be improved with proper patient selection according to our O-Kim policy. This study warrants further investigation to determine the full financial benefit of administering O-Kim in the ED setting.

Conclusion

Study findings suggest that O-Kim use in our ED effectively prevents hospital admissions and 30-day readmissions for ABSSSI. Provider education on O-Kim patient selection should be reinforced to ensure protocol compliance and optimal patient outcomes.

The authors have nothing to disclose.