Acute Bacterial Skin and Skin Structure Infection Readmissions: A Comparison of One Hour Intravenous Oritavancin Administration in the Emergency Department and Inpatient Vancomycin Use

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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 antibiotic (IV) treatment, often resulting in significant costs to the hospital system.
- Oritavancin is an antibiotic indicated for ABSSSI, administered as a single 1200mg IV dose given over one hour. One dose completes a full course of treatment.
- At ARMC, oritavancin is utilized in the ED for ABSSSI to prevent costly admissions in select patients and to decrease ABSSSI readmissions. Alternatively, patients are admitted for IV vancomycin therapy and discharged on oral antibiotics.
- This study evaluated outcomes of patients who presented to the ED with ABSSSI who received oritavancin to prevent hospital administration or were admitted for conventional IV vancomycin and oral antibiotics at discharge.

Objectives

The objective of this study is to evaluate the difference in 30-day readmission rates between patients given oritavancin in the emergency department (ED) and patients admitted on IV vancomycin for acute bacterial skin and skin structure infections (ABSSSI).

Methods

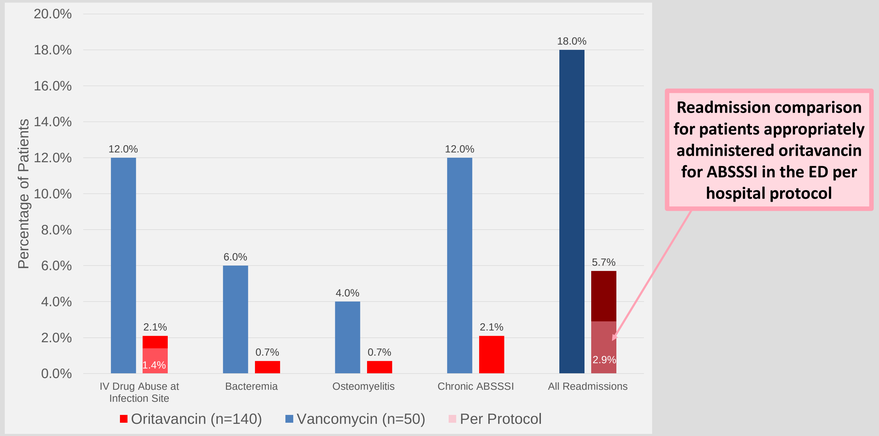
- Through a report generated by McKesson Explorer, an analytics software that runs pre-specified drug usage reports, subjects were identified for this retrospective study if they were administered oritavancin in our ED or IV vancomycin as an inpatient for ABSSSI.
- Included patients received vancomycin between May 2022 and January 2023 or oritavancin between January and August 2023.
- Excluded patients were those diagnosed with any indication other than ABSSSI.
- Data collection included relevant past medical history, total length of stay (LOS), and readmission for ABSSSI within 30 days of discharge.
- Collected data will be analyzed using an independent t-test with alpha set to 0.05 or a Chi-square test as appropriate.
- Approval by the institutional review board at ARMC was obtained.

Results

Table 1. Patient Characteristics

Characteristic	Oritavancin (n=140)	Vancomycin (n=50)	p-value
Average age in years – no. ± SD	49.4 ± 16.8	47.7 ± 13.1	p = 0.88
Male – no. (%)	99 (70.7%)	31 (62%)	p = 0.26
Prior ABSSSI - no. (%)	57 (40.7%)	19 (38%)	p = 0.74
IV Drug Use - no. (%)	53 (37.9%)	14 (28%)	p = 0.21
Length of Stay – avg.	N/A	5.6 days	N/A
Readmission Rate – no. (%)	8 (5.7%)	9 (18%)	p = 0.009

Figure 1. 30-Day Readmission Analysis



Discussion

- Baseline characteristics were similar between the oritavancin and vancomycin arms. The average age in each treatment arm was 49.4 and 47.7, respectively. There were no significant differences in baseline characteristics.
- The 30-day ABSSSI readmission rates were significantly lower in the oritavancin arm compared to the vancomycin arm – 5.7% vs 18%, p=0.009.
- In a separate analysis of the oritavancin readmissions (n=8), investigators excluded those who were not candidates for oritavancin per hospital protocol. The 30-day ABSSSI readmission rate in this population was 2.9% (n=4), with no patients being readmitted for osteomyelitis or bacteremia.
- This study demonstrates oritavancin administration provides a significant reduction in 30-day ABSSSI readmissions compared to inpatient IV vancomycin therapy. Readmission rates would be further improved in the oritavancin treatment arm with proper patient selection according to hospital policy.

Conclusion

In patients with ABSSSI, oritavancin use in the ED was associated with lower hospital readmission rates compared to conventional IV vancomycin. This readmission data warrants a financial analysis to determine the financial benefit with oritavancin utilization for ABSSSI in the ED. Provider education should be reinforced to ensure proper patient selection, protocol compliance, and optimal patient outcomes.

Disclosure panel: The authors have nothing to disclose concerning financial or personal relationships with commercial entities.