Efficacy and Safety of Dalbavancin and Oritavancin in the Treatment of Gram-Positive Infections

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BACKGROUND

Lipoglycopeptides are approved for acute bacterial skin and skin structure infections (ABSSSI), but are often used in other infections, including osteomyelitis (OM) and bloodstream infections (BSI).

METHODS

This retrospective cohort study included VA St. Louis Health Care System patients aged ≥18 through ≤89 years treated for ABSSSI, BSI, or OM with lipoglycopeptides. Patients were excluded if they received ≥72 hours (ABSSSI, BSI) or ≥7 days (OM) of antibiotics prior to lipoglycopeptide administration or other intravenous antibiotics were administered for ≥48 hours after lipoglycopeptide. The primary efficacy outcome was clinical success in the lipoglycopeptide cohort, defined per infection. Secondary outcomes were a comparison of clinical success in the lipoglycopeptide cohort to historical controls of patients treated at the VA St. Louis for ABSSSI, BSI, or OM. A multivariate regression was also conducted to find factors in the lipoglycopeptide group independently associated with clinical success. Safety outcomes compared adverse drug reactions between single- and 2-dose regimens of lipoglycopeptide.

Multivariate Logistic Regression

Dalbavancin	0.313 OR (95% CI 0.051-1.917)	P=0.21
ABSSSI	0.132 OR (95% CI 0.02-0.786)	P=0.04

Clinical Success Definitions

ABSSSI: No administration of antibiotics within 4 weeks; no hospital admission for ABSSSI of the same site within 4 weeks

OM: No administration of antibiotics within 6 months; no unplanned surgery for OM of the same site withing 6 months

BSI: No hospital admission for infection within 4 weeks; no documented gram-positive blood culture within 4 weeks of lipoglycopeptide administration

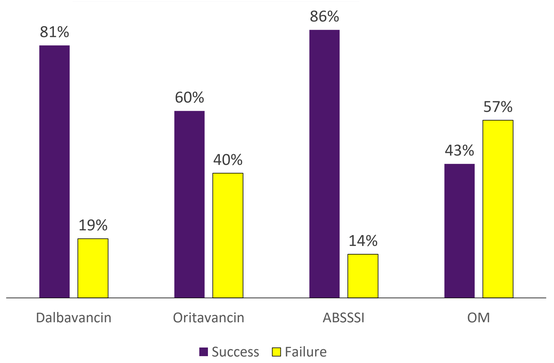
Baseline Characteristics

	Overall Cohort (N=36)	ABSSSI (N=29)	OM (N=7)
CrCl (mL/min)	84±34	86±36	76±26
Was Treatment Empiric	56% (20)	65% (19)	14% (1)
Prior Duration of Abx (mean days)	2.6	2.2	3.6
Dalbavancin	72% (26)	76% (22)	57% (4)
Oritavancin	28% (10)	24% (7)	43% (3)

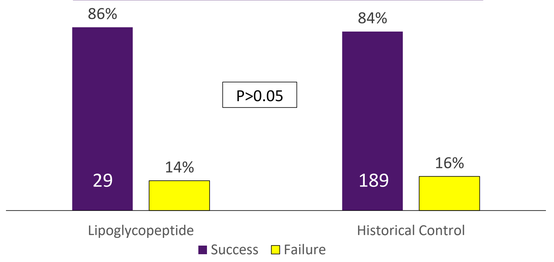
Univariate Analysis

	Clinical Success (N=28)	Clinical Failure (N=8)	*P*-value
Empiric Treatment	57% (16)	50% (4)	1.0
IVDA	7% (2)	0	1.0
Monotherapy	75% (21)	63% (5)	0.39
Dalbavancin	79% (22)	50% (4)	0.18
ABSSSI	89% (25)	50% (4)	0.03

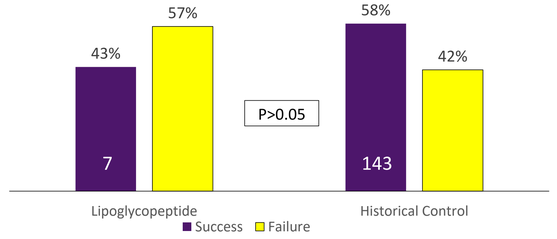
Lipoglycopeptide Cohort Results



Lipoglycopeptide vs. Historical Control - ABSSSI



Lipoglycopeptide vs. Historical Control - OM



RESULTS

A total of 36 patients were included in the analysis; no patients met inclusion for bloodstream infection. Twenty-nine patients were treated for ABSSSI and 7 patients met inclusion for OM treatment. Dalbavancin was the agent used most often for both OM (4/7) and ABSSSI (22/29). The primary outcome of clinical success occurred in 77.7% (28/36) of the lipoglycopeptide cohort. There was no difference in clinical success between the lipoglycopeptide cohort and historical controls for ABSSSI (86% [5/29] vs 84% [159/189], p>0.05) or OM (43% [3/7] vs 58% [83/143], p>0.05). No difference in adverse outcomes between single- and 2-dose regimens of lipoglycopeptide were observed.

CONCLUSIONS

Clinical success for patients treated with lipoglycopeptides for ABSSSI and OM in this small cohort were comparable to historical controls. No difference was identified in the safety between single- and 2-dose regimens of lipoglycopeptide.

Safety Analysis

Adverse Reaction	Single Dose Regimen (N=32)	Two Dose Regimen (N=4)
Infection Site Reaction	0	0
Nausea	2	0
Vomiting	2	0
Diarrhea	0	1
Headache	1	0