

Evaluation of the Efficacy of Dalbavancin at Discharge for Patients with ABSSSI and History of Substance Abuse



Natt Patimavirujh, Pharm.D. Candidate¹, Ryan Bok, Pharm. D.², Christopher M. Bland, Pharm.D., BCPS, FCCP, FIDSA^{1,4}, Susan E. Smith, Pharm.D., BCPS, BCCCP³, and Bruce M. Jones, Pharm.D., FIDSA, BCPS^{1,4}
 University of Georgia College of Pharmacy, Savannah, GA¹; West Virginia University Medicine, Morgantown, WV²;
 University of Georgia College of Pharmacy, Athens, GA³; St. Joseph's/Candler Health System, Savannah, GA⁴



Background

- Dalbavancin, a long-acting lipoglycopeptide antibiotic, has previously been shown to reduce hospital length of stay (LOS) through a one-time infusion in the outpatient setting, immediately after discharge for treatment of acute bacterial skin and skin structure infections (ABSSSI)^{1,2}
- Dalbavancin has excellent gram positive coverage including MRSA with weekly dosing supporting use in treating ABSSSI as outpatient.
- Patients with a history of substance abuse have increased risk of nonadherence, thus oral antibiotics may not be effective^{2,3}

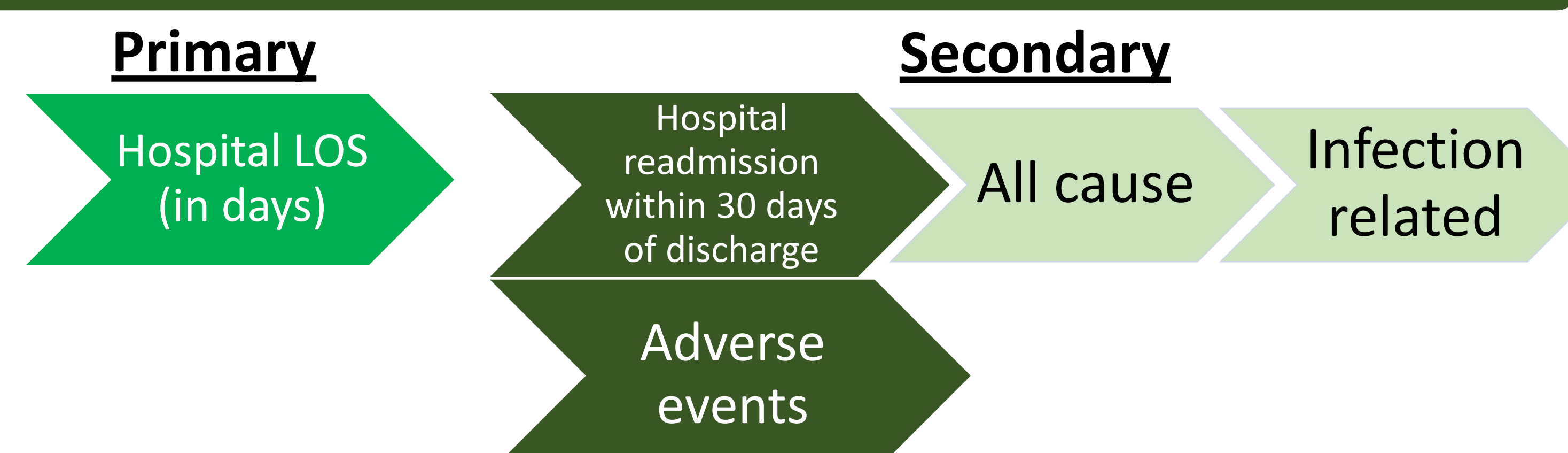
Purpose

- To determine if there is a difference in LOS between patients with a history of substance abuse discharged to receive dalbavancin after admission with ABSSSI

Methods

- Inclusion Criteria:**
 - Adult patients admitted for ABSSSI who were discharged to receive dalbavancin as outpatients at an infusion center with or without history of substance abuse.
- Exclusion Criteria:**
 - Diagnosis of the following:
 - Osteomyelitis
 - Necrotizing fasciitis
 - Gangrene
 - Diabetic foot ulcer
 - Severe burn wounds
- Study Period:** 1/1/16 to 2/28/22
- Study Design:** Retrospective, multi-cohort study
 - Cohorts
 - People who inject drugs, history of illicit drug abuse including methamphetamines and opioids (excluding marijuana and alcohol)
 - All other patients treated for ABSSSI
- Chi-square and Mann-Whitney U tests were used for statistical analysis, as appropriate

Outcomes



Results

Table 1: Demographics

Variable	Substance Abuse (n = 28)	No Substance Abuse (n = 65)	p-value
Primary Insurance			
Self-Pay	18 (64%)	8 (12%)	<0.001
Insurance	10 (36%)	57 (88%)	
Male Sex	18 (64%)	46 (71%)	0.536
Race			
Caucasian	25 (89%)	51 (78%)	0.463
African-American	2 (7%)	9 (14%)	
Unspecified	1 (4%)	5 (8%)	
Comorbidities			
Diabetes	2 (7%)	25 (38%)	0.002
CAD	3 (10%)	18 (28%)	0.072
CHF	1 (4%)	5 (8%)	0.458
CKD	0	10 (15%)	0.028
COPD	4 (14%)	8 (12%)	0.892
Asthma	2 (7%)	2 (3%)	0.375
HIV	1 (4%)	0	0.126
HCV	6 (21%)	1 (1%)	<0.001
Age (years)	39 (33 – 48)	59 (45 – 70)	<0.001
Weight (kg)	81.7	98.6	0.007
Height (in)	69	69	0.772
BMI	26.6	32.2	0.001

*Age, weight, height, and BMI is the average in each cohort, Age Interquartile range in parenthesis

Table 2: Outcomes

Variable	Substance Abuse (n = 28)	No Substance Abuse (n = 65)	p-value
Hospital LOS (days)	4 (3 – 6)	4 (3 – 6)	0.774
30-day readmission (all-cause)	6 (21%)	9 (14%)	0.362
30-day readmission (infection)	4 (14%)	5 (8%)	0.324
Adverse Effects			0.112
Pain	3 (11%)	1 (1%)	
Infiltration	0	1 (1%)	
None	25 (89%)	63 (98%)	

*Adverse effects during dalbavancin infusion, Hospital LOS Interquartile range of 3 - 6 days

Results Continued

Figure 1: Source of Infection Substance Abuse

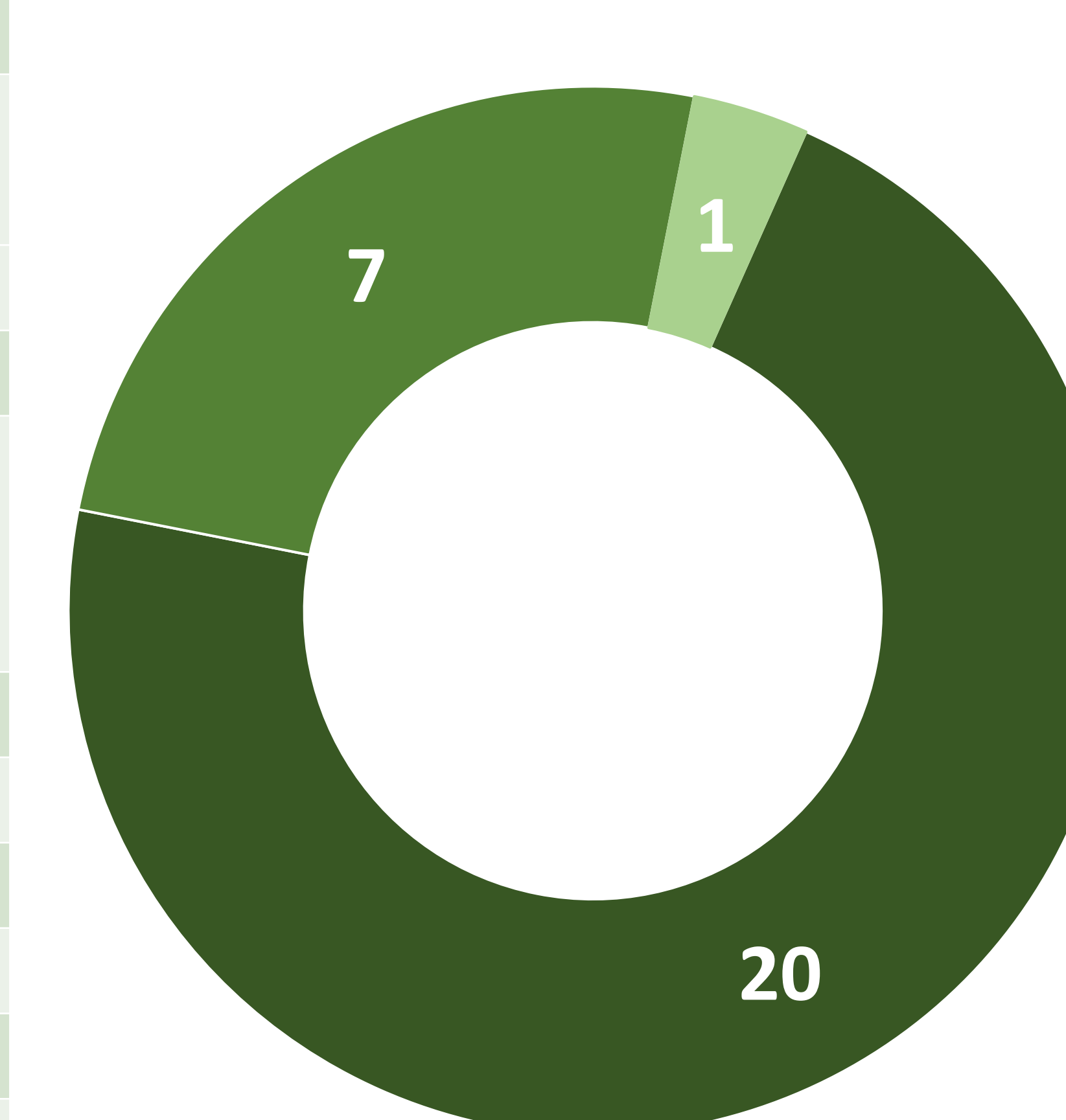
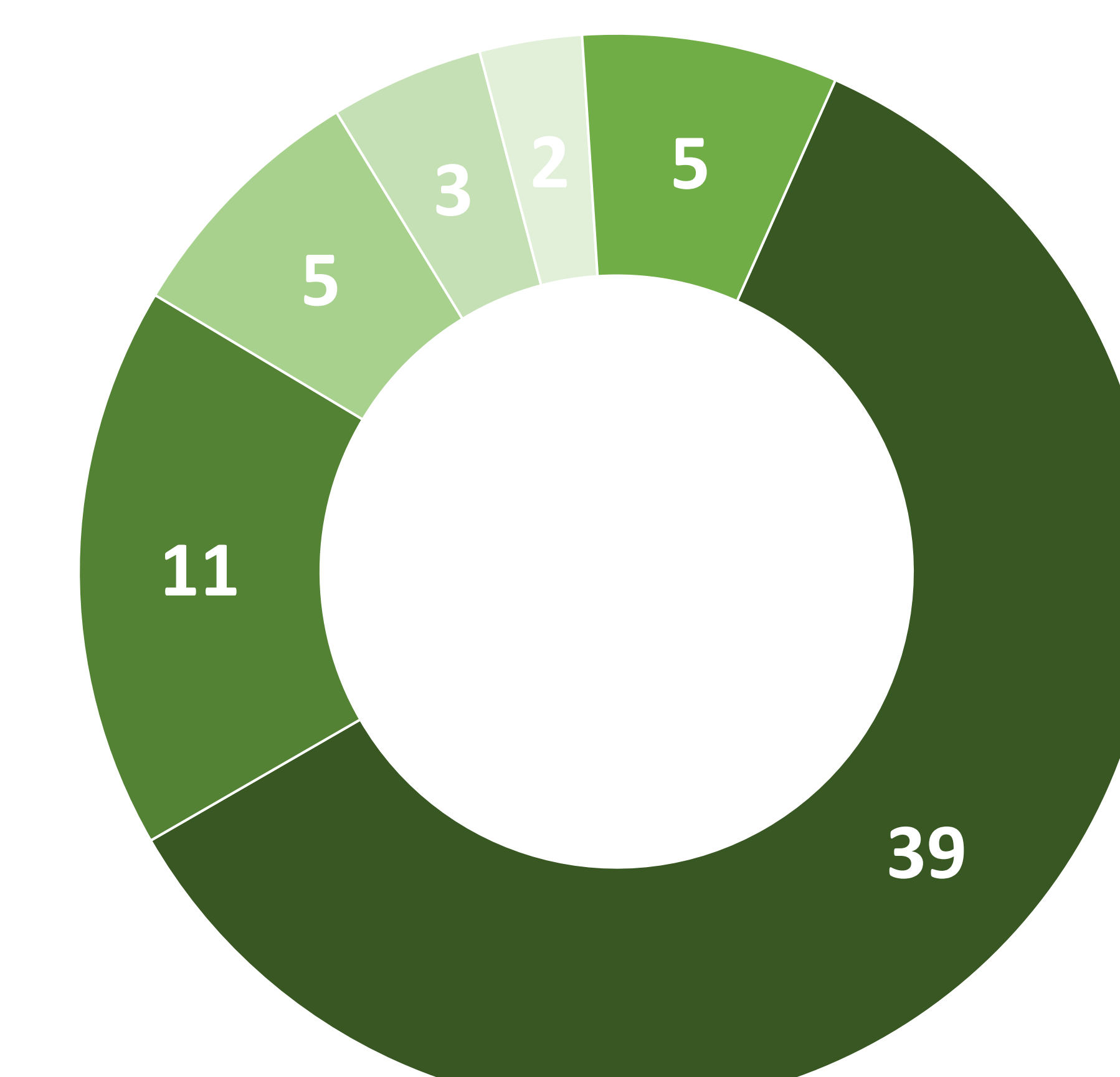


Figure 2: Source of Infection No Substance Abuse



■ Cellulitis ■ Abscess ■ Wound
 ■ Unknown ■ Ulcer ■ Other*
 *Other includes infections of Catheter, Synovitis, Port/graft, Prosthesis, and Bursitis

Conclusions and Discussion

- No statistical difference was found in hospital LOS, all-cause or infection-related 30-day readmission between substance and non-substance abuse patients receiving dalbavancin for ABSSSI at discharge
- Dalbavancin is a safe option to treat ABSSSI in patients with history of substance abuse, thus an alternative to oral antibiotics
- Limitations of study:**
 - Does not classify alcohol or marijuana use as substance abuse
 - Small sample size
 - Disparity in age between groups
- Future Direction:**
 - Compare outcomes with oral antibiotics and dalbavancin in patients with history of substance abuse.

References

- Jones BM, Hersey R, Taylor C, Bland CM. Evaluation of dalbavancin on length of stay in acute bacterial skin and skin structure infections. *JACCP* 2019; Vol. 2 Issue 5, p. 477 - 481
- Gonzalez PL, Rappo U, Akinapelli K, McGregor JS, Puttagunta S, Dunne MW. Treatment of acute bacterial skin and skin structure infection with single-dose dalbavancin in persons who inject drugs. *Drugs Context*. 2018;7:212559.
- D'Coito HT, Robbins GK, Ard KL, Young HL, et al. Outcomes According to Discharge Location for Persons Who Inject Drugs Receiving Outpatient Parenteral Antimicrobial Therapy. *Open Forum Infect Dis*. 2018;5(5):ofy056.