

## Abstract

**Background:** Dalbavancin is a novel long-acting lipoglycopeptide with increasing utilization for management of bone and joint infections as a two-dose regimen. The purpose of this study is to describe the patient characteristics, evaluate clinical outcomes, and calculate inpatient hospital days saved with use of dalbavancin as outpatient parenteral antimicrobial therapy (OPAT).

**Methods:** A retrospective review of patients treated with dalbavancin at University Hospital was conducted from Aug 2019- March 2020. Patients ≥ 17 yrs of age with plan to receive at least 1 dose of dalbavancin were included.

**Results:** 42 patients met the study criteria. 62% were males with a median age of 49 yrs. 67% of patients had diabetes and 12% had a documented history of intravenous drug use. The most common indication was osteomyelitis (71%). *S. aureus* was the most commonly isolated organism in monomicrobial infections (MRSA 24%, MSSA 9.5%). 90.5% of patients were adherent to their prescribed therapy. Adverse effects were mild and noted in only 4 patients. 24 patients (57%) received concomitant antibiotics. 45% of patients achieved a cure with another 12% were classified as improved but requiring further antibiotics. 31% (N=13) had failure of therapy of which, 69% (N=9) did not achieve prior source control. A statistically significant difference was seen in the successful outcome with therapy in the group that underwent source control versus those that did not. Our health system saved 160 inpatient days through dalbavancin use.

**Conclusion:** Dalbavancin treatment had a high adherence rate with minimal adverse effects and achieved a positive outcome in 57% of patients. Of patients that failed, the majority did not have appropriate source control. Dalbavancin use has the potential to save inpatient days while offering a more convenient option for treatment. However, further studies should be conducted to evaluate its efficacy in comparison to standard of care therapy at our institution

## Introduction

- Dalbavancin is a long-acting lipoglycopeptide with FDA approval for the treatment of acute bacterial skin and skin structure infections (ASSSI) in adults.
- It has a wide-spectrum of activity against gram-positive bacteria, including methicillin resistant staphylococcus aureus (MRSA), good bone and synovial fluid penetration, and long half-life allowing for more convenient dosing schedule.
- There is increasing utilization of dalbavancin for treatment of bone and joint infections as a two-dose regimen.
- The purpose of this study is to describe the patient characteristics, evaluate clinical outcomes, and calculate inpatient hospital days saved with the use of dalbavancin as outpatient parenteral antibiotic therapy (OPAT).

## Materials and Methods

- A single-center, retrospective chart review of 42 patients treated with dalbavancin infusion at a large academic hospital was performed.
- University Hospital; San Antonio, Texas.
- Timeline: August 2019 – March 2020.
- Information of baseline demographics, infection characteristics, treatments, and outcomes were recorded from the electronic medical record.

Primary Outcome	Secondary Outcomes
<ul style="list-style-type: none"> <li>• Clinical Cure</li> </ul>	<ul style="list-style-type: none"> <li>• Adherence to therapy</li> <li>• Adverse Effects</li> <li>• Inpatient hospital days saved</li> </ul>

## Results

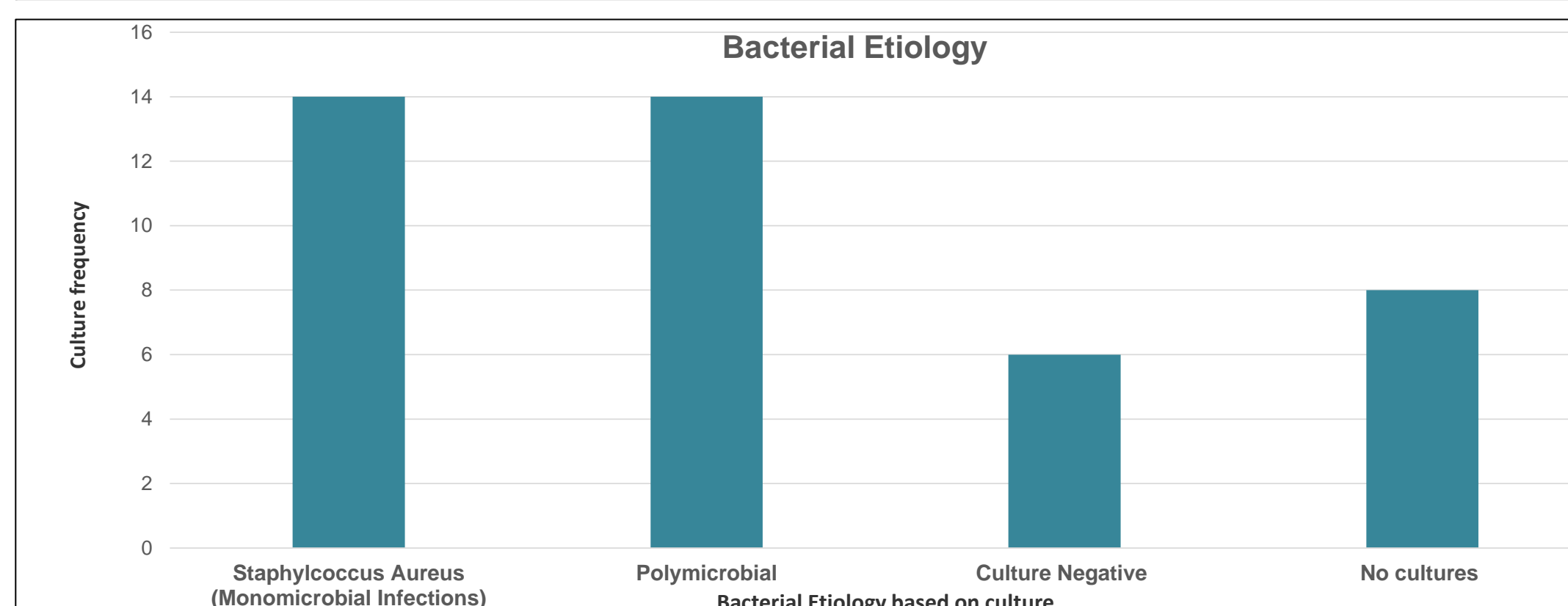
### Baseline characteristics (N = 42)

	Median (IQR)
Age (yrs)	49 (42 - 60)

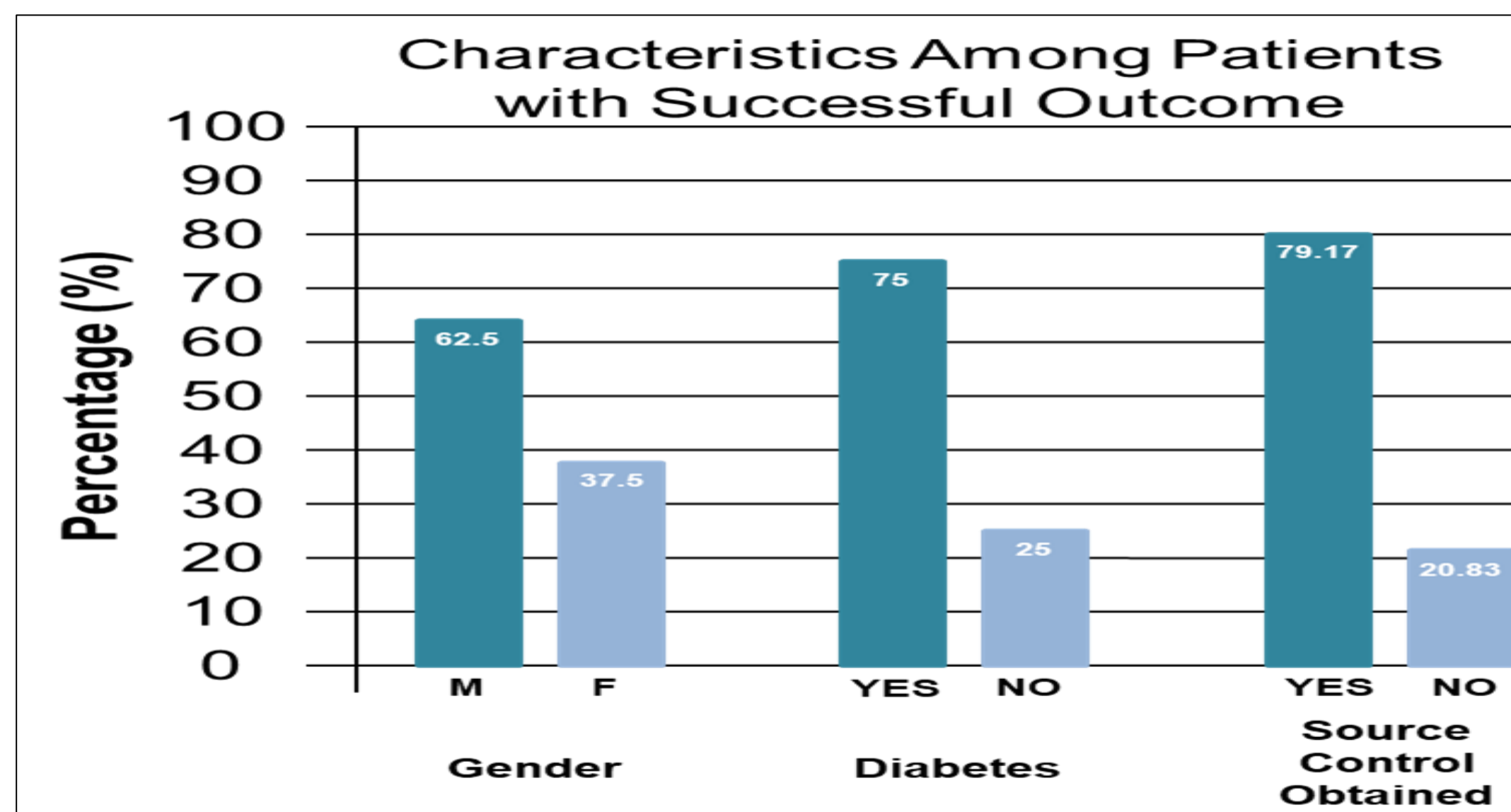
	N	%
Male	26	62
Diabetes mellitus	28	67
IVDU	5	12
Adequate source control	28	67
Concomitant antibiotic(s)	26	62

### Indications for Dalbavancin Use

	N	%
Osteomyelitis	30	71
Skin and soft tissue infection	2	4
Other/ not specified	10	23.8



	Successful Outcome	Non Successful Outcome	P Value
Source control obtained	19 (79.17%)	4 (30.77%)	0.0058



## Results (Continued)

- The most common indication was osteomyelitis (71%). *S. aureus* was the most commonly isolated organism in monomicrobial infections (MRSA 24%, MSSA 9.5%).
- 33% of patients had polymicrobial infections.
- 90.5% of patients were adherent to their prescribed therapy; 1 patient missed both doses and 3 only received 1 of their recommended doses.
- Adverse effects were mild and noted in only 4 patients.
- 24 patients (57%) received concomitant antibiotics. The most common additional antibiotics used were levofloxacin or levofloxacin plus metronidazole.
- 45% of patients achieved a cure, with another 12% classified as improved but requiring further antibiotics. 57% had a successful outcome.
- 31% (N=13) had failure of therapy.
- Of the patients that failed, 69% (N=9) did not achieve prior source control.
- 5 patients were lost to follow up.
- 160 inpatient days saved through dalbavancin use.

## Discussion

- Dalbavancin OPAT therapy at our institution had a high adherence rate with minimal adverse effects. A positive outcome was achieved in 57% of patients. Of patients that failed, the majority did not have appropriate source control which could have been a risk factor for poor outcome. Our study also found a statistically significant difference with successful outcome in the group that underwent source control.
- In conclusion, dalbavancin use has the potential to save inpatient days while offering a more convenient option for treatment. However, further studies should be conducted to evaluate its efficacy in comparison to standard of care therapy at our institution.

## References

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