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Cefiderocol Use in Treating Patients with Confirmed *Stenotrophomonas maltophilia* Infections in US Hospitals During January 2020 – June 2022

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INTRODUCTION

Stenotrophomonas maltophilia infections may be associated with high mortality rates (21%–69%) in critically ill patients, because of the inherent resistance in *S. maltophilia* to many antibiotics, including carbapenems.[1–4]

OBJECTIVE

We aimed to describe cefiderocol usage for the treatment of US hospitalized patients infected by *S. maltophilia*.

METHODS

Design: retrospective observational study

Data source: PINC database from January 2020 to June 2022

Inclusion criteria: age ≥18 years, non-COVID, a positive *S. maltophilia* culture without other Gram-negative pathogens identified within ±3 days and receiving cefiderocol for ≥3 days starting on or after first *S. maltophilia* culture. The first *S. maltophilia* culture was the index culture.

Endpoints: patient characteristics, cefiderocol usage pattern, and overall, Day 14 and Day 28 in-hospital all-cause mortality (IHACM) with 95% confidence intervals (CIs).

RESULTS

Patient attrition

9,089 inpatient hospital episodes with *S. maltophilia* from 2020 to June 2022

Treated with cefiderocol >2 days starting on or after index *S. maltophilia* culture **(N=56)**

Non-COVID-19 patients only **(N=51)**

S. maltophilia as monomicrobial infection **(N=19)**

Time from index culture to start of cefiderocol

≤5 days (n=8)	6–20 days (n=9)	>20 days (n=2)

COVID-19, coronavirus disease 2019.

RESULTS

Patient characteristics (N=19)

66 (56–76)	Age, median (Q1–Q3) years
11 (57.9%)	Sex, male
17 (89.5%)	Admitted via emergency, trauma center, or urgent care
4 (3–6)	CCI score, median (Q1–Q3)

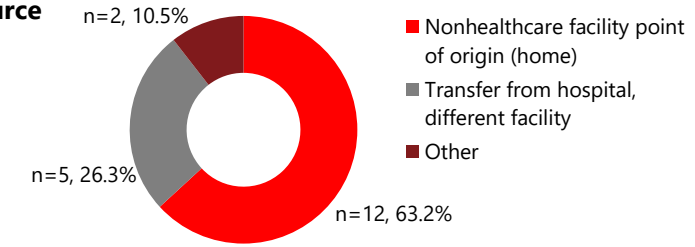
Top 4 comorbidities

13 (68.4%)	Renal disease
10 (52.6%)	Congestive heart failure
6 (31.6%)	Chronic pulmonary disease
6 (31.6%)	Peripheral vascular disease

Index culture was taken

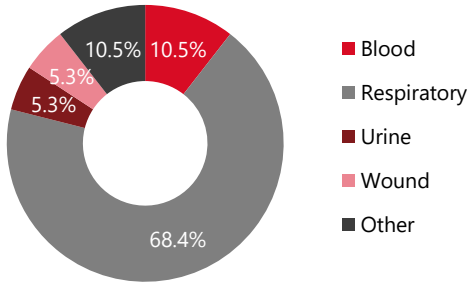
- **15 (79.0%)** Stayed at ICU
- **13 (68.4%)** Received mechanical ventilation
- **13 (68.4%)** Received vasopressor support
- **10 (52.6%)** Received dialysis

Admission source



Cefiderocol use	Overall (N=19)
Days from index culture to first cefiderocol dose, median (Q1–Q3)	6 (4–10)
Prior antibiotics with Gram-negative activity, n (%)	19 (100)
Days on cefiderocol, median (Q1–Q3)	8 (4–12)
Cefiderocol as monotherapy, n (%)	
Yes	7 (36.8)
No	12 (63.2)
Other antibiotics used	
Levofloxacin	6 (50.0)
Eravacycline	6 (50.0)
Cefepime	4 (33.3)
Minocycline	4 (33.3)

Infection site



Hospitalization discharge	Overall (N=19)
Days from index culture to discharge, median (Q1–Q3)	18 (8–30)
Overall IHACM, n (%)	7/19 (36.8)
Day 14 IHACM after *S. maltophilia* index culture	2/19 (10.5) [95% CI: 0%–24.3%]
Day 28 IHACM after *S. maltophilia* index culture	4/19 (21.1) [95% CI: 2.7%–39.4%]
Discharge status, n (%)	
Hospice	2 (10.5)
Home	5 (26.3)
Transfer to other health facilitates	4 (21.1)
Other	1 (5.3)

CONCLUSIONS

S. maltophilia is a rare Gram-negative pathogen with limited treatment options.

These preliminary results of cefiderocol treatment in critically ill patients with *S. maltophilia* infections warrant for further investigation.

REFERENCES

1. Andelkovic MV, et al. J Chemother 2019;31:297–306; 2. Brooke JS. Expert Rev Anti Infect Ther 2014;12:1–4; 3. Falagas ME, et al. Future Microbiol 2009;4:1103–9; 4. Senol E, et al. Clin Infect Dis 2022;34:1653-6.