

the two groups were similar. Inpatient mortality was found to be significantly higher in ENT patients than NO ENT patients (51.5% vs. 29.4%, $P = 0.009$). In the multivariable analysis, risk factors found to be independently associated with mortality included enterococcal bacteremia (OR 3.96, 95% CI 1.61–9.73), MELD score (OR 1.11, 95% CI 1.05–1.19), and APACHE II score (OR 1.14, 95% CI 1.06–1.23).

Conclusion. Enterococcal bacteremia, MELD score, and APACHE II score were found to be independent risk factors for all-cause inpatient mortality in patients with liver cirrhosis. Future studies are needed to elucidate how treatment choice and bacterial characteristics might also influence patient outcomes.

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124. Impact of Levofloxacin MIC on Outcomes with Levofloxacin Step-down Therapy in Enterobacteriaceae Bloodstream Infections

Melissa White, PharmD¹; Kerry Lenzi, PharmD¹; Lauren S. Dutcher, MD²; Stephen Saw, PharmD¹; Steven C. Morgan, PharmD, BCPS AQ-ID¹; Shawn Binkley, BS, PharmD¹; Vasilios Athans, PharmD, BCPS, BCIDP¹; Christo L. Cimino, PharmD, BCPS, AAHIVP³; Kathleen Degnan, MD¹ and Keith W. Hamilton, MD¹; ¹Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania; ²University of Pennsylvania, Philadelphia, Pennsylvania; ³Penn Presbyterian Medical Center, Philadelphia, Pennsylvania

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Background. The Clinical and Laboratory Standards Institute reduced the levofloxacin minimum inhibitory concentration (MIC) breakpoint from ≤ 2 to ≤ 0.5 mg/L for *Enterobacteriaceae* in 2019 guidelines. The reduction is based on Monte Carlo simulations for a levofloxacin dose of 750 mg daily. The aim of this study was to determine whether there was a difference in clinical outcomes in the treatment of *Enterobacteriaceae* bacteremia with levofloxacin step-down therapy retrospectively comparing patients with isolates with low levofloxacin MICs (≤ 0.5 mg/L) to high MICs (1–2 mg/L).

Methods. This retrospective, two-center cohort study included patients ≥ 18 years of age with a monomicrobial *Enterobacteriaceae* bacteremia with a levofloxacin MIC ≤ 2 mg/L from March 2017 through December 2018. Patients had to have received treatment with ≥ 3 days of levofloxacin step-down therapy, initial intravenous therapy with an agent active against the isolated organism, and total duration not exceeding 16 days from first negative blood culture. A subset of patients whose isolates had low levofloxacin MICs were randomly selected for comparison to all patients with high levofloxacin MICs in a 3:1 ratio. The primary outcome was a composite endpoint of recurrence and mortality within 30 days of completion of the antibiotic course. Secondary outcomes included post-culture length of stay (LOS) and 30-day readmission rate.

Results. Thirty-three patients with high MIC and 99 with low MIC were included. Urinary source was predominant and occurred in 44% of patients, and *Escherichia coli* was the infecting organism in 48%. Over 80% of patients experienced source resolution or control. The composite endpoint occurred in 8.1% of the low MIC group and 9.1% of the high MIC group ($P = 0.856$). Median LOS was 4.9 days (IQR 3.7–8.0) in the low MIC group and 4.3 days (IQR 3.2–6.8) in the high MIC group ($P = 0.384$), and readmission rate was 17.2% in the low MIC group and 15.2% in the high MIC group ($P = 0.787$).

Conclusion. There was no between-group difference in the primary outcome of recurrence and mortality, with a low overall event rate and short LOS post-culture. These results suggest that levofloxacin effectiveness may be sustained in patients with MICs of 1 or 2 despite levofloxacin not meeting susceptibility criteria by new definitions.

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125. The Clinical Impact of 16S rRNA Bacterial Sequencing in Infective Endocarditis

Sami El-Dalati, MD¹; Sandro Cinti, MD²; Anna Owczarczyk, MD, PhD²; Jamie Riddell, IV, MD²; Christopher Fagan, MD²; Rishi Chanderraj, MD² and Shinichi Fukuhara, MD²; ¹Fellow, Ann Arbor, Michigan; ²University of Michigan, Ann Arbor, Michigan

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Background. Cases of possible and/or culture-negative endocarditis continue to be a diagnostic challenge. Performing bacterial 16S ribosomal RNA polymerase chain reaction (rRNA PCR) sequencing on cardiac valves now allows providers to make microbiologic diagnoses that were previously unobtainable (sensitivity 66–80.5%). However, few publications address how the PCR results impact clinical management in endocarditis patients.

Methods. Between July 1, 2014 and December 31, 2018, the results of all 16S rRNA PCR tests collected from cardiac valves at the University of Michigan were reviewed. Samples were sent to the University of Washington for sequencing. Each chart was then reviewed by two independent ID physicians to determine whether patients' medical plans were impacted by the PCR results.

Results. 41 patients were identified with associated 16S rRNA PCR testing from cardiac valves. 16 cases met Duke Criteria for definite endocarditis, 22 for possible and 3 were rejected endocarditis. Overall, 18 (43.9%) samples were positive. Of these, 10 patients had concordant positive blood cultures. In 8 patients a previously unsuspected organism was identified. Twenty-four out of 41 patients were considered to have culture-negative endocarditis with October 24 (41.7%) who had positive PCR results.

Twenty-two patients were noted to have operative findings consistent with infection with 16 (72.7%) having corresponding positive PCR results. 4/41 (9.8%) patients had their management plans changed based solely on the PCR findings. In 23/41 (56.1%) cases the PCR result was never referenced by any medical provider in the electronic medical record. There were 7 (17.1%) cases where patients received 6 weeks of antibiotics despite presenting with possible culture-negative endocarditis, noninfectious operative findings and negative valve PCRs which were not reviewed.

Conclusion. 16S rRNA PCR sequencing is a useful tool for obtaining a microbiologic diagnosis in cases of possible or culture-negative endocarditis. The test has significant potential to impact individual patient care and in a subset of cases may be used to de-escalate antibiotic therapy. However, testing delays and cumbersome resulting methods impede bacterial sequencing from reaching its full potential as a diagnostic modality.

Table 1. 16S rRNA PCR results among patients with definite, possible and rejected endocarditis by Modified Duke Criteria.

	Definite Endocarditis (n = 16)	Possible Endocarditis (n = 22)	Rejected Endocarditis (n = 3)
Culture Negative (%)	18.8	81.8	100
Positive Valve PCR (%)	43.8	45.5	33.3
PCR Reviewed (%)	31.3	54.5	33.3
Management Change (%)	6.3	9.1	33.3
Positive Valve Culture (%)	6.3	18.2	0
Infectious OR Findings (%)	62.5	22.7	33.3

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126. Cascade of Care for Opioid Use Disorder in Patients with Infective Endocarditis

Carlos S. Saldana, MD¹; Gabriella Bal²; Nabin K. Shrestha, MD, MPH²; Kristin Englund, MD² and Steven M. Gordon, MD¹; ¹Cleveland Clinic Foundation, Cleveland, Ohio; ²Cleveland Clinic, Cleveland, Ohio

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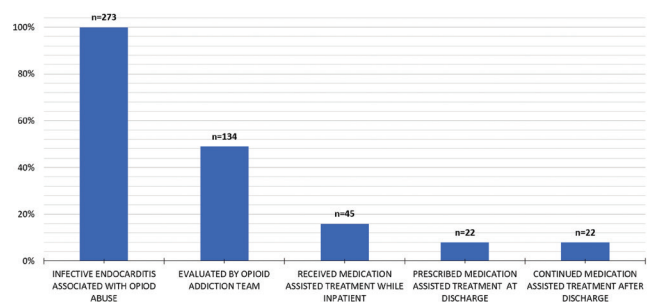
Background. The term "Cascade of Care" has been used to analyze care delivered by a health system for conditions such as HIV, hepatitis C, tuberculosis, and diabetes. It outlines sequential steps required to reach a specific outcome (i.e., viral suppression in the case of HIV). This allows to estimate the proportion of patients achieving each step and to identify gaps in care. Medication-assisted treatment (MAT) is integral in the treatment of patients with infective endocarditis (IE) and opioid use disorder (OUD). We propose a Cascade of Care aiming to identify fundamental milestones in the management of these patients.

Methods. A retrospective cohort study examined patients with IE in the setting of OUD hospitalized between July 1, 2007 and January 1, 2015 to the Cleveland Clinic. We identified 4 key steps along the treatment cascade of these patients and estimated the proportion of patients: (1) evaluated by an addiction treatment service, (2) prescribed MAT while in-patient, (3) prescribed MAT at discharge, and (4) continued MAT at least 90 days after discharge.

Results. Of 273 patients with IE in the setting of OUD, 134 (49%) were evaluated by an addiction treatment service; 45 (17%) were prescribed MAT while in-patient; only 22 (8%) were prescribed MAT at discharge. At 90 days following discharge, there was evidence of continuing MAT for all 22 patients (8%).

Conclusion. Describing the process of addiction treatment for patients with IE and OUD in the format of a cascade of care provides a powerful quantitative method to identify gaps in care and can be used as a resource to implement interventions to address losses. We found only 8% of these patients continued MAT in the community after discharge. This study provides an estimate of how compromised the potential benefits from medical and surgical treatment for IE are by the lack of an effective approach to OUD after hospital discharge.

Figure 1. Cascade of Care for Opioid Use Disorder in Patients with Infective Endocarditis.



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127. Novel Treatment Approach for Left Ventricular Assist Device-related Infections

Yunus C. Yalcin, BSc; Nelianna Verkaik, MD, PhD;