Table 3. Initial antimicrobial agent and 30-day mortality

Table 3. Initial antimicrobial agent and 30-day mortality

	Blood culture before antibiotic (N = 118)	Blood culture after antibiotic (N =78)	*p* valve
Initial antimicrobial agent			
Ceftriaxone +/- Azithromycin or Doxycycline	31	25	$p = 0.42$
Ceftriaxone plus Vancomycin +/- other antibiotic	10	4	$p = 0.41$
Ceftriaxone plus other antibiotic	13	0	$p < 0.05$
Cefepime +/- Azithromycin or Doxycycline	21	17	$p = 0.58$
Cefepime plus vancomycin +/- other antibiotic	8	5	$p = 1.00$
Cefepime plus other antibiotic	5	3	$p = 1.00$
Piperacillin-tazobactam +/- Azithromycin or Doxycycline	13	8	$p = 1.00$
Piperacillin-tazobactam plus vancomycin +/- other antibiotic	6	4	$p = 1.00$
Piperacillin-tazobactam plus other antibiotic	2	1	$p = 1.00$
Carbapenem +/- other antibiotic	1	2	$p = 0.56$
Others	8	9	$p = 0.30$
30-day mortality	20	20	$p = 0.15$

Conclusion: In the sequence of blood culture and antibiotic administration, there is no 30-day survival difference in pre-antimicrobial group and post-antimicrobial group (p=0.15), as long as both received antibiotics within 12 hours of coming to the hospital. Coagulase-negative *staphylococci* were higher in the pre-antimicrobial group which may indicate that the health care provider hastily obtained the blood culture in a non-sterile manner. Antibiotic administration should not be delayed because of pending blood culture collection. In addition, given that more than 70% of patients were ultimately found to have negative blood cultures, it would be useful to develop practical tools to identify low-risk patients that can be treated without obtaining blood culture, as the blood culture would not be likely to provide diagnostic information.

Figure 1: Hours Before and After IV Antibiotic Started

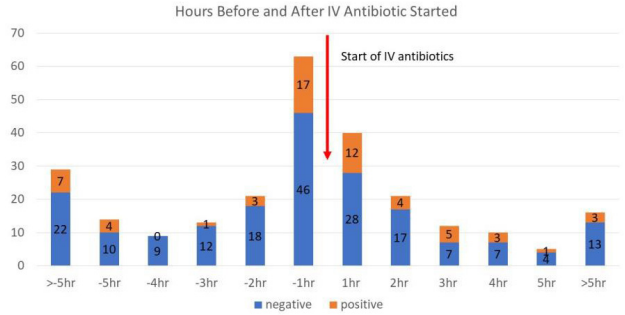
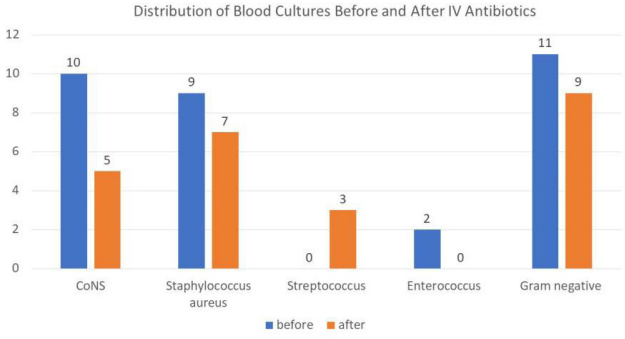


Figure 2: Distribution of Blood Culture Before and After IV Antibiotics



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266. Ceftriaxone Versus Cefazolin for the Treatment of Methicillin-Susceptible *Staphylococcus aureus* Bacteremia

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Background: Few studies have evaluated the use of ceftriaxone (CRO) in the treatment of Methicillin-sensitive *Staphylococcus aureus* (MSSA) infections. Available studies include a small number of patients with MSSA bacteremia, with conflicting results and several limitations. The purpose of this study was to compare the safety and efficacy of CRO versus cefazolin (CFZ) for patients with MSSA bacteremia.

Methods: This was a multi-center, single health-system retrospective cohort study. Patients were included if they were at least 18 years old, had a primary episode of MSSA bacteremia within Saint Luke's Health System and received CRO or CEFZ as definitive therapy for MSSA bacteremia. Patients were excluded if they had a previous MSSA bacteremia within 6 months, a polymicrobial infection, received combination antimicrobial therapy as definitive therapy, started treatment at outside hospital, treated for less than 72 hours, or deemed palliative or comfort care. The primary endpoint was clinical cure at 7, 10, 14, and 28 days, or discharge, whichever came first. Secondary endpoints included time to clinical cure or discharge, treatment failure at 90 days, time to treatment failure, readmission due to recurrent MSSA bacteremia at 30 and 90 days, duration of bacteremia, discontinuation of definitive treatment due to adverse drug events, incidence of *Clostridiodes difficile* infection, and hospital length of stay.

Results: A total of 248 patients met inclusion criteria. Among these, 87 (35.1%) received CRO and 161 (64.9%) received CFZ as definitive therapy. Patient baseline and treatment characteristics are shown in Table 1. The primary outcome occurred in 75 (86.2%) patients in the CRO group vs 145 (90.1%) patients in the CFZ group (P= 0.359), even after adjusting for Charlson Comorbidity Index, Pitt bacteremia score and serum creatinine, (aOR=0.74, 95% CI 0.32 – 1.72; p=0.473). There were no differences in time to clinical cure or discharge, treatment failure at 90 days, or safety events between the two groups. Primary and secondary endpoints are included in Table 2.

Table 1

Table 1: Baseline Characteristics			
	Cefazolin (n= 161)	Ceftriaxone (n= 87)	P-Value
Age, years (SD)	61 (15.9)	57.4 (16.8)	0.096
Male, n (%)	98 (60.9%)	61 (70.1%)	0.147
Body mass index, (SD)	29.7 (6.9)	29.2 (7.3)	0.624
Charlson Comorbidity Index, (SD)	5.1 (2.9)	4.3 (3.0)	0.039
Pitt bacteremia score, (SD)	1.7 (1.9)	1.2 (1.4)	0.015
Serum creatinine, mg/dl (IQ)	1.3 (0.8, 2.8)	1 (0.7, 1.3)	<0.001
Prosthesis, n (%)	30 (18.6%)	8 (9.2%)	0.048
Primary source of infection, n (%)			0.180
Skin and Soft Tissue	31 (19.3%)	20 (23.0%)	
Bone and Joint	30 (18.6%)	15 (17.2%)	
Other	27 (16.8%)	14 (16.1%)	
Unknown	26 (16.1%)	8 (9.2%)	
Pulmonary	8 (5.0%)	13 (14.9%)	
2 or more sources	10 (6.2%)	3 (3.4%)	
Device related infection	7 (4.3%)	4 (4.6%)	
Epidural or Central Nervous System	6 (3.7%)	5 (5.7%)	
Infective Endocarditis	7 (4.3%)	2 (2.3%)	
Prosthetic Joint Infection	7 (4.3%)	1 (1.1%)	
Urinary Tract Infection	2 (1.2%)	2 (2.3%)	
Infective Endocarditis, n (%)	14 (8.7%)	5 (5.7%)	0.404

Data is described as mean with standard deviation (SD)
Serum creatinine is described as median with interquartile range (IQ)

Table 2

Table 2: Primary and Secondary Outcomes			
	Cefazolin (n= 161)	Ceftriaxone (n= 87)	P-Value
Clinical cure at 7, 10, 14, and 28 days, or discharge, whichever came first, n (%)	145 (90.1%)	75 (86.2%)	0.359
Time to clinical cure or discharge, days (SD)	6.4 ± 5.0	6.5 ± 4.6	0.855
Treatment failure at 90 days, n (%)	28 (17.4%)	9 (10.3%)	0.137
Time to treatment failure, days (SD)	41.3 (22.6)	64.1 (23.4)	0.013
Definitive therapy modification, n (%)	22 (13.7%)	6 (6.9%)	0.108
Readmission due to recurrent MSSA bacteremia at 30 days, n (%)	3 (1.9%)	0 (0.0%)	0.20
Readmission due to recurrent MSSA bacteremia at 90 days, n (%)	7 (4.3%)	2 (2.3%)	0.41
Clearance of bacteremia within 72 hours	113 (71.5%)	51 (58.6%)	0.040
Duration of bacteremia, days (SD)	2.8 (1.6)	2.9 (1.6)	0.517
Discontinuation of definitive treatment due to adverse drug e vents, n (%)	4 (2.5%)	2 (2.3%)	0.927
Clostridiodes difficile infection, n (%)	8 (5.0%)	5 (5.7%)	0.793
Hospital length of stay, days (SD)	12.3 (8.3)	11.9 (8.5)	0.712

Data is described as mean with standard deviation (SD)

Conclusion: Our study suggests that there is no clinical difference between CRO and CFZ for the treatment of MSSA bacteremia. Further studies are needed to confirm these findings.

Disclosures: **All Authors**: No reported disclosures