Conclusion. Our centre's IDC rate for SAB increased over time without specific intervention. IDC increased the odds of appropriate SAB management and was associated with decreased length of stay in period B. IDC was associated with lower 30-day mortality in period A and trended towards lower mortality in period B. Specifically, early IDC decreased odds of 30-day mortality compared to late IDC. These results suggest that routine early IDC be part of SAB management.

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185. Does an Infectious Diseases Consultation Improve Clinical Outcomes and Treatment Bundle Adherence for Enterococcal Bacteremia in a Multicenter Healthcare System?

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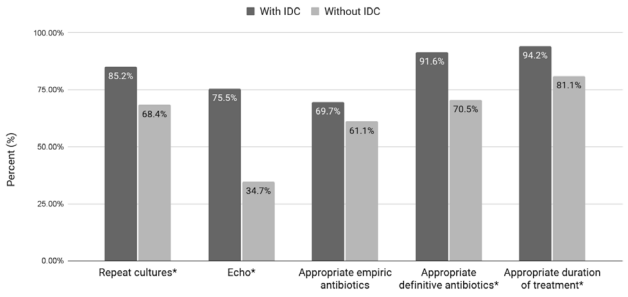
Session: P-10. Bacteremia

Background. Infectious diseases consultation (IDC) for *Staphylococcus aureus* bacteremia has a known mortality benefit, but for other gram positive bacteremias the benefit is not known. This study examined differences in outcomes for enterococcal bacteremia when management includes IDC.

Methods. This retrospective multicenter observational cohort study included adults with at least 1 positive blood culture with *Enterococcus* species. Patients who died or transferred to palliative care within 2 days of positive blood cultures were excluded. The primary outcome was a composite of clinical failure, including persistent blood cultures or fever for 5 days and in-hospital mortality. Secondary outcomes included adherence to a treatment bundle (appropriate empiric/definitive antibiotics, echocardiography (ECHO), duration of treatment, and repeat blood cultures).

Results. A total of 250 patients were included. IDC was obtained in 62.0% of patients. More patients in the IDC group had endocarditis (20% vs 0%, $p < 0.0001$) and bone and joint infections (13.5% vs 1.1%, $p = 0.001$), compared to more UTI (16.8% vs 39.0%, $p < 0.0001$) in the non-IDC group. Patients in the IDC group had more murmurs on initial exam (21.3% vs 6.3%, $p = 0.002$), prosthetic device (49.7% vs 27.4%, $p = 0.001$), and NOVA scores of ≥ 4 (40.6% vs 18.9%, $p < 0.0001$). Most infections were due to *E. faecalis* (78.4%) and most were susceptible to vancomycin and ampicillin at 90.4% and 92.4%, respectively. The composite of clinical failure occurred in 22.6% of patients with IDC and 16.8% in the non-IDC group (p=0.274). There was higher adherence to the treatment bundle in the IDC group (Figure 1). More patients in the IDC group were treated with ampicillin (47.1% vs 22.1%, $p < 0.0001$), and numerically more patients received treatment with vancomycin in the non-IDC group (17.4% vs 24.2%, $p = 0.068$). In the multivariate analysis, vasopressors were the only independent predictor of the primary outcome (OR 9.3, 95% CI 3.5-24.8, $p < 0.0001$).

Figure 1. Adherence to treatment bundle. IDC = infectious diseases consultation, Echo = echocardiogram, * = $p < 0.05$



Conclusion. There was no difference in rates of composite failure in patients with or without IDC; however, adherence to a treatment bundle was higher in the IDC group. IDC demonstrated stewardship benefits with regards to vancomycin usage.

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186. Evaluating Clinical Outcomes for Treatment of Staphylococcal Bloodstream Infection in Patients with Febrile Neutropenia

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Session: P-10. Bacteremia

Background. *Staphylococcus aureus* bloodstream infections (BSIs) in patients with febrile neutropenia (FN) is associated with a mortality rate of up to 49%. For documented infections in patients with FN, guidelines recommend narrowing therapy once susceptibilities result and fever has resolved. Although anti-staphylococcal beta-lactams are the mainstay of treatment for Methicillin-Susceptible and Penicillin-Susceptible *Staphylococcus aureus* (MSSA and PSSA) BSIs, some clinicians opt to continue broad antibiotics against *Pseudomonas* during FN. Studies evaluating treatment modalities and outcomes of MSSA and PSSA BSI in patients with FN are lacking.

Methods. We conducted a retrospective cohort study of adult patients with MSSA or PSSA BSI who received antibiotics for the treatment of FN (absolute neutrophil count < 500 cells/L and temperature > 100.4F) at Brigham and Women's Hospital and Dana-Farber Cancer Institute from 1/2010 to 4/2021. Patients who received < 72-h of antibiotics were excluded. The primary outcome was composite clinical failure (60-day all-cause mortality and/or 60-day BSI recurrence). Other outcomes included inpatient mortality, 60-day readmission, 60-day infection outcomes, incidence of acute kidney injury and hepatotoxicity. Data was analyzed using Chi-Square test or Fisher's Exact test.

Results. Among 108 patients who met our criteria, 58% were male, median age was 57 years (IQR 44, 66), 94% had a hematologic malignancy, 4% had a solid tumor, and 2% had both. A total of 41 (38%) received combination therapy with broad spectrum and anti-staphylococcal beta-lactam, 48 (44%) received broad spectrum beta-lactam followed by anti-staphylococcal beta-lactam after neutrophil recovery, and 19 (18%) were narrowed to an anti-staphylococcal beta-lactam prior to resolution of neutropenia. Clinical failure was similar across all treatment arms (34% for combination therapy, 25% for broad spectrum beta-lactam, and 37% for anti-staphylococcal beta-lactam) (Table).

Table. Outcomes

	All patients (n = 108)	Combination therapy with broad spectrum beta-lactam and anti-staphylococcal beta-lactam[a] (n = 41)	Broad spectrum beta-lactam followed by anti-staphylococcal beta-lactam after neutrophil recovery[b] (n = 48)	Anti-staphylococcal beta-lactam prior to neutrophil recovery[c] (n = 19)	p-value
Composite clinical failure, n (%)	33 (30.6)	14 (34.1)	12 (25)	7 (36.8)	0.522
60-day all-cause mortality, n (%)	31 (28.7)	14 (34.1)	10 (20.8)	7 (36.8)	0.264
Related to bacteremia	11 (10.2)	4 (9.8)	4 (8.3)	3 (15.9)	0.707
Inpatient mortality, n (%)	25 (23.1)	12 (29.3)	9 (18.7)	4 (21.1)	0.256
60-day bacteremia recurrence, n (%)	5 (4.6)	2 (4.9)	3 (6.3)	0 (0)	0.843
60-day re-admission, n (%)	49 (45.7)	16 (39)	23 (47.9)	10 (52.6)	0.561
Related to bacteremia	6 (5.55)	2 (4.9)	3 (6.3)	1 (5.3)	1
Infection status 60 days after the last dose of antibiotics, n (%)					0.716
Documented or presumed clinical cure	81 (75)	29 (70.7)	39 (81.3)	13 (68.4)	
Documented or presumed clinical failure	9 (8.3)	4 (9.8)	3 (6.3)	2 (10.5)	
Lack of data	18 (16.7)	8 (19.5)	6 (12.5)	4 (21.1)	
Microbiological status 60 days after the last dose of antibiotics, n (%)					0.278
Documented or presumed microbiological cure	93 (86.1)	38 (92.7)	41 (85.4)	14 (73.7)	
Documented or presumed microbiological failure	8 (7.4)	2 (4.9)	2 (4.2)	2 (10.5)	
Lack of data	7 (6.5)	1 (2.4)	3 (6.3)	3 (15.8)	
Incidence of acute kidney injury, n (%)[d]	28 (25.9)	11 (26.8)	14 (29.2)	3 (15.8)	0.594
Incidence of grade 2 or higher hepatotoxicity, n (%)[e]	18 (16.7)	7 (17.1)	9 (18.7)	2 (10.5)	0.745

[a] Included patients who received broad-spectrum and anti-staphylococcal beta-lactam for at least 72-h at the time of the index culture.
[b] Included patients who received piperacillin/tazobactam, cefepime, or meropenem for at least 72-h at the time of the index culture.
[c] Included patients who were narrowed to cefazolin, nafcillin, oxacillin, prior to neutrophil recovery for at least 72-h at the time of the index culture.
[d] defined by the RIFLE criteria
[e] Defined as an ALT or AST ≥ 3 times the upper limit of normal defined by Common Terminology for Adverse Events (CTCAE) Version 5.0

Conclusion. De-escalation to an anti-staphylococcal beta-lactam prior to neutrophil recovery in FN patients with MSSA or PSSA BSIs did not result in significantly higher clinical failures. Further prospective studies are needed to support antimicrobial stewardship initiatives in oncology patients.

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187. Vancomycin Plus Ceftaroline Salvage Therapy for Persistent Methicillin-Resistant *Staphylococcus aureus* Bacteremia

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Session: P-10. Bacteremia

Background. The preferred antibiotic salvage regimen for persistent methicillin-resistant *Staphylococcus aureus* bacteremia (pMRSAB) is unclear. Vancomycin plus ceftaroline (V/C) has demonstrated potent *in vitro* synergistic activity against MRSA; however, clinical data is limited. Thus, we sought to evaluate V/C salvage therapy for pMRSAB.

Methods. This was a single-center, retrospective cohort study of patients with MRSAB who received V/C salvage therapy between 1/1/2016-3/10/2021. Adult patients were included if blood cultures (BC) were positive for MRSA for ≥ 72 hours, received anti-MRSA monotherapy initially, and subsequently received V/C ≥ 24 hours. Patients were excluded if they received other anti-MRSA antibiotics within 72 hours of V/C initiation. The primary outcome was time to BC clearance following V/C initiation. Secondary outcomes included 90-day all-cause mortality, microbiological cure, 90-day MRSAB recurrence, and length of stay (LOS). Microbiological cure was defined as BC clearance.

Results. Of 178 patients identified, 20 were evaluated after inclusion and exclusion criteria were applied. Mean (SD) age and Pitt Bacteremia score were 38.5 (14.5) years and 4.2 (3.1), respectively. Most patients were male (70%), intravenous drug users (65%), and admitted to the intensive care unit (65%). The most common source was intravenous drug use (55%) and the majority had infective endocarditis (70%). All patients received infectious disease consultation and median (IQR) vancomycin AUC:MIC was 527 (454, 611). Source control, if possible, was obtained in most