Table 3. Clinical Outcomes

		Cephalexin (n=46)	Levofloxacin (n=36)	P-value
Composite Outcome, n (%)		2 (4.3%)	0	0.50
	60-day mortality	1 (2.2%)	0	1
	60-day readmission related to bacteremia	1 (2.2%)	0	1
Secondary Outcomes				
	Emergence of gram-negative resistance, n (%)	3 (6.5%)	0	0.25
	Subsequent *C. difficile* infection, n (%)	0	0	--
	Hospital LOS (days), median (IQR)	5 (4-5)	5 (4-6)	0.26

Conclusion: Patients who received cephalexin or levofloxacin did not have a significant difference in the composite primary outcome. These findings suggest that oral cephalexin is an effective step-down option to treat uncomplicated GNR bacteremia.

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

279. Dalbavancin for Bloodstream Infections and Endocarditis: Real-World Outcomes From the DRIVE Registry

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Session: P-9. Bacteremia

Background: Dalbavancin, a long-acting lipoglycopeptide approved by the US FDA and EMA for acute bacterial skin and skin structure infections (ABSSSI) has potent activity against Gram-positive pathogens including MRSA. A total of 39 of 39 patients with baseline *S aureus* bacteremia from previous studies who received dalbavancin (1500 mg or 1000 mg followed by 500 mg 1 week later) had clearance of bacteremia (100%). We describe the clinical features and efficacy of dalbavancin in patients with bacteremia or endocarditis from a retrospective registry study of dalbavancin.

Methods: Dalvance Utilization Registry Investigating Value and Efficacy (DRIVE) was a phase 4 observational, multicenter, retrospective cohort study of the real-world use of dalbavancin in adults across the US. Data collected between 03/25/2017 and 11/27/2018 included patient, disease, and pathogen characteristics, antibiotic use, clinical outcome, and safety. Clinical outcome was assessed by chart review from last dalbavancin dose through 60 days. Success was defined as presumed or documented clinical or microbiological cure with no need for rescue IV antibiotic therapy. Failure was defined as presumed or documented clinical or microbiologic failure, or the need for rescue IV antibiotic therapy, or death. Outcome was indeterminate if there were insufficient data to determine status at 60 days.

Results: Of 1092 evaluable patients treated with dalbavancin for any indication, 32 had baseline bloodstream pathogen data and Gram-positive bacteremia (Figure). 29 of 32 patients were previously treated with antibiotics (91%) with a median duration of 8.5 days. The 3 patients with endocarditis were among those most heavily pretreated (9, 4, and 4 prior IV antibiotics each). Clinical success was achieved in 30/32 (94%); outcome was indeterminate in 2/32 (6%). Most common dalbavancin regimens were 1500 mg x 1 (50%) or 1500 mg weekly x 2 (13%). Negative blood cultures for baseline pathogen prior to dalbavancin were documented in 53% of patients. There were no adverse events assessed as related to dalbavancin.

Conclusion: Dalbavancin use in Gram-positive bacteremia appears well tolerated and effective in the real-world setting.

Figure: Baseline Characteristics in Patients with Gram-positive Bacteremia

	Dalbavancin n=32
Bloodstream pathogen at baseline	
Staphylococcus aureus	31 (97%)
MRSA	16 (50%)
MSSA	15 (47%)
Streptococcus parasanguinis	1 (3%)
Definite infective endocarditis by modified Duke Criteria	3 (9%)
Presumed source of bacteremia / risk factors*	
ABSSSI	16 (50%)
Injection drug use	12 (38%)
Indwelling/invasive/prosthetic device	10 (31%)
Unknown	2 (6%)
Hemodialysis fistula	1 (3%)
Intravenous line	1 (3%)
Prior antibiotics (most common)*	
Vancomycin	23 (72%)
Daptomycin	10 (31%)
Cefazolin	9 (28%)

MRSA: methicillin-resistant *Staphylococcus aureus*. MSSA: methicillin-susceptible *Staphylococcus aureus*. ABSSSI: Acute bacterial skin and skin structure infection. Data are presented as No. (%). *Categories are not mutually exclusive.

Disclosures: Pedro Gonzalez, MD, MT, AbbVie (Employee) Urania Rappo, MD, MS, PharmD, Allergan (before its acquisition by AbbVie) (Employee) Jennifer McGregor, RPh, AbbVie (Employee) Lisa DiPompo-Day, n/a, AbbVie (Employee) Matthew W. McCarthy, MD, Allergan (prior to its acquisition by AbbVie) (Consultant, Grant/Research Support)

280. Description of Transesophageal Echocardiography Prescribing Practices in non-*Staphylococcus aureus* Bacteremia with Application of Scoring Systems

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Session: P-9. Bacteremia

Background: In non-*S. aureus* gram-positive bacteremia (non-SAB), practices of obtaining transesophageal echocardiography (TEE) are mixed despite the availability of scoring systems in certain organisms (DENOVA for *E. faecalis*, HANDOC for non-beta hemolytic streptococci) that provide recommendations for TEE with scores 3 or higher. This study aimed to analyze the application of DENOVA and HANDOC scoring systems to coagulase-negative *Staphylococci* (CoNS), *Enterococcus* spp. and *Streptococcus* spp. in relation to TEE prescribing practices.

Methods: A retrospective, observational study was conducted at two tertiary care hospitals including patients with ≥1 positive blood culture for *Enterococcus* spp. or *Streptococcus* spp., or ≥2 positive blood cultures for CoNS with matching susceptibilities between November 2017 and November 2019. The primary outcome compared DENOVA and HANDOC scores in patients who received TEE vs. those who did not. Secondary outcomes included DENOVA and HANDOC scores in subgroup populations, adherence to DENOVA/HANDOC scoring systems, treatment characteristics, and patient outcomes.

Results: Of the 310 patients included, 96 (31%) underwent TEE and 214 (69%) did not. Fewer patients in the TEE group underwent transthoracic echocardiography: 29.2% vs. 69.9%, p< 0.01. Infectious Diseases providers were involved in all patients that underwent TEE. Median scores were significantly higher in all patients who underwent TEE; DENOVA: 2 (1–3) vs. 1 (1–2), p< 0.01; HANDOC: 3 (3–4) vs. 3 (2–3), p< 0.01. DENOVA and HANDOC scores were significantly higher in the TEE group in *Enterococcus* spp. and *Streptococcus* spp., respectively; overall adherence to scoring system recommendations in these groups was less than 60%. HANDOC score was higher in the TEE group for patients with CoNS and 87.5% of these patients with score ≥3 had endocarditis (versus 50% with DENOVA score). More patients in the TEE group had endocarditis 46.9% vs. 6.5%, p< 0.01.

Conclusion: DENOVA and HANDOC scores were significantly higher among TEE patients, but areas of improvement exist in relation to overutilization of TEE and development of scoring system for CoNS. Efforts to improve TEE utilization should be coordinated with Infectious Disease providers.

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

281. Detecting bacterial sepsis among allogeneic HCT recipients with population-specific bedside tools

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Session: P-9. Bacteremia

Background: Diagnosing sepsis among allogeneic hematopoietic cell transplant (aHCT) recipients remains challenging. Existing criteria, for use in hospitalized patients, have limited predictive accuracy among aHCT recipients and their use may lead to missed events or antibiotic overuse. We developed bedside bacterial sepsis prediction tools (criteria and decision tree [DT]) for aHCT recipients and compared them against Systemic Inflammatory Response Syndrome (SIRS), quick Sequential Organ Failure Assessment (qSOFA) and National Early Warning Score (NEWS) criteria.

Methods: Adult aHCT recipients transplanted between September 2010–2019 with ≥ 1 potential infection (PI) within 100 days post-transplantation were randomly assigned to model/validation (7/3) cohorts. Tools included demographic and clinical factors and were built against a bacterial sepsis endpoint (gram-negative, *Staphylococcus aureus*, or *Streptococcus* species bacteremia). The tools were developed using best subset selection with rare event logistic regression (criteria) and classification tree (DT) algorithms. Criteria scores were estimated using a beta/10 integer weighting approach and tool predictive performances were compared against existing criteria.

Results: Between September 2010–2019, 1571 recipients with ≥ 1 PI contributed 7755 PIs and 238 sepsis events. The DT model included 7 terminal nodes based on 3 predictors: temperature, respiratory rate (RR), and sex. The criteria model contained 10 categories with 4 predictors: RR, temperature, pulse, and diastolic blood pressure (Figure 1). Our criteria and DT had AUCs of 71.1% (95% Confidence Interval (CI): 64.3, 77.9%) and 70.0% (CI: 63.7, 76.2%). SIRS had the highest AUC of existing criteria – 64.7% (CI: 57.1, 71.9%). Our criteria had the highest net benefit (for probabilities < 10%) and, at a 7+ cut-point, had a sensitivity of 73.8% (CI: 61.5–84.0%) and specificity of 55.0% (CI: 52.9, 57.1%) (Figure 2).

Figure 1. Final Allogeneic Hematopoietic Stem Cell Transplant Recipient Bacterial Sepsis Decision Tree and Criteria Tools

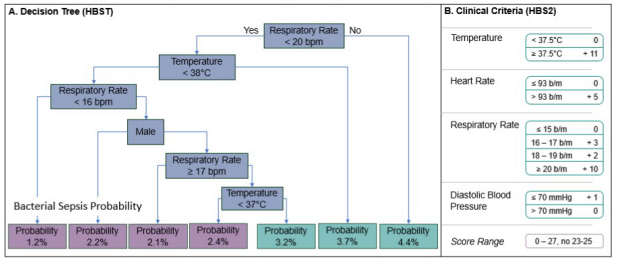
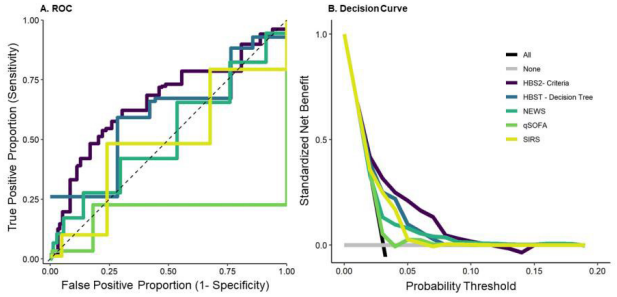


Figure 2. Receiver Operating Characteristic (ROC) Curve and Decision Curve for Each Evaluated Prediction Tool in Relation to Bacterial Sepsis Among Allogeneic Hematopoietic Stem Cell Transplant Recipients with Potential Infections



Conclusion: We developed aHCT recipient-specific bedside bacterial sepsis prediction tools with higher AUCs than existing criteria. Tools targeted to high-risk populations may lead to fewer missed sepsis events and, in turn, reduce sepsis related mortality among this high-risk population.

Disclosures: **Steven A. Pergam, MD, MPH**, **Chimerix, Inc** (Scientific Research Study Investigator)**Global Life Technologies, Inc.** (Research Grant or Support)**Merck & Co.** (Scientific Research Study Investigator)**Sanofi-Aventis** (Other Financial or Material Support, Participate in clinical trial sponsored by NIAID (U01-AI132004); vaccines for this trial are provided by Sanofi-Aventis)

282. Epidemiological Evaluation of Methicillin-Resistant *Staphylococcus aureus* (MRSA) and Methicillin-Susceptible *Staphylococcus aureus* (MSSA) Bacteremia: A Comprehensive Cancer Center's 10-Year Experience

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Session: P-9. Bacteremia

Background: Coagulase-positive *Staphylococcus aureus* bacteremia among cancer patients carries significant morbidity and mortality. This study aims to compare the risk factors and clinical outcomes among cancer patients diagnosed with bloodstream infection (BSI) with methicillin-sensitive *S. aureus* (MSSA) or methicillin-resistant *S. aureus* (MRSA).

Methods: We performed a retrospective cohort study on all patients diagnosed with an active solid tumor or hematologic cancer with positive blood culture for *S. aureus* from January 2009 to May 2019. We collected data on demographics, comorbidities, malignancy type, venous access, neutropenia status, echocardiogram results, treatment (tx) duration, antibiotics usage pre/post culture, hospital LOS, infection severity, and 7-day and 30-day mortality. We used the Chi-square test to analyze categorical variables, t-test to analyze continuous variables, and the Kaplan-Meier survival curve and multivariate regression to analyze mortality.

Results: Two hundred eighty-three cases with malignancies and *S. aureus* BSIs were reviewed, and 168 were identified with BSIs for MRSA or MSSA during the ten years. The mean age for MRSA cases was 73.1 (±13.7) and 70.1 (± 14.6) for MSSA; male patients were most of the sex ($P < 0.01$). MRSA and MSSA bacteremia presented equally in hematologic malignancies, while MSSA was observed more in skin cancer than MRSA. Cancers that obstruct GU tracts may be associated with MRSA and MSSA from urine source as both were overrepresented in patients with bladder and rectal cancer. In most patients, the CVC was promptly removed and appropriate antibiotics were given promptly within 1 hour of the positive blood culture. For patients who underwent echocardiogram, most had a negative result in both groups. There was no significant difference for seven and 30-day mortality between the two groups. The mean hospital LOS was longer for MRSA cases (10.5 ± 13.5) versus MSSA cases (4.88 ± 9.1), ($P < 0.01$).

Table 1. Characteristics of Cancer Patients with MRSA vs. MSSA

Data		MRSA (n=84)	MSSA (n=84)	P-Value
Age Group				
	1-25	1 (1.2%)	2 (2.4%)	
	26-50	13 (15.5%)	18 (21.4%)	
	51-75	61 (72.6%)	58 (70.7%)	
	76-99	9 (10.7%)	6 (7.3%)	
	Mean	73.1 (±13.7)	70.1 (±14.6)	$P = 0.180$
Sex				**$P = 0.026$**
	Female	39 (46.4%)	25 (29.8%)	
	Male	45 (53.6%)	59 (70.2%)	
Race				$P = 0.982$
	White	70 (83.3%)	69 (82.1%)*	
	Black	10 (11.9%)	9 (10.7%)	
	Other	4 (4.8%)	4 (4.8%)	
Malignancy				$P = 0.211$
	Hematologic	39 (45.2%)	31 (34.5%)	
	Non-Hematologic	45 (53.6%)	53 (64.6%)	
Neutropenic Status[3]				$P = 0.941$
	Non-Neutropenic	48 (63.5%)	54 (67.1%)	
	Moderate-Neutropenia	5 (6.8%)	5 (6.3%)	
	Severe- Neutropenia	22 (29.7%)	22 (26.6%)	
Comorbid Conditions				$P = 0.419$
	Mean	2.12 (±1.7)	1.90 (±1.7)	
Catheterization				
	PICC	65 (77.4%)	66 (78.6%)	$P = 0.485$
	CVAD	59 (70.2%)	55 (65.5%)	$P = 0.514$
History of Bacteremia		19 (23.2%)	10 (12.2%)	$P = 0.066$
TTE/TEE, negative		54 (64.3%)	58 (69.4%)	$P = 0.583$
Insurance Type				$P = 0.409$
	Private	38 (45.2%)	47 (56%)	
	Medicare/Medicaid	29 (34.5%)	21 (25%)	
	Other	10 (12.2%)	8 (9.7%)	
	N/A	7 (8.5%)	8 (9.7%)	
Prophylactic antibiotics				$P = 0.749$
	Vancomycin	30 (36.5%)	32 (40%)	
Antibiotics				**$P < 0.001$**
	Vancomycin	69 (81.7%)	43 (51.2%)	
Clinical Outcomes				
	7-day Mortality	9 (10.7%)	9 (10.7%)	$P = 0.598$
	30-day Mortality	19 (22.6%)	13 (15.5%)	$P = 0.428$
	Mean Hospital LOS	10.5 (± 13.5)	4.88 (± 9.1)	**$P < 0.01$**
	Port Removal	42 (50%)	43 (51%)	$P = 0.877$
	PICC Removal	19 (22.6%)	20 (23.8%)	$P = 0.821$
	Duration of Bacteremia	5.76 (± 8.59)	4.00 (± 4.12)	$P = 0.092$

[1]P-values are from chi-squared tests or t-tests
*Some data values missing
[3]Moderate neutropenia absolute neutrophil count (ANC) ≥500 and <1000 cells/microL, severe neutropenia ANC <500 cells/microL
PICC: peripherally inserted central catheter, CVAD: central venous access device, TTE: transthoracic echocardiogram, TEE: transesophageal echocardiogram

Figures 1 & 2. Kaplan-Meier Survival Curve Comparing 7 and 30-day Mortality of Cancer Patients with MRSA vs MSSA BSI

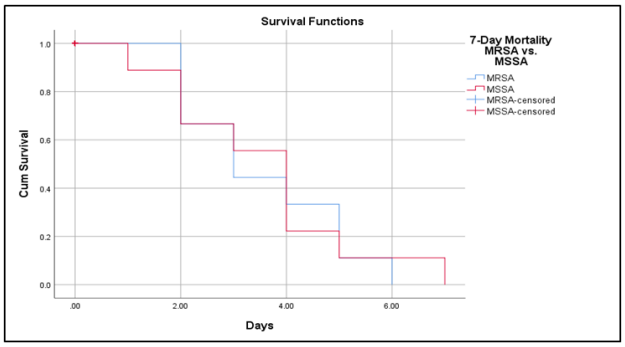

Figure 1. Kaplan-Meier survival curve comparing 7-day mortality of cancer patients with MRSA versus MSSA

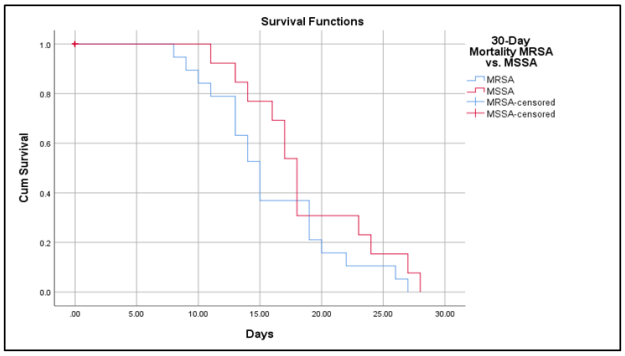

Figure 2. Kaplan-Meier survival curve comparing 30-day mortality of cancer patients with MRSA versus MSSA