Table 3: Likelihood of Bacteremia by Recent Chemotherapy

| Count | Total % | Col % | Row % | Other Source of Positive Culture | Blood Culture | Total |
|-------|---------|-------|-------|----------------------------------|---------------|-------|
|       |         |       |       |                                  |               |       |
| No Recent Chemotherapy | 15 | 1.00 | 1.00 | 15 | 6 | 21 |
| Recent Chemotherapy | 0 | 0.00 | 0.00 | 0 | 0.00 | 9 |
| Total | 15 | 1.00 | 1.00 | 36 | 33.33 | 45 |

Test | Chi Square | P - value
--- | --- | ---
Likelihood Ratio | 8.384 | 0.0038*
Pearson | 5.625 | 0.0177*

Disclosures. All authors: No reported disclosures.

153. A Review of Ten Cases of Pulmonic Valve Infective Endocarditis
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Session: 37. Bacteremia, CLABSI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM

Background. Pulmonic valve (PV) infective endocarditis (IE) is a rare entity, accounting for ~1.5–2% of all cases of IE. As a result, published literature describing the diagnosis and management of patients with PVIE is limited.

Methods. A retrospective review of patients ≥18 years old admitted to Wake Forest Baptist Medical Center from 2012 to 2017 with a diagnosis of PVIE based on the modified Duke criteria was performed.

Results. Ten patients were identified as having PVIE, 9 of whom had isolated PV involvement and 1 of whom had concurrent aortic valve involvement. The diagnosis of IE was definitive per the modified Duke criteria in 8 patients. The median age was 41 years and 30% were female. Two patients had pacemakers, 1 had a prosthetic PV, and 1 had congenital heart disease. Six patients were identified as persons who inject drugs (PWID). On admission, 5 patients manifested fever and 5 had a documented murmur. Seven patients had septic pulmonary emboli with 4 of 7 patients manifesting pulmonary hypertension. Transthoracic echocardiography (TTE) revealed vegetations in 4 of 10 patients whereas PV vegetations were demonstrated in all 8 patients undergoing transesophageal echocardiography (TEE). S. aureus was the most common causative organism, accounting for 5 of the cases of PVIE with four of the five isolates being methicillin-resistant. Bacteremia persisted for a median of 3 days. One patient underwent PV replacement. The planned median duration of antimicrobial therapy was 6 weeks. The median length of stay was 18 days. Three patients died during the index hospitalization, 1 of whom was a PWID. No episodes of repeat PVIE occurred within 1 year.

Conclusion. PVIE is a rare disease. Only 40% of our patients had vegetations on TTE in contrast to a reported diagnostic yield of >90% in the literature. As such, PVIE may be underdiagnosed. S. aureus was the most common organism isolated, which is in keeping with prior reports. PWID appear to be at high risk for PVIE. In view of the worsening opioid epidemic, more research on PVIE is warranted.

Disclosures. All authors: No reported disclosures.

154. Do I Really Need a Transesophageal Echo? Comparing Echocardiographic Modalities in Native Valve Infective Endocarditis due to Methicillin-Resistant Staphylococcus aureus
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Session: 37. Bacteremia, CLABSI, and Endovascular Infections
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Background. Methicillin-resistant Staphylococcus aureus (MRSA) infective endocarditis (IE) is associated with high morbidity and mortality. Management commonly includes six-weeks of antibiotics and surgical intervention, if the patient has complications. Current guidelines recommend obtaining an echocardiogram. Transesophageal echocardiogram (TEE) is preferred over transthoracic echocardiogram (TTE). We wanted to evaluate the role of a TEE in changing management of MRSA IE.

Methods. A retrospective cohort of patients with MRSA IE was analyzed between January 2013 and July 2017 at a tertiary care facility in East Tennessee. Patients with prosthetic valves or cardiac devices were excluded. Demographic, echocardiographic, antibiotic, blood culture, mortality, and intravenous drug use data were collected (Figure 1).

Results. Seventy-eight patients met the inclusion criteria. TEE was performed on 73 patients while five patients proceeded directly to TEE. Of the 73 patients that had a TTE, 33 (45.2%) detected the presence of vegetation and 40 (54.8%) did not. Of the 33 patients with a positive TTE, 15 subsequently underwent TEE, confirming IE. Out of the 40 patients with a negative TTE, 34 underwent TEE, of which 22 (64.7%) showed a vegetation. (Figure 2). A total of ten patients (12.8%) from the study underwent surgery. Of these ten, three (30%) had a positive TTE only, with no subsequent TEE. Five (50%) had both a positive TTE and TEE, and two (20%) had a negative TEE but positive TEE. Transthoracic echocardiogram was adequate to visualize vegetations in 45.2% of patients. Completing a TEE increased the sensitivity of visualizing a vegetation, but management was most often not altered. Only two patients (5%) with a negative TTE, but positive TEE proceeded to surgery because of the findings. This causes us to question whether a subsequent TEE needs to be pursued when a TTE is negative in the setting of definite or possible IE by the modified Duke criteria. Even if a vegetation is seen on TEE the patient would most likely receive the same treatment, 6 weeks of intravenous antibiotics, as if no vegetation was seen. Forgoing a TEE reduces risk to the patient of undergoing a procedure, and reduces costs to the healthcare system.

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155. A Case Series of Patients with Gemella Endocarditis
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Session: 37. Bacteremia, CLABSI, and Endovascular Infections
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Background. Gemella is an aerobic, non-sporulating, non-motile bacillus that is part of normal oral flora. To our knowledge, this is the first published report of Gemella endocarditis (IE) complicating prosthetic valve infection.

Methods. A retrospective cohort of patients with Gemella IE was analyzed between January 2013 and July 2017 at a tertiary care facility in East Tennessee. Patients with prosthetic valves or cardiac devices were excluded. Demographic, echocardiographic, antibiotic, blood culture, mortality, and intravenous drug use data were collected (Figure 1).

Results. Seventy-eight patients met the inclusion criteria. TEE was performed on 73 patients while five patients proceeded directly to TEE. Of the 73 patients that had a TTE, 33 (45.2%) detected the presence of vegetation and 40 (54.8%) did not. Of the 33 patients with a positive TTE, 15 subsequently underwent TEE, confirming IE. Out of the 40 patients with a negative TTE, 34 underwent TEE, of which 22 (64.7%) showed a vegetation. (Figure 2). A total of ten patients (12.8%) from the study underwent surgery. Of these ten, three (30%) had a positive TTE only, with no subsequent TEE. Five (50%) had both a positive TTE and TEE, and two (20%) had a negative TTE but positive TEE. Transthoracic echocardiogram was adequate to visualize vegetations in 45.2% of patients. Completing a TEE increased the sensitivity of visualizing a vegetation, but management was most often not altered. Only two patients (5%) with a negative TTE, but positive TEE proceeded to surgery because of the findings. This causes us to question whether a subsequent TEE needs to be pursued when a TTE is negative in the setting of definite or possible IE by the modified Duke criteria. Even if a vegetation is seen on TEE the patient would most likely receive the same treatment, 6 weeks of intravenous antibiotics, as if no vegetation was seen. Forgoing a TEE reduces risk to the patient of undergoing a procedure, and reduces costs to the healthcare system.

Disclosures. All authors: No reported disclosures.
Background. Gemella is a genus of gram-positive bacteria that thrives best at a high partial pressure of CO2 and is an unusual cause of infective endocarditis (IE).

Methods. We identified cases of Gemella IE in patients aged >18 years old, hospitalized at Cleveland Clinic between July 1, 2007 and January 1, 2017, by screening the Cleveland Clinic IE Registry. Gemella IE was defined as meeting modified Duke Criteria and having Gemella identified as the pathogen (by culture and/or 16S RNA sequencing from explanted valve tissue). Clinical features were obtained by manual chart review.

Results. A total of 13 cases of Gemella IE (G. haemolysans [6], G. morbillorum [3], G. sanguinis [2], and 2 undifferentiated species) were identified within the study period and accounted for 4% of all cases of IE. 9 were native valve IE and 4 were prosthetic valve endocarditis. Age varied from 20 to 86 years and 77% were male. The most common predisposing factors were pre-existing valvular disease (54%) and congenital heart disease (46%). 3 cases had dental manipulation within the prior 3 months, 3 had bioprosthetic valves, 2 were actively using intravenous recreational drugs. All cases were left-sided: 38% involved the aortic valve, 23% the mitral valve and 38% involved both. 69% had positive blood cultures, 38% had positive blood cultures and positive valve PCR, and 31% were identified based on positive valve PCR results only. Not one patient had positive valve cultures. 85% had significant valvular regurgitation and locally invasive disease occurred in 4 patients. Central nervous system emboli occurred in 3 cases and metastatic infection, in the form of lumbar diskitis, in one. All patients were treated surgically and the most commonly used anti-microbials were parenteral ceftriaxone and vancomycin, administered for a median duration of 42 days. All cases survived to hospital discharge and none relapsed over a median follow-up of 2.2 years.

Conclusion. Gemella species account for less than 1% of cases of IE, with G. haemolysans being the most common species. In a third of cases valve PCR provided the only means of diagnosis. It is effectively treated with surgery and antibiotics.

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156. Clinical Characteristics and Acute-phase Cytokine Response of Solid-Organ Transplant Recipients with Bloodstream Infections Differs According to Bacterial Type and Transplant Status

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Session: 37. Bacteremia, CLABSI, and Endovascular Infections

Background. Clinical outcomes and host immune response in solid-organ transplant recipients (Tx) with Staphylococcus aureus bacteremia (SAB) and Gram-negative bacteremia (GNB) are poorly understood. The aims of this study were to describe (1) clinical characteristics and outcomes and (2) acute-phase cytokine response in Tx recipients with SAB and GNB as compared with matched non-transplant subjects (Non-Tx).

Methods. Thirty-two Tx recipients who were prospectively enrolled in the Blood Stream Infection Biorepository (BSIB) were matched 1:1 with Non-Tx patients on age, race, gender and bacteria using a perfect matching algorithm (Tx-SAB and Non-Tx SAB; Tx-GNB and Non-Tx GNB). Patients with SAB and GNB as compared with matched non-transplant subjects (Non-Tx). Significant differences exist in etiology and host immune response

Disclosures. All authors: No reported disclosures.

157. Hospital-Onset Staphylococcus aureus Bacteremia Is Associated with More Than Twice the Mortality Compared with Community-Onset: Evaluation of 58 Hospitals

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Session: 37. Bacteremia, CLABSI, and Endovascular Infections

Background. Staphylococcus aureus is a common pathogen that is implicated with both community and healthcare-associated infections. S. aureus infections lead to sepsis and bacteremia, and are associated with considerable morbidity and mortality despite available antimicrobial therapy.

Methods. Utilizing a clinical decision support system, patients with the presence of at least 1 positive blood culture for S. aureus were identified from April 2018 to March 2019, in 58 hospitals from a single health system. Patients were then matched in the outcomes measures database to obtain the following outcome measures: mortality, complications rate, length-of-stay (LOS), and cost. The S. aureus bacteremia (SAB) outcome measures were compared between community-onset (CO), and hospital-onset (HO).

Results. There were 2,700 SAB cases within the system identified during that time period. Baseline characteristics were similar between patients with CO-SAB and HO-SAB. CO-SAB had a lower rate of hospital discharge and none relapsed over a median follow-up of 2.2 years.