

duration of inpatient antibiotic treatment and increase likelihood of completion of antibiotic therapy, however this requires further study.

**Disclosures.** Amber C. Streifel, PharmD, BCPS, Melinta (Advisor or Review Panel member) Monica K. Sikka, MD, FG2 (Scientific Research Study Investigator)

### 189. Bacteremia among COVID-19 and Non-Covid-19 Patients Admitted in the ICU

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**Session:** P-10. Bacteremia

**Background.** The aim of this work were to investigate the rate and aetiology of bloodstream infection collected from COVID and non-COVID patients admitted in the ICU

**Methods.** A retrospective cohort study was conducted on PCR Covid-19 positive patients admitted in the ICU from 20th March to 30<sup>th</sup> April 2020. Corresponding data from the same period in 2019 collected of all consecutive patients admitted in the same ICU were retrospectively reviewed for the presence of microbiologically documented bloodstream infections at least 8 hours after admission. All patients in the cohort study were on mechanical ventilation, or at some point during their ICU admission required mechanical ventilation.

**Results.** We identified a total of 19 (38%) BSIs in the COVID-19 group and 10 (12%) BSI in the non-COVID-19 group ( $p=0,8$ ). COVID-19 patients had an increased probability to develop ICU-BSI, at a median of 8 days of ICU admission as opposed to 6 in the non-COVID-19 group. Patients were comparable in terms of age, and APACHE II score. Out of 19 BSI CoVID-19 patients, 14 (73%) were male vs 5 (50%) in the non-CoVID-19 BSI patients ( $p=0.0007$ ). Of all BSI-CoVID-19 patients, 7 cases (37%), 3 (16%), and 3(16%) had underlying diseases such as hypertension, diabetes, and obesity vs 1(9%), 0(0%), and 0 (0%) in the BSI-non CoVID-19 patients statistically significant at  $p=0.004$ ,  $p=0.05$ , and  $p=0.05$ , respectively. ICU-acquired BSIs were mostly due to multi-drug-resistant pathogens. Clinical outcomes were statistically significantly different between patients with CoVid-19 BSI 7(37% ) and 2(20%)in BSI-non-CoVID-19 pneumonia ( $p=0.02$ ).

**Conclusion.** Our findings emphasize that although the incidence of BSI in CoVID-19 positive ICU admitted patients slightly increased their impact on overall outcome was significantly worse. Consequently, it is important to pay attention to bacterial superinfections in critical patients positive for COVID-19.

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### 190. Outcomes of Early Ceftriaxone-based Combination Therapy for Methicillin-resistant *Staphylococcus aureus* Bacteremia

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**Background.** Monotherapy with vancomycin (VAN) or daptomycin (DAP) remains the guideline-driven standard of care for methicillin-resistant *Staphylococcus aureus* bacteremia (MRSA-B) despite concerns regarding efficacy. While combination therapy is often utilized as salvage treatment for persistent MRSA-B, growing data suggest a potential benefit of combination therapy with ceftriaxone as initial therapy for MRSA-B. In light of these data, we updated practice guidance at our institution for management of MRSA-B in March 2020 to favor initial combination therapy with ceftriaxone. Herein, we present an assessment of outcomes of patients with MRSA-B initiated on early combination therapy.

**Methods.** This was a single-center, retrospective, cohort study of adult patients admitted to the University of Virginia with MRSA-B between July 1, 2018 and February 28, 2021. Patients were considered to have received combination therapy if they received VAN or DAP plus ceftriaxone (CPT) within 5 days of index blood culture, and monotherapy if during that period they received VAN and/or DAP alone. The primary outcome was a composite of persistent bacteremia, 30-day all-cause mortality, and 30-day bacteremia recurrence. Time to microbiological cure and safety outcomes were also assessed. A propensity score-weighted logistic regression was conducted. A post-hoc analysis of the primary composite outcome was performed in which patients were only deemed to have received combination therapy if it was started within 72 hours.

**Results.** Of 94 patients included, 57 received monotherapy (55 VAN, 2 DAP) and 37 received combination therapy with CPT (30 VAN, 7 DAP). There was no difference between groups for the primary composite outcome in the primary analysis (OR 2.7, 95% CI 0.95-7.72) or the post-hoc analysis (OR 2.37, 95% CI 0.68-8.22). Time to microbiological cure was not different between groups (mean difference 1.47, 95% CI 0.20-2.74). Safety outcomes were similar.

**Conclusion.** In this retrospective study, there was no clear benefit or harm of early initiation of combination therapy for MRSA-B. Additional study of initial combination

therapy with ceftriaxone is warranted given the small number of subjects in the study presented.

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### 191. Oral Antibiotic Step-Down Therapy for Non-Staphylococcal Gram-Positive Bloodstream Infections

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**Session:** P-10. Bacteremia

**Background.** Bloodstream infections are traditionally treated with intravenous (IV) antimicrobial therapy, which may increase length of stay and healthcare costs. The purpose of this study is to evaluate if oral antibiotic step-down therapy for non-staphylococcal gram-positive bloodstream infections (GP-BSIs) is non-inferior to IV antibiotics.

**Methods.** This single-center, retrospective cohort study included patients with a non-*Staphylococcus aureus*, non-*Staphylococcus lugdunensis* GP-BSI from January 2017 to December 2019. Patients were excluded if they fit any of the following criteria: organism identified as contaminant, polymicrobial BSI, recurrent BSI within the past 90 days, or receipt of an effective antibiotic for a duration longer than what is indicated for BSI treatment. Patients were categorized into those who received an IV antibiotic for the total duration of therapy and those who received an oral step-down antibiotic for at least one-third of the treatment course. The primary composite outcome was the incidence of 90-day clinical failure consisting of 90-day all-cause mortality, change in therapy due to inadequate clinical response, and 90-day BSI recurrence. The secondary outcomes included the individual components of the primary composite outcome, line-related complications, and hospital length of stay. Bivariate analysis was conducted to assess for predictors of 90-day clinical failure.

**Results.** A total of 308 patients were included (oral group, n=94; IV group, n=214). Pitt Bacteremia Scores were low overall, but higher in the IV group (0 vs 1,  $p=0.045$ ). The oral group had a higher proportion of GP-BSI caused by streptococcal species (76% vs 61%,  $p<0.001$ ). The oral group had a lower incidence of 90-day clinical failure and was found to be noninferior to the IV group (9% vs 14%; mean difference -5%, 90% CI -12.7 to 2.6). The IV group had a longer hospital length of stay (4 vs 6 days,  $p<0.001$ ), however there were no other significant differences in secondary outcomes. Bivariate analysis found no significant predictors of 90-day clinical failure.

**Conclusion.** Oral antibiotic step-down therapy was found to be non-inferior to IV antibiotic therapy, and thus may be an alternative option for the treatment of non-staphylococcal GP-BSIs.

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### 192. Epidemiology, Microbiological Characteristics and Clinical Outcomes of Invasive Blood Stream Infections of Group B Streptococcal Isolates From Qatar

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**Session:** P-10. Bacteremia

**Background.** Group B Streptococci (GBS) or *Streptococcus agalactiae* colonize humans genitourinary and gastrointestinal tracts particularly of females. The pathogen is capable of causing invasive disease primarily in infants, pregnant and postpartum women as well as the elderly and patients with comorbidities. There is paucity of studies of the disease with regional differences in prevalence and presentation of invasive blood stream infection (BSI). In this study, we aim to assess prevalence, microbiological characteristics as well as clinical outcomes of invasive GBS disease from all ages groups at Hamad Medical Corporation (HMC), Qatar.

**Methods.** A retrospective study was conducted on all patients with microbiologically confirmed GBS bacteraemia between January 2015–March 2019. Demographic, microbiological characteristics as well as clinical data were extracted from hospital information system.

**Results.** Out of 196 confirmed cases of GBS blood stream infection, 63.7 % were females (125/196) of whom 44.8 % were pregnant (56/125), 53.6 % (30/56) were colonized while 36.3 % (71/196) were males. There were three distinct age group populations, paediatric less than 4 years of age at 35.7 %, young adults 25-34 (20.9 %) and the elderly > 65 year (17.4 %). Presenting symptoms were mild with fever recognised in only 53 % of cases (104/196) while 89% of cases had low Pitt bacteremia score of 0-2. Microbiological characteristic using disc diffusion tests demonstrated all isolates were universally sensitive to penicillin (100%, 196/196) with significant resistance to clindamycin at 28.6 % (56/196) and erythromycin at 49 % (96/196) of which 34.4 % (33/96) had inducible clindamycin resistance. Clinical outcome showed high cure rate of 87.25% (171/196) with low complications at 8.76 % (17/196) and 4% (8/196) 30-day mortality.