The Emperor’s New Clothes: Prospective Observational Evaluation of the Association between the Day 2 Vancomycin Exposure and Failure Rates among Adult Hospitalized Patients with MRSA Bloodstream Infections (PROVIDE)

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Routinely be used in patients with septic shock. The duration of shock, and inflammatory control. Induced hypothermia should not.

Among patients with septic shock and ventilator-demanding respiratory failure, induced hypothermia did not improve survival, but adversely affected 30-day mortality risk in patients randomized to hypothermia. Other aspects of care were per routine in each participating center. The primary endpoint was 30-day all-cause mortality.

Conclusion. Among patients with septic shock and ventilator-demanding respiratory failure, induced hypothermia did not improve survival, but adversely affected the duration of shock, and inflammatory control. Induced hypothermia should not routinely be used in patients with septic shock.

985. The Emperor’s New Clothes: Prospective Observational Evaluation of the Association between the Day 2 Vancomycin Exposure and Failure Rates among Hospitalized Patients with MRSA Bloodstream Infections (PROVIDE)

Background. Current guidelines recommend vancomycin (VAN) dosing to achieve AUC/MIC ratio ≥400 for patients (pts) with serious MRSA bloodstream infections (BSI), but supporting data were largely derived in single center retrospective studies. A recent study using a Bayesian approach to estimate the VAN AUC found that patients with MRSA BSI who had an AUC$_{0-24}$/MIC$_{MIC}$ ≥ 650 or an AUC$_{0-12}$/MIC$_{MIC}$ ≥ 320 had lower incidences of failure (Clin Infect Dis 59:666, 2014). This study prospectively evaluated if these VAN AUC$_{0-24}$/MIC targets were associated with lower incidences of failure (PROVIDE, Award number UM1AI104681, Antibacterial Resistance Leadership Group).

Methods. Prospective, multi-center (n = 14), observational study (2014–2016) of hospitalized adults with confirmed MRSA BSI infected with VAN ≥ 72h. Exclusion: (1) neutropenia; (2) cystic fibrosis; (3) renal replacement therapy; (4) APACHE-II score > 25; (5) previous MRSA BSI within 60 days. VAN exposures were estimated using maximum a posteriori probability procedure in ADAPT. VAN AUC$_{0-24}$/MIC$_{MIC}$ and MIC$_{MIC}$ were provided by a central laboratory. Outcomes: failure (30-day mortality or MRSA BSI ≥ 7 days); acute kidney injury (AKI), 2.5 x increase in serum creatinine (S$_{cr}$) among patients with a baseline S$_{cr}$ < 2.0 mg/dl. The study was powered at 80% to detect a 17.5% difference in failure between AUC$_{0-24}$/MIC groups.

Results. Among the 265 evaluable patients, mean (SD) age was 61 (17) and APACHE-II was 12 (6). Endocarditis was definite/possible in 29%. The MIC$_{MIC}$ by
BMD and ETEST were 1/1 and 1.5/1.5 mg/l, respectively. Failure occurred in 18%; 26% had AKI. Mean (SD) VAN duration was 18 (14) days. Mean (SD) AUC_{(0-24)} was 586.9 (235.5) and 44% and 73% of patients achieved an AUC_{(0-12)} > 650 and AUC_{(0-24)} > 320. In the multivariate analyses (Figure 1), failure was not significantly different between AUC_{(0-12)}/MIC groups. In contrast, AKI was significantly more common in patients with an AUC_{(0-24)}/MIC > 320. Clinicians should assess the benefits vs. risks of using VAN regimens that confer high AUC_{(0-24)}/MIC exposures for patients with MRSA BSIs were not associated with better outcomes and were found to result in increased AKI. Clinicians should consider the benefits vs. risks of using VAN regimens that confer high AUC_{(0-24)}/MIC exposures for patients with MRSA BSIs.

**Figure 1. Comparisons of Outcomes between AUC_{DAY}/MIC Exposure Groups**

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987. Infectious Disease Consultation Is Associated with Decreased Mortality with Enteroococcal Bloodstream Infections

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**Session:** 132. Advances in Management of Bacteremia and Sepsis

**Friday, October 6, 2017: 10:30 AM**

**Background.** Enteroococcal bloodstream infections (ESBI) have been attributed with significant morbidity and mortality. The objective of this study was to determine whether IDC is associated with improved mortality in patients hospitalized with ESBI.

**Methods.** This is a cross-sectional study of patients admitted to the University of Alabama Health System between January 1, 2015 and June 30, 2016 who had ESBI. Patients who died within 2 days of hospitalization were excluded. Categorical variables were analyzed with chi-square or Fisher's exact test and continuous variables were analyzed with a t-test or Wilcoxon rank sums test when appropriate. A P-value < 0.05 was considered significant. Logistic regression was used to estimate odds ratios (ORs) and 95% confidence intervals (CI) for factors associated with 30-day in-hospital mortality.

**Results.** A total of 213 patients met the case definition. One hundred and thirty-four (63%) received IDC. Baseline patient demographics and comorbidities were similar in both groups. Patients with IDC were more likely to have repeated blood cultures (99% vs. 72%, P < 0.001), echocardiogram performed (77% vs. 46%, P < 0.001), and interventions for source control (19% vs. 6%, P = 0.01). Patients with- out IDC were more likely to have inappropriate antibiotic treatment or no antibiotics (20% vs. 0%, P < 0.001) as well as inappropriate duration of therapy (54% vs. 10%, P < 0.001). There were no differences in the rates of recurrent bacteremia or readmis- sion within 45 days. Patients who did not receive IDC had higher 30-day in-hospital mortality (27% vs. 13%, P = 0.02). Having an echocardiogram (OR 2.75, 95% CI 1.36–5.55), surgical intervention (OR 3.11, 95% CI 1.07–9.05) and an IV catheter (OR 3.90, 95% CI 1.39–10.88) were associated with increased likelihood of IDC while inappropriate duration of antibiotics was associated with an 87% decreased likelihood of IDC (OR 0.13, 95% CI 0.06–0.29). The strongest association observed with 30-day mortality was inappropriate duration of antibiotics (OR 4.93, 95% CI 1.21–16.41).

**Conclusion.** IDC was associated with reduced 30-day in-hospital mortality in patients with ESBI. Although further investigation is warranted, the results of this study suggest that early involvement of ID specialists in ESBI may lead to better outcomes.

**Disclosures.** All authors: No reported disclosures.

988. “Big data” and Gram-negative Resistance: A Multiple Logistic Regression Model Using EMR Data to Predict Carbapenem Resistance in Patients with Klebsiella pneumoniae Bloodstream Infection

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**Session:** 132. Advances in Management of Bacteremia and Sepsis

**Friday, October 6, 2017: 10:30 AM**

**Background.** The timely identification of carbapenem resistance is essential in the management of patients with Klebsiella pneumoniae bloodstream infection (BSI). An algorithm using electronic medical record (EMR) data to quickly predict resistance could potentially help guide therapy until more definitive resistance testing results are available.

**Methods.** All cases of K. pneumoniae BSI at Mount Sinai Hospital from September 2012 through September 2016 were identified. Cases of persistent BSI or recurrent BSI