

| | MIC ₉₀ | MIC ₉₀ |
|-----|-------------------|-------------------|
| DAP | 1.5 mg/L | 3 mg/L |
| LZD | 4 mg/L | 4 mg/L |

Conclusion. LNS was common amongst VRE isolates in this cohort. Previous LZD exposure was infrequent and not associated with LNS. LZD susceptibility testing among VRE isolates recovered from patients actively screened for VREC warrants clinical consideration.

Disclosures. All authors: No reported disclosures.

1226. Can Universal Decolonization Obviate the Need for Screening and Contact Precautions for Carriers of Methicillin-Resistant *Staphylococcus aureus* in a Medical Intensive Care Unit With MRSA Endemicity? An Interrupted Time Series Study

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Background. Universal decolonization of patients in intensive care units (ICUs) has been identified to be an effective infection control strategy of methicillin-resistant *Staphylococcus aureus* (MRSA). However, it remains uncertain whether universal decolonization can obviate the need for active surveillance testing (AST) and contact precautions (CPs) for MRSA carriers.

Methods. We conducted an interrupted time series study to evaluate whether universal decolonization (daily chlorhexidine bathing plus twice-daily intranasal mupirocin ointment for 5 days) without AST and CPs did affect the incidence of MRSA acquisition on clinical specimen and MRSA bacteremia (the first positive blood culture obtained more than 48 hours after ICU admission) in a medical ICU. There was a 12-month control period of universal decolonization combined with AST and CPs, followed by a 12-month intervention period of universal decolonization without AST and CPs for MRSA carriers. Changes in incidence density (new cases of MRSA acquisition on clinical specimen per 1,000 eligible patient-days) of MRSA were evaluated by segmented Poisson regression, and the cox proportional-hazards regression model was used to compare the differences in incidence of MRSA bacteremia between the two periods.

Results. The median overall prevalence of MRSA did not differ between the two periods (25.3% vs. 23.4%, $P = 0.55$), and the segmented Poisson regression analysis revealed that there were no significant differences in both level and trend of MRSA prevalence ($P = 0.43$ and $P = 0.27$, respectively). The incidence density of MRSA acquisition on clinical specimen was lower during the intervention period (5.7 vs. 4.5, $P = 0.039$). However, both level and trend of MRSA incidence density did not differ significantly whether to perform active surveillance and contact precaution or not ($P = 0.94$ and $P = 0.81$, respectively). No patient developed MRSA bacteremia during the control period and there were only two patients of MRSA bacteremia during the intervention period, which showed no significant difference (Log rank test, $P = 0.21$).

Conclusion. Universal decolonization without AST and CPs for MRSA carriers do not increase the incidence of MRSA acquisition on clinical specimen and ICU-attributable MRSA bacteremia in ICU with high prevalence rate of MRSA.

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1227. Development of a Clinical Prediction Model for Mortality in Methicillin-Resistant *Staphylococcus aureus* Bacteremia

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Background. Methicillin-resistant *Staphylococcus aureus* bloodstream infection (MRSA BSI) is associated with high mortality despite advances in medical care. Mortality prediction may have a profound impact on clinical decision making and risk stratification. Widely used scoring systems such as the Acute Physiology and Chronic Health Evaluation (APACHE) II Score and the Pitt Bacteremia Score were derived in the general critical care and Gram-negative BSI populations, respectively and may be

less precise in MRSA BSI. We sought to develop a predictive model (PM) for 30-day mortality in patients with MRSA BSI based on characteristics readily assessable at initial evaluation.

Methods. Retrospective, single-center, cohort study in adults with MRSA BSI 2008 to 2018. Patients who did not receive active therapy within 72 hours of index culture were excluded. Independent baseline demographic, clinical and infection predictors of 30-day mortality were identified through multivariable logistic regression analysis with bootstrap resampling and coefficient shrinkage. The PM was derived using a regression coefficient-based scoring method. PM discriminatory ability was assessed using the c-statistic. The optimal threshold score was determined using the Youden Index (J).

Results. A total of 455 patients were included and 30-day mortality was 16.3%. The PM consisted of five variables and a potential total score of 33. Points were assigned as follows: age (9 points ≥ 90 years, 6 points 80–89 years, 5 points 70–79 years, 0 points < 70 years); Glasgow Coma Scale (8 points ≤ 9 , 5 points 10–13, 0 points ≥ 14); 7 points infective endocarditis or pneumonia; 5 points serum creatinine ≥ 3.5 dl/L; and four points respiratory rate < 10 or > 24 . The PM c-statistic was 0.860 (95% CI 0.818, 0.902). The PM score with the maximum J value was 13. Thirty-day mortality was 5.2% vs. 44.5% for PM score < 13 vs. ≥ 13 points, respectively ($P < 0.001$). The sensitivity, specificity, positive predictive value (PV), negative PV, and accuracy using a threshold of 13 points were 77.0%, 81.4%, 44.5%, 94.8%, and 80.7%, respectively.

Conclusion. Our findings demonstrate a weighted combination of five independent variables readily assessable at initial evaluation can be used to predict, with high discrimination, 30-d mortality in MRSA BSI. External validation is required before wide-spread clinical use.

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1228. Incidence of *Staphylococcus aureus* Infection after Elective Surgeries Among Adults in US Hospitals

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Background. *Staphylococcus aureus* is a leading cause of postsurgical infections. National estimates of these infections after elective surgeries based on microbiology data are limited. This study assessed 180-day postsurgical *S. aureus* incidence in real-world hospital settings.

Methods. Adults (≥ 18 years) who underwent elective surgery during a hospital-based outpatient or inpatient encounter from July 1, 2010–June 30, 2015 at one of 181 hospitals reporting microbiology results in the Premier Healthcare Database (PHD). Eighty-seven surgical categories were defined using ICD-9-CM and CPT procedure codes according to National Hospital Surveillance Network groupings plus additional categories. Microbiology results and ICD-9-CM diagnosis codes were used to identify invasive (e.g., deep incisional and organ-space SSI, bloodstream) and overall (i.e., invasive, superficial incisional, urinary tract, respiratory) *S. aureus* infections. Cumulative 180-day *S. aureus* infection rates were calculated as number of infections divided by number of discharges with elective surgeries. National infection volumes were calculated by multiplying infection rates by national inpatient elective surgery estimates using surgery counts in the entire PHD (665 hospitals) and weights based on hospital characteristics.

Results. Following 1,116,994 hospital-based outpatient elective surgeries, 180-day *S. aureus* incidence was 1.19% overall, with 0.38% complicated by invasive *S. aureus* infections. Among 884,803 inpatient elective surgeries, overall and invasive 180-day *S. aureus* infection incidence was 1.35% and 0.53%, respectively. This translated to an estimated 57,200 *S. aureus* infections (22,400 invasive) among an estimated 4.2 million elective inpatient surgeries annually in the US methicillin-resistance (MRSA) was observed in 45% and 46% of *S. aureus* infections after inpatient and outpatient surgeries, respectively. Figure 1 shows cumulative *S. aureus* incidence rates at each time point after outpatient and inpatient elective surgeries. Figure 2 delineates the incidence rates for each type of *S. aureus* infection.

Conclusion. Our study indicated similar *S. aureus* infection rates after inpatient and outpatient elective surgeries. The results highlight the much larger burden of disease of *S. aureus* infection in the United States beyond inpatient surgeries.