

Table 1: Antimicrobial Susceptibility for SA Isolates by Drug Resistance Category (%)

	Ciprofloxacin	Clindamycin	Erythromycin	Gentamicin	Levofloxacin	Linezolid	Oxacillin	Quinupristin-Dalfopristin	Penicillin G	Trimethoprim Sulfamethoxazole (TMP-SMX)	Rifampin	Tetracyclines	Tigecycline
VISA	81	23	33	90	80	100	52	100	0	100	100	57	100
VRSA	87	43	51	94	87	94	64	100	6	92	97	71	100

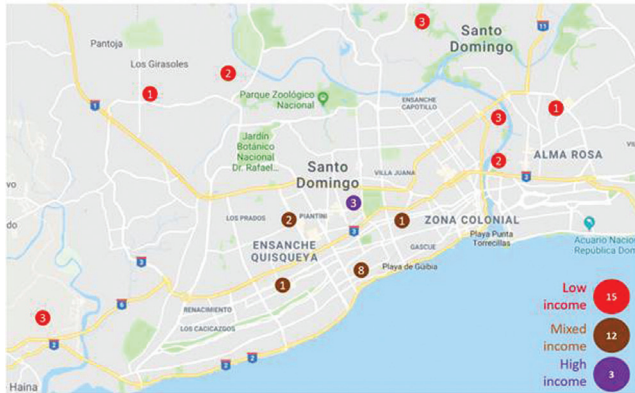


Figure 2 VRSAs samples in Metropolitan SD based on income level of communities.

Conclusion. In this nationwide sample, we found an alarming number of VISA and VRSA. Most cases were in metropolitan SD, with lower income communities carrying a higher case burden. Linezolid and TMP-SMX retain activity against VISA and VRSA in the DR. The rise of vancomycin resistance in developing countries and the disproportionate burden on communities of low income is concerning and requires further study. Infection control measures and antimicrobial stewardship interventions may help prevent further spread of resistant strains.

Disclosures. All authors: No reported disclosures.

1216. Cost-Effectiveness of Penicillin Skin Allergy Testing in Methicillin-Sensitive Staphylococcus aureus (MSSA) Bacteremia

Stephen Meninger, PharmD¹; Emily Heil, PharmD, BCPS-AQID² and T. Joseph Mattingly II, PharmD, MBA¹; ¹University of Maryland School of Pharmacy, Baltimore, Maryland, ²Pharmacy Practice and Science, University of Maryland School of Pharmacy, Baltimore, Maryland

Session: 137. Healthcare Epidemiology: MSSA, MRSA and Other Gram Positive Infections

Friday, October 5, 2018: 12:30 PM

Background. β-Lactams remain the gold standard for treatment of MSSA bacteremia due to superior outcomes compared with vancomycin. Approximately nine in 10 patients receiving penicillin skin testing (PST) will be de-labeled of a penicillin allergy and able to receive a β-lactam antibiotic. The study aims to evaluate the cost-effectiveness of penicillin allergy confirmation during acute care admission for methicillin-sensitive staphylococcus aureus (MSSA) bacteremia through a PST service.

Methods. A decision tree analysis was used to compare a PST intervention in patients with a registered penicillin allergy during an inpatient admission for MSSA bacteremia vs. usual care (No PST). The model was created from the health sector perspective with a 1-year time horizon. Patients with a penicillin allergy label were expected to receive vancomycin while patients with no penicillin allergy were expected to receive cefazolin. Potential inpatient, outpatient, and adverse reaction costs were considered in all arms of the model. The effects were measured in quality adjusted life years (QALY) and were calculated for patients who were cured, hospitalized, experienced severe adverse events, or died from MSSA infection.

Results. Patients who received PST services had a mean yearly cost of \$12,802, mean quality adjusted life years (QALY) of 0.70, and mean cost/QALY of \$18,311. The comparator group not receiving PST services had a mean yearly cost of \$12,264, mean quality adjusted life years (QALY) of 0.64, and mean cost/QALY of \$19,192. The model produced a final base case ICER of \$8,966/QALY for receiving a PST during a hospital admission for the treatment of methicillin-sensitive staphylococcus aureus (MSSA) bacteremia.

Conclusion. Penicillin allergy confirmation through PST services was cost-effective for patients with a reported penicillin allergy admitted for MSSA bacteremia. Additional research to determine potential benefits of PST services beyond one year could further improve the cost-effectiveness of this intervention.

Disclosures. S. Meninger, ALK-Abelló: Grant Investigator, Research grant. E. Heil, ALK-Abelló: Grant Investigator, Research grant. T. J. Mattingly II, ALK-Abelló: Grant Investigator, Research grant.

1217. Staphylococcus Protein A (spa) Typing Demonstrates Genetic Heterogeneity of Methicillin-Susceptible Staphylococcus aureus (MSSA) in a Neonatal Intensive Care Unit (NICU)

Alexandra Hill-Ricciuti, MPH¹; Samantha Ferguson, n/a²; Wenjing Geng, MD, PhD²; Stephanie Stump, BS²; Maria Messina, RN³; Philip Zachariah, MD, MS^{1,3};

Rakesh Sahni, MD⁴; Daniel Green, MD⁵; Susan Whittier, PhD⁵; Lisa Saiman, MD, MPH^{1,3} and Anne-Catrin Uhlemann, MD, PhD²; ¹Pediatrics, Columbia University Medical Center, New York, New York, ²Columbia University Medical Center, New York, New York, ³Infection Prevention and Control, NewYork-Presbyterian Hospital, New York, New York, ⁴Neonatology, Columbia University Medical Center, New York, New York, ⁵Pathology, Columbia University Medical Center, New York, New York

Session: 137. Healthcare Epidemiology: MSSA, MRSA and Other Gram Positive Infections

Friday, October 5, 2018: 12:30 PM

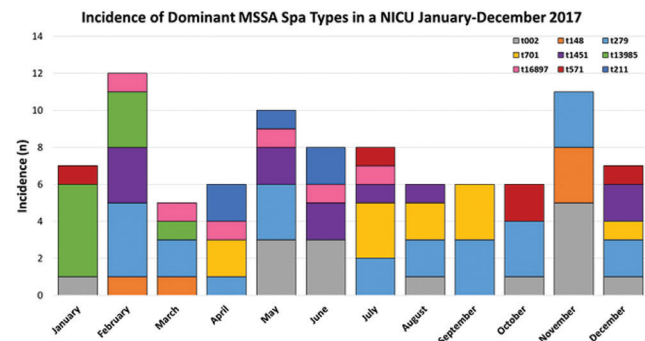
Background. In the NICU, MSSA is a more prevalent pathogen than MRSA, but optimal infection prevention and control strategies for MSSA are not yet well understood. There are likely multiple routes of MSSA acquisition given its role as normal flora and its detection in the anovaginal tract of pregnant women. We describe the molecular epidemiology of MSSA in our NICU during a yearlong surveillance effort.

Methods. Included infants were hospitalized in a university-affiliated level III-IV NICU from January to December 2017 (1032 admissions) and had positive clinical and/or surveillance cultures for MSSA. Infants admitted at ≥7 days of age were screened for MSSA colonization by culturing the anterior nares and three skin sites. All infants in the NICU were screened twice monthly. Spa typing was performed to genetically characterize isolates.

Results. During the study period, MSSA was identified in 187 infants (18 at admission, 145 by twice monthly surveillance, and 24 from clinical cultures). In all, 269 MSSA isolates (245 surveillance and 24 clinical isolates) from 166 infants were spa typed. Sixty-two MSSA spa types were identified; 31 (50%) were each detected in only one infant. The incidence of the nine most common spa types is shown (Figure 1); t279 (13%), t002 (8%), and t1451 (6%) had the highest incidence. t1451 and t571 belong to ST398, a common MSSA clone in the local community. The epidemiology of spa types varied; e.g., incident cases of t279 was detected in 10 months, t1451 was detected in 6 months and t148 in 3 months. Among the 14 sets of twins and triplets with MSSA isolates, 12 (86%) shared the same spa type as their sibling(s). Of the 58 infants with >1 MSSA isolate, 12 (21%) acquired new spa-types. No spa type(s) predominated in the 19 episodes of invasive infections. In 6 infants with both colonizing and invasive isolates, colonizing and invasive isolates were the same spa type(s) in 5.

Conclusion. Spa typing demonstrated that MSSA isolates in our NICU exhibited substantial genetic heterogeneity. While these data do not elucidate acquisition route(s), they suggest infants are acquiring MSSA from multiple sources, likely including family members and the local community. Ongoing sequencing studies are examining common spa types to further understand transmission dynamics.

Figure 1.



Disclosures. A. C. Uhlemann, Merck: Investigator, Grant recipient

1218. Retapamulin as a Potential Decolonizing Agent: Activity against Mupirocin-Resistant Strains From Pediatric Patients With Methicillin-Resistant Staphylococcus aureus Infection

Ami Patel, MD, MPH¹; Jennifer Lighter-Fisher, MD²; Yi Fulmer, PhD³; Richard Copin, PhD⁴; Adam Ratner, MD, MPH³ and Bo Shopsis, MD, PhD⁵; ¹Pediatrics, Infectious Diseases, New York University School of Medicine/NYU Langone Health, New York, New York, ²Infection Prevention and Control, NYU Langone Medical Center, New York, New York, ³New York University School of Medicine, New York, New York, ⁴Microbiology, New York University Langone Medical Center, New York, New York, ⁵New York University School of Medicine, New York, New York

Session: 137. Healthcare Epidemiology: MSSA, MRSA and Other Gram Positive Infections

Friday, October 5, 2018: 12:30 PM