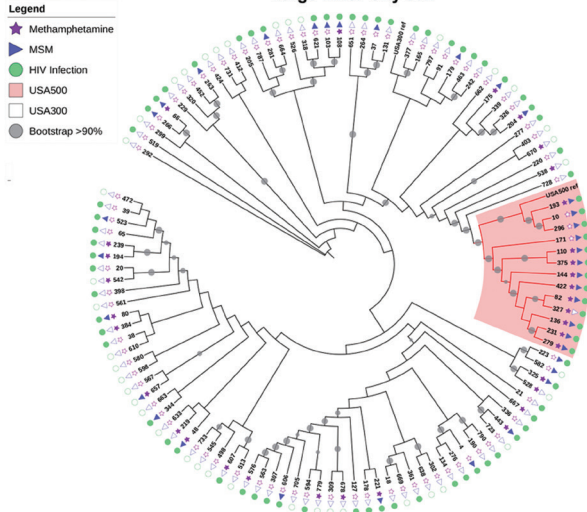


Genomic Epidemiology of MRSA Colonization Isolates at Entrance to a Large Inner-City Jail



Disclosures. All authors: No reported disclosures.

160. Reduction in the Spread of Hospital-Associated Infections Among Pediatric Oncology Patients in an Animal-Assisted Intervention Program from a Canine Decolonization Procedure

Kathryn Dalton, VMD, MPH¹; Kathy Ruble, RN, CPNP, PhD²; Alexandra DeLone, MA, MS, CCLS³; Pam Frankenfield, RN²; Destiny Walker, BS²; Shanna Ludwig, PhD³; Tracy L. Ross, MT(ASCP)⁴; Janice Jaskulski, MS, OTR/L⁵; Karen C. Carroll, MD, FIDSA⁶; Shelley Rankin, PhD⁷; Daniel Morris, DVM, MPH, DACVD⁷; Allen Chen, MD, PhD, MHS⁸ and Meghan Davis, PhD DVM MPH⁸, ¹Department of Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, ²Johns Hopkins Medicine Pediatric Oncology Outpatient Clinic, Baltimore, Maryland, ³Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, ⁴Johns Hopkins Medical Institutions, Baltimore, Maryland, ⁵Johns Hopkins Medicine, Baltimore, Maryland, ⁶Department of Pathology, Division of Medical Microbiology, Johns Hopkins University School of Medicine, Baltimore, Maryland, ⁷University of Pennsylvania School of Veterinary Medicine, Philadelphia, Pennsylvania, ⁸Department of Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland

Session: 46. Healthcare Epidemiology: Special Populations
Thursday, October 4, 2018: 10:30 AM

Background. Animal-assisted interventions (AAI), the use of animals as a complementary therapy in holistic patient care, has shown many positive outcomes. However, therapy animals can serve as mechanical vectors of hospital-associated infections (HAI), e.g., methicillin-resistant *Staphylococcus aureus* (MRSA). This pilot study assessed for transmission of HAIs among therapy animals, patients, and the hospital environment. We tested the effectiveness of a novel decolonization protocol for therapy dogs to reduce the risk of transmission of HAIs and enhance AAI program sustainability. Our hypothesis was that HAI transmission occurs from positive child to child, with the dog as an intermediary fomite.

Methods. Before and after child-animal interaction, we sampled patients, dogs, and the environment, and collected vital statistics and survey data from patients. MRSA was detected in samples by culture and molecular testing. Therapy dog handlers performed normal pre-visit practices for 2 control visits, then switched to a decolonization protocol (chlorhexidine-based shampoo prior to the visit, and chlorhexidine wipes on the fur during the visit) for 2 intervention visits.

Results. We evaluated 45 children and 4 therapy dogs over 13 visits. Children had decreased blood pressure and heart rate, and reported improved mental health scores post visit. MRSA conversion was identified from 10.2% of the children and 38.5% of the dogs, while 93% of the environmental samples were MRSA positive both pre and post. Patients that interacted closely with the dog had 8.01 times higher odds (95% CI 1.1–15.2) of MRSA conversion compared with patients who barely interacted with the dog. When stratified by intervention group, the MRSA conversion odds ratio of close interaction was 0.93 (95% CI 0.1–10.8) when the dog was decolonized versus 9.72 (0.9–99) when not decolonized.

Conclusion. This study showed the potential for AAI visits to improve physiological and mental health of pediatric outpatients. A risk of HAI exposure to patients from interaction with the dog was found, but this effect was nullified by the decolonization procedure. Future research is needed to increase the safety of this valuable alternative therapy.

Disclosures. All authors: No reported disclosures.

161. Prevalence and Risk Factors for *Candida auris* Colonization Among Patients in a Long-term Acute Care Hospital—New Jersey, 2017

Faye Rozwadowski, MD¹; Jarred McAteer, MD²; Nancy A. Chow, PhD³; Kimberly Skrobacek, MD⁴; Kaitlin Forsberg, MPH⁵; Patricia M. Barrett, MSD⁶; Rebecca Greeley, MPH⁶; Tara Fulton, MPH⁶; Julia Wells, MPH⁶; Rory M. Welsh, PhD³;

Stephanie Dietz, PhD⁷; Gordana Derado, PhD⁸; Brendan R. Jackson, MD, MPH³ and Snigdha Vallabhaneni, MD, MPH³, ¹New Jersey Department of Health, Centers for Disease Control and Prevention, Trenton, New Jersey, ²Waterborne Disease Prevention Branch, Centers for Disease Control and Prevention, Atlanta, Georgia, ³Mycotic Diseases Branch, Centers for Disease Control and Prevention, Atlanta, Georgia, ⁴Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, Atlanta, Georgia, ⁵IHRC, Inc., Atlanta, Georgia, ⁶New Jersey Department of Health, Trenton, New Jersey, ⁷Epidemiology Workforce Branch, Centers for Disease Control and Prevention, Atlanta, Georgia, ⁸Division of Foodborne, Waterborne, and Environmental Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia

Session: 46. Healthcare Epidemiology: Special Populations
Thursday, October 4, 2018: 10:30 AM

Background. *Candida auris* can be transmitted in healthcare settings, and patients can become asymptotically colonized, increasing risk for invasive infection and transmission. We investigated an ongoing *C. auris* outbreak at a 30-bed long-term acute care hospital to identify colonization for *C. auris* prevalence and risk factors.

Methods. During February–June 2017, we conducted point prevalence surveys every 2 weeks among admitted patients. We abstracted clinical information from medical records and collected axillary and groin swabs. Swabs were tested for *C. auris*. Data were analyzed to identify risk factors for colonization with *C. auris* by evaluating differences between colonized and noncolonized patients.

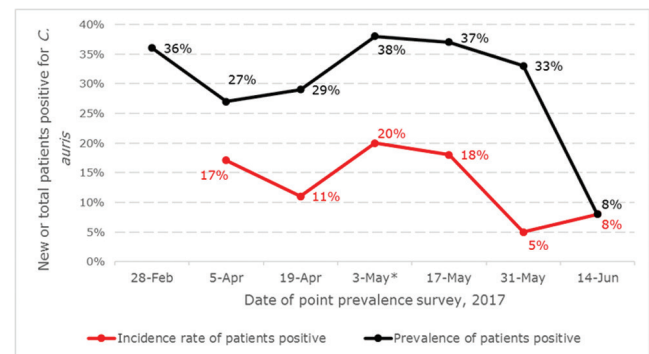
Results. All 101 hospitalized patients were surveyed, and 33 (33%) were colonized with *C. auris*. Prevalence of colonization ranged from 8% to 38%; incidence ranged from 5% to 20% (figure). Among colonized patients with available data, 19/27 (70%) had a tracheostomy, 20/31 (65%) had gastrostomy tubes, 24/33 (73%) ventilator use, and 12/27 (44%) had hemodialysis. Also, 31/33 (94%) had antibiotics and 13/33 (34%) antifungals during hospitalization. BMI for colonized patients (mean = 30.3, standard deviation (SD) = 10) was higher than for noncolonized patients (mean = 26.5, SD = 7.9); $t = -2.1$; $P = 0.04$. Odds of colonization were higher among black patients (33%) vs. White patients (16%) (odds ratio [OR] 3.5; 95% confidence interval [CI] 1.3–9.8), and those colonized with other multidrug-resistant organism (MDRO) (72%) vs. noncolonized (44%) (OR 3.2; CI 1.3–8.0). Odds of death were higher among colonized patients (OR 4.6; CI 1.6–13.6).

Conclusion. Patients in long-term acute care facilities and having high prevalences of MDROs might be at risk for *C. auris*. Such patients with these risk factors could be targeted for enhanced surveillance to facilitate early detection of *C. auris*. Infection control measures to reduce MDROs' spread, including hand hygiene, contact precautions, and judicious use of antimicrobials, could prevent further *C. auris* transmission.

Acknowledgements

The authors thank Janet Glowicz and Kathleen Ross.

Figure 1: Incidence and prevalence of *Candida auris* colonization by point prevalence survey (PPS), at a long-term acute care hospital, New Jersey, February 28 and June 14, 2017 (N = 101).



Disclosures. All authors: No reported disclosures.

162. Association Between Antibiotic Use and Multidrug-Resistant Organism Detection in Advanced Cancer Patients on Palliative Chemotherapy

Rupak Datta, MD PhD¹; Dayna McManus, PharmD, BCPS AQ-ID²; Jeffrey Topal, MD²; Vincent Quagliarello, MD, FIDSA¹ and Manisha Juthani-Mehta, MD, FIDSA, FSHEA¹, ¹Department of Internal Medicine, Section of Infectious Diseases, Yale School of Medicine, New Haven, Connecticut, ²Department of Pharmacy, Yale New Haven Hospital, New Haven, Connecticut, ³Department of Internal Medicine, Section of Infectious Diseases, Yale University School of Medicine, New Haven, Connecticut

Session: 46. Healthcare Epidemiology: Special Populations
Thursday, October 4, 2018: 10:30 AM

Background. Data suggest end-of-life antibiotics predispose to multidrug-resistant organism (MDRO) acquisition in intensive care units (ICUs). Less is known regarding antibiotics and MDRO acquisition in other palliative care populations.

Methods. We conducted a nested case-control study of advanced cancer patients aged ≥65 years started on palliative chemotherapy from January 2016 to September 2017 at Yale New Haven Hospital. We identified patients with (cases) and without (controls) new MDRO detected from clinical or surveillance cultures from the first hospitalization after starting palliative chemotherapy. All patients had no history of MDRO, and 3 controls were randomly selected per case. Antibiotic use was defined as