

1187. Retrospective and Prospective Analysis of *Acinetobacter* Modern-Day Clinical Isolates in a Large Mid-West Hospital System

Juan Calix, Jr., MD PhD¹, Carey-Ann D. Burnham, PhD² and Mario Feldman, PhD³; ¹Internal Medicine, Washington University School of Medicine, St. Louis, Missouri, ²Pathology and Immunology, Washington University School of Medicine, St. Louis, Missouri and ³Molecular Microbiology, Washington University School of Medicine, St. Louis, Missouri

Session: 136. Healthcare Epidemiology: MDR-Gram Negative Infections
Friday, October 5, 2018: 12:30 PM

Background. The epidemiology of contemporary *Acinetobacter calcoaceticus-baumannii* complex (AcbC) strains in the United States is understudied. In addition to increasing multidrug resistance, there is concern that the rates of AcbC infections acquired outside of hospitals and the anatomic distribution of these infections may differ from what is previously reported. Furthermore, the epidemiology of non-AcbC clinical isolates is poorly characterized.

Methods. We retrospectively identified all cases associated with *Acinetobacter* clinical isolates in the Barnes-Jewish/Children's Hospital system (St. Louis, MO) from 2007 to 2017. First isolates were classified as AcbC or non-AcbC. Tissue of origin, hospital-day of isolation, and antibiotic resistance profiles were determined. Results were compared with an ongoing prospective analysis of *Acinetobacter* isolates in the same system, started in July 2017.

Results. We identified 2,959 and 1,243 cases associated with AcbC and non-AcbC isolates, respectively. In both groups, isolates were most commonly obtained from respiratory (34% and 30% of total isolates) and connective tissue (34% and 27% of total isolates) sites. Urinary tract specimens were more likely to occur among AcbC isolates compared with non-AcbC isolates (664/2,959 [22%] vs. 147/1,243 [12%], $P < 0.001$). The percentage of isolates obtained prior to hospital-day-2 are 62% and 78% for AcbC and non-AcbC isolates, respectively. AcbC isolates were markedly more resistant to all classes of antibiotics. Analysis of 77 AcbC and 58 non-AcbC prospectively collected isolates revealed similar clinical findings.

Conclusion. Our study confirms the protean nature of *Acinetobacter* clinical isolates, and begins to describe relevant differences between AcbC and non-AcbC strains. These distinctions support the practice of identifying clinical isolates using AcbC and non-AcbC labels. Ongoing studies will further describe the patient characteristics and clinical outcomes associated with *Acinetobacter* disease in our system.

Disclosures. All authors: No reported disclosures.

1188. Could Chlorhexidine (CHX) Bathing Decrease the Incidence of Carbapenem-Resistant Enterobacteria (CRE) Bacteremia in Previously Colonized CRE Hematopoietic Stem Cell Transplant Recipients (HSCT)?

Juan Diego Velez, MD¹; Fernando Rosso, MD¹; Jorge Cedano, MD¹; Barbara Lucia Mora, MD¹; Marly Orrego, RN, MSC²; Mayra Estacio, MD³ and Ivan Andres Beltran, RN²; ¹Infectious Diseases, Fundación Valle del Lili, Cali, Colombia, ²Infection Control Committee, Fundación Valle del Lili, Cali, Colombia, ³Clinical Research Center, Fundación Valle del Lili, Cali, Colombia

Session: 136. Healthcare Epidemiology: MDR-Gram Negative Infections
Friday, October 5, 2018: 12:30 PM

Background. CRE colonized patients that undergo HSCT have a higher incidence of CRE bacteremia, especially during the initial neutropenic period, with a high mortality rate. This situation is critical in countries highly endemic for CRE such as Colombia. It is necessary to find measures that decrease the occurrence of this infection, permitting a safer transplant. Daily CHX bathing could be effective reducing this risk.

Methods. Since March 2014 in our hospital in Cali, Colombia, all adult patients admitted to the HSCT unit were peri-rectal screened for CRE colonization, and then CHX daily bathing (CHX 4% soap or CHX 2% pads) was used regardless of the screening results. Prospectively all type of microorganism bacteremia were recorded from 2014 to 2017. We compare bacteremia, and CRE bacteremia rates between CRE colonized vs. non-colonized patients. We compared the annual proportion of CRE bacteremia in this two groups. Nonparametrical statistic χ^2 for trend was used to compare the difference.

Results. We analyzed data collected from 155 patients from July 2014 to June 2017. There were 39.5% females, and the average age was 42 years, 60% were autologous, and 40% were allogeneic. The total of CRE colonized patients was 25/155 (16%), and the overall of bacteremia was 54/155 (34%). All type of microorganism bacteremia and CRE bacteremia were more frequent in CRE Colonized patients. (52% vs. 31% and 24% vs. 3.8%, RR: 6.24, 95% CI 2.06–18.8, $P = 0.002$). With the increase in compliance with CHX bathing, there was a decreasing trend in CRE bacteremia in the colonized patient, dropping from 50% during 2014, to 14% in 2017 (OR 0.167; $P = 0.21$).

Conclusion. Daily CHX bathing in the CRE colonized patient reduce the incidence of CRE bacteremia in HSCT patients. We propose this intervention as a significant protective measure in CRE colonized hospitalized patients.

Disclosures. All authors: No reported disclosures.

1189. A Comprehensive Characterization of the Emerging Carbapenem-Resistant *Klebsiella pneumoniae* Clinical Isolates From a Public Hospital in Lima, Peru

Fiorella Krapp, MD, MS¹; Catherine Amaro, MD²; Karen Ocampo, Biol¹; Lizeth Astocondor, MT¹; Noemi Hinojosa, Biol¹; Maribel Riveros, Biol¹ and Coralith Garcia, PhD^{1,2}; ¹Instituto de Medicina Tropical Alexander von Humboldt, Universidad Peruana Cayetano Heredia, Lima, Peru, ²Hospital Cayetano Heredia, Lima, Peru

Session: 136. Healthcare Epidemiology: MDR-Gram Negative Infections
Friday, October 5, 2018: 12:30 PM

Background. In contrast with other countries in Latin America, Peru had been notoriously spared by the global dissemination of carbapenem-resistant *Klebsiella pneumoniae* (CR-Kp), until recently. Even though, isolated cases of KPC-producing *K. pneumoniae* had been reported since 2013, it was not until 2016 that the first outbreak of NDM-producing *K. pneumoniae* was described in Peru. By 2017, rapid emergence of CR-Kp took place in Hospital Cayetano Heredia (HCH), a tertiary care hospital in Lima. Here, we provide a description of clinical, microbiological and molecular characteristics of CR-Kp isolates recovered at HCH.

Methods. Retrospective review of all CR-Kp clinical isolates recovered at HCH until December 2017. Antibiotic susceptibility data were obtained during routine care (Vitek or disc diffusion) and was assessed using CLSI breakpoints. DNA extraction was performed by heat shock, and PCR was performed to assess carriage of *bla*NDM gene. String test was performed to detect hypermucoviscosity.

Results. The first case of CR-Kp in HCH dated from July 2015. Since then, a total of 69 CR-Kp clinical isolates, from 60 patients have been recovered until December 2017. A significant increase in the number of cases was observed during 2017 (Figure 1). The average age of patients was 55. Urinary, and respiratory sources of infection or colonization were the most common ones (35% and 30%, respectively), followed by blood stream (17%) and intraabdominal (10%) infections. Isolate recovery and DNA extraction was achieved in 40 cases. Of these, 15 (38%) had a positive PCR for *bla*NDM carbapenemase gene (Figure 2). Antibiotic susceptibility testing revealed that amikacin was the most effective antimicrobial with the rest of antimicrobials having extremely high rates of resistance (Figure 3). String test was positive in two of these isolates, suggesting that hypervirulent CR-KP might be emerging in this region.

Conclusion. An epidemic of CR-Kp has established in our hospital, representing the first one reported in Peru. The different mechanisms of carbapenem resistance found suggest a polyclonal expansion. Amikacin remains the only active antimicrobial within the routinely tested antibiotics, highlighting the need to add other antimicrobials to the routine panel.

Figure 1. Number of carbapenem-resistant *Klebsiella pneumoniae* cases reported in Hospital Cayetano Heredia

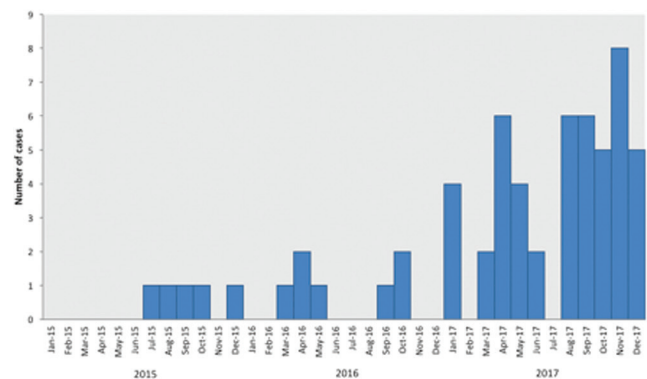


Figure 2. Number of NDM-producing *K. pneumoniae* cases isolated in HCH across time

