related TEAEs were flatulence, abdominal pain and distension, decreased appetite, constipation, nausea, fatigue, and diarrhea. No participants experienced a treatment-related TEAE leading to study withdrawal. Invasive infections were observed in 28 participants (8%); those with identified pathogens were unrelated to SER-109 species, and all were deemed unrelated to treatment by the investigators. There were 11 deaths (3.2%) and 48 participants (13.8%) with serious TEAEs, none of which were deemed treatment related. There were no clinically important differences in the safety profile across subgroups of sex, race, prior antibiotic regimen, or number of CDI recurrences. No safety signals were observed in participants with renal impairment or failure, diabetes, cardiac disease, or immunocompromised or immunosuppressed individuals. **Conclusions:** In this integrated analysis of phase 3 trials, SER-109, an investigational microbiome therapeutic, was well tolerated in this vulnerable patient population with prevalent comorbidities. No infections, nor those with identified pathogens, were attributed to SER-109 or product species. This safety profile might be expected because this purified product is composed of spore-forming Firmicutes normally abundant in the healthy microbiome.

Financial support: This study was funded by Seres Therapeutics.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s44–s45
doi:10.1017/ash.2023.281

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: CLABSI

Identifying risk factors for pediatric central-line–associated bloodstream infections

Paula Conrad; Julie Murphy; Pascale Audain; Michelle Connors; Christopher Hopkinson; Jenny Chan Yuen and Jennifer Ormsby

Background: Pediatric patients often require central venous catheters (CVCs) for a variety of clinical indications, including medication administration, parenteral nutrition, and venous blood sampling. Patients with CVCs are at risk for central-line–associated bloodstream infections (CLABSI). These hospital-acquired infections are often preventable and may lead to increased morbidity and mortality. Clinicians at a 477-bed, freestanding pediatric academic hospital completed a quality improvement project to identify factors that place pediatric patients at increased risk for CLABSI and to outline strategies aimed at CLABSI reduction for our highest-risk patients. **Methods:** Project leaders completed a literature review to evaluate current research on the topic and then assembled a project team. The team completed a retrospective analysis and categorization of CLABSI cases and reviewed internal CLABSI root-cause analysis data. The group then completed a case–control analysis to identify risk factors in patients with CVCs who developed CLABSIs, compared to patients with CVCs who did not develop CLABSI. Following this analysis, the team created a CLABSI risk-factor tool for use by bedside nurses. This tool described patients with CLABSI risk factors and outlined best practices for CLABSI prevention. **Results:** Based upon literature review, root-cause analysis data, and retrospective CLABSI case review over the period from 2017 to 2021, an initial list of 9 potential CLABSI risk factors was compiled. A case–control analysis was performed comparing 97 CLABSI cases with 103 matched controls. Univariate, multivariate, and additional covariate analyses were employed to identify 3 factors placing pediatric patients at increased risk for CLABSI. These included (1) multiple enteral devices (ie, 2 or more devices, including gastrostomy tube, jejunostomy tube, gastrostomy or jejunostomy tube, ostomy, and peritoneal drain); (2) multiple CVC entries (ie, CVC used for medications and venous sampling); and (3) long-term CVC plus parenteral nutrition (CVC in place for >21 days and receiving parenteral nutrition and/or intralipids). **Conclusions:** Pediatric patients with central venous access are vulnerable to CLABSI, and certain patients may be at increased risk. Frontline clinicians may be able to identify these patients and adopt best practices to prevent infection. A tool for use by bedside nurses can be a useful adjunct to existing CLABSI prevention practices.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s45
doi:10.1017/ash.2023.282

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: CLABSI

Catheter-related bloodstream infections in patients receiving hemodialysis in a single Philippine tertiary-care center

Dan Meynard Mantaring; Rohana Elise Rollan and Cybele Abad

Background: Information regarding catheter-related bloodstream infections (CRBSIs) among patients on hemodialysis in the Philippines is lacking. **Objective:** In this study, we described the clinical profile, CRBSI incidence density, and outcomes of patients in a single-center hemodialysis unit. **Methods:** A retrospective review of patients receiving hemodialysis (HD) through a central venous catheter (CVC) from January 2016 to December 2020 in a tertiary-care, private hospital was performed. Baseline demographic data were recorded, and CRBSI incidence density rates (no. of CRBSIs per 1,000 catheter days) were calculated. **Results:** Of 868 hemodialysis patients (57%), 499 used a CVC and were followed for 182,135 catheter days. Half were male (248 of 499, 49.7%) with a median age of 62 years (range, 24–90). Only 48 (9.6%) of 499 developed CRBSI, with an overall CRBSI incidence of 2.63 per 1,000 catheter days. Of those with CRBSI, 31 (64.6%) of 48 were female. The median age was 74.5 years (range, 30–90). Hypertension (40 of 48, 83.3%) and diabetes mellitus (26 of 48, 54.2%) were frequent comorbidities. Fever with chills was the most common symptom, occurring in 30 (62.5%) of 48 patients. Both gram-positive (n = 24) and gram-negative (n = 25) organisms were isolated. *Staphylococcus aureus* was the most common gram-positive isolate (14 of 25, 56%); isolates from the order Enterobacterales (12 of 24, 50%) were the most common gram-negative organisms. More CRBSIs occurred among those with a nontunneled versus tunneled CVCs (28 vs 20). The median time to CRBSI occurrence was 7 weeks (range, 0.43–280) from CVC insertion. The most common empiric treatment was either vancomycin (n = 28) or piperacillin-tazobactam (n = 26), which were also used in combination (11 of 28, 39.3%). Treatment involved CVC removal in most patients (34 of 48, 70.8%), either alone (n = 1), or with systemic antibiotic therapy (SAT; n = 16), or SAT plus antibiotic lock therapy (ALT; n = 17). The remainder (14 of 48, 29.2%) retained their CVCs because of difficult access, and received both SAT and ALT. Attributable mortality (6 of 9, 33%) and overall mortality (9 of 48, 18.5%) were high. Mortality of those whose CVC was retained was lower compared to those whose line was removed: (3 of 9, 33%) versus (6 of 9, 66%). **Conclusions:** The overall CRBSI rate in our hemodialysis unit was low and occurred more commonly in the older age group with a nontunneled CVC. Both gram-positive and gram-negative pathogens were

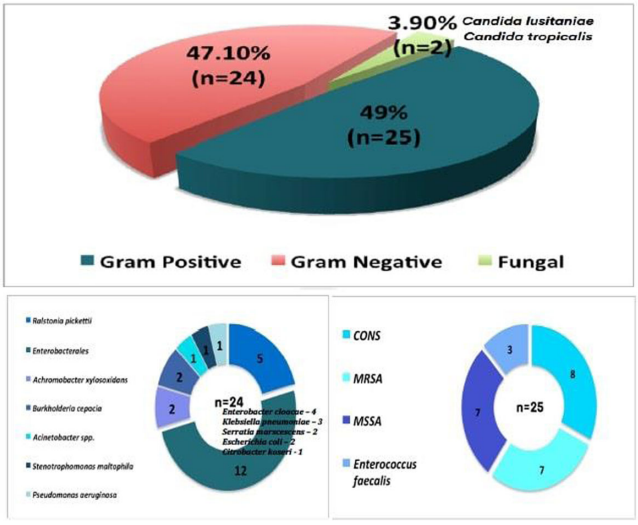

FIGURE 1. SUMMARY OF ISOLATES

common. CRBSI was associated with high attributable mortality. Successful treatment often required CVC, SAT, and ALT. However, CVC retention was a viable option in some patients with specific limiting factors such as difficult access.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s45–s46

doi:10.1017/ash.2023.283

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: CLABSI

Investigating potential drivers of increased central-line–associated bloodstream infections during the SARS-CoV-2 omicron-variant surge

HeeEun Kang; Kathleen O. Stewart; Asif Khan; Stephanie C. Casale; Caitlin Adams Barker and Justin Kim

Background: Central-line–associated bloodstream infection (CLABSI) rates increased nationally during COVID-19, the drivers of which are still being characterized in the literature. CLABSI rates doubled during the SARS-CoV-2 omicron-variant surge at our rural academic medical center. We sought to identify potential drivers of CLABSIs by comparing period- and patient-specific characteristics of this COVID-19 surge to a historical control period. **Methods:** We defined the study period as the time of highest COVID-19 burden at our hospital (July 2021–June 2022) and the control period as the previous 2 years (July 2019–June 2021). We compared NHSN CLABSI standardized infection ratios (SIRs), central-line standardized utilization ratios (SURs), completion of practice evaluation tools (PETs) for monitoring of central-line bundle compliance, and proportions of traveling nurses. We performed chart reviews to determine patient-specific characteristics of NHSN CLABSIs during these periods, including

Table 1. Patient-specific CLABSI characteristics during COVID-19 surge compared to historical control

Variable	COVID-19 CLABSI[1] N = 30	Non-COVID-19 CLABSI[1] N = 33	p-value[5]
Patient Characteristics			
Age (years), median (IQR)	62 (37)	60 (25)	0.54
Male	15 (50%)	18 (55%)	0.72
COVID history in the past 90 days	8 (27%)	1 (3%)	0.01
Neutropenia in the past 7 days	3 (10%)	9 (27%)	0.08
Hematologic malignancy	6 (20%)	8 (24%)	0.69
Solid malignancy	0 (0%)	6 (18%)	0.03
Level of care: critical care or step down	18 (60%)	9 (27%)	0.01
Case mix index, individual, median (IQR)	3.9 (3.1)	6.2 (7.07)	0.01
Hospital day on date of event, median (IQR)	17.5 (27)	17 (15)	0.62
Death during hospitalization	11 (37%)	12 (36%)	0.98
Line Characteristics			
Type of catheter[2,3]			
Short-term central line	11	8	0.28
Long-term central line	22	27	0.42
Central line with >1 lumen	27 (90%)	20 (61%)	0.01
>1 central line in place during 7 days prior to CLABSI	3 (10%)	1 (3%)	0.34
Time from line placement to CLABSI < 7 days	4 (13%)	8 (24%)	0.27
Time from line placement to CLABSI, median (IQR)	12.5 (16)	19 (47)	0.14
Any missed dressing changes	8 (27%)	9 (27%)	0.96
Any missed chlorhexidine gluconate baths	18 (60%)	21 (64%)	0.77
Line indication appropriate	29 (97%)	30 (91%)	0.61
Microbiology			
Blood culture collected from central line	4 (13%)	4 (12%)	0.59
Organism[2,4]			
Candida spp.	5	2	0.24
Coagulase negative Staphylococci	7	9	0.72
Enterococcus spp.	4	6	0.74
Enterobacterales	10	10	0.80
Staphylococcus aureus	5	7	0.65
Streptococcus spp.	0	2	0.49
Others	1	7	0.06

CLABSI: central line-associated bloodstream infection; IQR: interquartile range
[1]COVID-19 CLABSI period: 7/2021-6/2022; Non-COVID-19 CLABSI period: 7/2019-6/2021
[2]Columns may not add to 100% because a patient may have multiple central lines and multiple organisms
[3]Short-term central lines: temporary central venous catheters, pulmonary artery catheters, and introducers; Long-term central lines: tunneled central lines, peripherally inserted central catheters, hemodialysis catheters, and ports
[4]Enterobacterales: *Citrobacter, Enterobacter, E. coli, Hafnia, Klebsiella*, and *Serratia*; Other microorganisms: *Gordonia, Neisseria, Pseudomonas, Raoultella*, and *Stenotrophomonas*
[5]Chi-square or Fisher exact test used for categorical variables; Wilcoxon rank-sum used for continuous variables

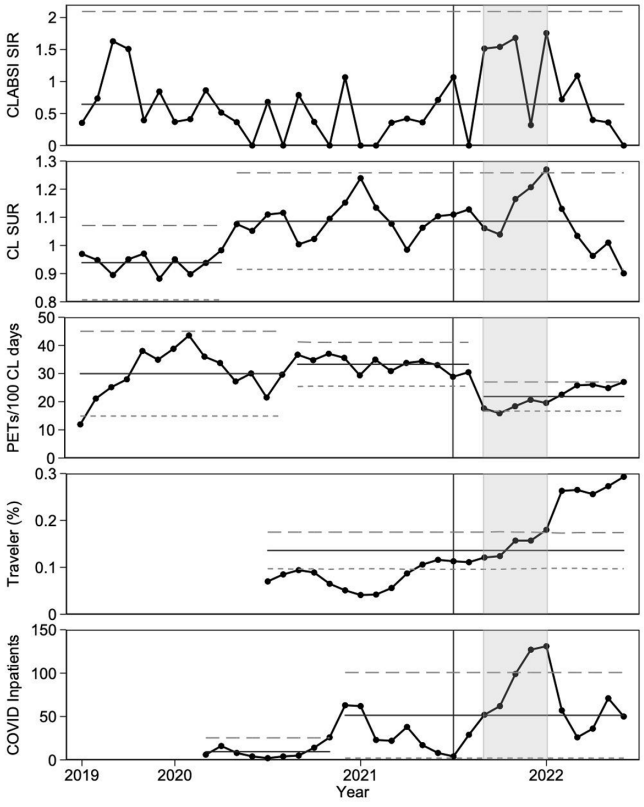

Figure 1: Statistical process control charts for CLABSI and associated drivers. Vertical lines denote the study (July 2021-June 2022) and control (July 2019-June 2021) periods; COVID cases were highest during the study period. Horizontal solid lines denote the average, horizontal dashed lines denote the confidence limits, and the shaded areas highlight the time period with the highest CLABSI SIR. During the study and control periods, the CLABSI SIR was 0.89 and 0.52 (p=0.03),the central line SUR was 1.08 and 1.02 (p<0.01), the number of PETs per 100 line days was 23.0 and 31.5 (p<0.01), and the number of traveler full time equivalents (FTE) per total nursing FTE was 0.20 and 0.08 (p<0.01), respectively.
CLABSI=central line-associated bloodstream infection, SIR=standardized infection ratio, CL=central line, SUR=standardized utilization ratio, PETs=practice evaluation tools.