2103. Clinical Profile of Patients with *Burkholderia cepacia* complex Bacteremia and Contaminated Ultrasound Gel as Possible Source of Infection

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**Background.** *Burkholderia cepacia* complex (Bcc) is Gram-negative bacteria commonly affecting those with cystic fibrosis, causing pneumonia and also a nosocomial pathogen. We looked at the clinical profile and possible source of Bcc bacteremia in patients without cystic fibrosis, admitted to a tertiary care hospital in South India.

**Methods.** Retrospective chart review was done of patients with Bcc bacteremia over the period 2012–2017. Patient risk factors, outcome, sensitivity profile were looked into. Possible sources for Bcc were analysed.

**Results.** Twenty-two patients with Bcc bacteremia were identified during this period. Age of patients ranged from 16 months to 83 years, averaging 47 years. 89.5% were nosocomial, 7.3% had endovascular vascular catheter, either CVC, dialysis catheter or permacath. When 30 days mortality was looked at, 17 patients survived and five patients expired. Those who expired had high Pitt's bacteremic score (scoring done either prior to or within 48 hours of positive culture). Four patients had underlying pneumonia, among whom two patient's respiratory sample grew Bcc, three also had under vealing vascular catheters. Sensitivity pattern of Bcc was noted as follows - trimethoprim-sulphamethoxazole was uniformly sensitive (100%), cefazidime was sensitive in 86.5%, minocycline in 73% of isolates. Meropenem was tested in 19 and was found sensitive in 15 isolates (79%), fluoroquinolone was tested only in eight isolates and was sensitive in 7.

As majority was CLABSI, the bundle compliance and common products used for cwc were audited. Feedback and training for bundle compliance were given. The ultrasound gel, even the unopened bottle used for cwc insertion grew Bcc. Despite sterile cover around the probe after the application of contaminated gel, an associated risk was considered and was replaced with sterile gel sachet. At 3 months follow-up there is no further incidence of Bcc bacteremia, though longer follow-up is needed.

**Conclusion.** Bcc bacteremia is found to be an important nosocomial pathogen, commonly associated with intravascular catheters with 22.7% mortality in this study. Cotrimoxazole was 100% sensitive. Good infection control practices, including early removal of unnecessary catheters are important to prevent Bcc CLABSI. Ultra sound gels can harbour Bcc and poses a serious risk of infection.

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2104. Impact of a Supervision and Education Directed Bundle in Ventilator-Associated Pneumonia (VAP) on a Pediatric Critical Care Unit of a Teaching Hospital

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**Background.** Proven measures to prevent VAP include 35–45° inclination of the head, prompt extubation, hand hygiene prior to intubation, oral hygiene with chlorhexidine, minimize secretion pooling above the endotracheal tube cuff. Adherence to these measures is vital to reduce VAP rates. Increasing rates of VAP in the pediatric critical care unit (PICU) of a reference teaching hospital in Guatemala, led the Hospital Infection Prevention and Control (HIPPC) team to implement a bundle to control VAP's.

**Methods.** A daily active surveillance to identify cases of VAP according to the Center for Disease Control (CDC) definition was done for 10 months before the HIPPC intervention. The HA implemented a bundle defined as: (1) head elevation (35°; degree inclination), (2) hand hygiene, (3) oral hygiene with chlorhexidine, (4) minimize secretion pooling, (5) daily evaluation of extubation, (6) daily surveillance, (7) continuous education of personnel, (8) adequate supplies distribution analysis. After the intervention rates and trends of VAP where analyzed for 30 months.

**Results.** The pre-intervention observational period the rates of VAP increased from 18 (September 2014) to 28 cases per 1,000 ventilator-days (June 2015). The first month after the bundle implementation (July 2015) a 50% VAP rate decrease was evidenced. A constant decrease in VAP rates was reported in the 24 months after the bundle implementation (July 2015) a 50% VAP rate decreased was achieved after the implementation of the bundle. Even though many of the measures included in the bundle were already protocolled in the PICU, a probable lack of adherence could explain the high rates observed pre-intervention. By adding the continuous education and supervision of the personnel by a member of the HIPPC team, to previously proven methods, the VAP rates decreased in almost 80%. This makes a strong case for the idea that protocols without continuous enforcement might not be enough to control infections.

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2105. Electronic Records of Daily Subglottic Suctioning Predict Infection and Non-infectious Adverse Ventilator-Associated Events During Critical Care

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**Background.** Mechanical ventilation is a life-sustaining therapy for critically ill patients, but is associated with increased hospital costs and risk for significant complications with in-hospital outcomes. Adverse ventilator-associated events (VAEs) can be broadly divided into infectious (ventilator-associated complication (IVAC) or ventilator-associated pneumonia (VAP)) and non-infectious (ventilator-associated complication (VAC)) types. We sought to identify factors that predict both types, and factors that discriminate risk for infectious vs. non-infectious VAE, using electronic medical record (EMR) data available prior to index event.

**Methods.** We evaluated 90 consecutive adverse VAEs in the medical intensive care unit (MICU) and academic medical center (January 1, 2013–June 30, 2016) to determine prior patient and care factors that discriminate risk for incident VAE. VAE were defined by surveillance criteria from the CDC. Patient and care data were extracted via the EMR.

**Results.** A generalized linear mixed effects model found an increase of 1.1 (95% CI 0.53–1.7) subglottic suction events per day (SS/day) on the day before VAE diagnosis, relative to the 4 prior days. Of the 90 VAE included in the study, 41 were infectious (IVAC or VAP), and 49 were labeled ventilator-associated complication (VAC). In the IVAC/VAP group, mean SS/day was 8.0 on the day of VAE diagnosis, 7.5 one day prior and 6.2 two days prior, compared with 6.6, 6.4, and 5.5 SS/day in the VAC group. Change in antibiotic prescription (87.8% (36) of patients in the IVAC/VAP group vs. 46.9% (23) in the VAC group) (P = 0.023) and acute liver injury (mean (AST and ALT 52.9 and 43.6 3 days before IVAC/VAP vs. 1.035 4 and 523.9 before VAC) also differed between the groups (P = 0.0095 and 0.0025).

**Conclusion.** Increased daily subglottic suctioning predicts both non-infectious and infectious VAE, but the observed increase is greater prior to IVAC/VAP Change in antibiotic prescription and acute liver injury also discriminated IVAC/VAP from non-infectious VAE in this subset.

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2106. What Metrics Should We Use to Evaluate CAUTI Prevention for Inpatient Rehabilitation Units? An Evaluation of a Large, National Healthcare System

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**Background.** The National Healthcare Safety Network (NHSN)’s Targeted Assessment for Prevention (TAP) Strategy is a framework for quality improvement that offers a focused approach to infection prevention. The cumulative attributable difference (CAD) is used as a prioritization metric to identify areas with the highest burden of excess infections. The standardized utilization ratio (SUR) provides risk-adjusted urinary catheter metric beyond traditional device utilization ratios (DUR). We evaluated the impact of a TAP Report and SUR for all Inpatient Rehabilitation Facilities (IRF) within a large, national healthcare system.

**Methods.** Using the NHSN database, we generated a catheter-associated urinary tract infection (CAUTI) TAP Report for all IRFs across the system for calendar year 2017. The standardized infection ratio (SIR) goal was set at 1.4. CAUTI events (predicted events multiplied by SIR goal) was calculated. A 12-month cumulative urinary catheter SUR was also computed in NHSN.

**Results.** Data from 26 IRFs were reviewed. Total CAUTIs ranged from 0 to 5 (median = 0, mean = 0.88). DURs ranged from 3 to 17% (CAD = 0.70 to 4.10; 12-month cumulative SURs, 0.35–2.14. Statistically significant SIRs were only calculated for two IRFs. Several IRFs with 0 infections had SURs > 1, and two IRFs with multiple CAUTIs had an SUR of ≤1 (table).

**Conclusion.** CAD is an actionable prioritization metric for infection prevention in health systems and individual facilities. In populations where events are rare,