Presentation Type:

Poster Presentation

Finding The Source Of Bacterial Sepsis And Its Impact On Sepsis Related Outcome, The Bundle That Fumble

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Background: Sepsis is currently one of the important global health issues due to its complexity from pathophysiologic, clinical, and therapeutic viewpoints. Most sepsis-related studies are from the West, where all the patients were grouped together failing to identify specific patient populations that may actually benefit from a particular intervention. We investigated the characteristics and impact of the source of infection on sepsis-related ICU outcomes among critically ill adult patients **Methods:** A prospective ICU based observational study was conducted over 15 months in a tertiary-care hospital in southern India. Our study included all critically ill patients ($\geq$18 years old) who were admitted either with existing a new episode of sepsis with suspected or documented bacterial infections within 24 hours of ICU admission with SOFA score $\geq$ 2. Basic demographics, the clinical presentation with the anatomical site of infection and outcome were noted. Categorical variables were compared using the χ^2 test, and continuous variables were compared using 1-way analysis of variance (ANOVA). Cox regression was used to determine the effect of sepsis source on 28-day mortality. **Results:** Among the 4,548 patients screened during the study period, 400 were recruited, with a mean age of 55.7±16 years, among whom 276 (61%) were men. The mean SOFA score at admission was 9.9±2.7. Bacteremia was observed among 99 cases (24.8%), predominantly gram-negative sepsis (65 of 99, 65.6%). The source for blood culture positivity was determined in 48 of 99 cases (48.4%). Successful isolation of the bacteria was achieved from other anatomical sites in 115 patients (37.8%) where blood culture remained negative. The most common source of sepsis was lung (67 of 400, 16.7%) followed by skin and soft-tissue infection (56 of 400, 14%). Patients treated with steroids were more prone to develop a respiratory infection ($P = .001$), whereas renal impairment was correlated with urinary tract infection ($P = .001$). Patients with respiratory infections had a longer ICU stay ($P < .001$). The overall in-hospital mortality
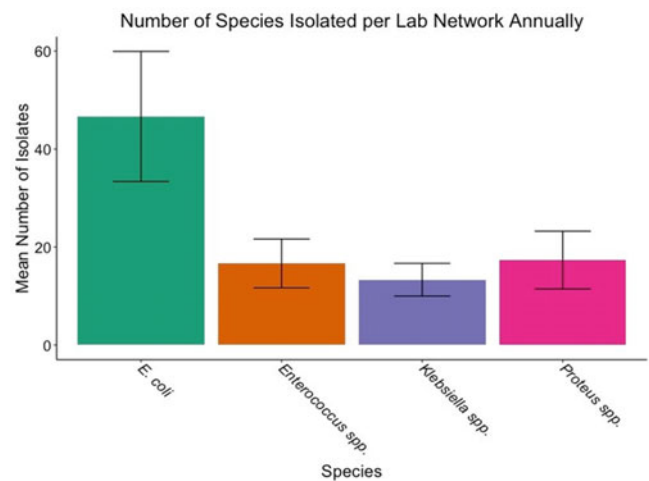

Fig. 2.

was 37.2%. Multivariable Cox regression showed patients with genitourinary infection (HR, 2.23; $P = .04$) and implantable devices (HR, 11.30; $P = .17$) were at higher risk of death. **Conclusions:** Site-specific infection was a significant predictor of mortality in our study. These factors should be taken into consideration and warrant further evaluation to understand their specific roles in adverse outcomes among a cohort of patients diagnosed with sepsis.

Presentation Type:

Poster Presentation

First *Candida auris* Outbreak Experience in a Tertiary-Care General Hospital in Qatar, 2019

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Background: *Candida auris* is an invasive, multidrug-resistant pathogen that can cause outbreaks in hospitals. The mode of transmission is through contaminated hospital items such as fomites and staff interventions. The outbreak of *Candida auris* affecting 13 patients at the medical intensive care unit (MICU) and medical inpatient unit, either in the form of infection or colonization, is the first documented *C. auris* outbreak in the Qatar. **Methods:** The first case was identified in November 2018 in a patient colonized in the respiratory tract. *Candida auris* biweekly tests were conducted. The second to fourth cases were confirmed in the MICU admitted in the same room (room 2). The fifth case was identified incidentally and was not part of the screening in another ward (6 North Medical Inpatient Unit), and 4 weeks later, *Candida auris* was isolated from the urine and throat of a patient on this ward. The realization that case 5 was an index case changed the direction of the outbreak investigation, and expanded screening was started among the medical inpatients. When the IPC team identified cases 6–11 and 13,
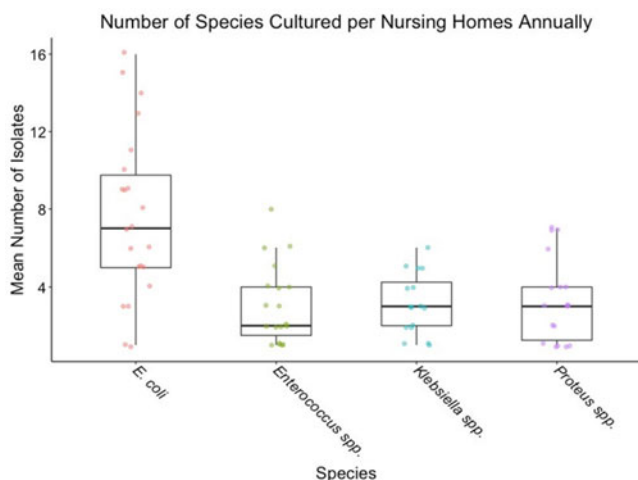

Fig. 1.

all had possible epidemiological links with case 5. **Results:** Our root-cause analysis suggests that the index case came from another general hospital. However, because no screening protocol has been established for *Candida auris*, interventions have not been in place to effectively prevent and control this organism. A strong collaborative outbreak team worked to end this outbreak using the following evidence-based IPC interventions: (1) patient screening and decolonization; (2) environmental screening; (3) enhanced environmental disinfection using per-acetic acid wipes, 1% chlorine, and hydrogen peroxide vapor disinfection; (4) prophylactic contact precautions; (5) enhanced hand hygiene with bare below elbows protocol; and (6) a "no white gown" policy. **Conclusions:** The outbreak of *Candida auris* was declared to have nbeen terminated on August 22, 2019. Despite the long period involved in this outbreak, we succeeded in ending it through the concerted efforts of a multidisciplinary team utilizing the latest scientific evidence.

Presentation Type:
Poster Presentation
First-Time Use of Clinical Pharmacists to Improve Appropriate Antibiotic Prescribing in a Medical ICU in Viet Nam

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Background: Antibiotic overuse has led to increasing rates of antibiotic resistant infections and unnecessary antibiotic costs. Clinical pharmacists can play a key role in optimizing appropriate use of antimicrobials and reducing antimicrobial resistance. However, the role of clinical pharmacists in antimicrobial stewardship is new and not well established in Viet Nam. Objective: We evaluated the use of clinical pharmacists for improved antimicrobial prescribing. Methods: We assembled an antibiotic stewardship program (ASP) team consisting of a clinical pharmacist and a specialist in infection prevention and control in a 60-bed medical intensive care unit (MICU) at Hue Central Hospital in central Viet Nam. During January–September 2018, the ASP team collected baseline antibiotic prescribing days of therapy (DOT) for all antibiotics administered in the MICU. Then, from October 2018 through June 2019, the ASP team reviewed daily positive clinical bacterial cultures and susceptibility results for all patients present in the MICU. They reviewed medical charts, including antimicrobial prescriptions, during week days and only if patient was still in the ICU at the time of ASP rounds. The team recommended changes to antibiotic therapy verbally to physicians and left the decision to change antibiotic therapy to their discretion. The ASP team documented whether their recommendations were accepted or rejected. Statistical significance was determined using the Student t test. Results: The ASP team reviewed 160 medical charts and made 169 ASP recommendations: 122 (72%) to continue current treatment; 24 (14%) to monitor drug levels or obtain diagnostic tests; 10 (6%) to discontinue therapy; 6 (4%) to de-escalate therapy; 5 (3%) to adjust doses; and 2 (1%) to broaden therapy. Only 8 of the recommended changes (5%) were declined by the clinicians. The average monthly DOT for all types of antibiotics declined significantly from 2,213 to 1,681 (24% decrease; $P = .04$). Reductions in DOT for the most common broad-spectrum antibiotics included colistin from 303 to 276 ($P = .75$); imipenem-cilastatin 434 to 248 ($P = .06$); doripenem 150 to 144 ($P = .85$). Piperacillin-tazobactam increased from 122 to 142 ($P = 0.75$). Conclusions: We demonstrated that daily review of cultures and antibiotic use decreased overall antibiotic prescribing. Given that few recommendations included discontinuation of therapy, ASP rounds likely raised awareness for clinicians to optimize antibiotic use.

Presentation Type:
Poster Presentation
Friend or Foe: Perceptions of Infectious Disease Specialists as Stewards and Social Determinants of Antimicrobial Prescribing

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Background: Inappropriate prescribing behavior can be associated with higher rates of antibiotic resistance, calling for detailed studies on how physicians make prescribing decisions. We conducted a mixed-methods study to investigate physician antibiotic prescribing behavior in a 141-bed pediatric hospital. **Methods:** We applied a mixed-methods research design. The quantitative phase was conducted over a 6-month period to identify cases of inappropriate prescribing. The qualitative phase comprised 22 qualitative interviews with clinical teaching units (CTU) and pediatric intensive care unit (PICU) team members (physicians and pharmacists). Two coders analyzed the data deductively using the theoretical domain framework (TDF), as well as the social determinants of antimicrobial prescribing (SDAP). **Results:** In 52.9% of the 36 identified cases in the CTU and 31.4% of the 37 cases in the PICU, an infectious diseases (ID) consultation occurred. Compliance rates with ID recommendations were 79% and 91% in the CTU and PICU, respectively. The CTU and PICU expressed appreciation for ID involvement when ID supported their de-escalation choices in complex cases and in cases in which less commonly known antibiotics were used. However, the ID service involvement was perceived as