1032. A Case Series of Clostridium septicum Aortitis
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Session: 131. Bacteremia and Endocarditis
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Background. Clostridium septicum is an anaerobic, motile, spore forming, tox- in-producing Gram-positive bacillus (GPB) that has been associated with colon and hematologic malignancies. Despite the low incidence of infection, it is a virulent organism leading to rapidly progressive gas gangrene. Only 51 cases of C. septicum related aortic aneurysms have been reported. 100% mortality is reported in patients without surgical intervention versus 79% undergoing surgery. The primary aim of this study was to determine the incidence and clinical outcomes of patients treated at our institution with C. septicum aortitis.

Methods. In this IRB-approved retrospective case series, we reviewed our microbiology laboratory’s blood and tissue cultures from January 2005 to 2018 to identify cases of C. septicum infection. All patients >18 years of age who had positive cultures were reviewed to provide radiographic or histopathologic correlation.

Results. Among 50 patients with C. septicum in blood and tissue cultures, seven patients were identified with aortitis. Underlying malignancy was found in four cases and included colon cancer (three cases) and prostate cancer (one case). The most common location for infection was the infrarenal aorta (four cases). Previous vascular surgery had been performed in three cases. Five of the seven patients underwent surgical repair with pathology revealing GPB in three patients and acute inflammation in the other two patients. C. septicum grew in tissue cultures from these patients. Four of the seven patients (all of whom underwent surgery) had positive blood cultures. The two patients that did not undergo surgery died which is consistent with the 100% mortality described in the literature. All patients were treated with β-lactam therapy. The median duration among the five who completed treatment was 7.5 weeks. Among the five patients who underwent surgery, two are alive (one at 1 year and another at 5 months postoperatively), two died within the first year after surgery, and one patient was lost to follow-up.

Conclusion. A small percentage of patients with C. septicum aortitis survived over 1 year. Earlier recognition and emergent surgery with appropriate antimicrobial ther- apy are needed to improve the outcome of patients diagnosed with this rare infection.

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1033. Thinking Outside the Bowl: Clostridium difficile Bacteremia Case Series
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Background. While Clostridium difficile gastrointestinal infection (CDI) is the most common hospital-acquired infectious disease, C. difficile bacteremia (CDB) is exceedingly rare and its risk factors, mortality rate, and modalities of treatment are not well defined.

Methods. We conducted a retrospective, IRB approved, chart review of adult patients with a diagnosis of CDB admitted to our institutions from 2011 through 2017. Variables catalogued included previous antibiotic and proton pump inhibitor (PPI) use, co-morbid conditions, prior history of CDB, diarrhea at the time of CDB, active surgical repair with pathology revealing GPB in three patients and acute inflammation in the other two patients. C. septicum grew in tissue cultures from these patients. Four of the seven patients (all of whom underwent surgery) had positive blood cultures. The two patients that did not undergo surgery died which is consistent with the 100% mortality described in the literature. All patients were treated with β-lactam therapy. The median duration among the five who completed treatment was 7.5 weeks. Among the five patients who underwent surgery, two are alive (one at 1 year and another at 5 months postoperatively), two died within the first year after surgery, and one patient was lost to follow-up.

Conclusion. A small percentage of patients with C. septicum aortitis survived over 1 year. Earlier recognition and emergent surgery with appropriate antimicrobial ther- apy are needed to improve the outcome of patients diagnosed with this rare infection.

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Table 1. Prediction Rule of CNS True Infection.

| Factor                  | Point |
|-------------------------|-------|
| TTP (h)                 |       |
| >48                     | 0     |
| 24–48                   | 2     |
| <24                     | 5     |
| BCs collection location |       |
| Unit                    | 0     |
| General wards           | 2     |
| CVC                     |       |
| ()                      | 0     |
| (+)                     | 2     |

Figure 2. ROC analysis of FLC sign in aerobic bottles.

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1035. Differentiation Between True Infection and Contamination of Coagulase-Negative Staphylococci by Developing a Prediction Rule

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Background. Coagulase-negative staphylococci (CoNS) are one of the most common contaminant microorganisms isolated from blood cultures (BCs).

Methods. We conducted a retrospective cohort study at St. Luke’s International Hospital from 2004 to 2017. We collected a total of 1,192 BCs due to CoNS. Of 1,192 BCs, 143 patients with polymicrobial infection and 112 patients who were <18 years old were excluded. We defined the true infection (TI) on the following criteria: (1) patients with persistent bacteremia due to CoNS, (2) BCs that were positive more than two sets, (3) patients with foreign body implanted 28 days before taking BCs. Chi-square test, Fisher’s exact test and Student’s t-test were performed using Illumina MiSeq, followed by in silico multi-locus sequence type identification and phylogenomic analysis using kSNP.

Results. Of 927 patients’ BCs data, 201 patients were defined as TI, and 726 patients were defined as contamination. BCs collection location (general ward), implant, malignant tumor, steroids or chemotherapy use 90 days before collection, and presence of CVC were associated with TI. The prediction rule developed in this study can be useful for clinicians for making decision whether to use antibiotics or not.

Conclusion. Time to positivity, location of blood collection, and the presence of CVC were associated with TI. The prediction rule developed in this study can be useful for clinicians for making decision whether to use antibiotics or not.