176. Streptococcus intermedius: A Study of 107 Isolates
Dhyaneesh Pandya, MD and Don Kannangara, MD, MSC, PhD, DTM&H, MRCP; St Luke’s University Health Network, Phillipsburg, New Jersey
Session: 37. Bacteremia, CLASI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM
Background. Streptococcus anginosus (SA), Streptococcus constellatus (SC), and Streptococcus intermedius (SI) constitute the S. anginosus group (SAG). The majority of SI reports are single or few cases and small series. In a 2017 study of 263 cases of SAG only 36 (13.7%) were identified as SI, responsible for pyogenic nonbacteremic infections. Another study (2001) found 14 SI out of 122 SAG isolates of which 12 were from abscesses. In sentinel reports, SI was only identified after molecular sequencing as original culture reports were negative. We present results of the analysis of 335 SAG isolates during a 3-year period with much higher numbers of SI (107) 32%, and bacteremia (17) 16% than previously reported. SI isolates exceeded S. constellatus (77) 23% with SA being the majority (45%). Our study disclosed previously unreported sites of infection and differences in the type of bacteremia (monomicrobial vs. polymicrobial).
Methods. We reviewed the charts of 1321 Streptococcal isolates which included 335 SAG. Of 107 SI during the last 3 years, in patients admitted to our network hospitals. Age, sex, clinical findings, lab reports, procedures, imaging, and susceptibilities were analyzed.
Results. Age range was one month to 90 years with 167 males and 166 females. There were 335 SAG isolates, SA 151(47/8%), SI 107(31%) and SC 77 (47M/30F). 70% of SI patients were in the 40–80 age group. There were 17 SI bacteraemias (monomicrobial) compared with 26 SA (17%), with 14 (54%) polymicrobial and 11 SC with 5 polymicrobial 1 (46%). 16 isolates were from empyema fluid, 11 related to IV/IO, 9 bowel abscesses, 6 perforated bowel, 3 peritonial abscesses, 3 breast abscesses, 3 mandibular osteomyelitis, 3 neck infections, 3 myositis, 3 pancreas associated, 1 each of mandibular sialadenitis, epidermal abscess, cranial osteomyelitis, brain abscess, vertebral osteomyelitis and remainder soft-tissue infections in extremities or face. Some were related to poor oral hygiene or dental procedures. One abdominal wall infection was from a toothpick puncture. Twenty-five were polymicrobial infections. There were 4 deaths, three attributable to SI infection. All isolates tested (32) were susceptible to penicillin (MIC 0.008–0.125 μg/mL), ceftaroline (MIC = 0.032–0.125 μg/mL) and vancomycin (MIC =0.38–1.0 μg/mL).
Conclusion. SI appears to be underreported. All SI bacteria in the study were monomicrobial in contrast to 54% SA and 45% SC blood cultures with multiple organisms. The most common isolation site was empyema fluid. Almost all isolates appeared to originate from oral or gastrointestinal flora. Several of the sites encountered have not been reported previously. All isolates tested were susceptible to penicillin, ceftaroline and vancomycin.
Disclosures. All authors: No reported disclosures.

177. Clinical Outcomes of Daptomycin vs. Anti-Staphylococcal β-Lactams in Definitive Treatment of Methicillin-Susceptible Staphylococcus aureus (MSSA) Bloodstream Infections
Sydney Agnello, DO; Shandra R. Day, MD; Lynn Wardlow, PharmD, MBA, BCPS, BCIDP; Erica E. Reed, PharmD, BCPS-AQ ID; Jessica M. Smith, PharmD, MBA, BCIDP; Kurt Stevenson, MD, MPH and Kelci E. Goe, MPH; The Ohio State University Wexner Medical Center, Columbus, Ohio; The Ohio State University Wexner Medical Center, Columbus, Ohio; The Ohio State University College of Medicine and College of Public Health, Columbus, Ohio
Session: 37. Bacteremia, CLASI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM
Background. The preferred management of patients with MSSA bacteremia includes definitive therapy with intravenous anti-staphylococcal β-lactam antibiotics. In β-lactam allergic or intolerant patients, daptomycin has been targeted as a viable alternative. The objective of this study was to assess clinical outcomes of daptomycin compared with nafcillin or ceftaroline for the treatment of MSSA bacteremia.
Methods. This was a retrospective cohort study of patients hospitalized from November 1, 2011 to October 31, 2018 at The Ohio State University Wexner Medical Center with MSSA bacteremia. Patients treated with nafcillin, ceftaroline daptomycin were included with 1:1:1 random selection. The primary outcome was a composite of clinical failure, defined as a change in therapy due to persistent/worsening signs and symptoms, bacteremia recurrence or persistence, or inpatient infection-related mortality. Secondary endpoints included 30-day infection-related mortality, duration of bacteremia, 30-day all-cause mortality and adverse events (AEs) necessitating a change in therapy.
Results. Among patients with MSSA bacteremia, 162 received at least one dose of daptomycin. Of those, 29 received at least 14 days of daptomycin and/or received daptomycin as definitive therapy and thus were included in the analysis. There was no difference in the primary or composite clinical failure rate of daptomycin vs. nafcillin/ceftaroline (P = 0.71). In addition, no difference was observed in 30-day infection-related mortality (P = 0.51), duration of MSSA bacteremia (P = 0.9), or 30-day all-cause mortality (P = 0.64). A higher number of AEs necessitating change in therapy were seen in the daptomycin group (P = 0.0002), reflecting initial β-lactam intolerance.
Conclusion. No difference in clinical failure was identified in patients treated with daptomycin vs. nafcillin/ceftaroline suggesting that daptomycin may serve as a non-inferior alternative for treatment of MSSA bacteremia. A higher number of AEs occurred in the daptomycin group indicating β-lactam intolerance as a primary indication for daptomycin therapy. Given the small sample size, subsequent studies are needed to further evaluate the use of daptomycin in the treatment of MSSA bacteremia.
Disclosures. All authors: No reported disclosures.

178. Evaluation of Oral Antibiotic Stepdown Therapy for the Management of Gram-Negative Rod Bacteremia in a Tertiary Care Medical Center
Heather Savage, PharmD; Kyana Stewart, MS, PharmD, BCPS, BCIDP; Miranda Dermady, PharmD, BCPS; Jessica Foy, PharmD, BCPS, BCIDP; Jeffrey Bohan, PharmD, BCPS; Travis King, PharmD, BCPS and Jermaine Mohammed, MPH, CMEM; 1Ochsner Medical Center, New Orleans, Louisiana; 2Ochsner Health System, New Orleans, Louisiana
Session: 37. Bacteremia, CLASI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM
Background. Treatment strategies surrounding bacteremia are constantly changing as new data emerges. Transitions from intravenous (IV) to oral (PO) antibiotics in patients with Gram-negative rod bloodstream infections (GNR BSI) remains controversial. The objective of this study was to characterize clinical outcomes in patients who received early (≤72 hours) vs. late (>72 hours) stepdown therapy (ES vs. LS, respectively) for GNR BSIs.
Methods. A single-center, retrospective cohort study was conducted including adults with GNR BSIs admitted to a 610-bed tertiary care medical center between January 1, 2016 and December 31, 2017 who were transitioned from IV to PO antibiotics. Patients with severe renal impairment, inadequate source control, prolonged antibiotic course, HIV/AIDS, and pregnancy were excluded. The primary endpoint was clinical failure and secondary endpoints were 30- and 90-day all-cause mortality, duration of bacteremia, and adverse events.
Results. 164 patients (ES = 61; LS = 103) were included. Population median age was 63 years, 56% were male, and 19% were immunocompromised. Genitourinary source was most common (48.7%), while the most common organism isolated was Escherichia coli (52.4%). Most infections were community-acquired (70.1%) and the most common step-down therapy choice was ciprofloxacin in 75% of patients. There were no major differences in baseline demographic and clinical characteristics between groups except for the greater presence of central venous catheters (14.6% vs. 35.9%; P = 0.006) in the LS group. Overall clinical failure was 9.8% vs. 13.6% between the ES and LS groups, respectively. The LS group had a higher rate of clinical failure defined by escalation from PO to IV antibiotics (1.6% vs. 10.7%; P = 0.03). Patients who failed therapy tended to be immunocompromised and/or have an intra-abdominal source of infection. Secondary endpoints did not differ between groups.
Conclusion. Higher clinical failure rates in the LS group indicate that these patients may have underlying clinical characteristics not amenable to stepdown therapy. Choice of step-down therapy was not driven by the source of infection or patient severity. Further analysis and studies are needed to determine optimal time and population for stepdown.
Disclosures. All authors: No reported disclosures.

179. Two Cases of Corynebacterium Striatum Prosthetic Valve Endocarditis Resulting in Opposing Outcomes
Takahiko Fukuchi, MD, PhD, DTM&H; Saitama Medical Center, Ichihi Medical University, Saitama-shi, Saitama, Japan
Session: 37. Bacteremia, CLASI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM
Background. The Corynebacterium species is associated with bacteremia, cellulitis, and rarely, endocarditis. Corynebacterium endocarditis used to be an extremely rare disease; however, the development of mechanical devices boosted its prevalence, rendering it unignorable. This bacteria is also described as an emerging multi-drug resistant pathogen.
Methods. We encountered two cases of Corynebacterium striatum prosthetic valve endocarditis, one of which was successfully treated. We failed to treat the other case despite prolonged medical treatment. We describe their clinical courses and literature review.
Results. (Case 1) A 74-old man was admitted to our hospital because of C. striatum prosthetic valve endocarditis. He relapsed twice despite treatment with adequate dosage and duration (6 weeks) of vancomycin during the first episode, and following daptomycin during the second episode depending upon the result of drug susceptibility. However, both medical treatments failed. He had refused surgery upon each hospitalization. He was treated with intravenous vancomycin and oral rifampin for 24
weeks. His endocarditis did not relapse after 6 months' treatment. (Case 2) A 71-year-old man who had a past medical history of enterococcal endocarditis was successfully treated with intravenous ampicillin and subsequent atrial valve replacement. He was admitted to our hospital because of fever and back pain. Prosthetic valve endocarditis was diagnosed because blood cultures revealed C. striatum, and evidence of metastatic lesions. While intravenous vancomycin and oral rifampin (600 mg/day) were initiated, several complications, such as pseudoneumothorax of ascending aorta, splenic artery aneurysm followed by a rupture, and cerebral hemorrhage occurred. The patient's refusal of a re-operation rendered prolonged medical treatment necessary for 16 weeks. He died 20 weeks after the diagnosis of Corynebacterium endocarditis.

Conclusion. The same antibiotic treatment regimen resulted in opposing outcomes in our two patients. To the best of our knowledge, only 22 cases were previously described in English literature. However, there was no well-established medical treatment against this pathogen. Our experience might be beneficial for similar patients worldwide.

Disclosures. All authors: No reported disclosures.

180. Klebsiella pneumoniae and K. oxytoca Bacteremia: Differences in Host, Source, and Antibiotic Susceptibility

Dina Youssif, MD1, Babak Hooshmand, MD2; Kathleen M. Riederer, MT (ASCP)1; Leonard B. Johnson, MD3 and Raed Khattib, MD3; 1Ascension St. John Hospital, Grosse Pointe, Michigan; 2Ascension Health, Saint John Hospital and Medical Center, Grosse Pointe Woods, Michigan

Session: 37. Bacteremia, CLABSI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM

Background. Klebsiella species (KS) bloodstream infection (BSI) is often caused by K. pneumoniae (KP). K. oxytoca (KO) is emerging and implicated in antibiotic-associated right-sided colitis. We compared the clinical and microbiological characteristics of KP and KO.

Methods. We reviewed blood culture (BC) results (January 1, 2010–December 31, 2017), selected patients with KS in ≥1 BC, reviewed their medical records, abstracted patient demographics, source of bacteremia, antibiotics susceptibility, and outcome. Each patient was counted once. We compared KP and KO cases. All differences were assessed by the chi-square test and regression analysis, using SPSS.

Results. We encountered KS in 975/14,256 (6.8%) positive BC, representing 611 BSI including 537 KP-BSI (484 patients) and 55 KO-BSI cases (54 patients); each patient was counted once. Mean age and prevalence of diabetes and most comorbidities in KP and KO. Mortality rate was comparable (28.1% [KP] vs. 35.2% [KO]; P = 0.005). CREs were limited to KP. Logistic regression analysis confirmed KO link to IVC (OR = 3.57; 95% CI: 1.89, 6.76; P < 0.001) and Caucasian race (OR = 2.46; CI: 1.37, 4.42; P = 0.003). Mortality rate was comparable (28.1% [KP] vs. 35.2% [KO]; P = 0.3).

Source and antibiotic susceptibility (%) in K. pneumoniae and K. oxytoca bacteremia

| Source           | KP   | KO   |
|------------------|------|------|
| IVC              | 12.8 | 6.4  |
| UTI              | 34.0 | 26.1 |
| Soft/tissue bone | 8.7  | 11.1 |
| Abdomen          | 21.3 | 14.8 |
| Pneumonia        | 8.5  | 0.03 |

Conclusion. KO and KP BSI differ in the type of host and source, suggesting different colonization dynamics. KO remains antibiotic-susceptible but might be cefazolin less susceptible. Prospective studies are needed to confirm differential cephalosporin susceptibility and delineate host-pathogen interactions.

Disclosures. All authors: No reported disclosures.

181. Antimicrobial Susceptibility Trends and Risk Factors for Antibiotic Resistance in Pseudomonas aeruginosa Bacteremia: A 10-Year Experience at a Korean Tertiary Hospital

Jin Suk Kang, MD; Chisook Moon, MD and Seok Jun Mun, MD; Inje University Busan Paik Hospital, Inje University College of Medicine, Busan, Pusan-jikhalsi, Republic of Korea

Session: 37. Bacteremia, CLABSI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM

Background. Bacteremia due to Pseudomonas aeruginosa is associated with high mortality and inappropriate initial antimicrobial therapy leads to worse outcomes. We aimed to analyze clinical characteristics of P. aeruginosa bacteremia and risk factors for antibiotic resistance and investigate their antimicrobial susceptibility trends.

Methods. We retrospectively reviewed the medical records of patients with P. aeruginosa bacteremia admitted to a tertiary hospital between January 2009 and March 2019.

Results. A total of 242 patients were identified and the median age was 70 years. In hospital mortality was 43.9% in 14 patients (93.5%). In 51 patients (34.9%) had 1.7% (95% CI, 1.1–4.4). Independent risk factors for CRPA were underlying hematologic malignancy (aOR, 3.0; 95% CI, 1.1–8.3) and cerebrovascular accident (aOR, 2.5; 95% CI, 1.0–6.1), and co-colonization with multidrug-resistant organisms (aOR, 2.2; 95% CI, 1.1–4.4).

Conclusion. The identification of risk factors for antibiotic resistance and analysis of antibiotics susceptibility are useful for early initiation of appropriate antibiotics in patients with P. aeruginosa bacteremia.

Disclosures. All authors: No reported disclosures.

182. Appropriateness of Treatment Duration for S. aureus Bacteremia (SAB)

Kristin Griebe, PharmD2; Rachel Kenney, PharmD2 and Susan L. Davis, PharmD2; Henry Ford Hospital, Detroit, Michigan; Wayne State University/Henry Ford Hospital, Detroit, Michigan

Session: 37. Bacteremia, CLABSI, and Endovascular Infections
Thursday, October 3, 2019: 12:15 PM

Background. An algorithm-based guide to optimal treatment duration in staphylococcus bacteremia demonstrated a non-inferior rate of clinical success compared with standard of care. The purpose of this descriptive study was to assess appropriateness of staphylococcus bacteremia duration of therapy according to the SAB treatment algorithm.

Methods. IRB approved, retrospective cohort describing antibiotic use in S. aureus bacteremia across a health system from January to March 2019. Patients were included if they had at least one blood culture with S. aureus. Exclusion criteria included transfer from outside hospital, concurrent osteomyelitis diagnosis, and death within 72 hours of positive culture. The primary outcome was the appropriate duration of antibiotics for uncomplicated SAB. Secondary outcomes included clinical failure, antibiotic adverse effects, 90-day mortality, and hospital length of stay.

Results. A total of 59 patients were included. The median age was 66 years old and 22 patients (37.3%) were female. Diagnosis: uncomplicated SAB 28 (47.5%) and complicated SAB 31 (52.5%); MRSA 32 (%) and MSSA 27 (%). Infectious Diseases Consultation 95% (94.9%). 4 patients died before treatment duration was determined. Breakdown of treatment durations and clinical failures are listed in Tables 1 and 2. Appropriate duration occurred in 9 (32.1%) of patients with SAB. Overall, 14 patients experienced antibiotic adverse effects, 11 which occurred in antibiotic use for 4 weeks, 4 occurred in patients with uncomplicated SAB treated for 4 weeks. Breakdown of adverse effects: acute kidney injury 9, myositis 1, rash 1, nausea/vomiting 1, anaphylaxis 1, hypersensitivity pneumonitis 1.

Conclusion. Excess treatment duration for uncomplicated SAB was common (16%), in this study, consistent with best practice recommendations. 79% of adverse effects occurred in patients who received ≥4 week course. The results of this study suggest more efforts are needed to implement contemporary evidence-based treatment duration algorithms for uncomplicated SAB to minimize unnecessary antibiotic harm.

| Table 1: Treatment Duration and Clinical Outcomes |
|-----------------------------------------------|
| Diagnosis                                      | Shorter Duration (<4) | Appropriate Duration (>4) | Excess Duration (>4) |
| Uncomplicated SAB (≥28)                       | 1.8% (9/50)           | 9.0% (44/491)             | 10.0% (52/515) |
| Complicated SAB (≥29)                        | 3.10% (3/95)          | 26.16% (9/34)             | 29.2% (22/75) |

Clinical Outcomes

| Clinical success                                      | 4 (100%) | 28 (90%) |
|------------------------------------------------------|----------|---------|
| Appropriate bacteremia                                | 7 (100%) | 28 (90%) |
| Relapse                                              | 0 (0%)   | 0 (0%)  |
| Death                                                | 0 (0%)   | 0 (0%)  |
| Therapy change due to inadequate response           | 0 (0%)   | 0 (0%)  |

Disclosures. All authors: No reported disclosures.

183. Candidaemia in Children and Importance of Central Venous Catheter Removal

Kamile Arikan, MD1; Sevtap Arikan-Akgadh, MD2 and Ates Kara, MD3; Keçhiören Research and Training Hospital, Ankara, Turkey; Hacettepe University, Ankara, Turkey