vertebral osteomyelitis due to Candida is still rare and can be difficult to diagnosis and treat. We evaluated the incidence of vertebral osteomyelitis due to Candida species at our facility to try to identify risk factors and determine outcomes.

**Methods.** We used our electronic record databases to search for patients with a diagnosis of osteomyelitis, and a positive fungal culture. From 2006 to 2018 our hospital admitted cases of proven Candida vertebral osteomyelitis.

**Results.** Candida albicans was the most frequently isolated organism, being cultured in 10/14 (71.4%) patients, followed by C. tropicalis (2/14), C. krusei (1/14), and C. parapsilosis (1/14). The two most common risk factors for infection were injection drug use and history of previous surgical site infection (57.1%). Intravenous drug injection was the source of infection in 8/10 (80%) cases. The mortality rate was 20% (2/10).

**Conclusion.** Given the current incidence of Candida vertebral osteomyelitis, clinicians should be aware of this entity and early initiation of treatment is highly recommended.

Disclosures. All authors: No reported disclosures.

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**301. The Use of Multiplex Touchdown PCR to Genotype Catibacterium (Propionibacterium) acnes Isolated from Periprosthetic Shoulder Infections**

**Thursday, October 4, 2018: 12:30 PM**

**Background.** As biogeographic surveys of the human skin microbiome have shown that C. acnes is a major component of the residential axillary microflora, the organism is frequently isolated from synovial tissue and joint aspirates obtained from patients with suspected periprosthetic shoulder infections. We hypothesized that multilocus sequence typing (MLST) applying a prior validated rapid high-throughput multiplex PCR protocol would provide more reliable C. acnes genotypes associated with periprosthetic infections compared with convenantal strain.

**Methods.** C. acnes collected between 2015 and 2017 were correlated with the presence or absence of infection in a detailed retrospective chart review. To determine the genotype of C. acnes we used a six locus multiplex touchdown PCR assay using organism-specific primers targeting six genes (16S rDNA, ATPase, sodA, Fix toxin, apD and recA). Isolates were classified as a contaminant in the absence of multiple positive cultures from an anatomic site and without corresponding clinical, laboratory and histopathologic correlate of infection. The assignment of a diagnosis of prosthetic joint infection (PJI) confirmed to the definition recommended by the ISDAS Clinical Practice Guidelines of PJI.

**Results.** Of the C. acnes recovered from 94 patients, 14 (14.9%) were from patients with PJI. Using the six locus multiplex PCR primers we identified five (35.7%) different genotypes. As template in a six locus multiplex touchdown PCR assay using organism-specific primers targeting six genes (16S rDNA, ATPase, sodA, Fix toxin, apD and recA). Isolates were classified as a contaminant in the absence of multiple positive cultures from an anatomic site and without corresponding clinical, laboratory and histopathologic correlate of infection. The assignment of a diagnosis of prosthetic joint infection (PJI) confirmed to the definition recommended by the ISDAS Clinical Practice Guidelines of PJI.

**Conclusion.** Our results mirror those from a previous investigation using a less robust four gene MLST PCR based scheme that showed a lack of a phylogenetic association with shoulder PJI. Our report suggests that multiplex PCR composition of the circulating C. acnes sequence types in our community.

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**302. Role of Inflammatory Markers in Diagnosing Diabetic Foot Infection: A Meta-Analysis**

**Thursday, October 4, 2018: 12:30 PM**

**Background.** Diabetic foot ulcers (DFUs) cause significant morbidity and put great economic burden on patient and healthcare facilities. Infection is the main driving force behind admissions related to DFU. Culture of soft tissue or bone is invaluable in diagnosing infection but is time consuming. Inflammatory markers including erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), and procalcitonin (PCT) are rapid, simple, and inexpensive laboratory tests that can aid in early diagnosis of diabetic foot infection (DFI) and monitor response to treatment. We did a meta-analysis to compare diagnostic performance of inflammatory markers for detecting DFI.

**Methods.** We searched PubMed, Embase, and Cochrane databases from their inception to December 2017. This meta-analysis was performed according to PRISMA guidelines. We included studies based on following inclusion criteria: (1) at least one of the inflammatory markers (ESR, CRP, PCT) was evaluated; (2) patients with diabetes and DFUs were included; (3) sensitivity and specificity were measured as outcomes; and (3) sufficient data were available to construct 2 x 2 contingency table. We used bivariate random effect regression model to pool the sensitivity and specificity of the targeted biomarkers.

**Results.** Our inclusion criteria. Number of studies reporting data on each individual biomarker was as follows: 11 for ESR, seven for CRP, and five for PCT. Pooled sensitivity and specificity for ESR were calculated to be 0.84 (95% CI 0.76–0.89) and 0.82 (95% CI 0.73–0.89) with area under receiver operating characteristic curve (AUCROC) of 0.90 (95% CI 0.87–0.93). Pooled
sensitivity and specificity for CRP were found to be 0.64 (95% CI 0.46–0.80) and 0.87 (95% CI 0.75–0.93) with AUROC of 0.85 (95% CI 0.82–0.88). Pooled sensitivity and specificity for PCT were 0.74 (95% CI 0.62–0.83) with AUROC of 0.84 (95% CI 0.81–0.87).

**Conclusion.** ESR could be beneficial in ruling out infection in persons who have low suspicion of disease. For those who have high suspicion of disease, PCT could be helpful in ruling in infection. Clinicians should avoid ordering both ESR and CRP because role of CRP is limited. All inflammatory markers need standardization of threshold levels for detecting infection.

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303. Clinical Characteristics and Outcomes of Patients Naïve Septic Arthritis Caused by Methicillin-Resistant Staphylococcus aureus
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**Session:** 54. Bone and Joint Infections

**Thursday, October 4, 2018: 12:30 PM**

**Background.** To evaluate the clinical characteristics and outcomes of patients with naïve septic arthritis caused by methicillin-resistant Staphylococcus aureus (MRSA).

**Methods.** We conducted a retrospective review of adult patients with naïve septic arthritis at three tertiary-care hospitals from 2005 through 2017.

**Results.** Of the 101 patients with S. aureus naïve septic arthritis, 39 (38.6%) was identified MRSA. Compared with patients with methicillin-susceptible Staphylococcus aureus (MSSA), patients with MRSA presented more frequently with nosocomial infection (1.6% vs. 17.9%; \( P = 0.005 \)), and inappropriate antibiotics within 48h (0% vs. 74.4%; \( P < 0.001 \)). The overall 30-day mortality was 4% and tended to be higher in MRSA group (1.6% vs. 7.7%; \( P = 0.296 \)). The treatment failure was 23.8%, which was higher in the MRSA group (35.9% vs. 16.1%; \( P = 0.031 \)). The independent risk factors for treatment failure were end-stage of renal disease with hemodialysis (odds ratio [OR] = 32.07; 95% confidence interval [CI]: 2.66–385.37; \( P = 0.006 \)) and antibiotics duration less than 6 weeks (OR = 4.987; 95% CI 1.204–20.662; \( P = 0.027 \))

**Conclusion.** MRSA septic arthritis was associated with more frequent nosocomial infection and delayed treatment compared with MSSA septic arthritis. Antibiotic therapy, for less than 6 weeks, may be cautioned for S aureus septic arthritis until better outcomes are assured.

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304. Comparison of Short and Long Courses of Antibiotics in Patients with Prosthetic Joint Infection: A Systemic Review and Meta-analysis
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**Session:** 54. Bone and Joint Infections

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**Background.** Current guidelines for treatment of prosthetic joint infection (PJI) suggest a combination of intravenous (IV) antibiotics for 2–6 weeks and oral antibiotics for 3–6 months. However, recent studies did not find significant benefits from prolonged use of antibiotics for patients with PJI. We conducted a systemic review and meta-analysis to assess the outcomes of short- and long-term antibiotics in patients with PJI.

**Methods.** We designed three queries to retrieve literature of PJI from PubMed and Embase databases until December 2017. Each query comprised medical subject headings, title/abstract keywords, and exclusion terms. Two reviewers independently screened literature for three rounds and disagreements were resolved by a third reviewer. Quality of a cohort study and that of a randomized control trial (RCT) were assessed by Newcastle-Ottawa Quality Assessment Form and a modified Jadad scale respectively.

**Results.** A total of 3,309 studies were retrieved, and nine observation studies and one RCT were included for final analysis (Figure 1). Nine of the 10 studies investigated total hip arthroplasty and/or total knee arthroplasty, while one study further staged exchange arthroplasty (SEA), and two studies on mixed procedures. Eight of the 10 studies were graded as good or fair quality. All of the 10 studies found equivalent outcomes in patients prescribed with short- and long-term antibiotics, regardless of IV or oral form of antibiotics. The aggregate odds ratio (OR) in our meta-analysis was 1.04 (95% CI, 0.70, 1.55), showing no significant difference in outcomes between short-term and long-term antibiotics (Figure 2).

**Conclusion.** Our meta-analysis demonstrated that patients prescribed with short-term antibiotics for PJI had similar outcomes when compared with those prescribed with long-term antibiotics.

**Disclosures.** All authors: No reported disclosures.