

eP056

ePoster Viewing

Post-surgical and implant infections: from head to knee

MANAGEMENT AND CLINICAL OUTCOMES OF STAPHYLOCOCCUS AUREUS PROSTHETIC JOINT INFECTIONS: A RETROSPECTIVE REVIEW

S. Parsaei¹, N. Ganeshraj¹, A. Gu¹, P. Bodavula¹, J. Marschall², D. Warren¹, M. Lane¹

¹Infectious Diseases, Washington University School of Medicine, Saint Louis (MO), USA ; ²Infectious Diseases, Bern University Hospital, Bern, Switzerland

Objective: To examine the variation in management and clinical outcomes of patients with *Staphylococcus aureus* prosthetic joint infections (PJI).

Methods: A retrospective review of all patients with *Staphylococcus* PJI seen at Barnes-Jewish Hospital between July 2005 and June 2010. Potential patients were identified by discharge ICD-9-CM code for PJI (996.66) or from the Infectious Diseases clinical databases. The diagnosis of *Staphylococcus* PJI was based on intraoperative findings, cultures, and attending physician diagnosis. Patient demographics, comorbidities, microbiologic data, and treatment approach were collected. Treatment success was defined as no further readmission for PJI or related infection within 1 year of definitive surgery.

Results: Of 402 identified patients with PJI, 31% (125/402) were due to *Staphylococcus aureus*. Methicillin-sensitive *Staphylococcus aureus* (MSSA) accounted for 55% (69/125) of all identified Staphylococcal infections. Forty-six percent (26/56) of all methicillin-resistant *Staphylococcus aureus* (MRSA) and 16% of all MSSA (11/69) PJI were recurrent ($p=0.002$). Debridement and implant retention (DAIR) or partial exchange was employed in 55% (38/69) of MSSA and 36% (20/56) of MRSA PJI, and 35/69 (51%) of MSSA and 39/56 (70%) of patients with MRSA PJI received two-stage explants. Some patients received more than one surgical procedure during their admission. In comparison to patients with MSSA PJI, patients with MRSA PJI were more likely to receive antibiotics prior to admission ($p=0.04$). Vancomycin was the most commonly used antimicrobial in the management of MRSA (43/56, 77%). Ceftriaxone was the most commonly used antibiotic for patients with MSSA PJI (29/69, 42%) followed by oxacillin (20/69, 29%). Thirty percent of patients (21/69 of MSSA PJI, and 16/56 MRSA PJI) were given adjunctive rifampin therapy. Chronic suppressive therapy was given to 38% (48/125) of patients. Antibiotic therapy was well tolerated with no difference in the rates of adverse events amongst the two groups. A quarter of the total cohort (31/125, 25%) was readmitted for infection within 1 year following surgery, with admissions occurring in the early (< 3 months) post-operative period (MSSA median 72 days vs. MRSA median 42 days). However, in comparison to PJI due to other organisms, patients with MSSA (OR 0.91, 95% CI 0.49-1.67) or MRSA (OR 1.41, 95% CI 0.73-2.70) PJI were not at increased risk for readmission, even when receiving a partial exchange or DAIR.

Conclusions: Partial hardware exchange or DAIR, followed by chronic suppression with oral antibiotics, is a common approach in the management of *S. aureus* PJI. Adjunctive rifampin was not commonly used. Failures were noted in the early (< 3 months) post-operative period. However, infection with MSSA or MRSA PJI was not associated with an increased risk of readmission over the 1 year study period.