



• **Introduction and Aim:** Patients with bacteremia at time of diagnosis of PJI are thought to have worse clinical outcomes. Treatment may involve DAIR or removal of hardware with placement of an antibiotic delivery device. Prior studies suggested poorer results with DAIR in this setting, although reported concordance between blood and intraoperative cultures has been variable and direct comparisons with non-DAIR strategies are limited. We sought to compare outcomes in patients with PJI and bacteremia, focusing on surgical treatment.

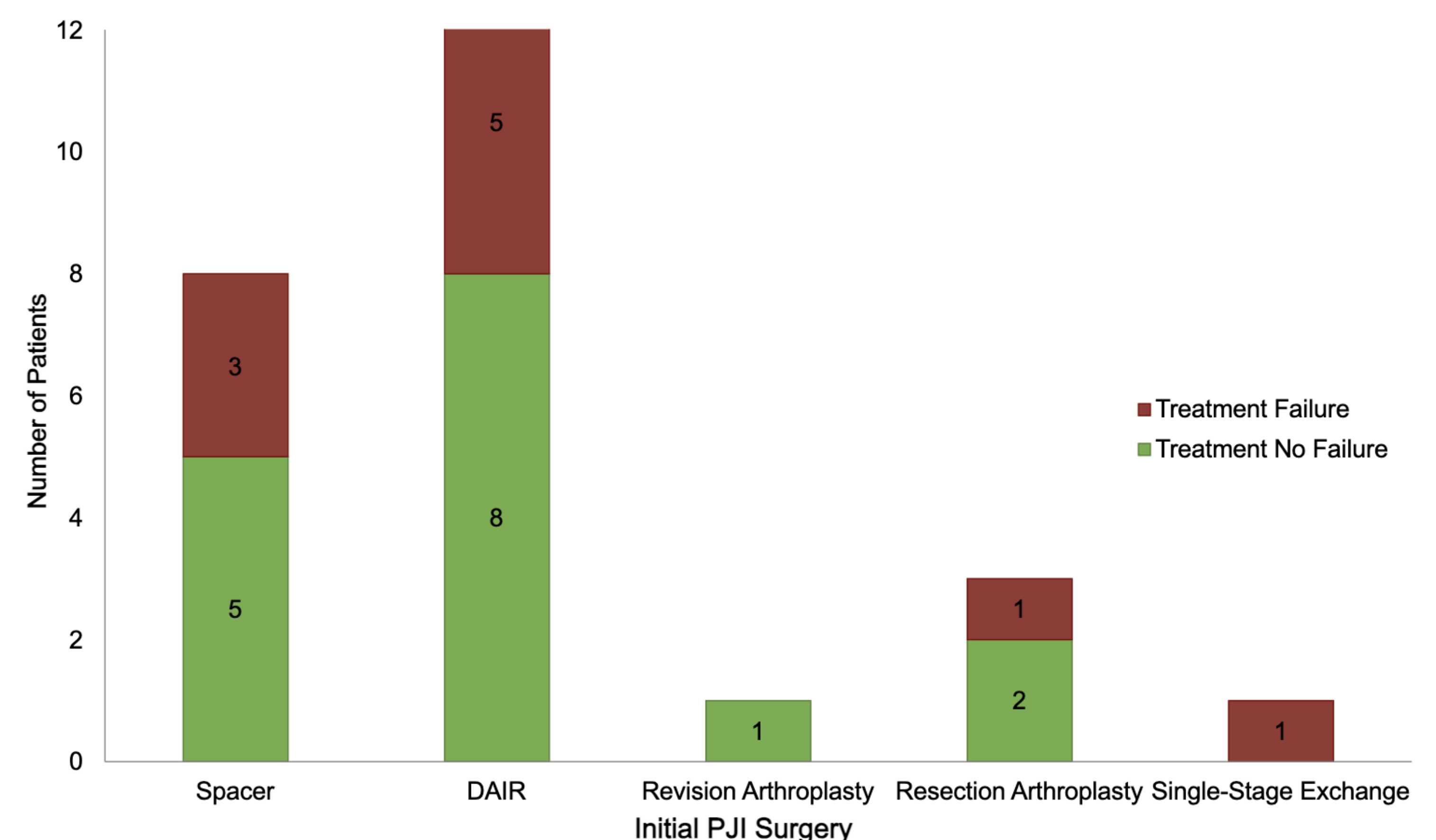
• **Methods:** We performed a retrospective review of patients >18 years diagnosed with their first episode of hip or knee PJI and concomitant bacteremia between 2017 and 2021. Comprehensive manual chart review captured demographics, clinical presentation, blood and intraoperative microbiology, surgical management, and outcomes through 2 years of follow-up. Failure was defined as recurrent infection, need for additional surgery related to PJI, amputation, or death.

• **Results:** 26 patients met inclusion criteria. Mean age was 73.3 ± 9.7 years, 53.8% were male, 76.9% white. 19 cases (73.1%) were knees and 7 (26.9%) hips. 8 patients (30.8%) had prior revision surgery, 18 (69.2%) presented more > 1 year from index arthroplasty, and 22 (84.6%) had symptoms < 3 weeks. Overall, 10/26 patients (38.5%) met criteria for failure.

• Patients who failed were older (77.7 vs 70.6 years, $p=0.068$) with higher BMI (35.3 vs 28.9, $p=0.061$). Synovial fluid WBC, polymorphonuclear percentage, peripheral WBC count, serum C-reactive protein, and fever were not associated with failure.

• Multisite infection was identified in 7 patients (26.9%), including spinal infection in 3 (11.5%). Workup for endocarditis was negative in 21/22 evaluated patients. Concordance between organisms isolated from blood and intraoperative cultures was 19/25 (76.0%). 13 patients (50.0%) underwent DAIR and 13 (50%) underwent non-DAIR procedures. *S. aureus* was the most common bloodstream pathogen (15/26, 57.7%); among these patients, 5 of 15 (33.3%) failed treatment. Death related to PJI occurred in 3 patients (11.5%), all with *S. aureus* infection.

Treatment outcomes (success vs. failure) for each type of initial PJI surgery.



Conclusion: In this single center, retrospective study, patients with PJI and bacteremia did not have worse outcomes when treated with DAIR, which differs from other reports (1,2). Blood and intraoperative culture concordance was high, and *S. aureus* was the dominant pathogen and the only organism associated with PJI-related death. More studies are needed to confirm optimal surgical interventions in this population.

Bibliography

- Abbaszadeh A, Yilmaz NK, Izadi N et al. Efficacy of Debridement, Antibiotics, and Implant Retention in Total Hip and Knee Arthroplasty: A Systematic Review and Meta-Analysis. J Arthroplasty 2026;41(1):19-38.
- Westberg M, Fagerberg OT, Snorrason F. Poor outcome after debridement and implant retention for acute hematogenous periprosthetic joint infection: a cohort study of 43 patients. Acta Orthopaedica 2023; 94:115-20.

Email: marjorie.golden@yale.edu