

Outcomes in patients with non-Staphylococcal Prosthetic Joint Infections treated with Debridement and Implant Retention (DAIR) and Suppressive Antibiotic Therapy

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Introduction:

- Prosthetic joint infections (PJI) cause significant morbidity and mortality.
- In patients with non-Staphylococcal PJI after Debridement, Antibiotics, and Implant Retention (DAIR) and initial antimicrobial treatment it is unclear whether suppressive antibiotic therapy (SAT) is of benefit and how long it should be continued.

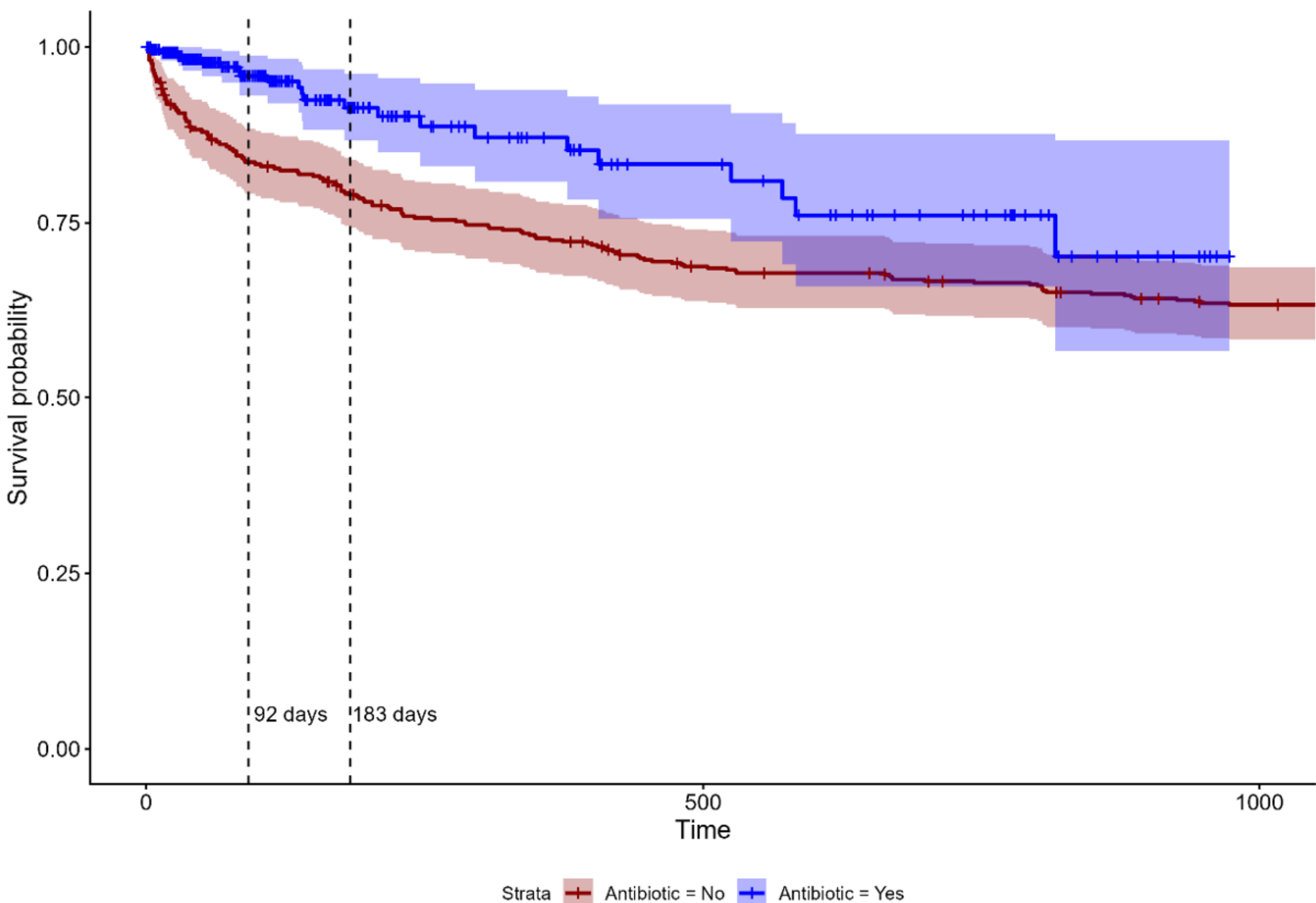
Methods:

- Retrospective cohort study of patients who underwent DAIR for PJI at Veteran’s administration (VA) hospitals in the United States between 2003 and 2017 with non-staphylococcal pathogens on culture.
- After treatment for 6 weeks, patients were placed on SAT.
- SAT was categorized as short-term SAT (0-3 months), medium-term SAT (3-6 months) and long-term SAT (6 months – 5 years)
- Patients on SAT compared to patients on no SAT.
- The primary outcome was treatment failure, defined as recurrent PJI, additional debridement, reoperation, or amputation up to 63 months after completion of initial antibiotic therapy.
- Extended Kaplan-Meier curves were created for the SAT and no SAT groups where death or drop out were treated as censoring variables.

Results:

- Among 468 patients 24.4% received short-term SAT ,12.2% received medium-term SAT, 19.0% received long-term SAT and 44.4% received no SAT.
- The most common pathogens causing PJI were Streptococcal species (42.1%) and Gram-negative organisms (24.8%).
- Treatment failure occurred in 37% patients.
- In an adjusted model receipt of short-term SAT (0-3 months) was significantly associated with decreased hazard of treatment failure (adjusted HR= 0.26; 95% CI:0.12, 0.56; p=0.001).

Augmented Kaplan-Meier curve, time to treatment failure, SAT vs. No SAT (time in days); SAT time period boundaries marked at 92 and 183 days.



Conclusion:

- In patients with non-Staphylococcal PJI treated with DAIR and 6 weeks of initial antibiotics short term SAT (0-3 months) decreased the hazard of treatment failure.

