

Impact of Establishing a Multidisciplinary Committee on Osteoarticular Infections on the Trend of Prosthetic Revision at a Tertiary Care Hospital.

INTRODUCTION:



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Protesi joint infection (PJI) following total hip arthroplasty (THA) or total knee arthroplasty (TKA) is one of the most serious complications of prosthetic surgery and has a **significant impact on morbidity and mortality**, the need for reoperations and healthcare costs. Its management is complex due to clinical and microbiological heterogeneity, as well as the **need to integrate surgical and antimicrobial decisions**.

In recent years, there has been a push to establish **multidisciplinary teams** specialising in prosthetic infection, comprising orthopaedic surgeons, infectious disease specialists and microbiologists, with the aim of optimising the diagnosis and treatment of these patients. This approach may facilitate the early identification of infections and the application of conservative strategies such as debridement with implant retention (DAIR) in selected acute infections.

OBJECTIVES:

PRIMARY: Evaluate the impact of **establishing a multidisciplinary committee** for prosthetic joint infection (PJI) on the **incidence of DAIR procedures** following TKA and/or THA in a tertiary care hospital.

SECONDARY: to assess possible **changes in the clinical presentation** of the infection, in **intraoperative microbiological management** and in the **duration of antibiotic treatment** were analysed.

MATERIALS AND METHODS:

Design: retrospective observational pre-post study.

Population: all primary hip and knee arthroplasties performed during two six-month periods.

Intervention: introduction of a multidisciplinary team specialising in prosthetic infection.

Variables: joint, sex, side, presentation, interval to DAIR, positive cultures, microorganisms, mobile-component exchange and antimicrobial therapy.

Analysis: comparative non-parametric tests.

Period	Dates	DAIR
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Pre	Sep 2024–Feb 2025	3
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Post	Sep 2025–Feb 2026	7
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MULTIDISCIPLINARY COMMITTEE
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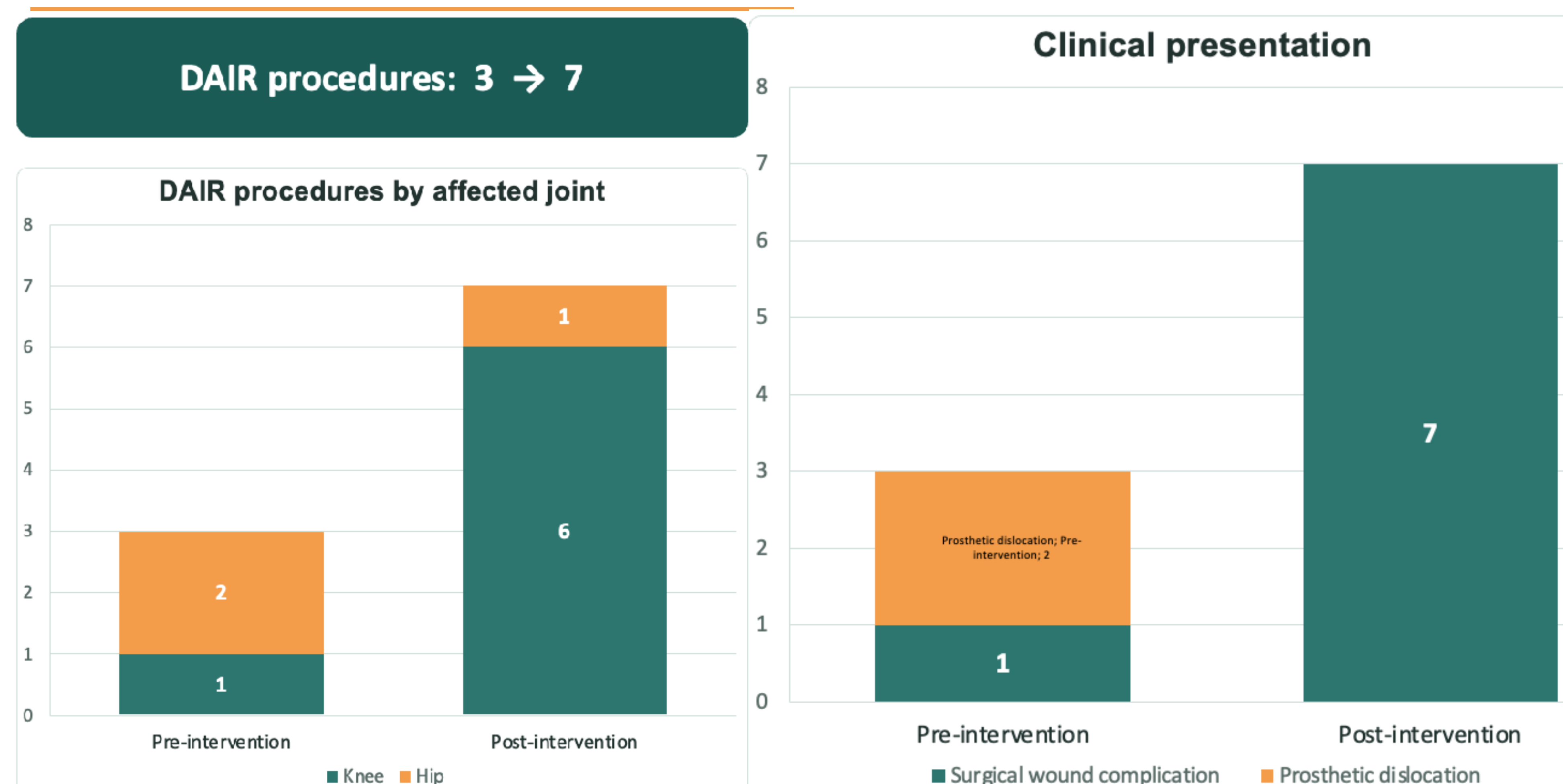
The affected joint, clinical presentation, timing of DAIR, culture yield, isolated microorganisms, exchange of mobile components and antibiotic therapy were compared between periods.

CONCLUSIONS:

The establishment of a multidisciplinary PJI committee was associated with **changes in the diagnostic and therapeutic approach to periprosthetic infection**, with an observed increase in DAIR procedures and a shift towards diagnosis based on signs of surgical wound complications.

More positive cultures and longer antibiotic courses were also observed, potentially reflecting more structured diagnostic and therapeutic management.

RESULTS:



Significant change in presentation: $p = 0.016$

In the pre-intervention period, presentation was dominated by prosthetic dislocation (2 cases), with 1 surgical wound complication. In the post-intervention period, all 7 cases were diagnosed through surgical wound complications.

The interval from primary surgery to DAIR did not differ significantly between periods. Antibiotic treatment was numerically longer after implementation of the committee, although the difference did not reach statistical significance. One treatment failure occurred in each period.

Outcome	Pre	Post
Interval to DAIR, days (reported median)	19.7	23.3
Positive cultures (reported median)	2	3.14
Antibiotic duration, weeks (reported median)	4	9.8
Treatment failure, n	1	1

No significant difference in time from **primary surgery to DAIR**.

Trend towards more positive cultures in the post-intervention period. **Longer antibiotic courses** after committee implementation; **not statistically significant**.