

FROM SYNCHRONOUS BILATERAL HIP PERIPROSTHETIC JOINT INFECTION TO REFRACTORY UNILATERAL FAILURE: DIVERGENT OUTCOMES AFTER IDENTICAL INITIAL MANAGEMENT

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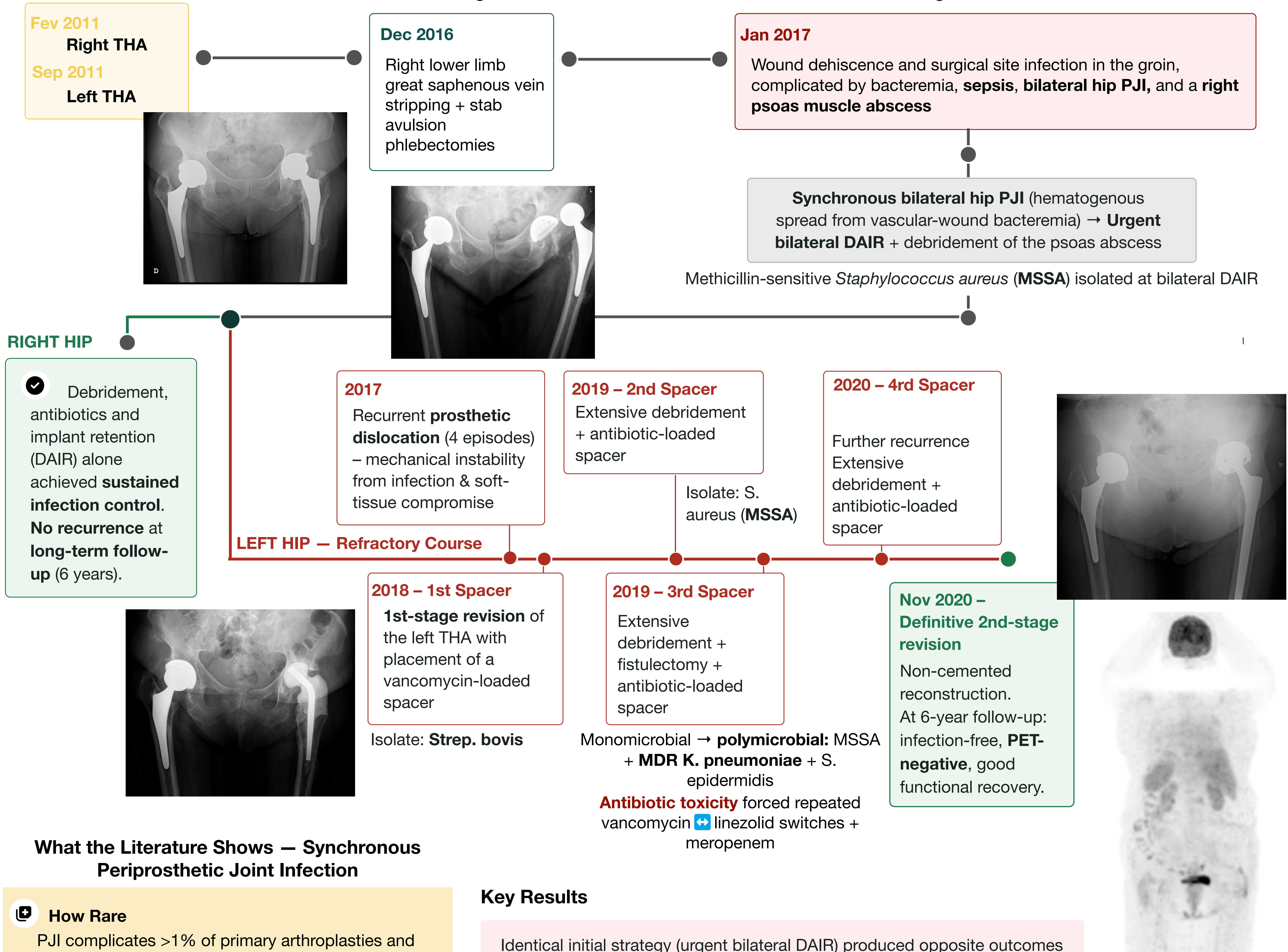
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Introduction & Aim

Prosthetic joint infection (PJI) affecting multiple joints is a rare but serious complication following arthroplasty, frequently associated with bacteremia and high mortality. Most cases are **metachronous**, with different joints becoming infected at separate points in time, whereas **synchronous PJI** — the simultaneous infection of ≥ 2 joints — is exceptionally rare and remains a distinct, poorly characterised entity.

We report a case of synchronous bilateral hip PJI secondary to bacteremia from a distant surgical-site infection, contextualised within the current literature, to highlight divergent responses to identical management and the factors underlying treatment failure, recurrence, and successful salvage.

Case Course — Divergent Outcomes After Identical Initial Bilateral Management



What the Literature Shows — Synchronous Periprosthetic Joint Infection



How Rare

PJI complicates $>1\%$ of primary arthroplasties and synchronous infection of ≥ 2 joints is even more rare. Largest published series (Gausden et al., Mayo Clinic, 1990–2018; n=34): most cases were bilateral knees (n=27); bilateral hip involvement accounted for only 4 of 34 cases.



Who is at Risk

Recurring risk factors: ≥ 3 prosthetic joints, rheumatoid arthritis, neoplasia, bacteremia, and immunomodulatory therapy



Outcomes & Mortality

18% 30-day mortality, 35% ICU admission

Key Results

Identical initial strategy (urgent bilateral DAIR) produced opposite outcomes in the two joints.

Right hip: single-stage DAIR was curative — no reinfection on long-term follow-up.

Left hip: refractory course requiring 4 spacer exchanges and 2-stage revision before control was achieved.

Management required prolonged hospitalisation (**362 days of hospitalisation**), multiple antimicrobial courses (**416 days of antimicrobial therapy**) and close multidisciplinary coordination.

Despite repeated surgical failure, resistant organisms and prolonged IV therapy, definitive reconstruction and full infection control were ultimately achieved.