

COMPLICATIONS IN RHEUMATOID ARTHRITIS PATIENTS FOLLOWING KNEE JOINT REPLACEMENT: FINDINGS FROM A 26-WEEK PROSPECTIVE REAL-WORLD COHORT STUDY

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Background: Knee joint replacement (KJR) is often required in advanced rheumatoid arthritis (RA) due to severe joint destruction and disability. While modern surgical techniques and perioperative care have improved outcomes, RA patients remain at elevated risk of complications compared to the general osteoarthritis population, owing to systemic inflammation, comorbidities, and immunosuppressive therapy. Real-world prospective data on early postoperative outcomes in RA is limited.

Objectives: To assess the incidence, type, and predictors of complications in RA patients during the first 26 weeks after knee joint replacement in a real-world clinical setting.

Methods: A prospective, single-center observational study enrolled 34 RA patients (mean age 58.4 ± 7.2 years, 82% female) undergoing primary KJR. Patients were evaluated preoperatively and at 6, 13, and 26 weeks postoperatively. Clinical indices (DAS28, CDAI), functional outcomes (KOOS, HOOS, MDHAQ, RAPID3), and laboratory markers (CRP, ESR) were recorded. Complications were classified as surgical (infection, prosthesis-related), thromboembolic, cardiovascular, or systemic.

Results: Within 26 weeks, complications were observed in 11 patients (32.3%). The most frequent were: delayed wound healing (n=4, 11.7%), superficial infection (n=3, 8.8%), and deep vein thrombosis (n=2, 5.8%). One patient (2.9%) developed periprosthetic joint infection requiring revision. Minor systemic complications included anemia (n=3) and transient liver enzyme elevation (n=2), largely associated with ongoing DMARD/biologic therapy. Higher baseline DAS28 (>2.6) and elevated CRP (>10 mg/L) were significantly associated with increased postoperative complications ($p < 0.05$). Functional outcomes improved significantly across all groups despite complications (KOOS +28 points, $p < 0.001$).

Conclusions: In this real-world 26-week prospective study, nearly one-third of RA patients experienced postoperative complications following knee joint replacement, with infections and delayed wound healing being the most common. Elevated baseline disease activity and systemic inflammation were predictors of adverse outcomes. These findings underscore the importance of optimal preoperative RA control and multidisciplinary perioperative management to reduce complication risk.