Prospective, Single-Center, Randomized Controlled Study Comparing Non-Resurfacing vs. Resurfacing in a Cohort of 250 PS TKA with a Minimum 5-Year Follow-Up

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INTRODUCTION:
Despite extensive research, optimal management of the patella during total knee arthroplasty (TKA) remains controversial. This study compared minimum five-year clinical and radiological outcomes of modern posterior-stabilized TKA performed with or without patellar resurfacing.
METHODS:
This single-center prospective randomized trial included 250 knees (245 patients) undergoing primary TKA between April 2017 and November 2018. Exclusion criteria were isolated patellofemoral osteoarthritis, constrained TKA, and preoperative flexion <90°. Patients were randomized into patellar resurfacing (PR) or patellar non-resurfacing (PNR) groups, all receiving the same posterior-stabilized “patella-friendly” prosthesis. Clinical evaluation at five-year follow-up included the Knee Society Score (KSS), Forgotten Joint Score (FJS), Kujala and Lille scores for anterior knee pain, and range of motion. Radiographic assessment evaluated patellofemoral osteoarthritis progression and patellar implant loosening. Complications and surgical revisions were recorded.
RESULTS:
Two hundred and thirteen knees (109 in group R, 104 in group PNR) were available with five-year follow-up (9% lost to follow-up and 4% deceased). Clinical outcomes showed no significant differences between groups (KSS knee p=0.10; KSS function p=0.19; FJS p=0.24; Kujala p=0.36; Lille p=0.43). Radiographically, 87% of PNR patients had an Iwano score ≤ 2. No radiolucent lines appeared in group R. Five patients (4.5%) in group PNR required secondary patellar resurfacing, whereas two patients (1.8%) in group R required revision of the patellar button. The revision rate for patellofemoral causes was 3.8%, without significant difference between groups (p=0.16). At 60 months, implant survival was similar between PR (93.6%) and NPR (91.8%; p=0.96).
DISCUSSION AND CONCLUSION: This large prospective randomized study confirms no clear clinical benefit from routine patellar resurfacing at five years. While resurfacing may reduce anterior knee pain, it carries risks such as fracture and tracking issues. A selective "à la carte" approach seems reasonable. Routine resurfacing cannot be universally recommended with a "patella-friendly" prosthesis.