Outcomes of Revision Total Knee Arthroplasty for Arthrofibrosis: The Negative Consequences of Prior Intervention

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INTRODUCTION:
Arthrofibrosis is a post-operative complication associated with total knee arthroplasty (TKA), characterized by pain and stiffness. Treatment options include manipulation under anesthesia (MUA), arthroscopic lysis of adhesions (LOA), and revision TKA. The purpose of this study was to determine if prior operative interventions have a negative impact on outcomes following revision TKA for arthrofibrosis.
METHODS:
The PearlDiver Mariner database was queried by Current Procedural Terminology (CPT) and International Classification of Disease (ICD) codes to identify patients who underwent revision TKA for arthrofibrosis. Patient cohorts included revision TKA with prior LOA, revision TKA with prior MUA, and revision without prior intervention. Outcomes included incidence of re-revision, hospital readmission, periprosthetic joint infection (PJI), acute kidney injury, and blood transfusion. Regression analyses were performed to determine predictors of re-revision.
RESULTS:
Eight thousand eight hundred seventy-two patients who underwent a revision TKA with a pre-operative diagnosis of arthrofibrosis were included. The MUA cohort was comprised of 1,052 (11.9%) patients, the LOA cohort was comprised of 491 (5.5%) patients, and the control cohort was comprised of 7,329 (82.6%) patients who had no prior MUA or LOA. Compared to patients without prior MUA or LOA, the incidence of re-revision at 2-year follow up was significantly higher in both the MUA cohort (17.5% vs. 12.7%; OR 1.45, $P < 0.0001$) and the LOA cohort (19.6% vs. 12.7%; OR 1.66, $P < 0.0001$). The LOA cohort also had a significantly higher incidence of infection 90 days following index revision TKA when compared to the control cohort (16.3% vs. 12.2%; OR 1.40, $P < 0.05$).
DISCUSSION AND CONCLUSION:
Patients who undergo revision TKA for arthrofibrosis are more likely to require re-revision surgery if they have undergone prior MUA or LOA. Prior LOA also increases the risk of PJI following revision TKA. Surgeons should consider revision TKA as the first line of treatment for arthrofibrosis following primary TKA rather than a stepwise approach.