

EDITORIAL**Remarks on Some Relevant Recent Reflections about Revision Total Knee Arthroplasty**E. Carlos Rodriguez-Merchan, MD, PhD¹¹ Department of Orthopedic Surgery, La Paz University Hospital-IdiPaz, Madrid, Spain

Lately, several interesting papers have been reported on revision total knee arthroplasty (RTKA). It is relevant that these papers are read by orthopedic surgeons devoted to knee surgery and, generally, by all orthopedic surgeons; consequently, I have considered it important to write this editorial. My purpose is that with this new information, we can get better outcomes for our patients when they experience RTKA.

Preoperative opioids taken before TKA augment the peril of early RTKA

In 2018, Bedard et al had observed that preoperative use of opioids augmented the peril of early RTKA. Younger age, obesity, and smoking were also related to an augmented peril. Bedard et al identified 35,894 patients with primary total knee arthroplasty (TKA), of which 1.2% underwent RTKA (29.2% of the patients had taken opioids in the 3 months prior to the TKA). Patients who took opioids preoperatively were significantly more likely to require an early RTKA (1.6% vs. 1%). These findings suggest reducing or eliminating the prescription of opioids before the implantation of a primary TKA (1).

In 2018, Weick et al had also found that preoperative opioid use augmented the risk of early RTKA. Patients who did not take opioids before TKA had a statistically significantly lower revision percentage than those with >60 days of preoperative opioid use (at 1 year: 1.07% compared with 2.14%; at 3 years: 2.58% compared with 5%). This study showed the augmented peril of poor outcomes in patients taking opioids for a long time before primary TKA (2).

Previous knee arthroscopy augments the peril of revision after primary TKA

It has been stated by Gu et al that prior arthroscopy of the knee is significantly related to an augmented rate of RTKA in the first 2 years after primary TKA (3). The outcomes of the aforementioned publication showed

that arthroscopy before TKA substantially augmented the percentages of revision, periprosthetic joint infection, aseptic loosening, and stiffness. These data suggest that the degenerative pathology of these patients should be treated nonsurgically until a TKA is decided upon. Performing arthroscopy on these patients provides little benefit and does so at the expense of poorer results when they need a TKA in the future. This study assessed 138,019 patients; of these, 3357 (2.4%) underwent knee arthroscopy before TKA and 134,662 (97.6%) did not. The most frequent cause for knee arthroscopy was osteoarthritis (40%), followed by medial meniscus tears (26%) and chondromalacia (21%). Previous knee arthroscopy was related to a higher rate of revision, postoperative stiffness, periprosthetic joint infection, and aseptic loosening (3).

Failure of a previous debridement, antibiotics, irrigation and implant retention (F-DAIR) leads to twice the risk of failure compared with a direct two-stage RTKA

In 2018, Rajgopal et al had observed that in infected TKA, F-DAIR was related to twice the risk of failure compared with direct two-stage RTKA. These authors divided 184 knees into 2 groups: those subjected to previous F-DAIR (88 knees) and those in which a direct two-stage RTKA was performed (96 knees). The follow-up was 5.3 years on average; the failure rate was 24% in the F-DAIR group and 16% in the two-stage RTKA group. This study showed that a previous F-DAIR has higher failure rates than when performing a direct two-stage RTKA (4).

The utilization of high-viscosity cement in primary TKA is related to a higher chance of revision by aseptic loosening than with the utilization of low-viscosity cement

In 2019, Buller et al had found that primary TKA performed with high-viscosity cement (HVC) was related

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to greater probabilities of revision by aseptic loosening than when low-viscosity cement (LVC) was used. In this study, 10,014 patients were divided into 2 groups: those in whom HVC was used and those in whom LVC was used. The parameters studied were age, body mass index (BMI), preoperative diagnosis, antibiotics in the cement, and implant type. Revision for aseptic loosening was greater in the HVC group (2%) than in the LVC group (1%). Logistic regression showed that HVC was related to higher probabilities of revision by aseptic loosening (5).

In aseptic RTKA, the patellar component can be ignored

In aseptic RTKA, we often wonder what to do with the previous patellar component. Shield et al have analyzed a series of aseptic RTKAs in which one or both components (femoral, tibial) were revised, but not the patellar component. Shield et al had evaluated 130 RTKAs performed on 122 patients with an average age of 70 years, in which the patellar component was not revised. The average BMI was 31 kg/m². The minimum follow-up was 5 years (range, 5–12 years). Femoral and tibial components were revised in 50 joints, femoral solely in 11 knees, tibial only in 12 knees; in 57, solely polyethylene was revised. No reoperation was necessary

due to problems with the patellar component. These authors recommended that the patellar component be ignored in aseptic RTKAs (6).

Patients <55 years undergoing aseptic RTKA have a high risk (33%) of revision

In 2019, Chalmers et al had observed that patients ≤50 years undergoing aseptic RTKA have a 33% risk of revision. They analyzed 135 nononcological RTKAs performed in patients of 50 years or less. Their age was 43 years on average, and their BMI was 31 kg/m² on average. The follow-up was 7 years on average. The main indications for revision surgery were instability (47%), aseptic loosening (29%), and arthrofibrosis (9%) (7).

Also in 2019, Charette et al had found a greater percentage of early revision after primary TKA in patients younger than 55 years. They studied 4259 primary TKAs carried out over a 4-year period. Of them, 741 TKAs had been implanted in patients younger 55 years. Patients less than that age had a significantly greater cumulative revision percentage at 1 year (3.4% vs 1.8%), at 2 years (5% vs 2.4%), and at 5 years (7.3% vs 3.7%). Young patients who are going to have TKA surgery must be informed of the early risk of reoperation (8).

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