

## **Rheumatoid Arthritis Does Not Increase Perioperative Complications following Same-Day Bilateral Total Knee Arthroplasty**

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**Introduction:** The severely arthritic knee secondary to rheumatoid arthritis (RA) can be a major disability for adults, impeding ambulation and limiting functional independence. Bilateral preoperative flexion contractures, multiplanar and multiple-joint deformities along with lower health status in RA compared to osteoarthritis (OA) patients may pose a surgical dilemma to the surgeon. We compared the (1) 30-day mortality, (2) rates of in-hospital complications, and (3) risk for major morbidity or mortality between RA and OA patients undergoing same-day bilateral TKA (BTKA), in a high-volume subspecialty setting where the performance of same-day BTKAs was discouraged in patients with more severe medical comorbidities.

**Methods:** We analyzed institutional data from 240 RA and 3680 OA patients undergoing same-day BTKAs between 1998 and 2011. Patient demographics including Deyo comorbidity index and 30-day mortality were tabulated. In general, RA patients were younger ( $60.9 \pm 11.8$  versus  $65.4 \pm 8.4$  years;  $p < 0.001$ ) but had higher overall comorbidity burden ( $0.9 \pm 1.0$  versus  $0.3 \pm 0.7$ ;  $p < 0.001$ ). A higher percentage of RA patients were female (82.9% versus 60.2%;  $p < 0.001$ ). Outcomes of interest included procedure-related, minor or major complications, blood transfusions, and transfer to rehabilitation or higher level of care.

**Results:** The mean LOS was higher in the RA cohort ( $5.8 \pm 2.3$  versus  $5.4 \pm 2.0$  days;  $p = 0.007$ ). There was no difference in 30-day mortality rate between the RA and OA same-day BTKA patients (0% versus 0.03%;  $p = 0.798$ ). The RA group was more likely to have acute postoperative anemia (17.1% versus 8.1%;  $p < 0.0001$ ) and blood transfusions (84.2% versus 76.5%;  $p = 0.008$ ), but had similar rates of transfer to a higher level of care (ICU: 0.8% versus 0.7%, and rehabilitation: 77% versus 72%;  $p = 0.2$ ). There were no differences in the overall rates of procedure-related (2.2% versus 1.7%;  $p = 0.644$ ), minor (23.7% versus 26.6%;  $p = 0.327$ ) and major complication (6.2% versus 5.2%;  $p = 0.463$ ) between the RA and OA cohorts.

**Conclusion:** In this retrospective study, performed in a high-volume institution, and in which same-day BTKA patients were generally much healthier and younger, we found that same-day BTKA appeared to be safe in the RA patient population.

