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 ± 11.8 versus 65.4 ± 8.4 years; p < 0.001) but had higher overall comorbidity burden (0.9 ± 1.0 versus 0.3 ± 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 ± 2.3 versus 5.4 ± 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.