Perioperative Angiotensin Receptor Blocker (ARB) Use Shows Decreased Rates of Manipulation Under Anesthesia (MUA) and Revisions After Total Knee Arthroplasty (TKA)

ABSTRACT

Purpose: To compare rates of manipulation under anesthesia (MUA) and revision total knee arthroplasty (TKA) in patients undergoing TKA with versus without perioperative use of an angiotensin-receptor blocker (ARB).

Materials and Methods: Embase, MEDLINE, and PubMed were searched in accordance with the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Peer-reviewed studies with a minimum follow-up period of 90 days comparing rates of MUA and revision surgery in patients undergoing TKA with versus without perioperative use of an ARB were included. **Included** studies were evaluated for quality using the Methodological Index for Non-Randomized Studies (MINORS) criteria. Patient demographics, co-morbidities, and outcomes were extracted from the included studies.

Results: Six studies consisting of 997,086 control patients and 129,874 patients who received perioperative ARB were included. All included studies were level III evidence. Patients taking an ARB had higher rates of diabetes (42% vs. 28%), hypertension (87% vs. 58%), obesity (34% vs. 23%), and hypercholesterolemia (63% vs. 35%) compared to the control group. The rate of MUA across control patients ranged from 2.8% - 7.6%, compared to 2.5% - 6% in patients taking

an ARB. The rate of revision TKA across control patients ranged from 1.4% - 7.6%, while the rate for patients taking an ARB ranged from 1.14% - 1.3%.

Conclusion: Perioperative ARB use showed decreased rates of MUA and revisions after TKA. Higher-level studies need to be conducted to determine whether ARBs should be prescribed for the sole purpose of preventing arthrofibrosis.