

**Introduction:** Unicompartmental knee arthroplasty (UKA) is an established procedure for selected patients with unicompartmental osteoarthritis. Robotic-assisted UKA (RA-UKA) has been introduced to improve accuracy of implant positioning. However, its clinical advantage over conventional UKA remains uncertain. This study aimed to compare postoperative complications between robotic-assisted and conventional techniques.

**Methods:** We conducted a retrospective cohort study of patients who underwent primary UKA between 2012 and 2022, with  $\geq 2$  years of follow-up. Demographic, surgical, and complication data were analyzed. Due to the small number of events, statistical comparisons are exploratory and underpowered.

**Results:** A total of 208 patients underwent UKA, of whom 190 (91.3%) were available at follow-up. The mean age was 65.7 years (SD 10.7), and 52.6% were women. Eighty-four procedures (44.3%) were RA-UKA. Ten complications (5.2%) occurred, most commonly arthrofibrosis and deep vein thrombosis. One intraoperative periprosthetic fracture was observed in the conventional group. Complication rates were 1.2% in RA-UKA versus 8.5% in conventional UKA ( $p=0.29$ ), but this difference did not reach statistical significance. Notably, comorbidities were more prevalent in the RA-UKA group (50% vs. 7.6%).

**Conclusion:** UKA demonstrated a low complication rate at two-year follow-up. While fewer events were observed after RA-UKA, this study is underpowered and no statistically significant differences were found. These findings reinforce the overall safety of UKA but do not provide evidence of superiority of robotic assistance. Larger, prospective studies are required to clarify whether RA-UKA offers clinically meaningful benefits.