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CONTROVERSIAL ISSUES & CURRENT CONCEPTS

The survivorship of unicompartmental knee arthroplasty is poorer compared with total knee arthroplasty

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Knee replacements are effective for the treatment of severe osteoarthritis.[1] The interest in unicompartmental knee arthroplasty (UKA) has increased again in the recent years.[2,3] Application of UKA via a smaller incision has some advantages such as less pain, quicker recovery, and shorter hospital stay. It was also reported that improved functional outcomes, range of motion, and return to activity were found after UKA in early follow-up.[2,3]

In a multicenter retrospective cohort study, time period between stopping work and returning to work following UKA and total knee arthroplasty (TKA) was assessed with Work, Osteoarthritis, or joint-Replacement Questionnaire, Work Ability Index, and satisfaction with work ability. More UKA patients returned to work within three months (73% versus 48%) ($p<0.01$). However, in two years, return to work, WORQ, WAI, and satisfaction scores were similar in both UKA and TKA.[4]

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Furthermore, UKA survivorship is lower than TKA survivorship in 27-year Finnish registry study.[5] From this cohort, the authors calculated Kaplan-Meier survivorship for revision performed for any reason. It was 89.4% at five years, 80.6% at 10 years, and 69.6% at 15 years for UKAs; the corresponding rates for TKAs were 96.3%, 93.3%, and 88.7%, respectively. The survivorship of UKA is poorer compared with TKA in all arthroplasty register reports.[6-10]

In our studies, we also found that the revision rates of UKAs were higher than those of TKAs rates as reported in the literature.[11,12]

There are several meta-analyses and systematic reviews in the literature regarding this issue. Sun and Su[13] concluded that conversion of UKA to TKA is associated with poorer clinical outcomes than primary TKA. They also reported that conversion of UKA to TKA is more complicated than performing primary TKA.

Lee et al.[14] found that the revised UKA to TKA had longer operation times resulting from additional procedures such as bone grafting and use of stems and augments. They also reported worse postoperative clinical outcomes based on the Western Ontario and McMaster Universities Osteoarthritis Index and Oxford Knee Score than the primary TKA.

In their meta-analysis, Zuo et al.[15] reported that compared with primary TKAs, TKAs revised from UKAs had inferior clinical outcomes.

Moreover, Wilson et al.[16] reported that TKA and UKA are both viable options for the treatment of isolated unicompartmental osteoarthritis. However, the risk of revision surgery was lower for TKA.

In their 8-to-17 year follow-up study, Järvenpää et al.[17] suggested that UKA conversion to TKA is associated with poorer clinical outcomes compared to primary TKA.

Finally, in a recent study with systematic review and meta-analysis of case series and national registry reports with pooled registry data, Evans et al.[18] showed that approximately 82% of TKAs last 25 years and 70% of UKAs last 25 years.

Therefore, until we have convincing scientific data in terms of greater safety and efficacy for UKA, it should not be used in marketing by orthopedic surgeons.

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