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EDITORIAL

Total versus unicompartmental knee arthroplasty

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One of the most significant achievements in orthopedic surgery in the 20th century was the introduction and further development of total knee arthroplasty (TKA).[1,2]

Recently, medial unicompartmental knee arthroplasties (UKAs) are commonly used in the treatment of isolated end-stage anteromedial osteoarthritis.[3-5]

The UKA survivorship is poorer compared to TKA in all arthroplasty registries.[6-11] It is lower than TKA survivorship in 27-year Finnish registry study.[6] From this cohort, the authors calculated the 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, while the corresponding rates for TKAs were 96.3%, 93.3%, and 88.7%, respectively.

Recently, in a retrospective study, Ma et al.[12] compared the mid-term outcomes of UKA that was performed in one knee and TKA performed in the other knee in the same patient and the same stage. According to the study results, TKA was found to be superior to UKA in terms of the Hospital for Special Surgery (HSS) Knee score, Joint Forgotten Score (JFS), Knee Injury and Osteoarthritis Outcome Score (KOOS), and Visual Analog Scale (VAS) score. Complications were comparable between the groups; however, UKA had a higher rate of prosthesis revision. After a follow-up of at least five years, more patients preferred TKA.[12]

Finally, in a recent systematic review and meta-analysis of case series and national registry reports with pooled registry data, Evans et al.[13] showed that approximately 82% of TKAs lasted 25 years and 70% of UKAs lasted 25 years.

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

REFERENCES

1. Abonyi B, Pap K, Gal T, Vasarhelyi G, Udvarhelyi I, Hangody L. A comparison of SanatMetal Sanat Swing and Zimmer NexGen® total knee implants: 10-year postoperative follow-up results. Jt Dis Relat Surg 2021;32:10-6. doi: 10.5606/ehc.2021.76756.
2. Stotter C, Reiter E, Schretter W, Reuter P, Nehrer S, Klestil T. Influence of the femoral entry point for intramedullary alignment in total knee arthroplasty: A computer-aided design approach. Jt Dis Relat Surg 2022;33:294-302. doi: 10.52312/jdrs.2022.645.
3. Ma J, Zhang L, Wang C, Xu K, Ren Z, Wang T, et al. The mid-term outcomes of mobile bearing unicompartmental knee arthroplasty versus total knee arthroplasty in the same patient. Front Surg 2023;10:1033830. doi: 10.3389/fsurg.2023.1033830.
4. Ruangsomboon P, Paugchawee J, Narkbunnam R, Chareancholvanich K, Pornrattanamaneewong C. The factors influencing the component sizes in Oxford Phase 3 unicompartmental knee arthroplasty. Jt Dis Relat Surg 2022;33:505-12. doi: 10.52312/jdrs.2022.786.

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5. Çabuk H, Turan K, Muratoğlu OG, Ergün T, Öztürk Ç, Ertürer RE. Comparison of the radiological parameters between dynamic-referencing tactile guidance robotic system and Microplasty® instrumentation in unicompartmental knee arthroplasty. Jt Dis Relat Surg 2022;33:580-7. doi: 10.52312/jdrs.2022.742.
6. Niinimäki T, Eskelinen A, Mäkelä K, Ohtonen P, Puhto AP, Remes V. Unicompartmental knee arthroplasty survivorship is lower than TKA survivorship: A 27-year Finnish registry study. Clin Orthop Relat Res 2014;472:1496-501. doi: 10.1007/s11999-013-3347-2.
7. The Australian National Joint Replacement Registry. Annual Report 2012. Available at: https://aoanjrr.dmac.adelaide.edu.au/annual-reports-2012. [Accessed: August12, 2013].
8. The National Joint Registry of England, Wales and Northern Ireland. 9th Annual Report 2012. Available at: http://www.njrcentre.org.uk/njrcentre/Portals/0/ Documents/England/Reports/9th_annual_report/NJR%209th%20Annual%20Report%202012. [Accessed: September 22, 2013].
9. The New Zealand Joint Registry. Thirteen Year Report: January 1999 to December 2011. Available at: http://nzoa.org.nz/system/files/NJR%2013%20Year%20Report.pdf [Accessed: August 10,2013].
10. The Norwegian Arthroplasty Register. Annual Report 2011. Available at: http://nrlweb.ihelse.net/eng/Report_2010.pdf. [Accessed: August 10, 2013].
11. The Swedish Knee Arthroplasty Register. Annual Report 2012. Available at: http://www.knee.nko.se/english/online/uploadedFiles/117_SKAR_2012_Engl_1.0.pdf [Accessed: August 10, 2013].
12. Ma J, Zhang L, Wang C, Xu K, Ren Z, Wang T, et al. The mid-term outcomes of mobile bearing unicompartmental knee arthroplasty versus total knee arthroplasty in the same patient. Front Surg 2023;10:1033830. doi: 10.3389/fsurg.2023.1033830.
13. Evans JT, Walker RW, Evans JP, Blom AW, Sayers A, Whitehouse MR. How long does a knee replacement last? A systematic review and meta-analysis of case series and national registry reports with more than 15 years of follow-up. Lancet 2019;393:655-63. doi: 10.1016/S0140-6736(18)32531-5.