

Functional Results Of Total-Knee Arthroplasty Versus Medial Unicompartmental Arthroplasty: Five-Year Results Of A Randomised, Controlled Trial

Orthopaedics / Knee & Lower Leg / Joint Replacement - Primary

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Background

Medial compartment osteoarthritis (OA) can be treated with either a partial knee replacement (PKR) or a total knee replacement (TKR). In PKR, only the affected compartment of the knee is replaced. In contrast, TKR involves replacing both the medial and lateral compartments, as well as the patellofemoral sulcus. However, not all patients are fully satisfied with the outcome, as 15–25 % experience residual symptoms that reduce their satisfaction and affect their patient-reported outcome measurements.

Objectives

The primary aim of this trial was to evaluate the clinical effectiveness of medial PKR compared to TKR in patients with isolated medial compartment OA of the knee.

Study Design & Methods

This study was designed as a prospective, randomized, assessor-blind, multicenter superiority trial. 143 patients with symptomatic-isolated medial end-stage osteoarthritis of the knee were recruited and randomized 1:1 to receive PKR or TKR. All the patients were suitable for both procedures and a similar midline skin incision was performed for all patients. Patients were blinded to the type of arthroplasty for the entire 5 years of follow-up. The primary outcome measure was the Oxford Knee Score (OKS) and secondary outcome measure was the Knee injury and Osteoarthritis Score (KOOS) between the groups.

Results

There was no clinically significant difference between groups in mean OKS at 5 years (difference 2.8, 95% CI 0.6 to 5.1, $p=0.0128$). In the KOOS subscales, the mean difference between the groups was 2.2 points (95% CI -2.6 to 7.0) for pain, 4.9 points (95% CI -1.0 to 10.1) for symptoms, 5.1 points (95% CI 0.05 to 10.2) for function in daily living, 6.4 points (95% CI -1.4 to 14.2) for function in sports, and 5.4 points (95% CI -1.7 to 12.5) for knee-related quality of life.

Conclusions

Both treatment interventions provided good results, UKA provided statistically better functional results in

OKS. However, the difference in the OKS did not exceed the minimal clinically important difference threshold.