

Asymptomatic Radiological Patellofemoral Osteoarthritis Does Not Affect Outcomes in Fixed Bearing Unicompartmental Knee Arthroplasty

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Summary:

The results support the proposition that in patients treated with fixed bearing UKAs for medial compartment arthritis of the knee, the presence of radiological evidence osteoarthritis of the PFJ does not affect the functional and quality of life outcomes.

Abstract:

Introduction:

There are differences in opinion on whether the presence of asymptomatic pre-operative radiographic changes of the patellofemoral joint (PFJ) should be a contraindication to using a unicompartmental knee arthroplasty (UKA) for medial compartment arthritis of the knee. Presently, there is literature to support the use of mobile bearing UKAs in this group of patients. The purpose of our study is ascertain if similar outcomes can be achieved with the use of fixed bearing UKAs

Methods:

A retrospective review of the hospital joint replacement registry of patients who underwent UKA from January 2004 to June 2009 for medial compartment osteoarthritis. All patients were asymptomatic for PFJ osteoarthritis. Informed consent and ethics approval were obtained.

Patients were divided into two groups, those with pre-operative radiographic changes of the PFJ on the skyline view and those without. The radiographs were evaluated to assess for osteoarthritic PFJ changes and graded using Jones criteria by 2 blinded reviewers.

Clinical outcomes were measured prospectively by an independent diagnostic center at pre-operation, 6 months and 2 years post-operation. Outcomes measured include: Knee Society Score, Oxford Knee Score and the Short Form 36 Questionnaire (SF-36).

Mann-Whitney Test was performed to test for statistical significance of results using SPSS 16.0. Differences were considered to be significant at a probability level of 95% ($P=0.05$).

Results:

There were 468 consecutive knees from 400 patients who underwent UKA for medial compartment osteoarthritis. There were 245 female and 155 male patients with mean age of 62.3 years old (42y-88y) and mean body mass index of 23.6kg/m² (21.3-28.5kg/m²). Follow-up rate at 2 years was 99.3% (393 out of 400 patients which corresponds to 461 out of 468 operated knees).

ISAKOS

**International Society of Arthroscopy, Knee Surgery and
Orthopaedic Sports Medicine**

9th Biennial ISAKOS Congress • May 12-16, 2013 • Toronto, Canada

Paper #62

PFJ changes were noted in 310 knees (66.2%) with grade 1 changes in 143 knees (30.6%), grade 2 changes in 139 knees (29.7%) and grade 3 in 28 knees (5.9%).

Study groups were comparable as there were no significant differences in clinical outcome scores at pre-operation ($p > 0.05$). There were no significant differences in SF-36 { $p=(SF1-SF8)$ 0.07, 0.68, 0.11, 0.72, 0.35, 0.31, 0.12, 0.15}, Oxford Knee Scores ($p=0.31$) and Knee Society Scores ($p= 0.31$ and 0.94) between patients who had PFJ changes and patients who did not at 6 months and 2 years follow-up.

Conclusion:

The results support the proposition that in patients treated with fixed bearing UKAs for medial compartment arthritis of the knee, the presence of radiological evidence osteoarthritis of the PFJ does not affect the functional and quality of life outcomes.