

Patellar Resurfacing Versus Non-Resurfacing: A Prospective Randomized Study Of 250 Total Knee Arthroplasties

Orthopaedics / Knee & Lower Leg / Joint Replacement - Primary

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Background

Anterior knee pain (AKP) and extensor mechanism problems are important causes of patient disappointment after total knee arthroplasty (TKA), with incidence between 2% and 12%. Despite numerous well-conducted studies and meta-analyses, the management of the patella during total knee arthroplasty (TKA) remains controversial.

Objectives

The aim of our study was to compare the clinical and radiological outcomes between patients with and without patellar resurfacing and to determine the influence of resurfacing on patellar tracking with a “patella-friendly” prosthesis.

Study Design & Methods

A single-centered prospective randomized controlled study was performed between April 2017 and November 2018. Two hundred and forty-five consecutive patients (250 knees) scheduled for TKA were randomized for patellar resurfacing or patella non-resurfacing. All patients received the same total knee prosthesis and were evaluated clinically and radiologically, including the International Knee Society Score (KSS knee and function), Forgotten Joint Score (FJS), anterior knee pain (AKP), pain when climbing stairs, patellar tilt and patellar translation.

Results

Two hundred and twenty-nine knees were available for clinical evaluation and 221 knees for radiographic analysis. The revision rate for patellofemoral cause was 3.1% (7 cases) with no difference between the groups ($p = 0.217$). There was no difference in survival rate between patellar resurfacing (88.3%) and non-resurfacing (85.3%) after 24 months ($p = 0.599$). There were no differences in KSS functional component ($p = 0.599$), KSS knee component ($p = 0.396$), FJS ($p = 0.798$), and AKP ($p = 0.688$) at a mean follow-up of 18 months. There was twice as much stair pain for the non-resurfacing group (17.1% versus 8.5%) ($p = 0.043$). There was patellar tilt in 43% of resurfaced knees ($n = 50/116$) versus 29% in non-resurfaced knees ($n = 30/105$) ($p = 0.025$), however there was more patellar translation in the non-resurfaced group (21.0% versus 7.8%) ($p < 0.001$). There were no specific complications attributed to the patellar resurfacing procedure. There were four secondary patellar resurfacing procedures (3.6%) in the non-resurfaced group after a mean of 10 +/- 7 months (1 -17) postoperatively.

Conclusions

There is no superiority of patellar resurfacing or non-resurfacing in terms of clinical or radiological outcomes at mid-term. Secondary patellar resurfacing is rare. There is not enough evidence to recommend systematic patellar resurfacing with a “patella-friendly” prosthesis.