Abstracts *(Oral Presentation)*

Cementless Total Knee Arthroplasty (TKA) with Cementless Patellar Resurfacing Compared with All Cemented One in Bilateral TKA: A Randomized Paired Controlled Trial

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Abstract

Introduction: Even though cemented Total Knee Arthroplasty (TKA) has been a standard treatment for osteoarthritic knee patients, it had high failure, especially, in young male with high body mass index. New design of cementless TKA has been developed to achieve biologic fixation which may help the implant to last longer.

Objectives: This study investigated the outcomes between all cementless and all cemented TKA for the patients undergoing bilateral TKA under one anesthesia.

Methods: We randomized the sequence of knee replacement in forty osteoarthritic knee patients (80 knees) who underwent bilateral TKA with patellar resurfacing under one anesthesia. All participants received an all cementless prosthesis in one knee and an all cemented prosthesis in the other. The outcomes were functional outcomes measured by the Forgotten joint score (FJS), WOMAC score, range of motion (ROM), pain measured by visual analog scale (VAS), operative time, radiographic outcomes and also complication. All knees were followed at least 1-year after surgery.

Results: Cementless TKA had similar recovery patterns compared with all cemented ones in the FJS (96 vs. 90 points), WOMAC score (4 vs. 4 points), and ROM (133 vs. 131˚) ($P > .05$) at 1-year follow-up. The pain level was also similar from Day 1 to 12 weeks after surgery ($P > .05$) All cementless cohort had 12 minutes less operative time (75 vs. 87 minutes, $P < .05$). There was no significant radiolucent line in both groups. However, there was one periprosthetic fracture of cementless tibial component and required revision at 2 months after surgery. There was one cementless patellar component which had no initial fit with soft bone which was changed to cemented patellar component intraoperatively.

Conclusions: All cementless TKA showed similar recovery, functional, pain level and radiographic outcomes compared with all cemented TKA at least 1-year follow-up. The advantage of all cementless TKA was less operative time for 12 minutes compared with all cemented TKA. All the cementless TKA showed a promising result in the short-term period that it had good initial stability and function similar to cemented total knee replacement.

Keywords: Total knee arthroplasty, Cementless, Cemented, Patellar resurfacing
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