

Paper #156

Survivorship and Functional Outcomes of Robotic-Assisted Medial Unicompartmental Knee Arthroplasty: A Minimum of 5-Year Follow-Up

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Summary:

The revision rate of robotic-assisted UKA was high. The midterm survivorship was only 89.4%.

Abstract:

Background

Robotic-assisted orthopaedic surgery has increased significantly over the past 10 years. Robotic-assisted unicompartmental knee arthroplasty (UKA) has been claimed to improve implant positioning, ligament balance and limb alignment. In 2012, we performed the first robotic-assisted UKA series in Southeast Asia. This prospective cohort study was aimed to assess the survivorship and functional outcomes of robotic-assisted UKA.

Methods

Between November 2012 and January 2013, a total of 40 consecutive patients (49 knees) who underwent robotic-assisted medial UKA (Makoplasty) in our institute were recruited. All patients received the fixed-bearing implants (Restoris) with metal-backed onlay tibial tray. The survivorship, functional outcomes and satisfaction score were recorded at a minimum of 5-year follow-up. The revision for any reasons was defined as the end point.

Results

The mean age of patient was 71.5±6.0 years. Majority of the patients was female (77.6%) with an average BMI of 25.0±3.2 kg/m². At 5 years, 2 patients had lost to follow up. Thus, a total of 47 knees were finally analyzed. In this series, 5 patients required the revision surgery (1 periprosthetic joint infection, 1 tibial component subsidence, 1 medial tibial plateau fracture and 2 aseptic femoral component loosening). Therefore, the survivorship at 5 years was 89.4%. Of the remaining patients without revision, Oxford knee score was significantly improvement when compared to preoperative status ($p < 0.05$). The mean satisfaction Likert scale was 4.24 points. 82.8% of the patients had very satisfied or satisfied score with their knee function.

Conclusion

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In our study, the revision rate of robotic-assisted UKA was high. The midterm survivorship was only 89.4%. We recommended closed follow-up of patient and aware the potential complications. However, the larger and long term study was required.