

Is Severe Medial Knee Osteoarthritis a Risk Factor for Dissatisfaction Following Medial Open-Wedge High Tibial Osteotomy in Patients 55 Years of Age or Younger?

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INTRODUCTION: Although previous studies have shown that severe medial knee osteoarthritis (OA) (Kellgren-Lawrence grade IV) is a risk factor for patient dissatisfaction following medial open-wedge high tibial osteotomy (MOWHTO), it is uncommon to perform arthroplasty as a primary surgical option in patients 55 years of age or younger. Thus, the purpose of our study was to evaluate whether severe medial knee OA is a risk factor for dissatisfaction following MOWHTO depending on patient age based on a cutoff of 55 years.

METHODS: We retrospectively reviewed the data of 270 consecutive patients who underwent MOWHTO with a minimum of 2 years of follow up. Patients were divided into 2 groups based on satisfaction following surgery, a Satisfied group (new Knee Society Score satisfaction subscore > 20) and a Dissatisfied group (≤ 20). In order to assess risk factors for patient dissatisfaction depending on the age range, a subgroup analysis was conducted based on a cutoff age of 55 years. Preoperative demographics, OA grade, articular cartilage and meniscus status, severity of varus deformity, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and surgical factors were compared.

RESULTS: At 2 years after surgery, binomial logistic regression analysis showed that severe medial knee OA was associated with patient dissatisfaction following HTO in the entire cohort (odds ratio [OR] 4.557, 95% confidence interval [CI] 2.300-9.030, p < 0.001). In subgroup analysis depending on age range, severe medial OA was not a risk factor for dissatisfaction in the age ≤ 55 years group. However, severe medial knee OA in the age > 55 years group was a significant risk factor for dissatisfaction after MOWHTO (OR 6.78, 95% CI 2.979-15.431, p < 0.001).

DISCUSSION AND CONCLUSION: Severe medial OA was not a risk factor for dissatisfaction in patients age 55 years or younger who underwent MOWHTO. Therefore, surgeons can take this result into account when counseling younger patients considering MOWHTO.

Fig. 1. Flowchart of subgroup analysis in our study of patient satisfaction according to age range

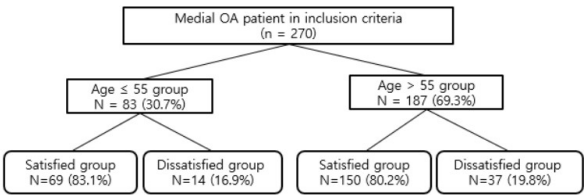


Table 1. Binomial logistic regression analysis of risk factor of patient dissatisfaction depending on age groups.

Age ≤ 55 group	Odds Ratio	95% CI	P-value
K-L grade 4	1.552	0.477-5.050	0.465
MM root tear	0.820	0.255-2.637	0.739
Weight	1.020	0.971-1.071	0.426
Age > 55 group	Odds Ratio	95% CI	P-value
K-L grade 4	6.64	2.928-15.059	<0.001 *
MM root tear	1.790	0.809-3.960	0.151
Weight	1.024	0.980-1.069	0.292

K-L, Kellgren-Lawrence; MM, medial meniscus.
* P < .05.