

Short-Term Clinical Outcomes of Medial Open-Wedge Distal Tuberosity Tibial Osteotomy for Early Osteoarthritis of The Knee

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COI Disclosure

The authors have no financial conflicts of interest disclose concerning the study.

Introduction

- Osteotomy around the knee is a commonly employed treatment for active patients with knee osteoarthritis (OA), and favorable outcomes have been reported.

Bonasia DE et al. Am J Sports Med. 2014

- The severity of preoperative osteoarthritis is a factor that may affect postoperative clinical outcomes.
- However, clinical outcomes of Distal Tuberosity Tibial Osteotomy (DTO) for mild osteoarthritis of the knee has yet to be investigated.

Purpose

- The purpose of this study was to investigate the short-term clinical outcome of DTO for early knee OA.

Subject

- August 2018 to April 2022
- Minimal 2 year F/U
- Patients with early knee OA (Kellgren-Lawrence [K-L] grade 0 or 1)
who underwent DTO

Methods

- Clinical results (KOOS , IKDC) were assessed preoperatively, at 1 year and at 2 years after.
- Radiological parameters (HKAA, mMPTA, %MA) were assessed preoperatively, and at 2 years after.

Results

■ Patient Demographics

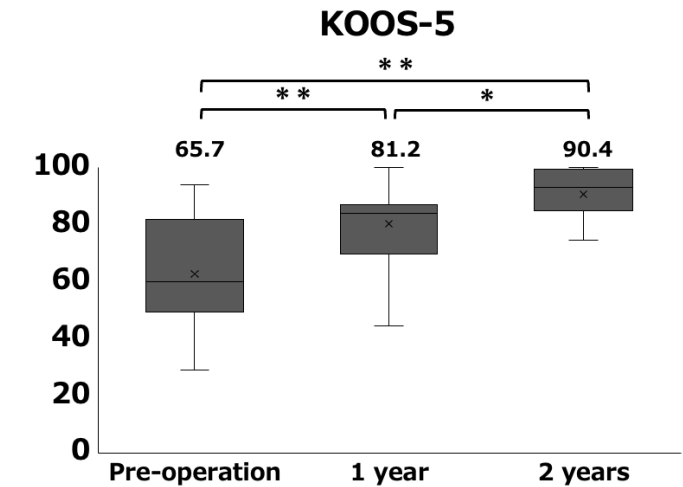
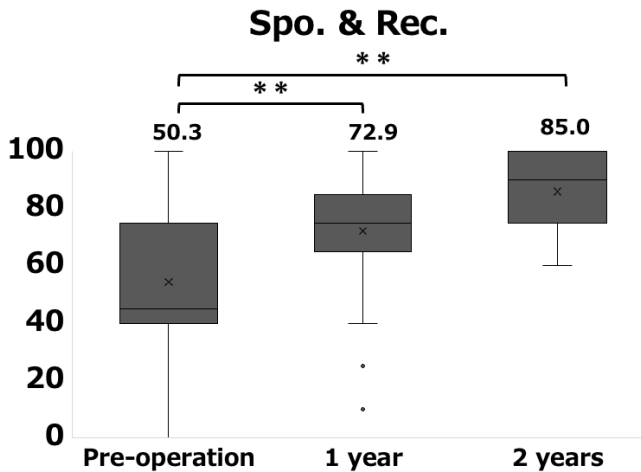
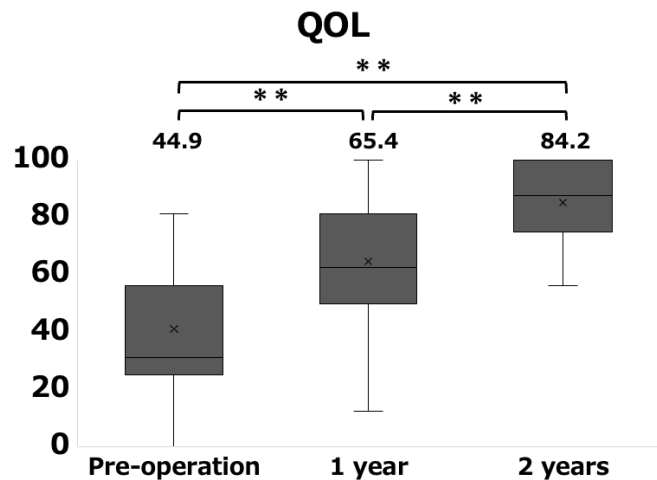
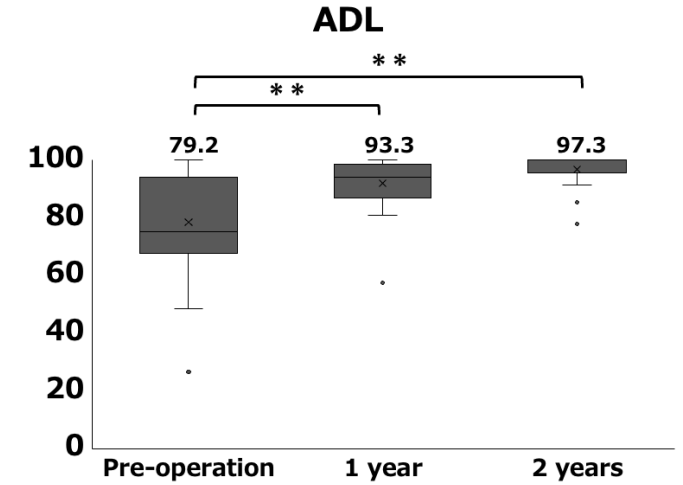
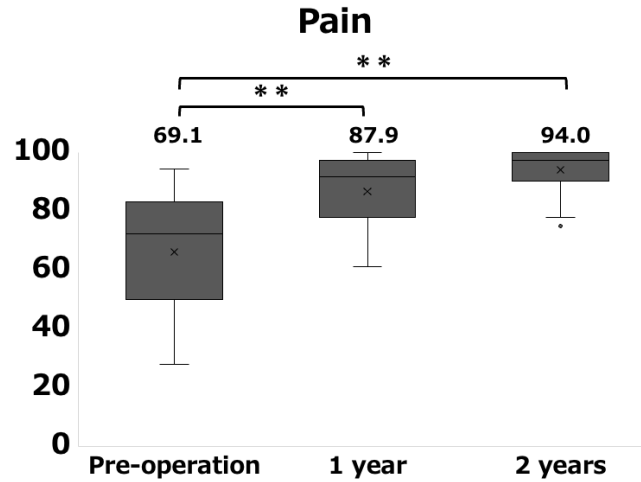
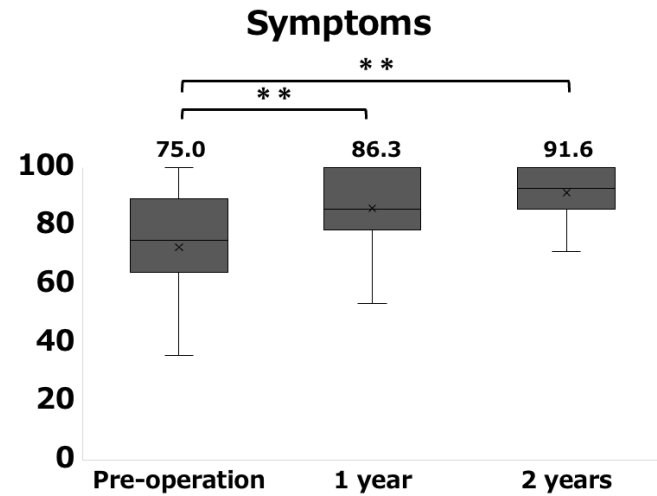
Patients (Knees)	25(29)
Sex ratio male/female	23/6
Mean age, y	53.7 \pm 4.9

■ Radiological Parameter

	Pre-operation	2 years
HKAA	Varus 4.1 \pm 2.8 $^{\circ}$	Valgus 2.0 \pm 1.0 $^{\circ}$
mMPTA	84.2 \pm 1.8 $^{\circ}$	90.2 \pm 1.9 $^{\circ}$
%MA	30.2 \pm 10.9	58.4 \pm 4.6

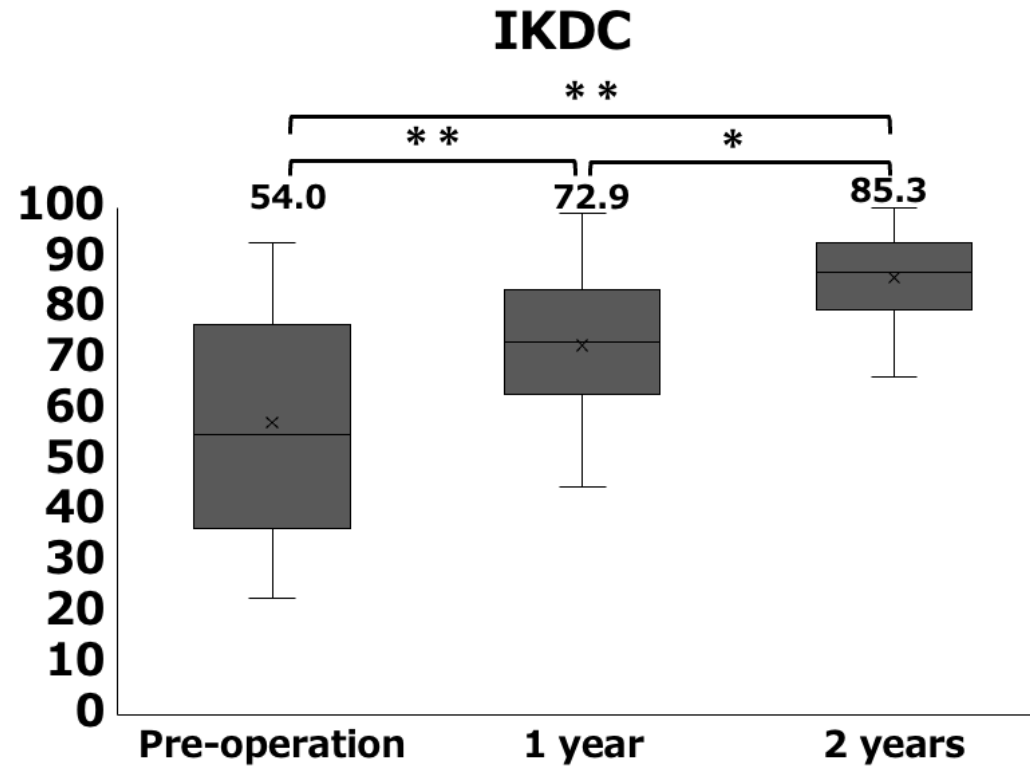
Results

■ KOOS



Results

■ IKDC



Discussion

- Analysis of the relationship between Ahlbäck grade and clinical score showed that the 2-year postoperative KOOS scores in grade 3 and 4 osteoarthritic knees were significantly lower than grade 1 knees.

Ahlbäck grade	Preoperative KOOS	Postoperative 2-year KOOS
1	185.2 ± 46.6	420.2 ± 42.9
2	182.0 ± 70.4	393.9 ± 67.3
3	192.5 ± 79.1	350.0 ± 79.9*
4	171.7 ± 38.2	317.9 ± 78.3*†

Nakayama H et al. J Exp Orthop. 2023

Discussion

■ Prognostic factor

age, female, obesity, OA grade, preoperative KOOS, postoperative MPTA

G Spahn et al. Osteoarthritis Cartilage. 2006

Bonasia DE et al. Am J Sports Med. 2014

Akamatsu Y et al. Arthroscopy . 2018

Katagiri H et al. Orthop J Sports Med . 2022

In this study

We performed DTO for Patients with early knee OA (Kellgren-Lawrence [K-L] grade 0 or 1), clinical score improved significantly at 2 years after.

Conclusion

- Although observed over a short period, DTO showed good clinical results for early-stage knee OA.
- It was suggested that performing osteotomy at an early stage may result in a better clinical score with a relatively small amount of correction.

A nighttime photograph of the Osaka Minato Central Hospital, a large multi-story building with many lit windows. The hospital's name is visible on the top of the building in Japanese. The text "Thank you for your attention." is overlaid in large yellow letters across the center of the image.

Thank you for your attention.



Japan Community Healthcare Organization
Osaka Minato Central Hospital

References

- *Bonasia DE et al. Am J Sports Med. 2014*
- *Nakayama H et al. J Exp Orthop. 2023*
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