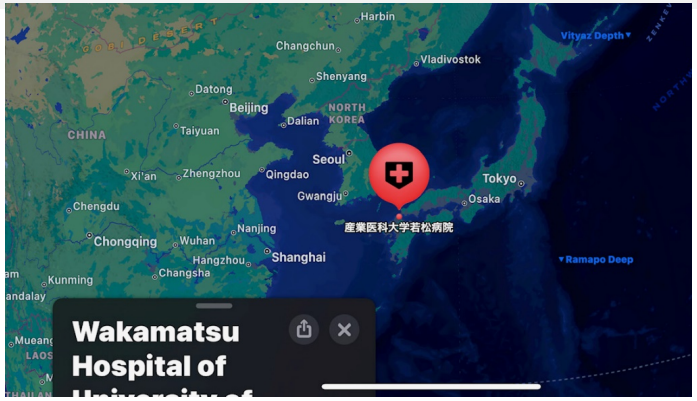
Arthroscopic labral reconstruction provides comparable mid-term clinical outcomes compared to labral refixation.
A matched-pair controlled study on patients with femoroacetabular impingement syndrome



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Disclosure

I have no conflict of interest about this study.
One of co-authors have something to disclose.

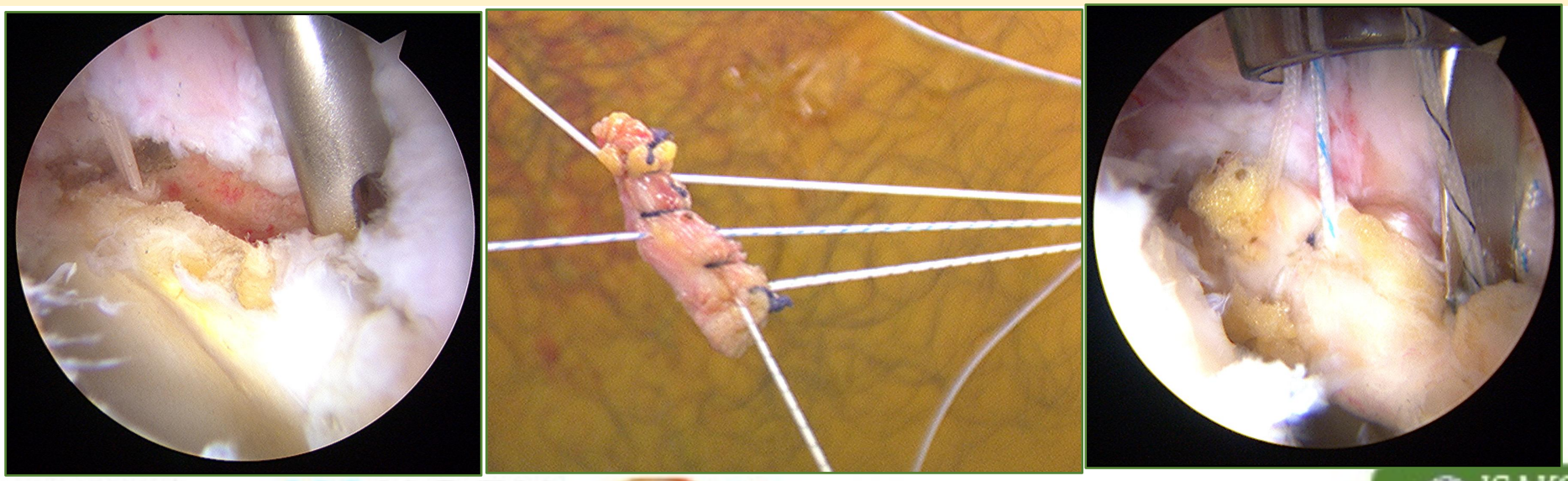
All relationships are not relevant to this presentation

Background: Role of acetabular labrum

Important role of stability [1-3)]

- Static function
- Dynamic function：suction and sealing function

→Labral reconstruction is used as a preservation technique to restore joint stability in cases of an irreparable labral tear. [4)]



Labral reconstruction

Risk factors of labral reconstruction in primary hip arthroscopic surgery for Femoroacetabular impingement syndrome (FAIS)

・Nakashima, Uchida et al. AJSM 2019 [5)]

Age ≧ 45 years (OR 8.83), BMI ≧ 23.1 kg/m^2 (OR13.05), VCA ≧ 36° (OR 19.03)

・DR Maldonado, BG Domb et al. AJSM 2019 [6)]

Tonnis grade 1, LCEA, Alpha angle, Age, BMI

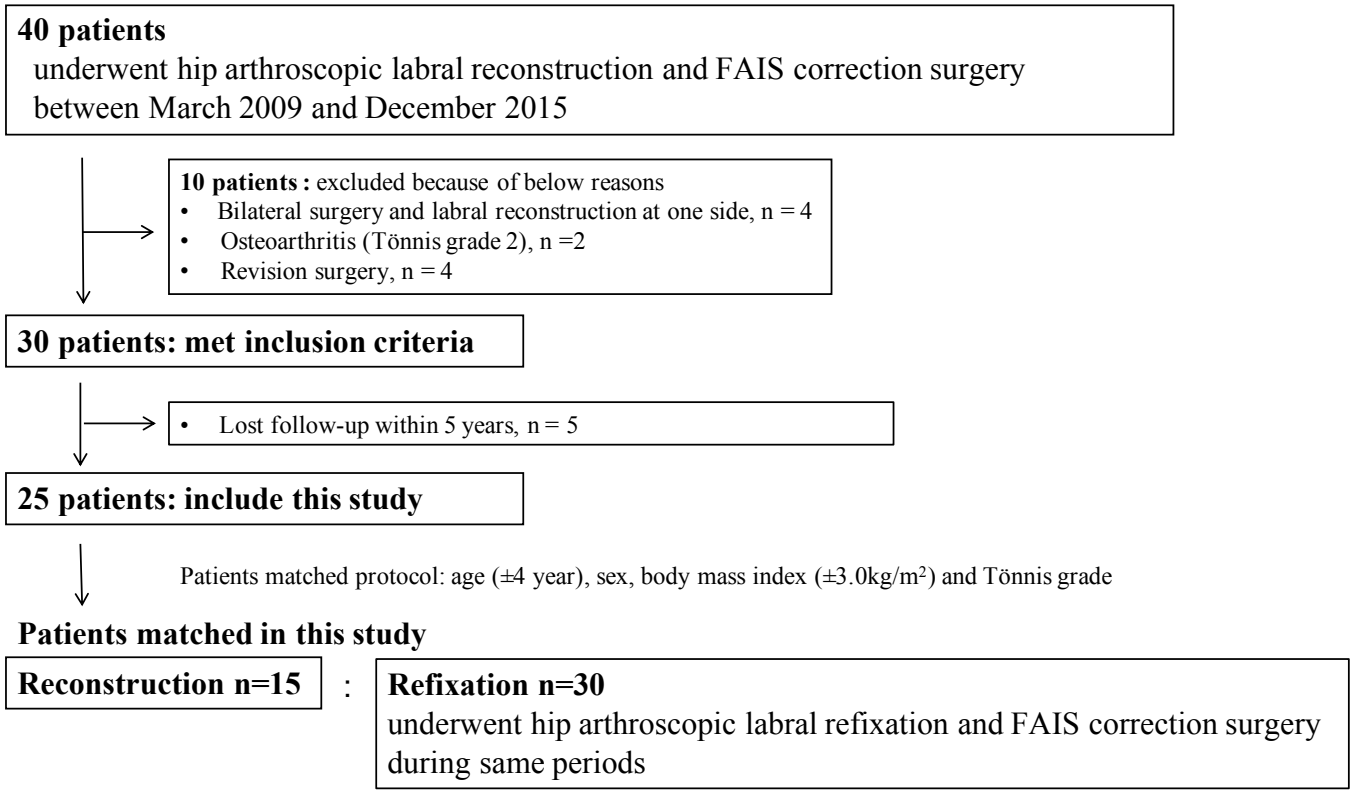
To compare the clinical results of different surgical procedures, it was considered necessary to perform a matched study of patients.

Purpose

To compare the clinical outcomes of arthroscopic labral reconstruction with those of labral refixation in the mid-term in a patient-matched study.

Materials and Methods

・Patient selection cohort flow diagram



・Main Outcome Measures

- ✓ Patient-reported outcome scores (PROs):
  Nonarthritis Hip Score (NAHS),
  modified Harris Hip Score (mHHS),
  Vail Hip Score,
  International Hip Outcome Tool 12 score (iHOT12)
- ✓ Additional surgery:
  Revision arthroscopy
  THA
- ✓ Radiographic osteoarthritis (OA) progression

Results: Patients matched analysis

Baseline demographic and radiographic variables in patient-matched analysis

	Reconstruction (n = 15)	Refixation (n = 30)	P value*
Age, y	48.6 ± 11.7	47.5 ± 11.9	0.754
BMI, kg/m^2	24.3 ± 3.1	23.1 ± 3.4	0.185
Male	8 (53.3%)	16 (53.3%)	1.000
Follow-up duration	76.5 ± 18.8	68.6 ± 11.3	0.546
α angle, deg	66.9 ± 7.6	69.8 ± 10.2	0.249
LCE angle, deg	39.9 ± 7.6	32.1 ± 5.4	< 0.001
VCA angle, deg	39.0 ± 4.6	31.3 ± 7.6	0.005
Tönnis grade 1	4 (26.7%)	8 (26.7%)	0.632

Comparison of PROs in patient-matched analysis

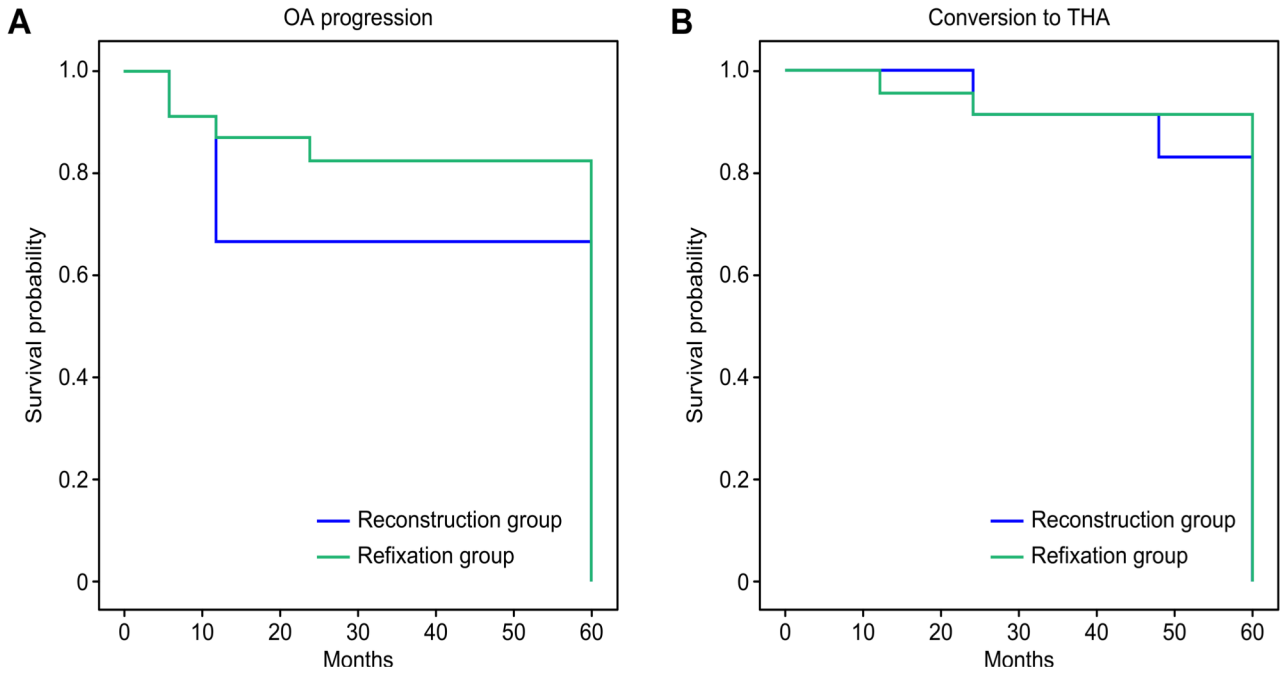
	Reconstruction (n = 15)	Refixation (n = 30)	P value
NAHS			
Preop	66.3 ± 15.8	62.1 ± 21.0	0.680
2 y	87.5 ± 13.4	89.2 ± 17.9	0.427
5 y	87.9 ± 14.8	85.6 ± 22.5	0.694
Last F/U	84.9 ± 14.9	86.1 ± 23.5	0.377
mHHS			
Preop	71.4 ± 11.2	72.8 ± 15.5	0.789
2 y	93.1 ± 11.2	94.1 ± 11.1	0.273
5 y	96.7 ± 4.8	92.6 ± 13.3	0.734
Last F/U	95.9 ± 5.2	91.7 ± 14.7	0.951
Vail Hip Score	87.1 ± 14.5	86.2 ± 22.8	0.682
iHOT12	84.9 ± 22.1	84.1 ± 27.9	0.413

Results: Patients matched analysis

Comparison of the rate of complications in patient-matched analysis

	Reconstruction (n = 15)	Refixation (n = 30)	P value*
Revision AS	2 (13.3%)	2 (6.7%)	0.571
THA	2 (13.3%)	5 (16.7%)	0.547

Survival curves between both groups in patient-matched analysis



Discussion: summary of this study

1. Arthroscopic labral reconstruction and FAIS correction surgery resulted in satisfactory outcomes at a minimum 5-year follow-up in a middle-aged population.

2. These clinical outcomes were comparable to those in the refixation group at mid-term follow-up.

3. Radiographic OA progression and complications were comparable between both groups at the final follow-up

Discussion: Mid-term outcomes of FAI

Good outcomes of following hip arthroscopic surgery for FAIS in the mid-term [7, 8)]

However, there are a few reports of minimum 5-year outcomes following arthroscopic labral reconstruction for FAIS

Domb et al. reported that there were no significant differences in PROs between the labral reconstruction group and the repair group in a matched study with a minimum 5-year follow-up. [9]

Philippon et al. the minimum 10-year outcome for arthroscopic labral reconstruction with ITB autograft. They reported that the survival rate of patients with more than 2 mm of joint space was 90%. [10]

OA progression and conversion to THA

In this study
OA progression: 26.7 % in reconstruction vs 23.3 % in refixation
THA conversion: 13.3 % in reconstruction vs 16.7 % in refixation

Honda et al. reported that patients in their 50 s and 60 s have a higher risk of both THA conversion and progressive osteoarthritis than those younger than 50 years old. [11)]

Perets et al. reported that the minimum 5-year survival after hip arthroscopic surgery was 72.3% in patients ≧50 years, while in patients <50 years, the same authors reported that the minimum 5-year survivorship was 92.4%. [12,13)]

The mean age in this study (48.6 y in reconstruction, 47.5 y in refixation) is also high. The age at the time of surgery in this cohort study may be related to survival after surgery.

Limitation

- Retrospective study without a conservative treatment control group
- The sample size was relatively small
- The Vail Hip score and iHOT12 score were evaluated only at final follow-up because these PROs in the Japanese version were only adopted recently

Conclusion

Arthroscopic labral reconstruction provides comparable mid-term clinical outcomes with labral refixation for the treatment of patients with FAIS.

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