New conservative treatment option

for symptomatic degenerative medial meniscus tear

- Ultrasound-guided injection of MCL bursa -

J Nakase, R Yoshimizu, M Kimura, T Kanayama,

Y Ishida, Y Yanatori, Y Arima, H Tsuchiya

Department of Orthopaedic Surgery
Graduate School of Medical Sciences, Kanazawa University

We have nothing to disclose

Ultrasound-guided injection of MCL bursa

Triamcinolone 5mg
Lidocaine 1ml

Purpose

To confirm the accuracy using fresh cadaveric knees,

and to evaluate clinical outcomes of this injection

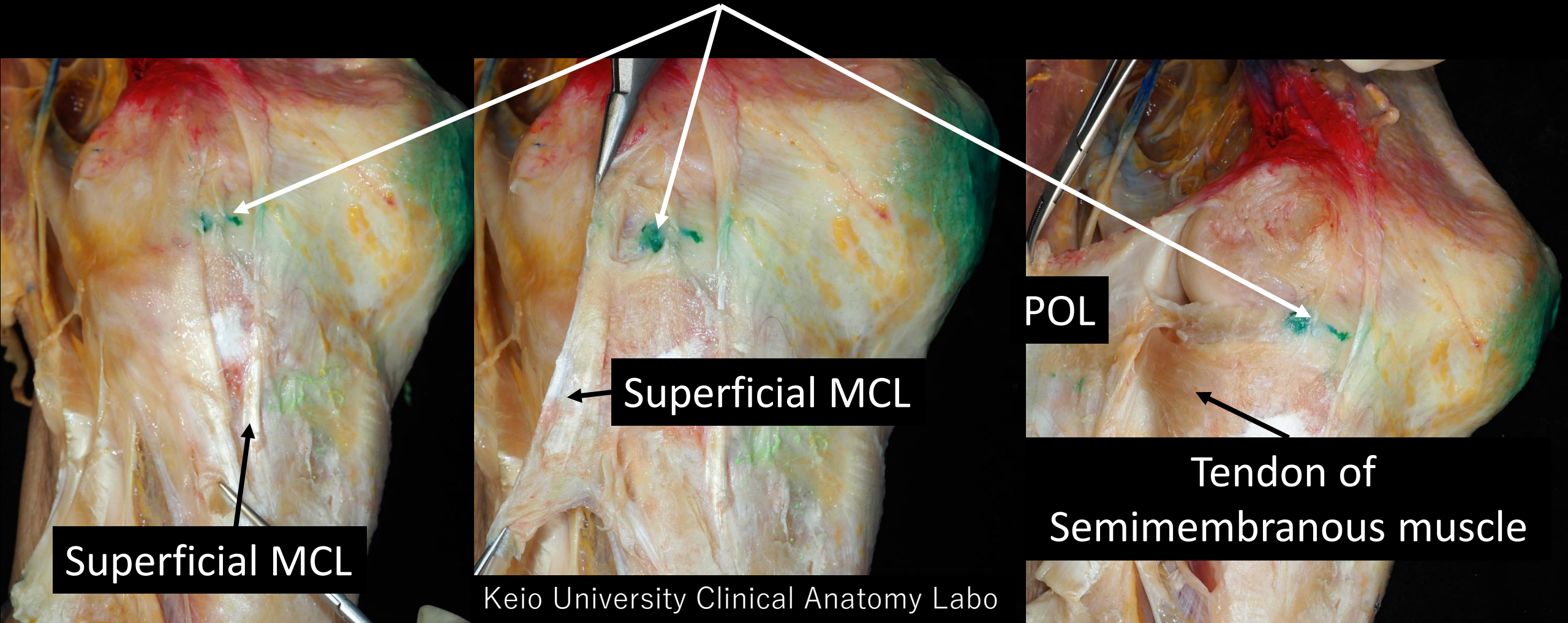
Anatomical study in cadavers

- 3 fresh frozen knees
- SONIMAGE HS-1 ultrasound system

  (Konica Minolta Healthcare; Tokyo, Japan)
- 18-4 MHz linear transducer

Injection accuracy is 100% (not intracapsular injection)

Green ink: MCL bursa injection



Clinical study: Methods

Inclusion criteria

- Localized knee pain with medial joint line tenderness
- ≦ K-L grade 1

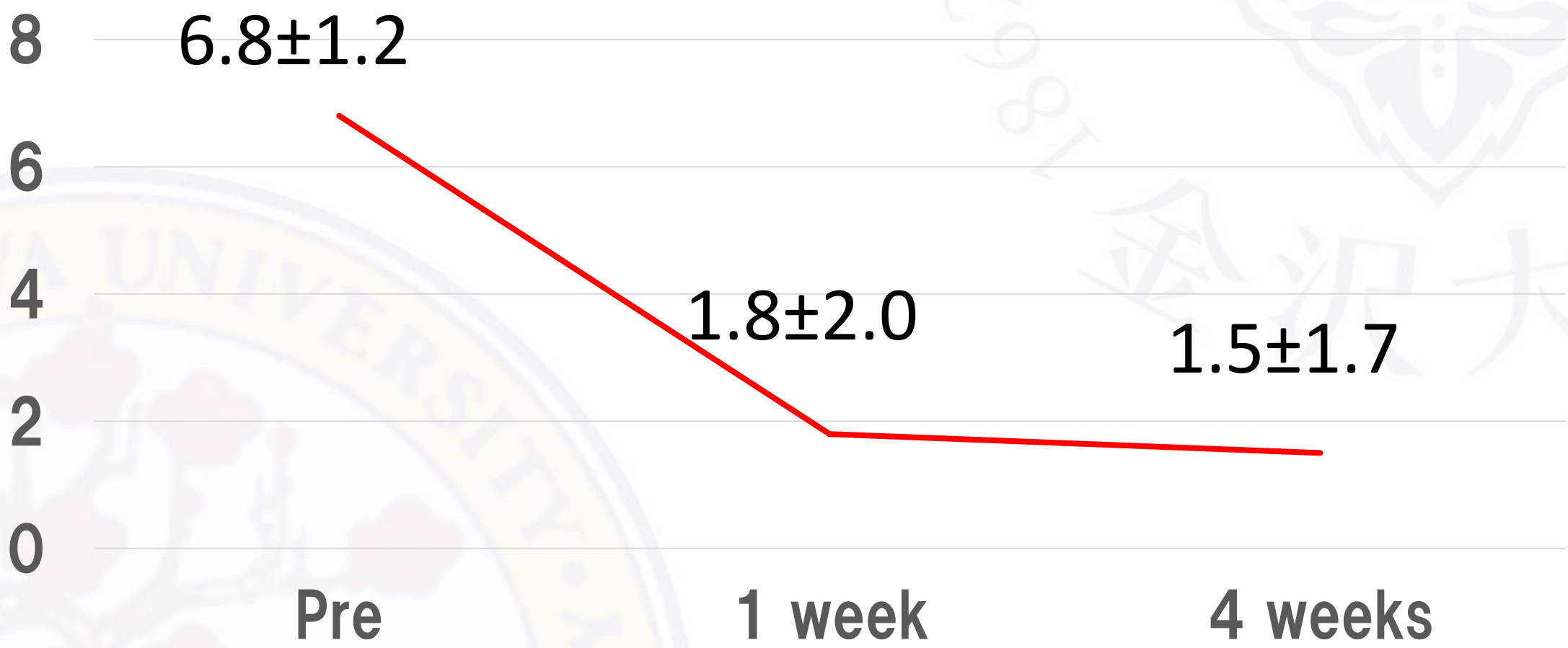
Patients

- 50 knees（ 22 male, 28 female ）
- Ave. age 51.2 years（18-73 years）

Methods

- MRI was performed within 1 week after US guided injection.
- Severity of knee pain was documented using a 0-10 numerical rating scale(NRS) at pre, 1 and 4 weeks after procedure.
- Clinical success was defined as a full return to daily activities.
- Patients who underwent surgery within 6 months of the first injection were determined as clinically unsuccessful cases.

Average NRS



Primary clinical success ratio

- 76.0%（38/50 pts）

Average number of injections

- 1.6 ±0.7 times

Patients who underwent surgery within 6 months

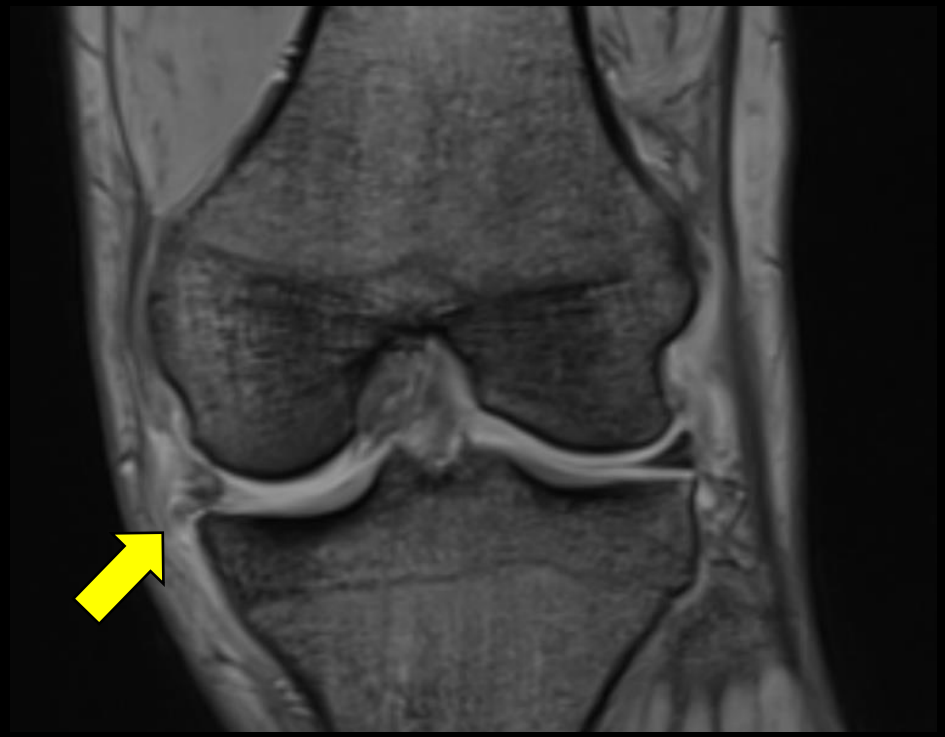
- 18.0 %（9/50 pts）

Arthroscopic partial meniscectomy and repair 7 cases

Arthroscopic surgery with High tibial osteotomy　2 case

US guided MCL bursa injection ineffective cases

Degenerative tear with a displaced flap to the meniscotibial recess



Flap tear (Comma sign)

US guided MCL bursa injection ineffective cases

Degenerative tear with a bone marrow edema

Conclusions

- US guided injection for MCL bursa is one of the new treatments for degenerative medial meniscus tears.
- US guided injection for MCL bursa were ineffective for degenerative tear with flap tears and with bone marrow edema cases.

References

1. Anatomical description and short-term follow up clinical results for ultrasound-guided injection of medial collateral ligament bursa: New conservative treatment option for symptomatic degenerative medial meniscus tear.
   Nakase J, Yoshimizu R, Kimura M, Kanayama T, Yanatori Y, Tsuchiya H.
   Knee. 2022 ;38:1-8.
2. Degenerative Meniscus Lesions: An Expert Consensus Statement Using the Modified Delphi Technique.
   Hohmann E, Angelo R, Arciero R, Bach BR, Cole B, Cote M, Farr J, Feller J, Gelbart B, Gomoll A, Imhoff A, LaPrade R, Mandelbaum BR, Marx RG, Monllau JC, Noyes F, Parker D, Rodeo S, Sgaglione N, Shea K, Shelbourne DK, Yoshiya S, Glatt V, Tetsworth K.
   Arthroscopy. 2020;36(2):501-512.
3. MR imaging of the medial collateral ligament bursa: findings in patients and anatomic data derived from cadavers.
   De Maeseneer M, Shahabpour M, Van Roy F, Goossens A, De Ridder F, Clarijs J, Osteaux M.
   AJR Am J Roentgenol. 2001;177(4):911-7.
4. The difficult balance between scientific evidence and clinical practice: the 2016 ESSKA meniscus consensus on the surgical management of degenerative meniscus lesions.
   Seil R, Karlsson J, Beaufils P, Becker R, Kopf S, Ollivier M, Denti M.
   Knee Surg Sports Traumatol Arthrosc. 2017;25(2):333-334.