Treatment of large and massive rotator cuff tear: Comparison of arthroscopic partial suture repair with arthroscopic bridge repair using AlloPatch

ChangHee Cho¹, Hyunseong Kang¹, Sangrim Kim¹, Sungwook Choi¹
Department of Orthopaedic Surgery, Jeju National University School of Medicine, Republic of Korea
Disclosure

- **ChangHee Cho, MD**
  : I have no financial conflicts to disclose.

- **Hyunseong Kang, MD**
  : I have no financial conflicts to disclose.

- **Sang-Rim Kim, MD**
  : I have no financial conflicts to disclose.

- **Sung-Wook Choi, MD, PhD**
  : I have no financial conflicts to disclose.
Introduction

- Large to massive rotator cuff tears still remain a technical challenge for the orthopedic surgeons
- Studies regarding scaffolds, growth hormones, and mesenchymal stem cells
Application of allogenous dermal matrix enhances mechanical strength and biological healing.

To compare arthroscopic partial repair and arthroscopic suture bridge repair with allogenous dermal matrix augmentation.
From 2014 to 2016, 38 consecutive patients (mean, 63.5 years) with massive rotator cuff tear

Group A included 19 patients with arthroscopic partial repair Group B included 19 patients with arthroscopic suture bridge repair with allogenous dermal matrix augmentation

Clinical and Functional Evaluation
- Pre and postoperatively with VAS (Visual analog scale)
- UCLA (University of California–Los Angeles) scores
- Constant Scores
- X-ray analysis
Surgical Method

- Large to Massive rotator cuff tear
- Anchor fixation
- Modified Mason-Allen technique
- Arthroscopic rotator cuff repair
- Allo-dermal patch augmentation
Materials

MegaDerm®

- Acellular allogenic matrix
- Tissue ingrowth, long-term structural integrity, and remodeling
- Elasticity, flexibility, and strength to the dermis
Clinical Results

- **VAS score:**
  - 7.2 to 2.5 (P = .003) in group A
  - 7.3 to 1.5 (P < .001) in group B

- **UCLA score:**
  - 19.1 to 26.7 (P = .002) in group A
  - 17.6 to 29.1 (P = .067) in group B

- **Constant score:**
  - 66.7 to 75.2 (P = .032) in group A
  - 56.8 to 71.1 (P = .861) in group B

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<td><strong>VAS score</strong></td>
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Results

Radiographic evaluation

- Mean AHD (acromiohumeral distance):
  - 11.6 mm to 14.2 mm (P < .001) in group A
  - 10.0 mm to 13.7 mm (P = .001) in group B

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<td>B (mm)</td>
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Conclusion

- Excellent clinical and radiological results using the allogenous dermal matrix

- No notable postoperative complications in both groups

- Allogenous dermal matrix is useful material for massive rotator cuff tear
Discussion

- Retrospective short-term results with limited number of patients
- Reproducibility of radiographic and MRI reading
- Further assessment should be required
1) All-Arthroscopic Patch Augmentation of a Massive Rotator Cuff Tear: Surgical Technique; Peter N. et al. Arthroscopy Techniques, Vol 2, No 4 (Nov), 2013

2) Outcome of partial repair of massive rotator cuff tears with and without human tissue allograft bridging repair; Radhakant Pandey. Et al. Shoulder & Elbow 2017, Vol. 9(1)