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KSES 2026

The 33rd Annual
International Congress of the
Korean Shoulder and
Elbow Society

March
27(Fri) ~ 28(Sat), 2026
BEXCO, Busan, Korea

- Abstract No. : F-0047
- Category : Shoulder
- Detail Category : Rotator cuff

Comparative study of augmentation repair of massive rotator cuff tear with human acellular dermal matrix allograft patch

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Introduction and Background

To compare the efficacy of human acellular dermal matrix (HADM) allograft patch augmentation repair and arthroscopic double row suture in the treatment of large rotator cuff tears.

Material and Method

A retrospective analysis was conducted on the data of 50 patients with massive rotator cuff tears treated in the Department of Sports Medicine, Nanjing Hospital of Chinese Medicine affiliated to Nanjing University of Chinese Medicine from July 2022 to December 2023. All the patients had rotator cuff tears over 50 mm or more than two tendons tears, no local bone lesions, ineffective conservative treatment or poor results, good tolerance to patch repair and good cognitive function. Osteoarthritis, patients who needed complete resection of the distal clavicle, instability in front of the shoulder joint, unauthorized use of drugs or other treatment plans during treatment, end-stage malignant tumors were excluded. According to the treatment method used, the patients were divided into the control group of 25 cases and an observation group of 25 cases. The control group was treated with simple arthroscopic double row suturing, while the observation group was treated with arthroscopic double row suturing combined with HADM allograft patch for augmentation repair. The differences in shoulder joint range of motion, excellent shoulder joint function rate, and total incidence of complications between the two groups were compared by *t* test and *chi square* test.

Results

There was no statistically significant difference in shoulder joint range of motion between the two groups before treatment ($P > 0.05$). After treatment, shoulder joint range of motion increased and the observation group were higher than the control group ($t=6.310, 5.546, 8.145, 6.328, 6.875$, all $P < 0.05$). The excellent rate of shoulder joint function in the observation group was higher than that in the control group ($\chi^2=9.125, P < 0.0$), and the total incidence of complications was lower than that in the control group ($\chi^2=5.625, P < 0.05$).

Conclusions

In the treatment of massive rotator cuff tear, HADM allograft patch can improve shoulder joint function and reduce the risk of complications, which is worthy of promotion.

