

Key Points



Reduced
Re-tear Rates



Significant
improvement
in CS and SSV



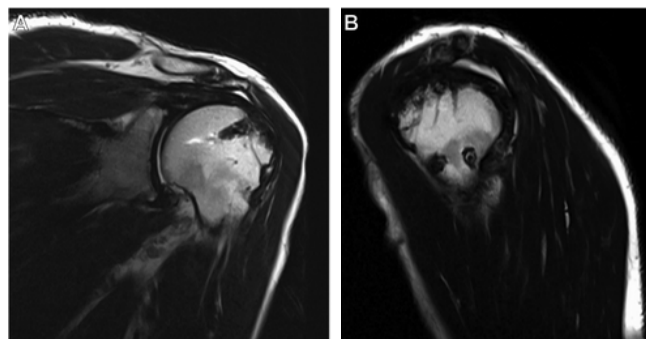
87% Patient
Satisfaction

Methods

A retrospective study of patients who underwent arthroscopic or open rotator cuff repairs with patch augmentation (**Pitch-Patch**) between 2016 and 2019 was performed. Patients older than 18 years were included, who presented with a Massive Rotator Cuff Tear (MRCT) confirmed by a magnetic resonance imaging (MRI) arthrogram showing good muscle quality (Goutallier $\leq$ II) and short tendon length (length <15 mm). In this study, Constant Murley score (CS), Subjective Shoulder Value (SSV), and range of motion (ROM) were compared pre- and postoperatively. Patients were excluded older than 75 years or with presence of rotator cuff arthropathy Hamada stage $\geq$ 2a. Patients were followed up for 2 years minimum. Clinical failures were defined by reoperation, forward flexion $<120^\circ$ or a relative CS <70 . Structural integrity of the repair was assessed using a MRI scan. Comparison between different variables and outcomes was performed using Wilcoxon-Mann-Whitney and χ^2 tests.

Results

- **Significant improvement in the Constant-Murley score (CS), Subjective Shoulder Value (SSV), and forward flexion**, in 15 patients (mean age 57 years, 13 [86.7%] male, 9 [60%] right shoulders), after massive rotator cuff repair using Pitch-Patch.
- **Structural re-tear rate of 53%**, compared to recorded non-augmented cuff re-tear rates of **92%** (Meyer et al)¹. Included a recorded three Sugaya Grade 4 (20%), and five Sugaya Grade 5 (33%) re-ruptures.
- Complete or partial re-tear was **not associated with inferior outcomes** (pain or range of motion (ROM)) compared to intact cuffs. Preserved functionality is attributed to reduced re-tear size, making augmentation worthwhile.
- **87% patient satisfaction rate** accompanied with High SSV
- 3 clinical failures (1 atraumatic, 2 traumatic) with reoperations (2 reverse total shoulder arthroplasties and 1 refixation) associated to age-related factors (69 & 72 year olds)



(A) Coronal and (B) parasagittal T2-weighted images of a postoperative MRI arthrogram in a left shoulder shows healed tendons with normal thickness and low signal intensity (Sugaya type 1) present.

Conclusions

Patch-augmented massive rotator cuff repair leads to a significant improvement of functional and structural outcomes. Partial re-ruptures were not associated with inferior functional outcomes. Re-tear rates are reduced for patients with MRCT showing good muscle quality and short tendon length, through the use of Pitch-Patch cuff repair compared to non-augmentation¹.

Even though only limited conclusions can be drawn from the data, the authors believe that the clinical and structural results presented justify recommending the chosen surgical treatment in this selected population.

1. Meyer DC, Wieser K, Farshad M, Gerber C. Retraction of supraspinatus muscle and tendon as predictors of success of rotator cuff repair. Am J Sports Med. 2012;40(10):2242-2247. doi:10.1177/0363546512457587.