Early vs. Late Physiotherapy following Arthroscopic Rotator Cuff Repair with Small and Medium Size Tear: A Randomized Clinical Trial

Nima Bagheri[1], Sadula Sharifpour[1], Seyed Peyman Mirghaderi[1], Alireza Moharrami, S M Javad Mortazavi[1], Mohammad Reza Guity[1]
[1]Joint Reconstruction Research Center

INTRODUCTION:
The timing of physiotherapy after arthroscopic rotator cuff repair is still up for debate. This randomized clinical trial (RCT) aims to determine whether or not patients with small to medium-sized rotator cuff tears benefit from early physiotherapy (immediate) vs. late physiotherapy (4-weeks after surgery).
METHODS:
A single-center, single-blinded, prospective parallel RCT was performed with two arms: early vs. late physiotherapy. Small to medium-sized isolated full-thickness superior rotator cuff tear patients referred to our Hospital between Jun-Sep 2021 were included. The primary outcome measures for comparing the two groups were shoulder function and range of motion (ROM) measured by the Constant-Murley Score (CMS) at 3 and 6 months. The other outcome measure is pain, measured based on VAS and painkiller tablet usage at the 3-weeks follow up (Tablet gabapentin 75mg). The study's secondary outcome was the rotator cuff ultrasound (US) evaluation at the end of a one-year follow up.
RESULTS:
A total of 52 patients (26 in each group) were analyzed, including 18 males (34.6%)and a mean age of 50.0 ± 5.6 years. There was no significant difference in preoperative characteristics, pain, function, or surgical procedures between the two groups.
In both follow-up intervals, CMS was significantly superior in the intervention group compared to controls (P<0.05) (Figure 1). However, only at the 3-months follow up, the between-group difference meets the minimal clinically important difference (MCID) (=10.4). The intervention group experienced milder pain than controls in all follow ups (P<0.001), and only the 3-months follow up was clinically meaningful based on MCID (=2.4). Pain medication used during the first 3-weeks (Tab Gabapentin 75mg) was significantly lower in the intervention group (17.6 ± 5.5 vs. 22.0 ± 6.6, P=0.01). Moreover, in all follow-up intervals, the shoulder ROM was in favor of the intervention group (P<0.05).
US grading of the supraspinatus and infraspinatus was similar between groups (P=0.07). Two retears occurred in the intervention group and another in the controls, detected by examination and US evaluation.
DISCUSSION AND CONCLUSION:
Following the arthroscopic repair of a small to medium-sized rotator cuff tear, early physiotherapy showed promising results for pain, function, and joint mobility. Due to the widespread variation in rehabilitation protocols, it remains necessary to conduct a large, high-quality RCT to determine the most effective rehabilitation method following rotator cuff surgery.