

## The Prevalence of Rotator Cuff Pathology in Phase - II Idiopathic Adhesive Capsulitis Patients

Department of Orthopaedic Surgery, Sungkyunkwan University School of Medicine,  
Samsung Medical Center, Seoul, Korea

Jae Chul Yoo, M.D., Eun Jin Sul, M.D.

### Purpose

First, to evaluate any combined radiologic pathologies in phase-II (frozen phase) primary adhesive capsulitis (PAC) patients. Second objective was to see any difference in findings between MR -arthrogram (MRA) and Ultrasonography (USG).

### Method

From 2005 June to December, 80 consecutive patients with phase- II adhesive capsulitis were prospectively evaluated with either MR -arthrogram or Ultrasonography. Phase-II adhesive capsulitis was defined as the stage of involvement causing pain and global limitation of motion. All patients were selected according to previous strict criteria. Two groups were randomly assigned for examination. Evaluation were focused on any combined rotator cuff pathologies especially supraspinatus tendon. The findings were graded i) normal, ii) tendinopathy or tendinosis, iii) partial thickness tear, and iv) full thickness tear. MR evaluations and USG were done by 2 musculoskeletal radiologist who experience more than 5 years.

### Results

The mean duration of symptom prior to examination was 7.3 months (range, 3 to 12 months; SD 2.3). The mean age of overall patients was 56 (range, 39 to 76; SD, 8.3).

There were 38 males and 42 females. The involved shoulders were left 32 and right 48. There were 5 patients with minor trauma history prior to shoulder symptoms. Twenty -two patients had diabetes. Twenty -four patients had more severe night pain. Small (less than 1 cm) full -thickness SSP tendon tear were seen in 6 patients (MRA 4, USG 2, 8%) and partial -thickness SSP tendon tears in 21 (MRA 12, USG 9, 26%). In sum, total of 27 patients (34%) showed some form SSP tendon tears. In addition, supraspinatus tendinopathy were seen in 15 patients (MRA 7, USG 8, 19%). Overall, some form of SSP pathology was reported in 53% of the study objects (MRA 68% and USG 41%). Subscapularis tendon partial tears were reported in 9 patients (MRA 6, USG 3, 11%). Most common diagnosis of MRA other than rotator cuff pathology was the impression of adhesive capsulitis (65%). For USG, the most notable diagnosis other than rotator cuff pathology was calcific material detection, which was less than 3 mm (12 patients, 26%) and subacromial/subdeltoid bursitis (12 patients, 26%). There were no statistical differences of the

findings between MRA and USG in detecting rotator cuff pathologies.

## Conclusions

Nearly one half of the phase-II adhesive capsulitis patients showed some form of supraspinatus tendon pathology in magnetic resonance arthrogram or ultrasonography. .However, the effect of this associated pathology needs more study on its influence in the final outcome. Although MRA group showed slight higher percentage of associated rotator cuff pathology than USG group, this can be attributed to better resolution of MRA than USG.

## Key Words

Idiopathic adhesive capsulitis, Frozen shoulder, Magnetic resonance arthrography, Ultrasonography, Rotator cuff tear