

## Characteristics of the Patients with Rotator Cuff Tears with Stiffness

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### Summary:

The differences between RCT with stiffness and RCT without stiffness have not yet been revealed sufficiently, therefore we analyzed characteristics of the patients with RCT with stiffness and suggested that RCT with stiffness is more frequently observed in smoker, young patients, patients with atraumatic history and partial thickness tears.

### Abstract:

(Background) We frequently treat with rotator cuff tears (RCT) with stiffness. However, the differences between RCT with stiffness and RCT without stiffness have not yet been revealed sufficiently. The purpose of this study was to analyze characteristics of the patients with RCT with stiffness.

(Method) 303 patients with rotator cuff tears treated by arthroscopic rotator repair were the subjects of this study. There were 154 females and 149 males whose average age was 63.1 years. 123 patients had history of trauma. The average duration of disorder was 32.5 weeks. 48 patients were diagnosed as diabetes. Smokers were observed in 19 patients. On types of the tears, articular side tear was observed in 60 patients, bursal side tear in 43 patients, small tear in 93 patients, medium tear in 75 patients, large tear in 14 patients, massive tear in 18 patients. Shoulder with restricted ROM (passive flexion range of motion < 90 degrees, external rotation < 30 degrees, internal rotation < fifth lumbar vertebra) was defined as stiff shoulder. Factors compared between RCT with stiffness and RCT without stiffness were as follows; gender and age of the patients, preoperative history of trauma, duration of disorder, diabetes, smoking, and type of tears. All data were evaluated statistically by t-test and chi-square test and the significance level was set at less than 0.05.

(Results) RCT with stiffness were observed in 53 patients. The patient with stiffness were younger than the patients without stiffness. The rate of trauma of the patients without stiffness was significantly higher than that of the patients with stiffness. Smokers were observed more significantly in the patients with stiffness than in the patients without stiffness. The rate of stiff shoulder in the patients with partial thickness rotator cuff tears was significantly higher than that in the patients with full thickness rotator cuff tears. The other factors such as gender, duration of disorder and diabetes were not significantly different between the patients with stiffness and without stiffness.

(Conclusion) This study suggests that RCT with stiffness is more frequently observed in smoker, young patients, patients with atraumatic history and partial thickness tears. Cytokine, autonomic reflex, decrease of joint fluid, tear of coracohumeral ligament and nicotine may contribute stiffness.