

Paper #147

Severity of Synovitis in Rotator Cuff Tears Is Correlated with Clinical Features Independent with Tear Size and Age

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Summary:

The synovitis of shoulder joint in the patients with rotator cuff tear can be graded fairly using our modified grading system, and the severity of synovitis in these patients is closely related with the clinical features after the surgery such as ROM and functional scores independent with the age and tear size.

Abstract:

Introduction

Retear of repaired rotator cuff does not always affect the clinical results adversely, which means that there could be other factors related with the disability of these patients with rotator cuff tear. Inflammation such as synovitis is proposed as one of the contributing factors, but there were few studies to evaluate the relationship between this inflammation and clinical relevance in patients with rotator cuff tear

Materials : Patients undergoing arthroscopic cuff repair were recruited. During the surgery, the synovitis in glenohumeral joint was graded according to our modified scoring system used in grading the synovitis in the knee joint. This grading has two variables such as hypertrophy (rated as 0, 1, 2) and vascularity (rated as 0,1,2) and the shoulder synovium was graded respectively in 4 quarters such as superoanterior, superoposterior, inferoanterior, and inferoposterior.

The range of motion(ROM), strength, pain and functional scores such as constant score and ASES were evaluated preoperatively, 3 months and 6 months after the surgery. Finally, 48 patients were evaluated in the study.

Results

The inter-rater reliability by two raters was 0.73 - 0.78 in the hypertrophy and 0.76 - 0.79 in the vascularity. After removal of the effects from the aging and the size of rotator cuff tear, the degree of "vascularity" was significantly correlated with the ROM(forward flexion & abduction), and the functional score preoperatively, at 3 months and 6 months after the surgery, mostly in the anteroinferior(AI) and the posteroinferior(PI) quarters. The degree of "hypertrophy" in the anteroinferior(AI) quarter was correlated with ROM preoperatively, at 3 months and 6 months after the surgery. The degrees of "hypertrophy" in the anteroinferior(AI) and the posteroinferior(PI) quarters were correlated with constant score preoperatively. And the degree of "hypertrophy" in the posteroinferior(PI) quarter was correlated with constant score at 6 months after the surgery.

Conclusions

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First, the synovitis of shoulder in the patients with rotator cuff tear can be graded fairly using our modified grading system. Second, the severity of synovitis in these patients is closely related with the clinical features after the surgery such as ROM and functional scores independent with the age and tear size. These means that the shoulder synovitis should be focused a lot in the treatment for rotator cuff tear.