

# 유착 어깨 관절낭염의 진단과 재활치료

## Diagnosis and Rehabilitation Treatment in Adhesive Capsulitis of the Shoulder

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### Abstract

Adhesive capsulitis was described initially as periarthritis, and then frozen shoulder. Adhesive capsulitis of the shoulder is an insidious, painful condition that results in a gradual restriction of movements. Adhesive capsulitis can be classified into primary or secondary. Primary adhesive capsulitis is an insidious condition, whereas secondary adhesive capsulitis is associated with a known pathology. The pathogenesis remains unclear. Gross pathological changes include thickening and constriction of the capsule, especially anteroinferiorly with a very little amount of synovial fluid in the joint space. Many patients continue to have a significant long-term restriction in their range of motion, although few are functionally restricted. Classically adhesive capsulitis is divided into three phases : the painful phase, the stiff phase, and the resolution phase. The diagnosis of adhesive capsulitis is based on a thorough history taking and physical examination. Radiographs of the shoulder are usually negative. An arthrogram may show a decrease in the intraarticular volume and an absence of the axillary recess. The final confirmation of the diagnosis is made by an experience of relief of pain following an intra-articular anesthetic. Prevention is the ideal treatment. The goals of treatment are to relieve pain, to restore motion, and to restore function. Treatment modalities include anti-inflammatory medications, physical therapy including therapeutic exercise, corticosteroid injection, suprascapular nerve block, capsular distension, manipulation under anesthesia, and arthroscopic capsular release. It is necessary to refine the selection of treatment for individual patients according to the phase of the disease.

**Keywords :** Adhesive capsulitis; Three phases; Pain; Range of motion; Prevention

: ; ; ; ;

(adhesive capsulitis)

(periarthritis)

가 (frozen shoulder),

. Neviaser 1945

(1).

(2).

(glenohumeral joint)

(rotator cuff tendinitis)

가

가

2

4 ~ 12

가

가

(3). Cytokine

3

5 ~ 26

가

cytokine

가

platelet - derived growth factor, transforming  
growth factor - B, hepatocyte growth factor

Neviaser Neviaser

4가

(6).

(4).

1

2

가

2%

(humeral head)

50

(5).

20 ~ 30%

3

4

, dupuytren

Hannafin Chiaia(7)

4

( 1).

가

30

(12 ~ 42 )

(5).

(39 ~ 76%)

(

1

2.5 ~ 9

)

(8).

## Stage 1

Duration of symptoms 0~3mo

Pain with active and passive ROM

Limitation of forward flexion, abduction, internal rotation, and external rotation

Exam under anesthesia : normal or minimal loss of ROM

Arthroscopy : diffuse glenohumeral synovitis, often most pronounced in the anterosuperior capsule

## Stage 2 : "freezing stage"

Duration of symptoms 3~9mo

Chronic pain with active and passive ROM

Significant limitation of forward flexion, adduction, internal rotation, and external rotation

Exam under anesthesia : ROM essentially identical to awake ROM

Arthroscopy : diffuse, pedunculated synovitis(Christmas tree synovitis), tight capsule with rubbery or dense feel on insertion of arthroscope

## Stage 3 : "frozen stage"

Duration of symptoms 9~15mo

Minimal pain except at end ROM

Significant limitation of ROM with rigid "end feel"

Exam under anesthesia : ROM identical to awake ROM

Arthroscopy : no hypervascularity seen, remnants of fibrotic synovium can be seen. The capsule feels extremely dense and thick on insertion of the arthroscope and there is a diminished capsular volume.

## Stage 4 : "thawing phase"

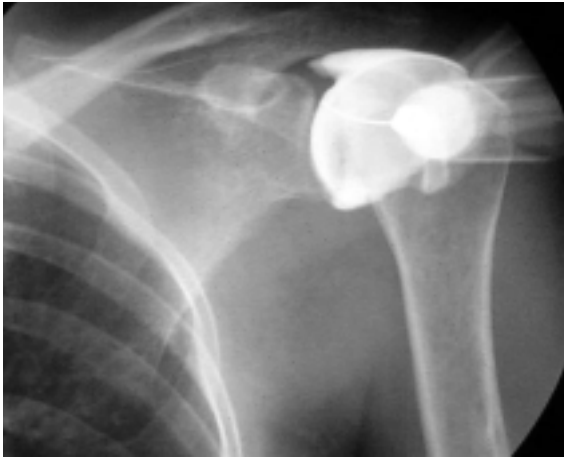
Duration of symptoms 15~24mo

Minimal pain

Progressive improvement in ROM

(2, 10). 가  
(subacro- (6).  
mial) 0.5% 10ml  
2.  
1.  
(9). 가  
가  
(cross - body  
adduction) 가 4~5  
( 1, 2).  
(labrum) 가  
가 (supraspina- 가  
tus) 30  
(10). 가  
(complex regional pain syn-  
drome)  
가 가  
(axillary fold) , 15~20ml (decondition)  
5~10ml  
(12).





5ml

3.



가

4.

4

6

3

가

가

90

(16).

(17).

가 가 ,  
(18).

(20, 21).

5.

(suprascapular nerve block)  
(near - nerve electromyography)

(22).

가

90

. 3~5

3

6.

(Manipulation under Anesthesia)

plexus injury) 1% (23). (brachial amcinolone acetoneide 30mg) 0.5% 10cc 5 ~ 20%

(24).

가 (25). 가 (tri- amcinolone acetoneide 20mg) 가 가

self - limiting

가

3

가

4 ~ 6

(26).

3

(manipulation

under anesthesia)

· ㉔

가 가 가 가 가

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