

1

: MR

: 2002 6 2004 10 MR 132
MR

MR

MR

“ ”
- “ - ”
가 “ ”
가

: MR 가
118 (89.4%)
13 (9.8%) , 131 가 99.2%
1 (0.7%)

: MR
MR

가 가 (complete rotator cuff tear), (partial
thickness tears), (shoulder instability),
X-ray, , CT, MR , MR (humeral head fracture), (anterior
labral tears) 가
(4 - 9), 가 ,
(1 - 3). (10, 11). MR
21 - 25 gauge 가
90% ,
가 가
가 MR

가 .

132 MR 118 (89.4%)
 “ ” 13 (9.8%) “
 - “ ” “ ” 131
 (99.3%) 가 . “ - ”
 1 (0.7%) , “ ”
 2 1 -

가가
 , MR, MR
 (12, 13). 1987 Hajek (14)
 MR
 gadopentetate dimeglumine

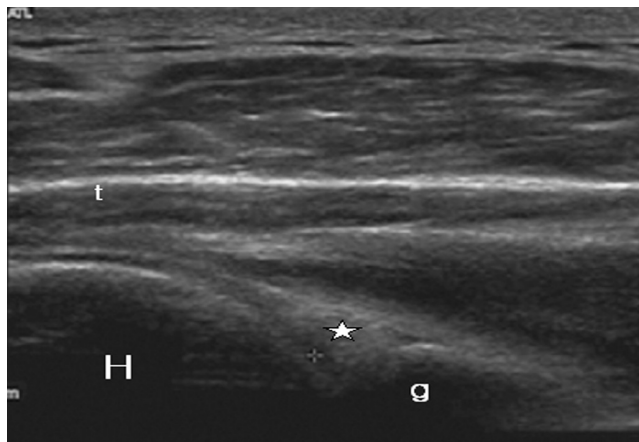


Fig. 2. Sonograph of the posterior shoulder joint representing anatomical landmark for US-guided intraarticular contrast injection.

Posterior glenoid labrum is seen as a hyperechogenic triangular structure adjacent to the glenoid.
 posterior glenoid labrum (asterisk-target area for needle tip), posterior glenoid rim (g), humeral head (H) and infrapinatus tendon (t).

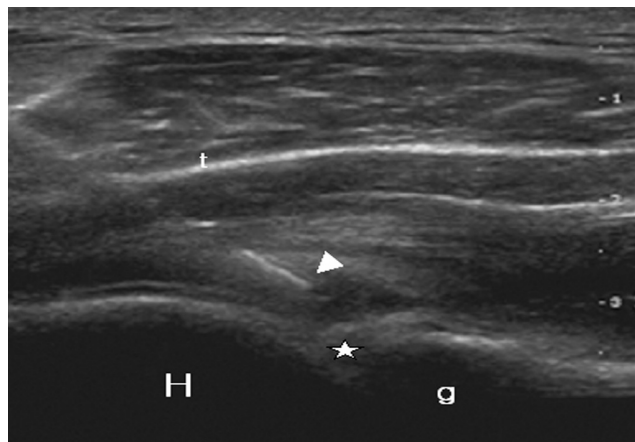


Fig. 3. Sonograph visualizing a echotip needle. The needle tip appears hyperechoic and its tip should be directed and positioned between posterior glenoid labrum and hypoechoid articular cartilage of humeral head.

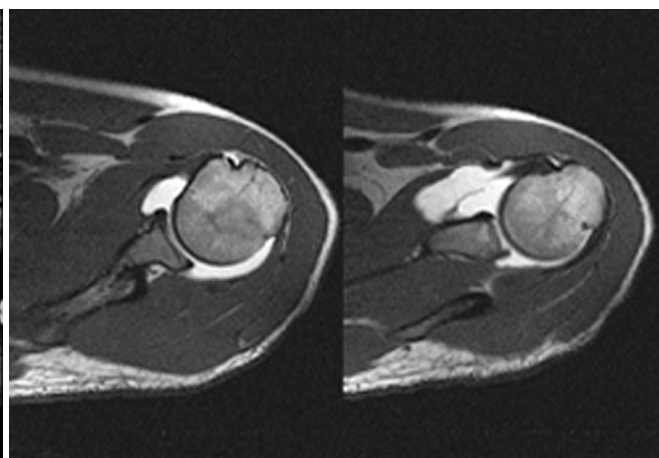
Needle tip (arrowhead), humeral head (H) and posterior glenoid rim (g) are also labeled.



A

Fig. 4. 19-year-old male who had recurrent shoulder instability.

A. Sonograph after intraarticular injection. Successful ultrasound-guided intraarticular injection procedure let the joint cavity to be distended (arrow).



B

B. Axial T1-weighted image after intraarticular injection shows redistribution of contrast material within the joint cavity.

MR

(inferior glenohumeral ligament) 가 (10). Chung (15)

MR 가 Hulstyn (16) (suprascapular nerve), (circumflex scapular vessels), (medial axillary nerve), (posterior humeral circumflex artery)

MR 가가 (17, 18) (humeral glenoid) (hyperechoic triangular structure) 가 (19, 20). (anterior glenoid labrum) (11), (rotator cuff injury), (humeral head fracture) MR (ionizing radiation) MR gadolinium Gadolinium (21) 가 (22), epinephrine MRI 가 MR (23). epinephrine 가 lidocaine epinephrine Echotip needle (Echotip, Cook, Incorporated, Bloomington, U.S.A.) (scratch area)

가

“ - ” 13 (9.8%) 2002 6 2003 2 (self learning curve)

가

가 “ ” 1 (0.7%) (sonic window)

가 “ ” MR 가 MR

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J Korean Radiol Soc 2005;52:413 - 417

Feasibility of Ultrasound-Guided Intraarticular Contrast Injection for MR Arthrography¹

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Purpose: To assess the feasibility of ultrasound-guided intraarticular contrast injection using the posterior approach for MR arthrography.

Materials and Methods: Between June 2002 and October 2004, 132 patients (29 female, 103 male; mean age, 33.6 years) underwent ultrasound-guided intraarticular contrast media injection (40 ml saline + 10 ml 2% lidocaine + 0.2 ml gadopentetate dimeglumine + 0.4 ml epinephrine) for MR arthrography. The patients were classified into four groups, viz. the no leakage group, the minor leakage with successful intraarticular injection group, the major leakage with unsuccessful intraarticular injection group, and the injection failure group.

Results: The "no leakage" and "minor leakage" groups were considered to be technical successes, while the "major leakage" and "injection failure" groups were regarded as technical failures. The technical success rate of ultrasound-guided intraarticular contrast injection using the posterior approach for MR Arthrography was 99.2% (131/132 patients) and one patient 0.7% (1/132 patients) was included in the "major leakage" group.

Conclusion: Ultrasound-guided intraarticular contrast injection using the posterior approach for MR arthrography was feasible with a high success rate.

Index words : MR Arthrography
 Ultrasound-guided injection
 Shoulder joint
 Shoulder joint instability

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