

MR 1

1, 4      2      3      4      4      2

: MRI  
 가 ,  
 가 6 , 가 1 , 41 6 ,  
 1 . 2  
 6 가 3  
 가 , C- 가  
 5 1 . 5  
 T2 : MRI  
 가 ,  
 가  
 (1). (2, 3).  
 (MRI)  
 MRI  
 (2). (4 - 9).  
 7 MRI

- 1
- 2
- 3
- 4

**Table 1.** Clinical Findings in Seven Patients with Acute Gouty Arthritis

Note. - Dash ( - ) indicates absent; =elevated; N=normal.

Note. - Dash ( - ) indicates absent; plus sign( + ) indicates present; OCD= Osteochondritis dissecans

(12).

가, C-가 3

(erythrocyte sedimentation rate, ESR), C- (C - reactive protein, CRP) 가

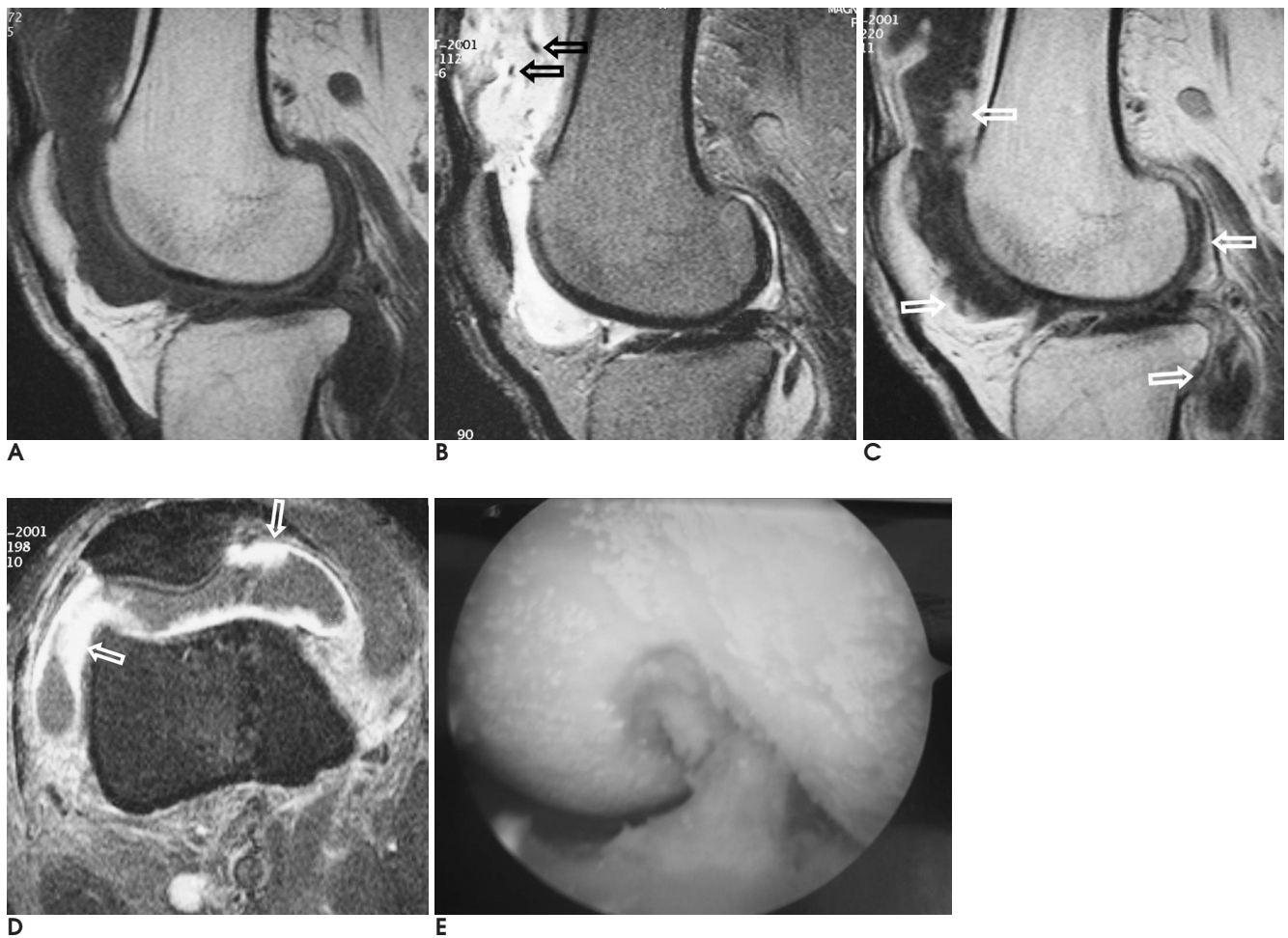
7 MRI Table 2  
6, 1

가 (Fig. 1)  
가 (Fig. 2).

1) 1 5  
(Fig. 1, 2).

가 6, 가 1, Table 1  
41 24 65

2 5 T2



**Fig. 1.** A 34-year-old man with acute gouty arthritis.

**A, B.** Sagittal T1-weighted spin-echo MR image (**A**) (TR/TE, 600/15) and corresponding sagittal T2-weighted spin-echo MR image (**B**) (2300/90) show a large amount of joint effusion in the suprapatellar pouch, central portion, posterior femoral recess, and subpopliteal recess. Multiple low signal foci in the suprapatellar pouch are seen (arrows).

**C, D.** Gadolinium-enhanced sagittal (**C**) and fat-saturation axial (**D**) T1-weighted spin-echo MR images show thick irregular synovial enhancement in the suprapatellar pouch, central portion, posterior femoral recess and subpopliteal recess (arrows).

**E.** An arthroscopic photograph shows innumerable intraarticular small, whitish urate crystals on the surface of femoral condyle.

(Fig. 1, 2).

(2, 3).

30 - 40

가

4

(8).

2

C -

(2).

(1, 5 -

mg/dL

7 mg/dL

6

(2).



A



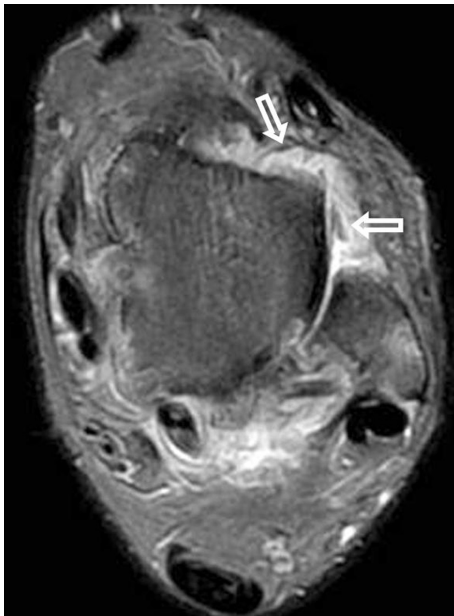
B

**Fig. 2.** A 45-year-old woman with acute gouty arthritis.

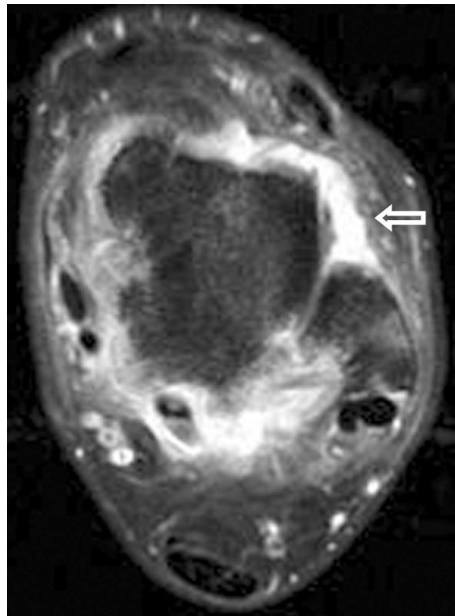
**A, B.** Sagittal T1-weighted spin-echo MR image (**A**) (TR/TE, 450/10) and corresponding sagittal T2-weighted, fat-saturation fast spin-echo MR image (**B**) (4000/62) show a large amount of joint effusion in the ankle joint.

**C.** Axial T2-weighted fast spin-echo MR image (4000/62) obtained with fat saturation at the level of talus shows a large amount of joint effusion with multiple low signal foci (arrows).

**D.** Gadolinium-enhanced axial T1-weighted spin-echo MR image (600/12) obtained with fat saturation shows thick irregular synovial enhancement (arrow).



C



D

1 4.2 mg/dL

. 2

1

가

(proliferative effusion)  
(bland effusion)

MRI  
가

(13).

T1

, T2

가

(12, 14).

(15) MRI

(17).

(19)

MRI

T2

(PVNS),

MRI

가

가

(overhanging edge)

(16)

8

8

MRI

MRI

T2

가

T1

MRI가

(4 - 9).

MRI

가

(16).

MRI

MRI

가,

7

(2, 3). Hong (17)

5

T2

13

12

(92%)

가

가

Lee (18)

가

가 9

8

(89%)

가, C-

7

6

Hong

가

MRI

(17) Lee

(18)

가

- 가
- Yu (20) 30
- 가
- 가
- 가
- MRI
- 가
- 가
- MRI
- 5 T2
- MRI
- 가
- T2
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## MR Imaging Findings of Acute Gouty Arthritis<sup>1</sup>

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**Purpose:** The purpose of this study was to describe the clinical and MR imaging features of acute gouty arthritis and to define the characteristic findings that would be helpful for differentiating acute gouty arthritis from septic arthritis.

**Materials and Methods:** The authors retrospectively studied seven patients who suffered from acute gouty arthritis. The MR imaging findings were analyzed by two musculoskeletal radiologists who focused on joint effusion, subchondral bone erosion, bone marrow edema, synovial thickening (regular and even, or irregular and nodular), and the soft tissue changes (edema or abscess). The clinical records of the patients were reviewed with regard to age and gender, the clinical presentation and the laboratory findings (serum uric acid, WBC, erythrocyte sedimentation rate, C-reactive protein and synovial fluid culture).

**Results:** The patients consisted of six men and one woman whose mean age was 41 years (age range: 24 - 65 years). The joints involved were the knee ( $n=6$ ), and ankle ( $n=1$ ). Two patients had medical histories of gouty attacks that involved the first metatarsophalangeal joint. In six cases, the serum uric acid level during acute attacks was elevated. In all the patients, the affected joint became swollen, hot, erythematous and extremely tender, and this was accompanied by a high ESR and a high C-reactive protein level at the time of presentation. The results of Gram stain and culture of the synovial fluid were negative. In all patients, the MR images showed large amounts of joint effusion, thick irregular and nodular synovial thickening and soft tissue edema without subchondral bone erosions and soft tissue abscess. In one case, subchondral bone marrow edema of the medial femoral condyle was present. In five cases, there were multiple low signal foci in the joint on the spin-echo T2-weighted MR image.

**Conclusion:** Even though the MR imaging findings of acute gouty arthritis are nonspecific, it should be considered as a possible diagnosis when a large amount of joint effusion, irregular and nodular synovial thickening and soft tissue edema without subchondral bone erosion, bone marrow edema or soft tissue abscess are seen in the knee or ankle joint, and especially if this is accompanied by the clinical and laboratory features of infection.

**Index words :** Gout

Joints, MR

Arthritis

Ankle

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