

Pyogenic Arthritis and Paraspinal Abscess Following Facet Joint Steroid Injection -A Case Report -

Jae Chul Lee, M.D., Hyun-Woo Doh, M.D., Young-II Cho, M.D.,
Kyung-Je Kim, M.D., Yon-II Kim, M.D., and Byung-Joon Shin, M.D.

Department of Orthopaedic Surgery, Soonchunhyang University College of Medicine, Bucheon, Korea

- Abstract -

Study Design: A case report and literature review.

Objectives: To discuss pyogenic infections of the facet joints and paraspinal intramuscular abscess that developed after a steroid injection into the facet joint of the lower back.

Material and Methods: A 39-year-old man who received a steroid injection to the facet joint, 3 weeks prior to admission, experienced increasing lower back pain and a high fever.

Results: Plain radiographs of the lumbar spine showed osteolytic erosion of the articular process at the L3-4 facet joint. On a CT scan, the destructed facet joint was connected to a paraspinal intramuscular abscess. MR images also showed a paraspinal intramuscular abscess on multiplane views. In the operative field, the paraspinal abscess, which extended from 2nd to 5th lumbar vertebrae, was found on the right side, with the L3-4 facet destructed and directly connected to the abscess. Some chalky material, considered to be steroid crystals, was found at the L3-4 facet joint. Drainage, debridement and irrigation were performed. Staphylococcus aureus was isolated from the culture. After surgery, intravenous antibiotics were administered, and the patients' symptoms quickly resolved.

Conclusions: A posterior facet joint injection has its own risks of developing a pyogenic infection of the facet joint. Pyogenic facet joint infections may progress to a paraspinal intramuscular abscess. Surgical drainage is mandatory in cases resistant to antibiotic treatment, with evidence of pus formation on imaging studies.

Key Words: Pyogenic facet joint infection, Paraspinal intramuscular abscess, Facet joint injection

Address reprint requests to

Byung-Joon Shin, M.D.

Department of Orthopaedic Surgery, College of Medicine, Soonchunhyung University

#1174 Jung-dong, Wonmi-gu, Bucheon-si, Gyeonggi-do, 420-853, Korea

Tel: 82-32-621-5259, Fax: 82-32-324-9577, E-mail: schsbj@schbc.ac.kr

* 2002

3

가

9

가

30

가

(Fig. 3).

Cook ⁴⁾

Magee ⁸⁾

1

가

가

3-4

(Fig .

1),

가

3-4

(Fig. 2).

2

5

6

39

가

3-4



Fig. 1. Preoperative plain radiographs

Arrow points to the erosion of inferior articular process and narrowing of L3-4 facet joint.

가 , 2 가 .
4 , 4 33 가 .
1 3 , 가
가
3,9) 가
가
가 90%가 50%
1,11,12)
2), 17% ,
4), 1,12)

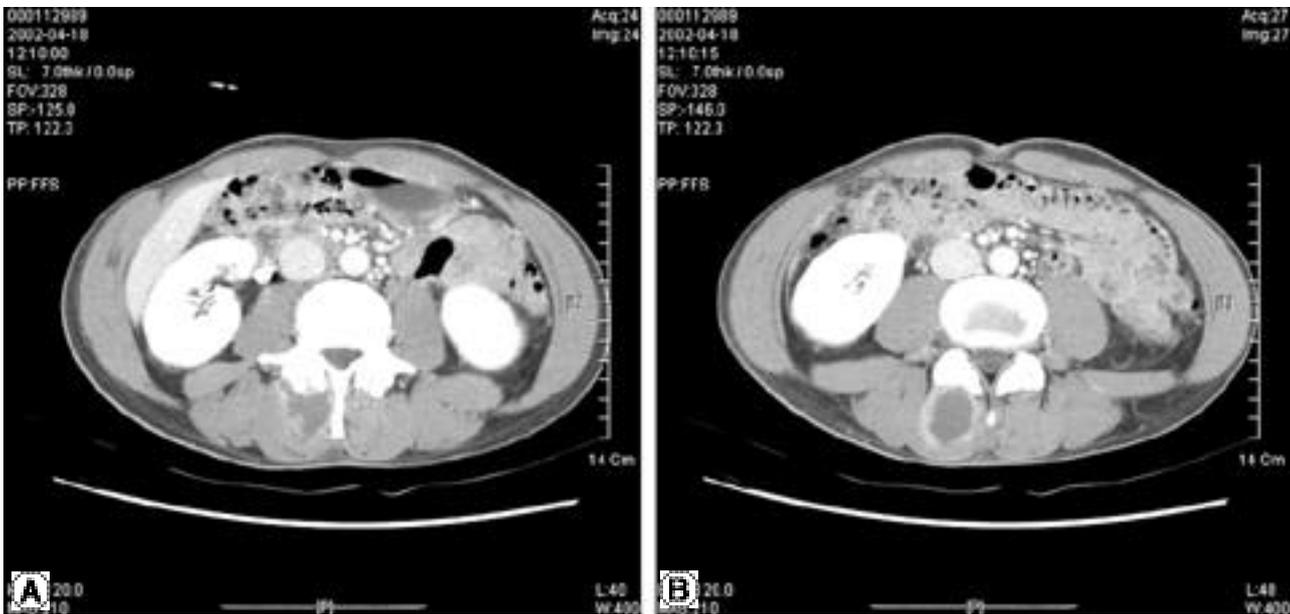


Fig. 2. CT scan after contrast enhancement

- A. Right L3-4 facet joint was partially destroyed and connected to the paraspinal intramuscular abscess
- B. Intramuscular paraspinal abscess at L4-5 facet joint level.

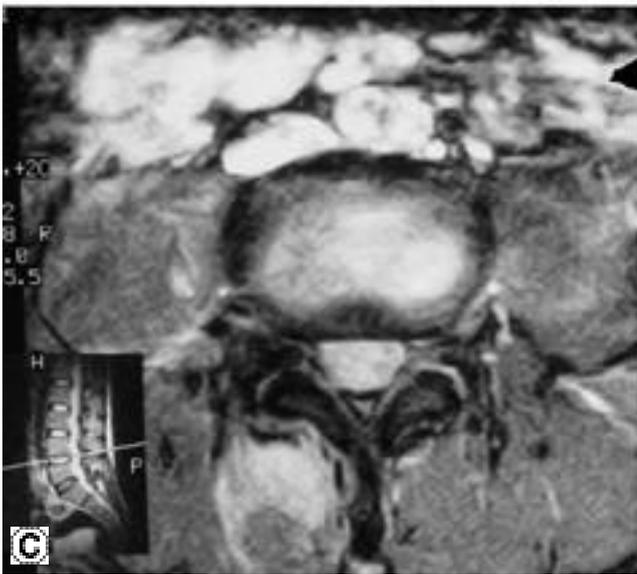
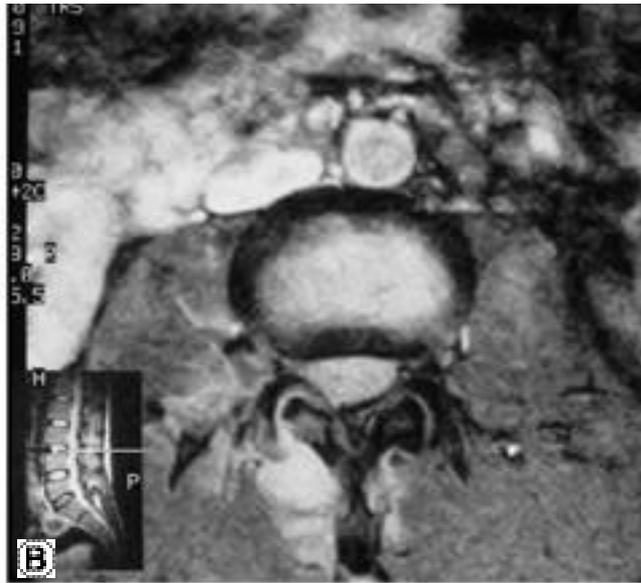


Fig. 3. MR images

- A.** Paraspinal intramuscular abscess showed high signal intensity in T2 sagittal images.
- B.** Direct connection between right L3-4 facet joint and paraspinal abscess noted.
- C.** Intramuscular paraspinal abscess at L4-5 facet joint level.

가 2).
10~25%

7)

,

10)

가
C-
42% 가 ,
92% 가 5,12),
25%
12,13),
C-
가 ,
2~3 가

-
- facet joint. *J Bone Joint Surg*, 69B-3: 457-460, 1987.
- 7) **Heenan SD, and Britton J:** *Septic arthritis in a lumbar facet joint: a rare cause of an epidural abscess. Neurology*, 37: 462-464, 1995.
- 8) **Magee M, Kannangara S and Dennien B et al.:** *Paraspinal abscess complicating facet joint infection. Clin Nucl Med*. 25: 71-73. 2000
- 9) **Muffoletto AJ, Ketonen LM, Mader JT et al.:** *Hematogenous pyogenic facet joint infection. Spine*, 26: 1570-1576, 2001.
- 10) **Peris P, Brancos MA, Gratacos J et al.:** *Septic arthritis of spinal apophyseal joint. Spine*, 17-12: 1514-16, 1992.
- 11) **Roberts W:** *Pyogenic vertebral osteomyelitis of a lumbar facet joint with associated epidural abscess. Spine*, 13: 948-952, 1988.
- 12) **Sapico FL and Montgomerie JZ:** *Pyogenic vertebral osteomyelitis; Report of nine cases and review of the literature. Rev Infect Dis* 1: 754-776, 1979.
- 13) **Weinstein JN and Wiesel SW:** *The Lumbar Spine*. W. B. Saunders Company. 1990.