

Recurrent Painful Calcium Pyrophosphate Arthropathy

Lisa Carpenter, DO
Noelle Juliano, DO
Ronald Herb, DO

From the Department of Internal Medicine at the Reading Health System in West Reading, Pennsylvania.

Dr Carpenter is a third-year resident and Dr Juliano is a second-year resident.

Financial Disclosures: None reported.

Support: None reported.

Address correspondence to

Lisa Carpenter, DO,
Reading Hospital,
Department of
Internal Medicine,
420 S 5th Ave,
West Reading, PA
19611-2143.

E-mail: lisa.carpenter@readinghealth.org

Submitted
May 18, 2016;
final revision received
June 30, 2016;
accepted
July 14, 2016.

A 69-year-old woman presented to her primary care physician with pain and decreased range of motion in her left knee for the past 5 days. She reported no history of trauma. The patient underwent an arthrocentesis and received a 1.5-mL injection of triamcinolone, which improved her pain and range of motion. She returned 9 months later with the same symptoms lasting for 3 days. Physical examination revealed decreased flexion and extension and fullness in the posterior joint space. Laboratory studies revealed a high erythrocyte sedimentation rate (63 mm/h) and C-reactive protein level (7.66 mg/dL). Plain film radiograph of the knee showed calcification in the popliteal fossa (image). Calcium pyrophosphate crystals were identified in the synovial fluid, and calcium pyrophosphate deposition disease was diagnosed. She was given a 1.2-mg dose of colchicine orally, followed by a 0.6-mg dose 6 hours later, which resolved her symptoms and improved her range of motion.

Deposition of calcium pyrophosphate crystals into joint spaces can lead to severe, chronic arthritic

attacks and damage to the cartilage.¹ The most common management of localized symptoms is corticosteroid injection. Oral methods include colchicine and nonsteroidal anti-inflammatory drugs.² Colchicine can also be used prophylactically. Methotrexate and anakinra have been used for management, but recent studies suggest they provide no notable effect.^{2,3} (doi:10.7556/jaoa.2017.036)

References

1. Rosenthal AK, Ryan LM. Calcium pyrophosphate deposition disease. *N Engl J Med*. 2016;374(26):2575-2584. doi:10.1056/NEJMra1511117
2. Finckh A, Mc Carthy GM, Madigan A, et al. Methotrexate in chronic-recurrent calcium pyrophosphate deposition disease: no significant effect in a randomized crossover trial. *Arthritis Res Ther*. 2014;16(5):458. doi:10.1186/s13075-014-0458-4
3. Ottaviani S, Brunier L, Sibila J, et al. Efficacy of anakinra in calcium pyrophosphate crystal-induced arthritis: a report of 16 cases and review of the literature. *Joint Bone Spine*. 2013;80(2):178-182. doi:10.1016/j.jbspin.2012.07.018

© 2017 American Osteopathic Association

Keywords: calcium pyrophosphate arthropathy, calcium pyrophosphate crystals, calcium pyrophosphate deposition disease

