Images in Rheumatology

# Subacromial Bursitis with Rice Bodies as the Presenting Manifestation of Rheumatoid Arthritis

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A 45-year-old man presented with a 3 month history of pain and swelling of the right shoulder. He denied fever, trauma, or prior joint symptoms. Examination revealed the shoulder to be nontender but swollen over the subacromial region and moderately limited in abduction and rotation. The remainder of the examination was unremarkable. Laboratory studies were normal except for a hemoglobin of 12.3 g/dl and erythrocyte sedimentation rate 56 mm/h. Rheumatoid factor, antinuclear antibodies, and HLA-B27 were negative.

Radiologic studies of the right shoulder showed soft tissue swelling on plain radiographs and innumerable small loose bodies on magnetic resonance imaging (Figure 1). Arthroscopy revealed synovial inflammation with many small white loose bodies (Figure 2), and histopathology revealed "rice bodies" with chronic synovial inflammation (Figure 3).

Six months later, he developed a polyarthritis involving the hands, wrists, and elbows associated with morning stiffness. Radiographs showed subchondral bone cysts in several proximal interphalangeal joints. He was diagnosed with seronegative rheumatoid arthritis (RA).

Rice bodies, so named because of their resemblance to polished white rice, were originally described in association with tuberculous arthritis in 1895[1]. They represent a hetero-


*Figure 1*. Magnetic resonance imaging (MRI) of the right shoulder showing innumerable small loose bodies within the joint capsule and subacromial space.

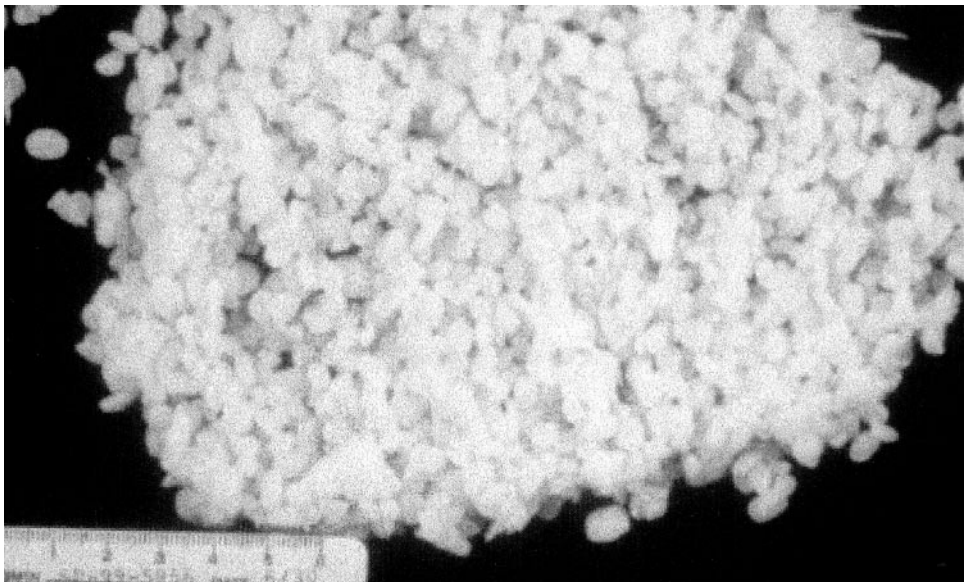

*Figure 2*. Gross pathology of rice bodies removed from the right shoulder during arthroscopic surgery.

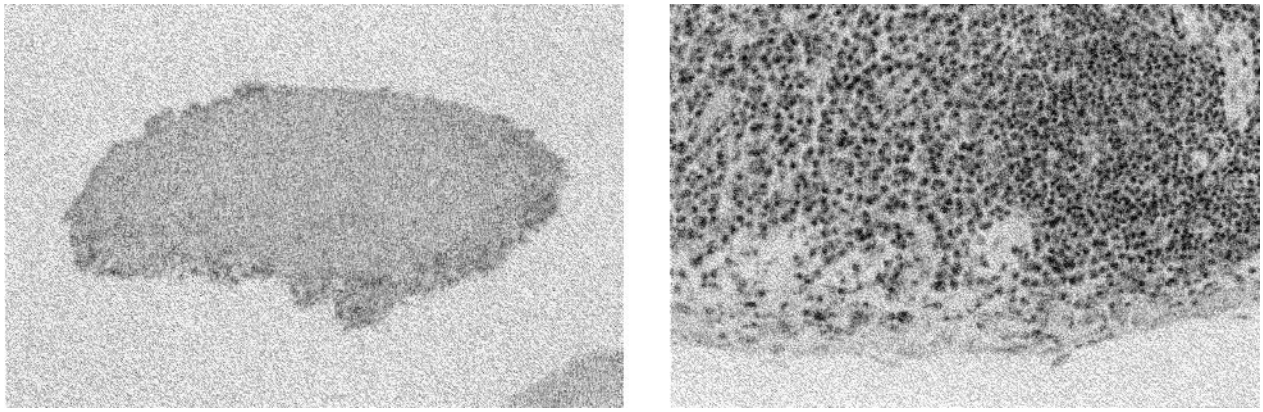

*Figure 3*. Histopathology of rice bodies removed from the right shoulder synovial tissue (hematoxylin and eosin, ×100). A. Rice bodies consisting of fibroblasts and fibrin material. B. Chronic rheumatoid synovitis showing synoviocyte proliferation and subsynovial inflammation with lymphocytes and plasma cells.

geneous group of fibrin-like particles whose clinical significance is uncertain. Popert, *et al*[1] found rice bodies in all stages of RA, irrespective of the presence or absence of radiographic changes. Many clinicians support the finding that once formed, rice bodies will persist indefinitely and contribute to the chronicity of the arthritis. For this reason joint irrigation and lavage is recommended by many to remove rice bodies and reduce inflammation.

Inflammatory arthritides often manifest in more familiar forms over a span of months to years. Careful followup with serial examinations cannot be overstated.

## REFERENCE

1. Popert AJ, Scott DL, Wainwright AC, Walton KW, Williamson N, Chapman JH. Frequency of occurrence, mode of development, and significance or rice bodies in rheumatoid joints. Ann Rheum Dis 1982;41:109-17.