Multiple Loose Bodies in Rheumatoid Arthritis

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Abstract. Intra-articular loose bodies are usually secondary to osteochondral fractures, osteochondritis dissecans, synovial osteochondromatosis, and degenerative arthritis. The authors report four patients with longstanding rheumatoid arthritis and multiple loose bodies in a variety of joints. All patients have remained active despite their disease, suggesting that the loose body production was secondary to trauma of continued activity superimposed on joints containing pannus and eroded cartilage.

Key words: Rheumatoid arthritis – Loose bodies.

The diagnosis of intra-articular loose bodies in rheumatoid arthritis is uncommon despite the frequency of cartilagenous and bony fragments found within the synovium on pathologic examination. More commonly loose bodies are secondary to degenerative arthritis, previous trauma, or synovial osteochondromatosis.

We have recently studied four patients with loose bodies, two with classical and two with definite rheumatoid arthritis [1]. Three patients had polyarticular loose body formation, one confined to the knees, and the fourth patient had monarticular involvement. The absence of similar reports and the identification of four patients within a relatively short period are the basis of this communication.

Case Reports

Case 1
P.J. is a 54-year-old black male with a 25-year-history of classical rheumatoid arthritis which was sero-positive with a latex fixation as high as 1 to 640. He was admitted to the Hospital of the University of Pennsylvania with a supracondylar fracture of the right humerus.

Past medical history revealed episodes of septic arthritis in the right knee and left ankle, and treatment with multiple drugs including intra-articular steroids in the ankles, feet, and knee. Previous synovial fluid analysis demonstrated cloudy fluid with a few rheumatoid arthritis cells and many cartilage pieces. No crystals were found.

Physical examination revealed the changes of longstanding rheumatoid arthritis with bilateral volar subluxation of the metacarpal phalangeal joints, boutonniere deformities of the fourth and fifth digits, and synovial thickening. Radiographs revealed the characteristic changes of severe rheumatoid arthritis and multiple loose bodies in the right knee, right shoulder, elbows, hands, and ankles (Fig. 1). Radiographs of the spine were unremarkable [2].

Case 2
J.J. is a 57-year-old black male with a 15-year-history of classical sero-positive rheumatoid arthritis with a latex fixation titer of 1:160 in 1974. He had been treated with multiple drugs including steroids in the past. On physical examination flexion contractures of both elbows, subluxed wrists, and synovial thickening about the knees were present. Radiographs revealed the characteristic changes of severe rheumatoid arthritis in the hands, elbows (Figs. 2A and B), ankles, and knees (Fig. 2C) with multiple loose bodies in both elbows. A total knee replacement had been performed on the right and both knees exhibited multiple loose bodies.

Cases 3 and 4
The third and fourth patients had definite longstanding rheumatoid arthritis. Both knees exhibited loose bodies in one patient and the ankle was involved in the other patient (Fig. 3).
Fig. 1. A The right shoulder shows multiple loose bodies. There is marked narrowing of the glenohumeral joint and elevation of the humeral head indicating a chronic rotator cuff tear. Extensive subchondral sclerosis is identified about the glenohumeral articulation indicating virtual absence of articular cartilage. B Lateral view of right elbow in same patient revealing a supracondylar fracture with displacement of the posterior fat pad. Multiple loose bodies are identified in the anterior and posterior aspects of the elbow and subchondral sclerosis is seen about the articulating surfaces. C AP view of the right hand and wrist revealing intercarpal fusions and fragmentation. Marked narrowing of metacarpophalangeal and proximal interphalangeal joints with erosive changes and multiple loose bodies, particularly around the second metacarpophalangeal joint. Changes of osteoarthritis are also noted in the distal interphalangeal joints of the third, fourth, and fifth digits. D Close up of the second metacarpophalangeal joint illustrating marked joint narrowing and intra-articular loose bodies.