

# Idiopathic Multiple Rice Bodies in the Knee Joint without Rheumatoid Arthritis or Tuberculosis: A Case Report

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**Abstract:** Rice bodies are materials with an amorphous nucleus and a fibrin layer floating in the synovial space and occasionally periarticular bursae. These bodies have often been detected in patients with rheumatoid arthritis, tuberculous arthritis. But rice bodies are also observed in non specific synovitis without any underlying disease. After taking informed consent from patient for this study, we report a case of multiple rice bodies of different sizes intraarticular space of the left knee joint in 32 year old male for which we performed arthroscopic drainage of rice bodies and synovectomy done and results showed no evidence of inflammatory articular disease or infections including rheumatoid arthritis, tuberculosis, or bacterial or fungal infection and excellent result on follow up

**Keywords:** Rice body, Knee Joint, Rheumatoid Arthritis, Tuberculosis

## 1. Introduction

Rice bodies are fibrous bodies of synovial origin with a cartilage like appearance and resembling polished white rice, have been seen in synovial fluid from several types of inflammatory arthritis including tuberculosis, pyogenic arthritis, and both juvenile and adult rheumatoid arthritis. However we experienced a case with a chronic monoarthritis of unknown aetiology who presented with rice bodies in the left knee joint.

## 2. Materials and Methods

A 32 - year - old male had developed discomfort in the right knee two years ago and started severe pain since two months

which was gradual in onset and non radiating associated with swelling and fever which aggravates on working and relieve on rest. For these symptoms, he visited to local doctors. He did not have any medical history and previous joint problems. By profession auto driver, working for long hours with no history of trauma. On Examination patient moderately built, Afebrile and vital stable. Conventional radiographs showed Grade 2 osteoarthritis (fig 1). Serum biochemistry analysis results were as follows: erythrocyte sedimentation rate, 60 mm/ 2<sup>nd</sup> hr; white blood cell count 15, 820/uL; C - reactive protein 48 mg/l, rheumatoid factor: negative; antistreptolysin - O Titre: 260 IU/ML.



**Figure 1:** Shows No Significant Pathological changes except decreased joint space (Grade 2 osteoarthritis)

An arthroscopic intervention was done for diagnostic and therapeutic purposes. Cannulation of the knee joint through the anterolateral port (Figure 2) during arthroscopy caused

spillage of numerous, tiny, whitish yellow - colored, cartilage - like bodies. In addition to free - floating particles within the intra - articular space, extensive villous

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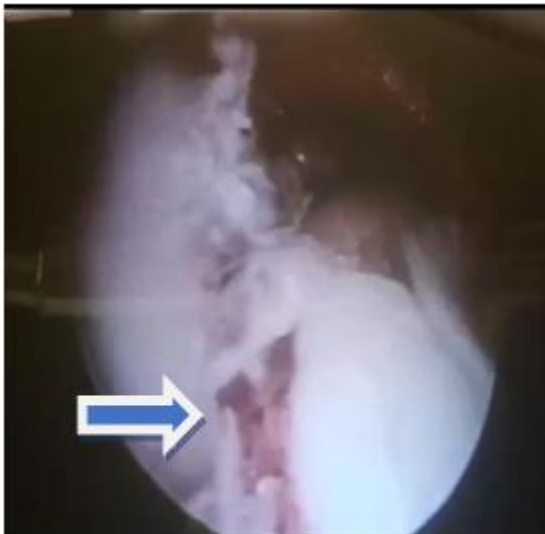
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hypertrophy of the synovium was seen. After washing out the remaining rice bodies, arthroscopic subtotal synovectomy was performed. Histopathologic study showed that the rice bodies were composed mainly of organized fibrin and collagenous nuclei surrounded by a thin fibrin layer. Additional findings were evidence of chronic

synovitis with villous hyperplasia and intra-articular fluid with a predominance of polymorphonuclear cells. Full range of motion and quadriceps muscle strength established within 4 weeks.



**Figure 2:** Shows Arthroscopic cannulation through anterolateral port of the left knee joint - spillage of fluid containing rice bodies



**Figure 3:** Shows Arthroscopic washing out of rice bodies in the left knee

The cause of rice bodies is not fully understood, but they may originate from microinfarction of the synovium due to chronic inflammation. Microscopic findings of rice bodies had shown an amorphous core surrounded by thin fibrin. Most of the cases with rice bodies seen in joints in the absence of rheumatic disease or tuberculosis have been reported in repetitive activities seen in dominant side. After arthroscopic synovectomy, no similar complaints seen in that patient during followup.

### 3. Discussion

The incidence of idiopathic rice bodies formation is rare. Rice bodies are usually found in the synovial space of rheumatoid or seronegative spondyloarthritis patients, osteoarthritis, Tubercular arthritis and around inflamed bursa and tendon sheaths. Rice bodies have been found in various joints including shoulder, knee, wrist, and elbow. As idiopathic rice bodies formation is rare, one should rule out other pathology by checking for immunologic markers including anti-citrullinated protein antibody (ACPA), anti-nuclear antibodies (ANA) and HLA B - 27. Idiopathic rice bodies can simply be managed with synovectomy.