

## Synovial Chondromatosis of knee-A rare case report

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### ABSTRACT

Synovial chondromatosis of the knee is an uncommon disease affecting knee joint in middle aged males. We report a case of synovial chondromatosis in the postero medial corner of the knee; which was diagnosed clinically, corroborated with evidence of radiographs, and confirmed histopathologically. It was treated with open synovectomy through posterior approach, removal of loose bodies. Patient had post operatively pain relief and his range of movement increased. He has been in regular follow up for two years and there is no evidence of recurrence or malignant transformation. Only one such case has been reported in literature.

**Key words:** synovial chondromatosis, knee, loose body

### INTRODUCTION

Synovial chondromatosis is an uncommon disease characterised by foci of cartilage in the synovial tissue of joints, due to metaplasia of intimal layer of synovium.<sup>1</sup> It affects most commonly knee joint, rarely bursal lining and tenosynovium.<sup>2</sup> The inner layer of synovium contains synovial cells and outer layer consists of fibroareolar tissue, collagen, fat, nerve and lymphatics. Some of the metaplastic foci of cartilage become sessile, detach from synovium and become loose bodies. The active growth of loose bodies can occur due to nourishment by synovial fluid. Milligram classified the disease into three phases: early (active intrasynovial disease but no loose bodies), transitional disease (active disease and loose bodies), and late (multiple loose bodies but no intrasynovial disease).<sup>3</sup>

### CASE REPORT

A 43 years man was presented with left knee pain and stiffness of 2 years duration, with two previous episodes of knee locking. Physical examination revealed mild synovial effusion, with multiple loose bodies felt like "bag of worms" in the posterior aspect of knee beneath medial head of gastrocnemius. His range of movements was zero to hundred degrees. There was no evidence of osteoarthritis.

The radiographs of knee showed multiple radio-opaque loose bodies in the postero-medial corner of knee of varying sizes, without any osteoarthritis changes, or neuropathic joint changes. MRI of knee

revealed multiple loose bodies in postero medial corner of knee in two synovial pouches and also showed relation of popliteal artery with pouches.

Patient was treated with synovectomy and excision of loose bodies through posterior approach. Post operative period was uneventful, pain free, and his range of movement was increased to hundred thirty degrees. There is no recurrence, and his recent radiographs are within normal limits.

### DISCUSSION

Primary synovial chondromatosis is a very rare monoarticular synovial disease.<sup>2</sup> Secondary chondromatosis is common, where articular cartilage is shred and found as loose bodies in the joint. The combination of synovial chondromatosis and degenerative arthritis is a common finding in the advanced stage of the disease. Primary synovial chondromatosis over time can lead to cartilage degeneration by mechanical wear via the loose bodies and through nutrient deprivation to the articular cartilage. However, degenerative arthritis can lead to secondary synovial chondromatosis.<sup>2</sup> It commonly affects the elderly males.<sup>4</sup> Average age in Murphy series was 40 years, and the average duration of symptoms was 5.5 years.<sup>5</sup> Clinically, it presents with pain, swelling, stiffness, crepitus and locking of the knee. Physical findings include limited movements, tenderness, effusion, mass, palpable loose bodies, crepitus on motion, synovial thickening. Although benign, it can sometimes be destructive and cause severe osteoarthritis, pain

and disability.<sup>6</sup> Radiographic findings include multiple radio-opaque loose bodies with osteoarthritis changes, although sometimes normal.<sup>7</sup>

Microscopically, it is seen as myriad cartilaginous masses just beneath the synovial membrane lining with typical metaplastic foci in the sublining layer of stratum synoviale. Synovial chondromatosis of knee joint in posterior aspect has not yet reported in literature.<sup>8</sup>

Surgical treatment for synovial chondromatosis proved beneficial for these patients. By means of identified indications, selecting an appropriate surgical approach provides a rapid recovery and



**Fig.1.** Pre Operative radiographs of the knee showing multiple loose bodies in postero medial corner.

low incidence of recurrence.<sup>9</sup> Malignant transformation to chondrosarcoma is an unusual but possible complication. It is closely connected with recurrence rate and usually occurs many years after surgical treatment.<sup>10</sup>



**Fig.2.** Multiple osteocartilaginous loose bodies of varying size.

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