Synovial osteochondromatosis of the elbow in a basketball player: a case study and brief review

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Introduction
Synovial osteochondromatosis is an uncommon condition characterized by the gradual ossification of intra-articular cartilaginous structures affecting typically the large joints in young to middle aged adults, with a predilection of two to four fold for men over women. The disease is usually monoarticular and joints affected are Knee (50%), Hip, Shoulder, Elbow and Ankle, though any synovial joint may be affected. The disease is characterized by synovial proliferation, calcification and formation of multiple (even hundreds) intra-articular loose bodies.

Case Report
A 25 year old basketball player presented with a three year history of gradual decrease in the range of movement in his right elbow which was not accompanied by any localized inflammatory signs or pain. He gave an initial history of mild elbow hyperextension with accompanying soreness that resolved spontaneously with time. X-ray of the elbow showed numerous juxtaarticular calcified / ossified bodies and that had multiplied when compared to an X-ray taken two years prior.

A lateral approach was utilized to reach all compartments with repeated passive flexion and extension of the elbow performed to assist in the removal of over 100 intra-articular loose bodies with a few still adherent to the synovium. The size of these loose bodies varied from a few mm to the largest being 2cm in diameter. Passive range of movement improved dramatically after their removal.

Discussion
Synovial osteochondromatosis represents a proliferative metaplastic process with the formation of well-differentiated hyaline cartilage within the synovial membrane. Nodular proliferation of the synovium occurs and fragments are pushed towards the joint cavity where they survive and enlarge to form cartilaginous bodies. The central portions necrose and undergo calcification followed by enchondral ossification. They may break away giving rise to the classical picture of multiple intrarticular osseous loose bodies or may remain attached to articular surface of the synovium. The affected joint cavity becomes distended and packed with loose bodies resulting in mechanical obstruction, joint destruction and often pain. (1).

Studies indicate that either aggressive synovectomy is necessary to minimize recurrence, or simple loose body removal will suffice with satisfactory long-term results (2,3). Milgram (4) has proposed that the disease follows a progressive evolution, characterized by three distinct phases:

a) Early with synovial chondrometaplasia but no loose bodies.
b) Transitional with active synovial disease and loose bodies.
c) Late with loose bodies but no synovial disease.

Malignant transformation into Chondrosarcoma is reported but is extremely rare (5).

References