

Synovial Chondromatosis (Osteochondromatosis)

Synovial chondromatosis is a rare dysplasia seen in young adults. It is associated with metaplastic cartilage within the synovial lining of major joints such as the hip, knee, shoulder and elbow. It is twice as common in males as females and usually occurs in patients in the 20-40 year age group. It is a monoarticular disease that presents with symptoms of crepitation in the affected joint and mild, intermittent effusion sometimes associated with pain. Because of chronic irritation to the joint and damage to the articular cartilage, osteoarthritis is an ultimate problem with this disease and can lead to total joint replacement at an older age. In rare instances this condition can mutate into a secondary chondrosarcoma, usually around the hip or knee joint but seldom in the shoulder area. This usually occurs in the later years of life.

In the early stages before the cartilage becomes calcified, the synovial chondromatosis may be difficult to pick up on routine radiographic examination. As time passes, the cartilage begins to calcify in a typical chondroid pattern that suggests the diagnosis of a chondroid tumor in or about a major joint. With excessive proliferation, the cartilage can extrude out of the joint into adjacent soft tissue, similar to what occurs with pigmented villonodular synovitis. As the disease progresses, it is not unusual to see enchondral ossification occurring within the cartilage when it is still attached to the synovial lining and has access to a blood supply. Multiple loose bodies are common with this disease and can run as high as 200 pellets within a major joint that sometimes aggregate into a large mass that has the appearance of a chondrosarcoma.

Treatment consists of a surgical resection of the loose bodies as well as a subtotal synovectomy of the tissue that produces the loose bodies. Multiple surgical procedures may be required because of a high recurrence rate. As in pigmented villonodular synovitis, it is not unusual to see a solitary focus of synovial chondromatosis with the remaining synovial lining being normal in appearance with only a solitary mass of cartilage attached to the synovial lining. This localized nodular form is more common about the hip, knee and ankle area. It is very common to find loose bodies in a major arthritic joint in older patient secondary to osteoarthritis where the joint cartilage has broken away from the joint surface and become reattached to the synovial lining. It gives the pseudo-appearance of primary synovial chondromatosis when, in fact, the primary etiology in this so-called secondary form is degenerative osteoarthritis. The secondary form is seen in patients over the age of 50 years, whereas the primary

dysplastic form arising from the synovial lining occurs during the first three to four decades of life.