

MUSCULOSKELETAL CASE 4. DIAGNOSIS

IDIOPATHIC SYNOVIAL OSTEOCHONDROMATOSIS

Synovial osteochondromatosis can be classified as primary (idiopathic) or secondary. Idiopathic synovial osteochondromatosis (ISO) is usually monoarticular and most commonly affects the knee. The synovial sheath of joints, tendons and bursae undergo hyperplastic–metaplastic change, forming small cartilaginous nodules, which undergo secondary ossification and eventually break off to float free within the synovium. The loose bodies may continue to grow, receiving nutrients from the synovial fluid. They tend to be of uniform size. The articular surface is preserved in ISO. The secondary form is differentiated from the idiopathic form by the variable size and reduced number of loose bodies, the presence of degenerative articular change and the potential involvement of more than 1 joint. It is associated with a number of disorders, including osteoarthritis, rheumatoid arthritis, osteochondritis dissecans, osteocartilaginous fractures, osteonecrosis and neuropathic arthropathy.

Plain radiography and computed tomography can demonstrate radiopaque

loose bodies, and arthrography and ultrasonography can demonstrate purely cartilaginous intra-articular loose bodies. Magnetic resonance imaging (MRI) is the best noninvasive imaging modality currently available to confirm the diagnosis as well as to define the extent of synovial involvement.¹ The MRI appearance of ISO has been shown to be unique. Three patterns have been described by Crotty and associates.² The presence of bone marrow in the loose bodies of long-standing synovial osteochondromatosis is related to enchondral ossification with bone marrow production. This is readily detected on MRI and thought to be pathognomonic as described by Blandino and associates.³ MRI is also more sensitive in the detection of articular changes that may be seen in the secondary form of synovial osteochondromatosis and may differentiate this from a number of other monoarticular processes that would be considered in the differential diagnosis on the basis of clinical findings alone.¹

Previous arthrotomy with removal of loose bodies with or without synovectomy was the favoured management of ISO.⁴ Arthroscopic management has been shown to be safe. It is

associated with a reduced recurrence and faster rehabilitation in the treatment of ISO, which resulted in effective treatment in this patient.^{5,6}

References

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