

Rapidly progressive osteoarthritis of hip: a challenging diagnosis not to be overlooked.

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Introduction: Rapidly progressive osteoarthritis of hip is a rare idiopathic condition that involves rapid deterioration of hip joint with disappearance of the femoral head as first reported by Forestier¹. It can mimic other forms of destructive arthropathy including septic, inflammatory, crystal and neuropathic arthropathy. This condition is easily overlooked and underdiagnosed, which results in delays in treatment (i.e. total hip arthroplasty) with poor clinical outcome. The objective is to review clinical and radiological features of rapidly progressive osteoarthritis for education purposes.

Material and method: A retrospective review of patients with clinical profile and serial imaging suggestive of rapidly progressive osteoarthritis of hip disease was performed. Serial radiographs, computed tomography (CT) and magnetic resonance imaging (MRI) were evaluated. The onset of symptoms such as hip pain and functional disability in relation to time of imaging were analyzed.

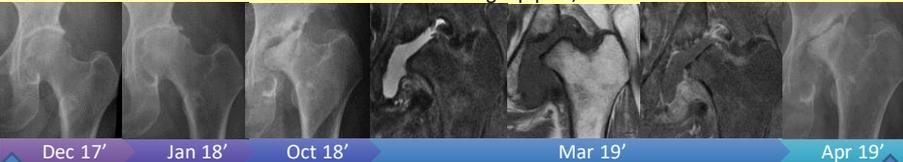
Results and discussion: A total of five patients were included. Rapid progression of hip joint destruction was observed in serial radiographs and CT images. Early radiographic findings included concentric joint space narrowing with minimal or no osteophytosis and subchondral sclerosis. Later radiographic findings included cystic changes and bone destruction of the femoral head and acetabulum, with superior migration of femoral head and obliteration of the joint space. MRI findings included extensive periarticular bone marrow edema and bone destruction, synovitis, and joint effusion. Alternative diagnosis of infection and other etiologies were excluded on basis of joint aspiration and correlation with clinical features.

Case 1, 85/M presented with hip pain for few years. Initial radiographs show marked joint space narrowing, subchondral sclerosis and subchondral cystic change. Serial radiographs and CT show rapid bony erosion of acetabulum and femoral head. Complete destruction of femoral head with superior migration of femur at later stage.



Walk unaided

Increasing hip pain, walk with frame



Case 2, F/62. Initial radiograph is unremarkable. Serial radiographs show rapid bony destruction with complete femoral head destruction at later stage. MRI show synovitis with synovial enhancement, large joint effusion and mild periarticular bony edema.

Hip pain for few weeks

US joint aspiration showed no infection

Case 3, 78/M presented with hip pain for 1 year. Initial radiograph shows joint space narrowing at superolateral weight-bearing area. Serial radiographs show rapid bony destruction of femoral head and acetabulum with superolateral migration of femur. Patient had refused hip replacement. Complete femoral head destruction with further superolateral migration of femur at later stage.



Walk with stick

Severe hip pain, wheel chair bound

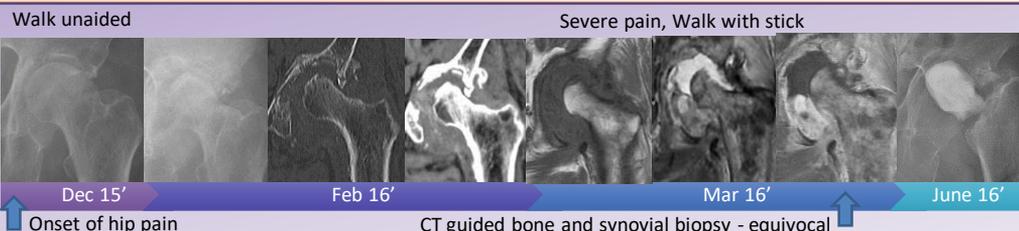


Case 4. 60/M. Serial radiographs show rapid destruction of femoral head and acetabulum. Femoral head was flattened and later completely destructed with superolateral migration. Total hip replacement was done with histology showing osteoarthritis change.

Hip pain for more than 1 year

US joint aspiration showed no infection

Case 5. F/79. Rapid destruction of femoral head and acetabulum, associated with synovitis and periarticular bone edema on MRI. Curettage of femoral head and synovial biopsy with cementation of bone cavity was performed. Histology show osteoarthritis change.



Conclusion: Rapidly progressive osteoarthritis of hip is an easily overlooked but important condition, with significant implications to patients' morbidity and clinical outcome. Early diagnosis of disease would be important, as delayed hip arthroplasty in such condition is well recognized to compromise the success of surgery and is undesirable³. High index of suspicion with awareness of clinico-radiological features should be possessed by radiologists. The key feature of disease is rapid chondrolysis as defined by Lequesne³ as greater than 2 mm/year rate of joint space narrowing, i.e. loss of more than 50% of the joint space within 1 year. This highlights the importance of careful interpretation of serial imaging for patients with persistent hip pain and deterioration of functional status.

References: [1] Forestier F. Coxite rhumatismales subaigues et chroniques. Thesis Paris. 1957. [2]. Batra S, Batra M, McMurtrie A, Sinha A. Rapidly destructive osteoarthritis of the hip joint: a case series. Journal of Orthopaedic Surgery and Research. 2008;3(1). [3]. Lequesne M. Rapid destructive coxarthrosis [in French]. Rhumatologie 1970;2:51-63