

Arthroscopic view of Transient Synovitis of the hip joint : A Case Report

Vijay D. Shetty, M.S Orth.

Adult Hip and Knee Consultant

Hiranandani Orthopaedic Medical Education (HOME)

Dr L H Hiranandani Hospital, Powai,
Mumbai 400076, India.

Email: vijaydshetty@gmail.com

Tel: 91-22-25763496

Gautam M. Shetty, M.S Orth.

Clinical Assistant, Department of Orthopaedic Surgery,

Dr L H Hiranandani Hospital, Mumbai, India.

Address all correspondence to:

Vijay D. Shetty, M.S Orth.

Adult Hip and Knee Consultant

Hiranandani Orthopaedic Medical Education (HOME)

Dr L H Hiranandani Hospital, Powai,
Mumbai 400076, India.

Email: vijaydshetty@gmail.com

Tel: 91-22-25763496

No funds were received in support of this study

Abstract

We present a case of a 13-year-old male patient with hip pain and limp. Inconclusive investigations and persistent symptoms resulted in the patient undergoing hip arthroscopy. At arthroscopy, a large focal cartilaginous defect of the femoral head with synovitis was seen and synovial biopsy confirmed the diagnosis. Arthroscopic debriement of the lesion, synovectomy and non-weight bearing for 6 weeks resulted in relief of symptoms. Transient synovitis is a common diagnosis in young children, but the extent of damage to the femoral head has not been previously described. Transient synovitis may not always respond to symptomatic treatment and hip arthroscopy may be useful in detecting the actual lesion and plan the treatment.

Key words: Arthroscopy; transient synovitis; hip joint

Introduction

Evaluation of hip pain in the skeletally immature can be a challenge due to the diagnostic dilemma it raises. The etiology of a painful, irritable hip in children can be varied to include infectious, inflammatory, mechanical/ traumatic or neoplastic causes [3]. Transient synovitis of the hip is one of the most common causes of hip pain in children characterized by an acute, self

limiting inflammation of the synovium and causing joint pain, stiffness and limp [2]. Landin et al [5] have reported the mean annual incidence of transient synovitis of hip at 0.2% and a child's risk of developing it at some point of time at 3%. The cause of this condition is a subject of great controversy with various causes such as viral infection, trauma, and allergy attributed to it. We describe a case of painful hip in a 13-year-old male patient who was diagnosed and treated with hip arthroscopy. To our knowledge, there is no report in literature describing the true picture of transient synovitis.

Case report

A 13-year old boy presented with complaints of insidious onset pain in his right hip of 4 weeks duration. The patient gave no history of trauma, fever, multiple joint pain, or recent viral infection. He walked with a limp and on physical examination had terminal painful restriction of hip movements (flexion, rotation, and abduction). There was no fixed deformity or limb length discrepancy. Blood tests (complete blood count, erythrocyte sedimentation rate, and C - reactive protein level), plain radiographs of the right hip (anteroposterior and lateral views) and MRI of the right hip were normal. Infection was ruled out using the criteria proposed by Caird et al [1] A provisional diagnosis of transient synovitis of the hip was made and the child was treated by supervised neglect. However, after 4 weeks of diagnosis the patient continued to walk with a limp with no improvement in pain or range of hip movement.

Arthroscopy of the right hip was subsequently performed to visualize and assess the joint. The joint could be easily accessed and clear joint aspirate was sent for gram staining and culture. Arthroscopy revealed an area of cartilaginous defect in the femoral head (Fig. 1). There was peripheral synovial hypertrophy but the acetabular labrum and cartilage were normal. The margins of the chondral defect were debrided and a thorough synovectomy was performed and sent for biopsy.

In view of the arthroscopic findings, the patient was advised non-weight bearing mobilization using crutches for the next 6 weeks. The culture report for the synovial fluid was negative and histopathology of the excised synovial tissue showed synovial proliferation with lymphocytic infiltration (Fig. 2). At 6 weeks of follow-up, the patient reported significant relief of pain with improved hip range of motion. Therefore, supervised weight bearing, as comfortable, was commenced. He progressed well and at eleven - month follow-up the patient continued to be symptom free.

Discussion

Transient synovitis is a common diagnosis in a young limping child. It usually responds rapidly within days (7-10 days) of conservative treatment and its course is rarely prolonged beyond 3 weeks [2]. The diagnosis is usually made by exclusion. However, occasionally, diagnosis can be very difficult with available investigating tools. The most important finding of our case was that, the often-reported self-limiting course of transient synovitis may not be always true and persistence of symptoms may cause a diagnostic dilemma. However, hip arthroscopy may be helpful in revealing the true intra-articular picture and treating such cases.

Hip pain with associated limping is a common and challenging problem in children and adolescents. A systematic approach to this problem includes working on a differential diagnosis on the basis of the patient's history, physical examination, plain radiographs and blood investigations. Ruling out septic arthritis is crucial to institute early treatment and to prevent

long-term disability due to its sequelae. Caird et al [1] proposed a criterion to rule out infection. The infection criterion is fever > 38.5° C, C- reactive protein level > 2.0 mg/dl, erythrocyte sedimentation rate > 40mm/hr, refusal to bear weight and serum white blood cell count > 12,000/mm [1]. Bony lesions due to trauma and Perthes disease can be excluded using plain radiographs and MRI.

Hip arthroscopy, although a well-established procedure in adults, is not as widely used in skeletally immature patients because its indications and results are less clear [4, 6]. Since our patient in question showed little or no response to conservative treatment, we began looking for an alternative and advised the relatives to consider hip arthroscopic procedure. Our case illustrates that hip arthroscopy can be considered to evaluate the hip in a skeletally immature patient with uncertain diagnosis. Hip arthroscopy not only helps in visualizing the joint directly but also to collect joint fluid and tissue samples for analysis and to treat the lesion. We suggest that hip arthroscopy can be useful in detecting the actual lesion and planning appropriate postoperative care.

References

1. Caird MS, Flynn JM, Leung YL et al (2006) Factors distinguishing septic arthritis from transient synovitis of the hip in children. A prospective study. *J Bone Joint Surg Am* 88:1251-1257.
2. Do TT (2000) Transient synovitis as a cause of painful limps in children. *Curr Opin Pediatr* 12:48-51.
3. Frick SL (2006) Evaluation of the child who has hip pain. *Orthop Clin North Am* 37:133-140.
4. Kocher MS, Kim YJ, Millis MB et al (2005) Hip arthroscopy in children and adolescents. *J Pediatr Orthop* 25:680-686.
5. Landin LA, Danielsson LG, Wattsgård C (1987) Transient synovitis of the hip. Its incidence, epidemiology and relation to Perthes' disease. *J Bone Joint Surg Br* 69:238-242.
6. Shetty VD, Villar RN (2007) Hip arthroscopy: current concepts and review of literature. *Br J Sports Med* 41:64-8.