

Case Report**Transient synovitis resulting in hip subluxation – Emergent arthrocentesis as diagnostic and therapeutic tool**

Ganesh Singh Dharmshaktu*, Tanuja Pangtey **

* Assistant Professor, Department of Orthopaedics, Government Medical College, Haldwani , Uttarakhand., India

**Senior Resident, Department of Pathology, Government Medical College, Haldwani , Uttarakhand., India

DOI: 10.5455/jrmds.20153321

ABSTRACT

Transient synovitis is one of the most common causes of hip pain in children. The associated effusion when in increased quantity may be evident radiologically showing increased joint space or rarely with consequent hip subluxation. Careful clinico-radiological assessment and emergent aspiration reduces joint pressure and the evaluation of the aspirate can be instrumental to diagnose or rule out transient synovitis. Hip subluxation has been a rare concomitant feature of huge effusion in cases of transient synovitis that was diagnosed and managed appropriately to an uneventful outcome.

Keywords: Transient Synovitis, Hip subluxation, Arthrocentesis.

INTRODUCTION

A five year old male child was brought to us with complaints of pain in his right hip and knee region for last one day. There was no history of trauma or tripping. There was history of mild upper respiratory tract infection two weeks ago that subsided with medical care for a week. The child was not able to move well or fully bear weight on right lower extremity because of pain and discomfort. There were no features of local or systemic infection or other 'red flags'. There was mild swelling over hip and upper thigh region. The temperature and distal neurovascular status was normal. The knee appeared to be normal without significant or relevant details and probably depicting a referred pain from hip. The hip range of motion on left side was within normal limits while that on right side was limited especially in flexion and internal rotation. There was apparent lengthening of the right limb noted.

Fig 1: AP Radiograph of patient showing widened right side joint space and hip subluxation.



He was advised radiograph of the pelvis and both hips in AP and frog leg lateral views. Frog leg lateral was not possible due to pain and difficulty in positioning of the limb. There was marked joint space widening noted on right when compared to left side of hip with the head of femur subluxated on AP and attempted lateral views. This feature was suggestive of intra-articular effusion pushing the femoral head and widening the joint space. After the clinico-radiological evaluation a provisional diagnosis of transient synovitis was made and the patient was advised admission and bed rest along with symptomatic therapy. The emergent hip aspiration was planned under aseptic precautions and informed consent from parents. The step also was seen necessary to check nature of aspirate to know whether full arthrotomy and joint lavage is necessary if infective pathology is suspected.

Fig 2 : Attempted lateral view confirming the same feature.



The joint aspirate was performed through anterior approach and the fluid aspirated (approximately 80

ml.) was sent to laboratory work up including total and differential counts, Gram stain, Acid fast bacilli stain, culture and sensitivity. The normal routine blood investigations were also sent including complete blood count, ESR (Erythrocyte sedimentation rate) and CRP (C-reactive protein). The culture, Gram stain and Acid fast staining were unremarkable. White blood cell count was $11 \times 10^9/L$, ESR was < 25 mm/hr and CRP levels were < 15 making the diagnosis more in favour of transient synovitis.

Fig 3: Radiograph with reduction of hip following arthrocentesis.



RESULT

The aspiration relieved pain and post procedure radiograph showed reduction of hip joint to almost normal anatomy. A bed rest of two more days with symptomatic treatment relieved the symptoms completely with marked decrease in pain and discomfort. The child was discharged after five days with protected weight bearing and follow up. There were no technique related complication and no recurrence till eight months follow up after which patient was lost to follow up. The child was actively involved in activities of daily living without any complications or sequelae of the pathology.

DISCUSSION

Joint space widening is a variable feature suggesting effusion in hip joint but the finding also depends on position of hip and angle of radiograph [3]. Huge joint effusion may result in radiological feature of hip subluxation. Emergent aspiration proves beneficial in improving clinical features and also provides samples to substantiate the findings and reaching a diagnosis. Increased pressure may act as tamponade effect and may lead to disturbed vascularity of head of femur as in cases with traumatic conditions and aspiration is harmless initial option as treatment. Ultrasonography is non invasive modality to diagnose effusion but not precise at differentiating between septic and aseptic

nature of collection [4]. However it can be valuable tool in assisting aspiration in trained hands. Dynamic contrast enhanced MRI has been found to be able to differentiate between septic arthritis and transient synovitis [5]. Time and need to sedate the child are major deterrent and the investigation may not be available at all health facilities. Kocher and colleagues described an algorithm involving four clinical and laboratory parameters aiming probability of diagnosing septic arthritis [6]. Uzoigwe et al however advocated that any algorithms need to be followed as a tool to substantiate good history, clinical evaluation and laboratory assessment.

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Corresponding Author:

Dr Ganesh Singh Dharmshaktu,
Assistant Professor
Department of Orthopaedics,
Government Medical College, Haldwani,
Uttarakhand-263139
E mail: drganeshortho@gmail.com

Date of Submission: 25/06/2015

Date of Acceptance: 27/09/2015

How to cite this article : Dharmshaktu GS, Pangtey T. Transient synovitis resulting in hip subluxation – Emergent arthrocentesis as diagnostic and therapeutic tool. J Res Med Den Sci 2015;3(3):247-8.

Source of Support : None

Conflict of Interest : None declared