



## Posterior Dislocation of Hip Joint: An Unusual Presentation of Septic Hip in Infant

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**ABSTRACT:** Atraumatic Posterior dislocation of hip is an unusual presentation for septic hip in an infant, reported by only few studies in literature. Septic arthritis in the hip of an infant warrants special emphasis, for diagnosis is often delayed, making the prognosis and later management perhaps different from septic arthritis in other joints. We present a rare presentation of septic hip in an infant and its management by combined and posterior drainage of hip joint with its outcome. © 2011 IGJPS. All rights reserved.

**KEYWORDS:** Septic; Arthrotomy; Anterior; Posterior; Dislocation; Hip.

### INTRODUCTION

The term *septic arthritis* of hip joint includes all joint infections caused by pyogenic bacteria except tuberculosis. Septic arthritis in the hip of an infant warrants special emphasis, for diagnosis is often delayed, making the prognosis and later management perhaps different from septic arthritis in other joints[1]. The usual clinical course following involvement of the hip joint in an infant includes; septicaemia with pain on palpation or passive movement of the hip; unilateral oedema; swelling of an extremity, a buttock or the genitalia. *Atraumatic* Posterior dislocation of hip is an unusual presentation for septic hip in an infant, reported by only few studies in literature[2,3].

Most orthopaedic surgeons prefer an anterior hip approach for drainage, which offers rapid access to the capsule and preserves the musculature around the joint[4]. Risk for injury

to the epiphyseal blood supply is also decreased with the anterior approach. Combined drainage by anterior and posterior approach has advantages of simultaneous dependent drainage of hip joint in supine position. We report a case of septic arthritis hip presenting with posterior dislocation of hip joint and its management by *combined* anterior and posterior drainage.

### CASE REPORT

One year old infant presented with painful swelling over right hip with limb shortening without any history of trauma. Temperature on admission was 99° C. X rays of hip joint showed dislocation of the hip joint, with a soft tissue swelling, without any other bony lesion (Fig. 1a). Local temperature

was not raised. Erythrocyte Sedimentation Rate (ESR) was elevated. Magnetic Resonance Imaging (MRI) revealed large amount of effusion around hip joint with capsular thickening (Fig 1b). Femoral head was normal. Arthrotomy was planned.

Hip joint was drained by Smith-Patterson approach. Large amount of pus was drained. Joint was relocated (Fig 1c). Skin was closed over negative suction drain. Skeletal traction was applied. Pus culture showed evidence of *Streptococcus Pneumoniae*. Intra-venous antibiotics were started. The child became afebrile on 4<sup>th</sup> day. Drain was removed on 4<sup>th</sup> day after it showed minimal collection for two consecutive days. On 5<sup>th</sup> day, patient developed fever (100° C) and stitch line had discharge. Stitches were opened (Fig 2a). A posterior *Ober's incision* was given for dependent drainage on the 6<sup>th</sup> day, which was left open(Fig 2b). Repeat Pus culture were positive for *Streptococcus Pneumoniae* and appropriate antibiotics were administered.



**Figure 1(a) Radiograph showing Posterior hip dislocation in an infant with septic hip.**



**Figure 1(b) MRI scan showing enhancement in hip joint with capsular thickening.**

Both the anterior and posterior wound healed by 4<sup>th</sup> week. Traction was continued for 6 weeks with intermittent physiotherapy with advise to parents for keeping the limbs in wide abduction. Thereafter, child was given an abduction

brace and partial weight bearing was allowed at 6 weeks and full weight bearing at 12 weeks. There were no changes of late septic sequelae till last review at 48 weeks. Informed consent was taken from parents for publishing this case report.



**Figure 1(c) Radiograph showing reduction of hip joint after anterior drainage.**

## *DISCUSSION*

Acute septic arthritis is a health-care problem in growing children. Early diagnosis and appropriate treatment are associated with excellent outcome [2,5]. In the absence of trauma, infection must be considered in the differential diagnosis of a dislocated joint particularly in patients with risk factors such as intravenous drug abuse and immune compromise. In children, diagnosis is even more difficult because of the difficulty of locating the symptoms and sometimes the absence of fever [6,7]. These problems account for the delay in diagnosis and the discovery of these infections at the stage of complications such as late dislocations. Posterior dislocation of hip joint is an unusual presentation of acute septic hip in an infant[2,3]. The diagnosis of septic hip in present report was mainly based on the findings of MRI scan and raised ESR.



**Figure 2(a) Drainage of hip joint with anterior approach (stitches open).**

Arthrotomy is essential in septic hip with recent dislocations because it allows, by evacuating pus, the reintegration of femoral head in the acetabulum. Therefore it must be performed early, before the formation of muscular fibrosis. For late dislocations, arthrotomy is not very helpful because of the absence of pus. Further attempts to reduce dislocation could inflict irreversible damage to the femoral head. Sequelae encountered in late dislocation can benefit from surgical procedures but results are mixed [8,9]. In the past, most of the hip joints were drained by posterior approach, which was though associated with increased risk of hip dislocation, avascular necrosis of femur head, but allows dependent drainage. In our case, posterior approach was combined as there was discharge from anterior stitch line, following which both anterior and posterior wounds healed. There was no evidence of avascular necrosis and the reduction was stable till final review. The concept of combined anterior and posterior drainage has been reported by Smith et al[4].



**Figure 2(b) A posterior ober's incision given.**

Lunseth et al (1979) reviewed 38 patients with 39 involved septic hips seen over a period of 21 years in order to determine which factors affected prognosis. They found only two significant correlations with poor prognosis-the duration from clinical onset to initiation of therapy and the age of the child (especially if under one year of age)[10].

Ngom et al have reported superior outcome of early arthrotomy and relocation of head in their series of 19 patients with septic hip. Seven out of nineteen patients were recent dislocators(< 3week). Arthrotomy was done in all of them and wound was closed over negative suction drain. They had 8 good results and 11 poor results (on the basis of normalisation of ESR and reduction of dislocation). Good results were mainly in patients with recent dislocation[2].

The purpose of traction after arthrotomy was to maintain the reduction of hip joint, stretching of soft tissues and to decrease the swelling.

Septic hip must be considered in differential diagnosis of atraumatic hip dislocation in an infant. Early diagnosis and introduction of adequate treatment improves the final outcome and prevents the crippling sequelae. Our case adds to the present literature, a rare presentation of septic hip and its alternative management.

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