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## **Recurrent traumatic posterior dislocation of hip in a 5-year-old boy**

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### **Abstract**

Recurrent traumatic posterior dislocation of the hip is a rare entity in the paediatric age group. We report an exceptional case of a 5-year old boy who sustained a posterior dislocation of the right hip joint following recurrent trivial trauma while playing, three times in the past one and half year. On literature review, we found that only a few cases have been reported and the management options still remain controversial.

**Keywords:** Recurrent traumatic hip dislocation, paediatric, posterior

### **Introduction**

Incidence of traumatic posterior dislocation of the hip in a child is uncommon in comparison to adult population. The incidence of recurrent hip dislocation in children compared to adult is estimated to be less than 5% [1, 2]. Although a few cases are reported in literature, we do not find any standard guidelines regarding the management of such cases. We encountered a case of traumatic posterior dislocation of the right hip in a 5-year-old child with history of recurrent episodes of insignificant trauma.

### **Case report**

A 5-year-old child presented in the orthopaedic department in October 2018 with complaints of pain in the right hip and painful hip joint movements following a fall at home.

Past history revealed similar episodes of trivial fall while playing. First episode occurred in March 2017 and following the fall he was taken to a primary hospital where closed reduction was attempted and high groin slab was advised. No follow up history was available. The second episode occurred 7 months later when he dislocated the same hip after a fall and was taken to the trauma centre. A closed reduction was done, hip Spica was applied and patient was followed up for one month.

On examination in our clinic, the limb was kept in adduction, flexion and internal rotation. There was no neurovascular deficit. Hyperlaxity of the joint was ruled out by the Beighton score. Clinical findings suggested posterior dislocation of the hip, which was confirmed by radiological assessment (Figure 1). MRI scan showed no pathological or abnormal findings. The pelvic bone and the contralateral hip were also normal (Figure 2). Closed reduction was attempted by Allis technique without sedation in the orthopaedics department and reduction was achieved. Reduction was satisfactory in the post reduction check x-ray over a hip Spica cast (Figure 3). Patient was hospitalised and discharged after 12 hours of observation and was followed up after 2 days for routine check up. Hip Spica cast was continued for 1 month and then removed. Weight bearing was started after 6 weeks with no major concerns in 10 months follow-up.

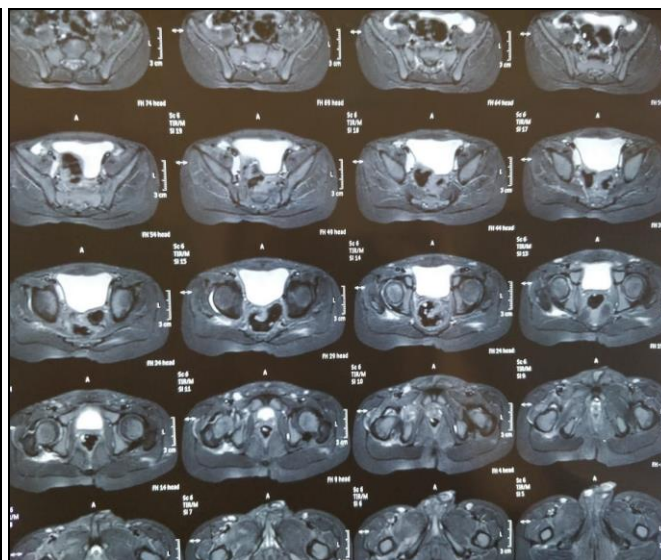
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**Fig 1:** Pre reduction X ray



**Fig 2:** MRI to rule out any LIG. laxity



**Fig 3:** Post reductio X ray in Spica Cast

## Discussion

Recurrent dislocation of the hip in paediatric age group is unusual and recurrent traumatic episodes make it from the rarest conditions. Recurrence can be quite incapacitating, and may later lead to disfigurement of articular surfaces as a result of shear damage to the cartilaginous hip. The dislocation of the hip in a child younger than 6 years is mostly associated with trivial trauma/fall in contrast to high velocity trauma in an adult or a child older than 6 years. Motor vehicle accidents are more associated in children more than 10 years old [2]. Associated fractures of the acetabulum and femoral head are less common, and complication rates are also less frequent in paediatric age group as compared to the adult population. The Stewart–Milford classification is based on associated fractures. Grade I dislocation defined as only a bony avulsion of acetabular rim or without associated fracture, grade II defined as stable hip after reduction or posterior rim fracture, grade III is defined as posterior rim fracture with an unstable hip after reduction and grade IV is a dislocation that has an associated fracture of the femoral head or neck [3]. Associated injuries in case of posterior hip dislocation are lower. acetabular fracture incidence is lower in child as compare to adult due to cartilaginous acetabulum and ligamentous laxity. Femoral head and physis fractures are more common and can lead to avascular necrosis of femoral head if not reduced within 6 hours of injury.

In our case, we tried to rule out the usual causes of the recurrence of hip dislocation. There was no hyper laxity on the Beighton score and MRI scan ruled out ligamentous injury, bony defect or cartilaginous defect leading to recurrence of hip dislocation [4].

There is a lot of controversy in the management and duration of immobilization required for paediatric hip dislocation. Early closed reduction is recommended under sedation and if it cannot be reduced by closed reduction, open reduction is considered followed by X- Ray and MRI to rule out associated injuries. A case report by Freeman in 1961 concluded that these kinds of patients should not bear full weight for at least 8-12 weeks to save the child from synovial irritation [5]. Another study done in 1961 by Glass advised non-weight bearing for 4-6 weeks for soft tissue healing [6]. In our case, we immobilized the patient for 4 weeks with hip Spica and then started weight bearing at 6 weeks. The parents were counselled about the need for long-term follow up.

## Conclusion

Paediatric hip dislocation is a rare entity and its recurrence makes it rarer. Closed reduction is the ideal method of treatment in such cases and immobilization is required for atleast 4 weeks for soft tissue healing. Long-term followup is necessary by X-Rays until the skeletal maturity. Surgical treatment is rarely required. Surgical options include

capsulorrhaphy, posterior acetabular reconstruction for bony defects, only if conservative treatment fails.

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