Abstract: A rare case report of congenital dislocation of patella and its management. Materials and methods: A 4-year-old boy presented with flexion contracture of knee with congenital dislocation of left patella. Radiological evaluation was done with X-rays and CT scan. Patient was treated with lateral release and medial plication. Postoperative evaluation was done by range of movements and X-rays.

Results: Postoperatively patient had a good range of motion without flexion deformity. Conclusion: Congenital dislocation of patella is a rare condition. Surgery done at appropriate time can produce seemingly good results.

Keyword: CONGENITAL DISLOCATION OF PATELLA

Clinical presentation: A 4-year-old male child presented with complaints of inability to extend the left knee completely and difficulty in using left lower limb during walking. His parents noted the child started walking.

Examination revealed flexion contracture of 15 degrees in left knee and emptiness of intercondylar notch of femur. A bony mass was palpable lateral to the lateral condyle of femur. It was fixed and not reducible. Wasting of quadriceps was evident. Flexion of 15-90 degrees was possible. Examination of other joints of the body were clinically normal.

Investigations: Standing anteroposterior and lateral X-rays of both knee joint were taken. Skyline views of both knees were taken. Radiographs revealed a lateral dislocation of left patella and flattened intercondylar groove of left femur. CT scans of both knees were taken which confirmed the lateral dislocation of left patella.
CT scan of both knees

Diagnosis:
Congenital dislocation of left patella.

Management:
We performed a lateral release and medial plication procedure with advancement of vastus medialis obliquus.

Surgical procedure:
Through midline skin incision and lateral parapatellar approach lateral release was performed by dividing the quadriceps from the fibrous adhesions to the iliotibial band and the lateral intermuscular septum. The lateral capsule was incised laterally to the dislocated patella and along the lateral border of the patellar tendon to the tibial tuberosity. The medial capsule and retinaculum were incised medially to the patella. Vastus medialis obliquus was released distally from patella, medial capsule and the patellar tendon. The patella was released from the lateral aspect of the lateral femoral condyle and reduced into intercondylar groove of the femoral condyle. Vastus medialis was reattached laterally and distally to patellar tendon and medial retinaculum. Repair of medial retinaculum and capsule were done. Patellar tracking was observed by putting knee through 0 to 90 degrees of flexion. Patella did not dislocate through this range of motion. Wound closure done.

Post operative followup:
Patient was immobilised in above knee cast with knee in 30 degree flexion for 6 weeks. Patient was put on active and passive knee mobilisation exercises after cast removal. Post operative X-rays were taken.

Knee flexion at 1 year followup

Knee extension at 1 year followup

Discussion:
Congenital dislocation of the patella is a rare condition that can have different clinical presentations. The patella develops normally as a sesamoid bone of the femur. Congenital patellar dislocation (CPD) is considered to result from failure of internal rotation of the myotome that forms the femur, the quadriceps muscle, and the extensor mechanism. This failure normally occurs toward the eighth to tenth week of embryonic development [1]. CPD usually manifests immediately after birth with genu valgum, flexion contracture, and external rotation of the tibia [2–11]. In some cases, however, diagnosis may be delayed until early childhood. In less severe cases, function may be impaired only minimally and the diagnosis can be delayed further, until late childhood, adolescence, or even adulthood [3, 4, 6]. This delay may lead to premature degenerative changes and severe impairment of joint function [2, 3, 6, 7, 10]. Early diagnosis is important because it enables timely management, which permits improved development of the knee joint, thus reducing or avoiding the onset of late sequelae.

In our case, child presented late at the age of 4 years with fixed flexion deformity of left knee. Anteroposterior views can show the degree of the lateral femoral condyle hypoplasia, the severity of joint space narrowing, and the relative position of the tibia in relation to the femur. Anteroposterior projection allows the observer to assess the size and position of the patella better, which is the condition of the intercondylar sulcus, and the degree of lateral femoral condyle dysplasia. However, in most cases of CPD, ossification is delayed, making radiographic diagnosis more difficult. Radiography does not enable assessment of patellar cartilage development. CT provides information on fine bone detail and has been used for the assessment of knee disorders in children and adolescents. Kinematic scanning (in different flexion angles) can illustrate the patellar location in relation to the femoral diaphysis.

Results:
Follow-up was done at 3 months, 6 months and 1 year. Patient had no flexion deformity, range of movements was 0-90 degrees and no extensor lag was present.

AP view of Left knee- Post operative

Lateral view of Left knee- Postoperative
Accurate definition of articular cartilage and separation of cartilaginous structures from soft tissues can be difficult without the use of contrast medium. MRI can discriminate cartilaginous from adjacent joint structures accurately [32–36]. The ability to image cartilage makes MRI invaluable in the preoperative assessment of children and infants with congenital dislocation of the patella. In our case we took anteroposterior, lateral and skyline views of patella. In addition we took a CT scan to confirm our diagnosis.

The only possible treatment for congenital dislocation of the patella is surgical. Serial casting and a brace are effective in reducing flexion contracture of the affected knee, but genu valgum, external tibial torsion and subluxation of the tibia inevitably develop without surgical intervention. Congenital dislocation of the patella usually requires surgical reconstruction that involves "medializing" the entire extensor mechanism. This is accomplished with extensive lateral release and advancement of the VMO distally and medially. In more severe cases, the IT band may need to be divided transversely and the quadriceps may be lengthened by either V-Y plasty or femoral shortening. In addition to the lateral release and medial reefing, more severe cases will require medialization of the patellar tendon. In such cases, the Goldthwait transfer of the lateral half of the tendon rather than complete release and reinsertion is preferred primarily because of the lower risk of physeal injury. Patients are casted in 30 degrees of flexion for 6 to 8 weeks. Aggressive quadriceps rehabilitation is necessary after cast removal. Parents should be counseled that an active extensor lag will persist for 3 to 12 months.

**Conclusion:** Congenital dislocation of patella is a rare presentation in children. In our case lateral release and medial plication with advancement of vastus medialis has yielded good result. Post operative rehabilitation program is very important to obtain good results.

**References:**