Case Report

Neglected Bilateral Congenital Dislocation of Knee in an Adult

Vishnu Senthil[1], Sandeep Vijayan[1], Monappa Naik[1], Sharath K Rao[1]

[1]Dept of Orthopaedics, Kasturba medical College, Manipal University, Manipal, India

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ABSTRACT

Congenital dislocation of knee is a rare anomaly. It occurs as an isolated anomaly or associated with multiple joint dislocations and syndromes. We report a case of a 40 year old female with neglected bilateral congenital dislocation of knee. She had hyperextension of both knees with minimal flexion. Patient opted for conservative management and was maintained in a knee brace.

Keywords: Adult, Congenital dislocation, Conservative.

INTRODUCTION

Congenital dislocation of knee is an uncommon disorder with an incidence of 1 in 1000. It is more commonly associated with syndromes. Associated anomalies include developmental dysplasia of hip, Larson syndrome, Ehlers-danlos syndrome and Down's syndrome. Females are more affected than males [1]. Management depends upon the age of presentation and the status of the soft tissue. Options include casting, quadriceps-plasty, intra-articular release and ligament (ACL) reconstruction [2]. Very few cases have been reported and not any standard treatment guidelines have not been laid down. We report a case in a 40 year female and our management.

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CASE REPORT

Forty year old female presented with pain in bilateral knee and limp. Patient was the second child born out of non-consanguineous marriage. Mode of delivery was by caesarean section due to oligo-hydroamnios. All developmental milestones were normal except delay in walking. She had bilateral irreducible dislocation since birth. At present she walks without support with hyperextension of both knees and equinus of left foot [Figure: 1B].

On examination, she had generalised ligamentous laxity with irreducible joint dislocation. Systemic examination revealed no other joint dislocation. Valgus laxity of right knee was 25 degree and left knee was 30 degree. Varus laxity of right knee was 15 degree and left knee was 20 degree.
Femoral condyles of both knees were palpable in the popliteal fossa with palpable popliteal pulsation. Anterior drawer test was grade three in bilateral knee. Bilateral quadriceps and gastrocsoleus muscles were wasted. Passive range of movements on right side (10 to -40 degree) [Figure: 2] and left side (0 to -70 degree) [Figure: 3].

Fig 1: Long leg view [A] and clinical photograph [B] showing bilateral knee dislocation (left>right) along with compensatory equinus of the left ankle

No distal neurovascular deficit. Mild kypho-scoliosis present. No limb length discrepancy.

Fig 2: Clinical photograph of right knee showing the amount of passive flexion [A] and hyperextension [B]

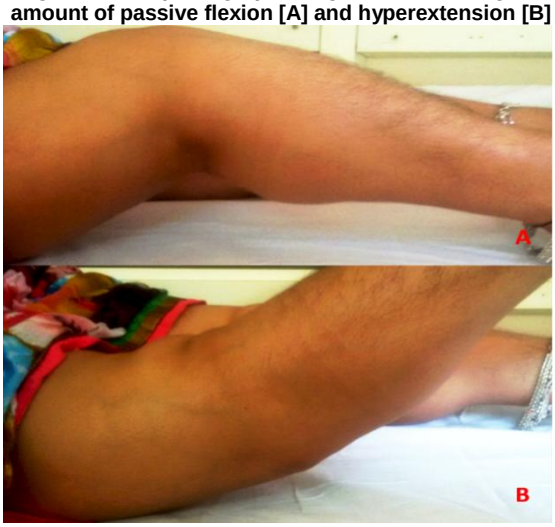


Fig. 3: Clinical photograph of the left knee showing the passive flexion [A] and hyper extension of the knee [B]

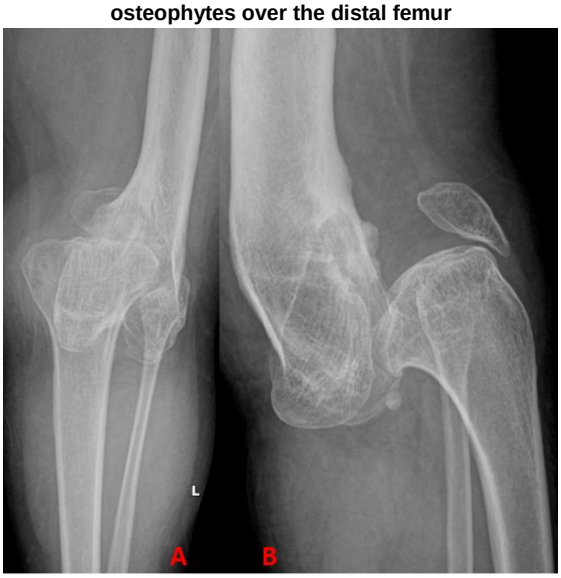
Radiological evaluation of bilateral knee showed anterior dislocation of tibia with hypoplasia [Figure: 1A, 4, 5]. Patient was being planned for a staged surgical procedure but patient chose conservative management and was put on analgesics and knee brace.

Fig. 4: Radiograph of right knee anterior-posterior [A] and Lateral [B] views showing hypoplastic and thin femoral condyles, hypoplastic patella and convex tibial plateau

DISCUSSION

Congenital dislocation of knee was first described by Chatelaine in 1822 and by Bord in 1834. CDK is divided into three grades of hyperextension, subluxation and dislocation. Knee flexion reduced as extension increased. It can occur as an isolated anomaly or with various skeletal anomalies and syndromes like arthrogryposis multiplex congenita (AMC), Larsen syndrome and meningomyelocele [1]

Fig. 5: Radiograph of the left knee anterior-posterior [A] and lateral [B] view showing anteriorly displaced tibia with hypoplastic convex tibial plateau, hypoplastic patella and distal femoral condyle with osteophytes over the distal femur



Multi-factorial approach is needed for patient with anomalies of hip and knee. Patients are initially given a trial of conservative management. Upon failure of conservative treatment, surgical management is considered and preferably done in less than three to six months but favourable results have been showed up to two years.

Surgical options most commonly include initial articular reduction with external fixator to distract the contracted soft tissue. Soft tissue contracture release and quadriceps-plasty was done by modified Curtis and fisher method. The rectus-femoris along with the vasti were divided and intra-operative knee flexion of 90 degree was obtained. Post-operatively knee was immobilised about 70-80 degree in a plaster cast. Following this procedure patients were able to get a knee flexion of maximum of 90 degree and the primary disadvantage was hypertrophic scar and wound dehiscence. Bilateral supracondylar femoral extension osteotomy is done to aid in reduction and maintained with an external fixator. Constrained arthroplasty can also be done at a later stage after achieving good soft tissue release [2]

Management of new born with knee dislocation has a structured protocol but in adult with neglected bilateral dislocation, only few case reports have reported about the management. In the case series by Niebaure and king, two females of age 12 and 67 were treated with arthrodesis and conservatively[3] Fernandez palazzo and silvba

reported a 13 year old girl treated with quadriceps-plasty[4] Case report of a 59 year old man treated with arthrolysis followed by arthroplasty[5] In another report, 43 year old women was treated with single stage trapezoidal femoral osteotomy[6] Recently a 16 year old girl was treated in a staged manner with quadriceps-plasty and distal femoral osteotomy[7] In India, a 12 year old male underwent staged procedure of distraction with ring fixator for three weeks and a second procedure performed when knee was reduced and stabilised with cross k-wires. Later k-wires were removed and bilateral supracondylar extension osteotomy was done and mobilised with KAFO [8]

Our patient was given the above options but chose conservative management and was put on off-loading hinged knee brace and analgesics. Patient was on one year follow up and is comfortable with brace.

CONCLUSION

Management of bilateral isolated neglected congenital knee dislocation in adult has no structured treatment guidelines. Various authors in their case reports have managed differently with various options. We give our experience in managing this case conservatively.

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Corresponding Author

Dr.Vishnu Senthil
Dept of Orthopaedics
Kasturba medical College
Manipal University
Manipal-576104
E-mail: vishsnake@gmail.com

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