

CONGENITAL DISLOCATION OF KNEE: A RARE ENTITY.

Ankit Jishtu*

M.D Radiodiagnosis, CH Kandaghat, Solan (H.P). *Corresponding Author

ABSTRACT

Congenital dislocation of Knee (CDK) is a rare condition. CDK may be associated with other orthopedic abnormalities: equinovarus club-foot, or congenital dislocation of the hip. It may be idiopathic or syndromic (Larsen's syndrome, arthrogryposis multiplex congenita, myelomeningocele). We present a case of female newborn born with a deformity. On clinical examination and radiological investigation she turned out to be a case of bilateral congenital dislocation of knee. The newborn was successfully treated by serial POP casts and a pawlik harness.

KEYWORDS : Knee deformity, Congenital dislocation knee, genu recurvatum, knee Xray

INTRODUCTION

Congenital dislocation of the knee is known to be a rare malformation. It covers a variety of clinical entities, from simple hyperextension at birth to irreducible dislocation¹. Incidence of CDK is 1/100,000 live births². It can be diagnosed prenatally via imaging or following birth by a physical examination. CDK is defined as a pathological degree of hyperextension of the knee joint (beyond 5 degree) accompanied by limited flexion.³ If not associated with other syndromes, it can be treated successfully by non operative procedures.

CASE REPORT

A female neonate was born to a 25 year old PGR at labour room of our hospital. The mother was a booked case and antenatal period was uneventful. The baby was noticed to have a deformity of lower limbs, bilaterally. On physical examination, bilateral knees were hyperextended, with limited flexion at the knee joint. There were visible skin folds over anterior aspect right thigh. The baby was screened for other syndromic features: which were absent. Bilateral hip joint was normal. Feet were normal. The rest of the musculoskeletal system was normal. We got a radiograph of the baby (fig 1a), which confirmed the diagnosis. The baby was then referred to an orthopaedician. The baby was managed conservatively by serial weekly POP above knee casts followed by pawlik harness for two months. The baby is still under follow up and is doing well.



Fig 1a. X-ray showing knee deformity i.e hyperextension of knees. Fig 1b. Clinical picture the case.

DISCUSSION

Congenital dislocation of the knee is a structural abnormality of the knee joint which presents with hyperextension of the knee joint (beyond 5 degrees) accompanied by limited flexion. It is suspected that a decreased amount of intrauterine space resulting from oligohydramnios may cause a 'packaging disorder' resulting in moulding of the foetus and subsequent mal-positioning of the knee joint⁴. The most common musculoskeletal abnormality associated with CDK is congenital dislocation of the hip; it also occurs concomitantly

with equino-varus clubfoot, scoliosis and anomalies of the toes. Arthrogryposis multiplex congenita and Larsen's Syndrome are conditions that have more extensive and severe involvement of the musculoskeletal system and have also been linked to the incidence of CDK. Therefore, these conditions must be ruled out simultaneously at birth.

Attempts to classify CDK according to severity have been attempted by multiple authors⁵. The present original classification groups CDK logically on neonatal clinical examination ahead of any treatment. It borrows from congenital hip dislocation semiology, etiology often being very similar. Factors taken into consideration are often the maximum range of passive movement and radiographic studies of the affected limb. Treatment options and outcomes are determined by the severity of the dislocation. For the most severe cases of CDK associated with contracture of the quadriceps, surgical release of the contracture is possible however it is associated with multiple complications such as scarring, weak power of the quadriceps and knee instability. At the other end of the severity continuum, a gradual and excellent degree of reduction can be achieved in patients with serial cast application following corrective positioning of the knee joint. Our patient underwent gentle reduction and serial above the knee casting, followed by pawlik harness which was successful.

CONCLUSION

In conclusion, an early diagnosis of the CDK is very important. Physical examination must be done carefully to rule out any other anomaly. Non operative treatment usually provides more stable and greater range of motion, and much more quadriceps strength than the surgical treatment. If the dislocation is reduced early, formation of the knee contracture is prevented. The goal is to obtain minimum 90° knee flexion with conservative and surgical treatment.

REFERENCES

1. M. Laurence. Genu recurvatum congenitum. *J Bone Joint Surg*, 49-B (1967):121-34.
2. Shah NR, Limpaphayom N, Dobbs MB. A minimally invasive treatment protocol for the congenital dislocation of the knee. *J Pediatr Orthop* 2009;29:720-5.
3. Mehrafshan, M., Wicart, P, Ramanoudjame, M., Seringe, R., Glorion, C., & Rampal, V. (2016). Congenital dislocation of the knee at birth-Part I: Clinical signs and classification. *Orthopaedics & Traumatology: Surgery & Research*, 102(5), 631-633.
4. Tiwari, M., & Sharma, N. (2013). Unilateral Congenital Knee and Hip Dislocation with Bilateral Clubfoot-A rare Packaging disorder. *Journal of orthopaedic case reports*, 3(2), 21.
5. Mehrafshan, M., Wicart, P, Ramanoudjame, M., Seringe, R., Glorion, C., & Rampal, V. (2016). Congenital dislocation of the knee at birth-Part I: Clinical signs and classification. *Orthopaedics & Traumatology: Surgery & Research*, 102(5), 631-633.