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(CASE REPORT)

Bilateral congenital knee dislocation: A case report

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Abstract

Introduction: Congenital knee dislocation (CDD) is a rare musculoskeletal anomaly characterized by fixed hyperextension of the knee joint and limited passive flexion. It has a multifactorial etiology. Diagnosis is primarily clinical, and initial management is usually conservative.

Materials and methods: We present a case report of a newborn diagnosed with bilateral congenital knee dislocation.

Results: A 37-week-old female neonate, born via eutocic vaginal delivery, presented with hyperextension of both knees at an angle of approximately 60° on physical examination, with an anterior crease and passive flexion of 5-10°. Palpation revealed a small patella deep to the crease on the anterior aspect of the knees. A comparative knee radiograph showed anterior knee subluxation, and a Doppler ultrasound of the knees was performed. Physical changes, including color and oxygen saturation of the distal extremity, were monitored, but no abnormalities were detected. Therefore, conservative management was chosen, using a flexor-abductor harness. Subsequent normal positioning of both knees was achieved, and the patient progressed to active and passive ranges of motion of -5° to 120°, without recurrence of the dislocation during outpatient follow-up.

Conclusion: The case presented demonstrates that early diagnosis and appropriate conservative intervention can lead to spontaneous reduction and complete functional recovery, avoiding the need for surgical procedures.

Keywords: Congenital knee dislocation; bilateral; neonatal orthopedic disorder; Pavlik harness

1. Introduction

Congenital knee dislocation (CDD) is a rare musculoskeletal anomaly characterized by fixed hyperextension of the knee joint present at birth and limited passive flexion. Its incidence is low, estimated at approximately 1 in 100,000 to 200,000 live births, and it is more frequently observed in females (1,2,3).

The etiology of CRL is multifactorial and includes intrauterine mechanical factors, connective tissue abnormalities, and neuromuscular conditions. It can occur in isolation or in association with other congenital malformations, such as developmental dysplasia of the hip, congenital clubfoot, or genetic syndromes (4,5). Diagnosis is primarily clinical and should be made early, as timely treatment is associated with better functional outcomes (6).

Initial management is usually conservative, involving progressive reduction and flexion positioning using splints, serial casts or a Pavlik harness, reserving surgical treatment for severe or refractory cases (7,8,9). Reports of bilateral

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congenital knee dislocation without associated malformations are rare. In this context, we present the case of a newborn with bilateral CSF successfully treated conservatively, highlighting the importance of early diagnosis and close follow-up.

2. Materials and methods

A clinical case report was made of a newborn with a diagnosis of bilateral congenital knee dislocation, treated in a neonatal intensive care unit of the Adelita de Char District University Hospital in Barranquilla, Colombia.

The evaluation included a detailed orthopedic physical examination, assessment of active and passive joint range of motion, and clinical monitoring of distal lower extremity perfusion. As part of the diagnostic approach, arteriovenous duplex ultrasound was performed to rule out associated vascular compromise.

Initial management was conservative, using a flexor-abductor harness under strict clinical supervision, followed by gradual weaning and continued targeted physical therapy. Clinical follow-up allowed for the assessment of joint stability, range of motion, and signs of recurrence.

Informed consent was obtained from the parents for the publication of the case and the use of graphic material, guaranteeing the confidentiality and anonymity of the patient in accordance with international ethical principles.

3. Results

The pediatric service requests orthopedic evaluation of a female newborn due to the finding of hyperextension of both knees following a normal vaginal delivery at 37 weeks of gestation. The infant was born in cephalic presentation, vigorous, weighing 3,085 grams, without complications during labor.

Figure 1 Hyperextension of both knees at an angle of approximately 60°

Physical examination revealed hyperextension of both knees at an angle of approximately 60° (figure 1), associated with an anterior crease. Passive flexion was 5-10°. Palpation revealed a small patella located deep to the crease on the anterior aspect of the knees. No other congenital musculoskeletal malformations such as clubfoot, developmental dysplasia of the hip, or spina bifida were present. A diagnosis of bilateral congenital knee dislocation was made, and a comparative knee radiograph was ordered (figure 2).

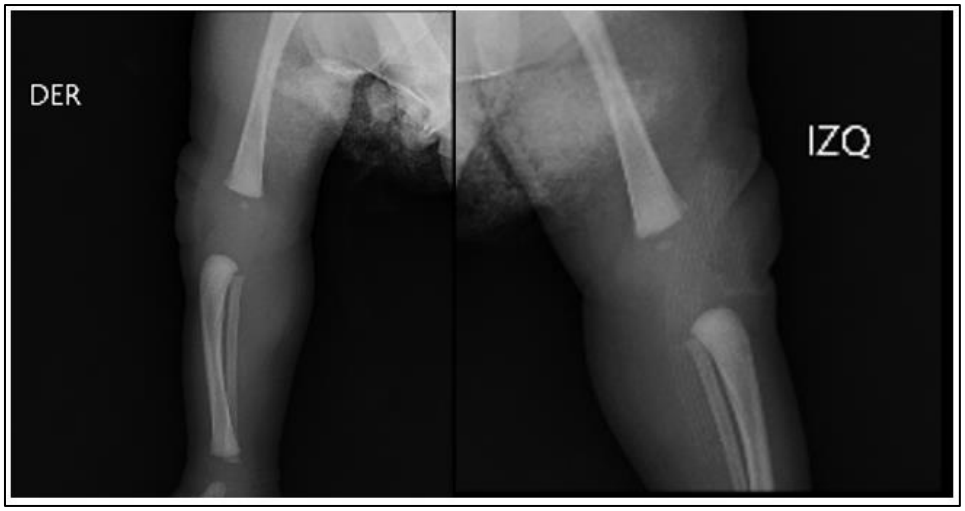

Figure 2 Bilateral anterior knee subluxation in a comparative knee radiography

doppler was performed, strict monitoring of physical changes in coloration and distal oxygen saturation, with no alterations present, so initial management with flexor-abductor harness (Pavlik harness) is indicated.

During the inpatient follow-up, normal positioning of both knees was observed, while the patient achieved active and passive ranges of motion from -5° to 120° (Figures 3, 4). The distal segments of the limb showed adequate coloration, and the dorsalis pedis and posterior tibial pulses were present and of good intensity. Continued monitoring over the next 24 hours revealed no recurrence, with joint congruity and active range of motion maintained. Therefore, the flexor-abductor harness was discontinued. The next step in treatment consisted of parent education and physical therapy, gently promoting active and passive knee flexion and extension.

Figure 3 Normal position of right knee

Figure 4 Normal position of left knee

Follow-up continued on an outpatient basis, with periodic check-ups and physical therapy reports, demonstrating no recurrence and adequate knee stability in both the sagittal and coronal planes. Eight weeks of follow-up were completed, considering this case of bilateral congenital knee dislocation with spontaneous reduction (Figure 5).

Figure 5 Normal comparative knee radiography

4. Discussion

Congenital knee dislocation (CDL) is a rare musculoskeletal malformation that can affect one or both lower limbs, with an incidence of 1 in every 100,000 newborns (10), occurring much less frequently than congenital hip dislocation.

Little has been reported in the literature on the specific incidence of bilateral CRL cases. However, Cavoretto et al. in 2023 conducted a systematic review, compiling 20 CRL cases, identifying that 55% of them involved both knees (11).

LCR can occur in isolation, or alongside other musculoskeletal disorders such as hip dislocation and clubfoot; or as part of genetic syndromes such as Larsen syndrome, Ehlers-Danlos syndrome, or arthrogryposis multiplex congenita (12). It is a deformity characterized by anterior displacement of the tibia over the femoral condyles with subsequent patellar dislocation (10).

Another relevant aspect of congenital knee dislocation is its clinical classification. Several authors have proposed systems based on the degree of tibial displacement and the possibility of reduction. Among the most widely used is the classification described by Leveuf and Pais, later modified by Abdelaziz and Samir, which divides the deformity into three grades: simple hyperextension (grade I), subluxation (grade II), and complete dislocation of the tibiofemoral joint (grade III) (13, 14). This classification has practical clinical importance, as it guides the therapeutic strategy and functional prognosis.

In most cases diagnosed in the neonatal period, the recommended initial management is conservative. This is based on progressive reduction through gentle manipulation and flexion positioning, using devices such as serial casts, dynamic splints, or a Pavlik harness. Several studies have shown that when treatment is initiated early, during the first hours or days of life, success rates exceeding 80–90% are achieved with non-surgical management (15,16). The goal of treatment is to restore joint congruity, allow for the normal development of periarticular structures, and prevent residual stiffness.

The case described in this report is consistent with the literature regarding the favorable response to conservative treatment in patients diagnosed early. In our patient, the initial use of a flexor-abductor harness allowed for progressive correction of hyperextension and recovery of range of motion, achieving joint stability without evidence of vascular or neurological compromise. The favorable evolution observed during outpatient follow-up supports the efficacy of conservative management in mild to moderate cases of this condition.

It is important to note that surgical treatment is reserved for cases that do not respond to conservative management or those diagnosed late. Among the techniques described are quadriceps femoris release, extensor mechanism repair, anterior capsulotomy, and, in complex cases, ligament reconstruction (17,18). However, these interventions are associated with a higher risk of joint stiffness, extensor mechanism weakness, and growth disturbances, so they are avoided whenever possible.

Finally, early diagnosis and a multidisciplinary approach are essential to optimize clinical outcomes. Joint assessment by pediatricians, orthopedists, and physical therapists allows for the development of a timely management plan, appropriate functional monitoring, and early detection of potential recurrences or associated complications. The case presented reinforces the importance of early recognition of this condition and the initiation of conservative treatment to achieve satisfactory functional results.

5. Conclusion

Congenital knee dislocation is a rare musculoskeletal anomaly that requires timely diagnosis to avoid long-term functional sequelae. Although it can occur in association with other malformations or genetic syndromes, it can also manifest as an isolated condition, as in the case described.

Conservative management initiated in the neonatal period remains the first-line treatment for most patients, especially those with reducible deformities. The use of flexion positioning devices, along with close clinical follow-up and early rehabilitation, allows for favorable outcomes and restoration of joint stability.

The case presented demonstrates that early diagnosis and appropriate conservative intervention can lead to spontaneous reduction and complete functional recovery, avoiding the need for surgical procedures. This report contributes to highlighting the importance of early recognition of congenital knee dislocation and reinforces the role of conservative management in the initial treatment of this condition

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that they have no conflict of interest related to this article.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

[1] Niebauer JJ, King De.Congenital dislocation of the knee. The Journal of bone and joint surgery American volume [Internet]. 1960 Mar;42-A:207–25.

[2] Loder RT. Congenital knee dislocation. Instr Course Lect. 2023;72:401 –414.

[3] Goyal KK, et al. Congenital dislocation of knee: classification and treatment protocol. World J Orthop . 2023;14(5):536–545.

[4] Curtis BH, Fisher RL. Congenital hyperextension with anterior subluxation of the knee. J Bone Joint Surg Am. 1969;51(2):255–269.

[5] Gupta A, et al. Etiology and associated anomalies in congenital knee dislocation. J Pediatr Orthop B. 2022;31(6):546–552.

[6] Tukenmez M, et al. Early diagnosis and management of congenital knee dislocation. J Child Orthop . 2020;14(2):150–158.

[7] Basu R, et al. Role of Pavlik harness in congenital knee dislocation. J Orthop Sci. 2022;27(4):827–834.

[8] Khalid SI, et al. Management strategies in congenital knee dislocation. J Pediatr Orthop B. 2021;30(3):265–271.

[9] Paul SP, et al. Long-term outcomes of conservative versus surgical treatment in congenital knee dislocation. Pediatrician Orthop . 2025;45(2):189–197.

[10] González M, Casuriaga Lamboglia AL, López Draguer A, Giachetto G. Congenital knee dislocation: presentation of a clinical case. Salud Mil. 2025;44(1):e 502.

[11] Cavoretto PI, Castoldi M, Corbella G, Forte A, Moharamzadeh D, Emedoli D, et al. Prenatal diagnosis and postnatal outcome of fetal congenital knee dislocation: systematic review of literature. Ultrasound Obstet Gynecol. 2023;62(6):778–87.

[12] Uguet De Resaire C, Martínez Cortés L, Rubio López A, Ponce Salamanca S, Pelayo Delgado I. Bilateral congenital knee dislocation. Prog Obstetrician Ginecol .. 2003;46(2):101–5.

[13] Bensahel H, Dal Monte A, Hjelmstedt A, Bjerkreim I, Wientroub S, Matasovic T, et al. congenital dislocation of the knee . J Pediatr Orthop [Internet]. 1989;9(2):174–7.

[14] Johnson E, Audell R, Oppenheim WL. Congenital dislocation of the knee. J Pediatr Orthop . 1987;7(2):194–200.

[15] Katz MP, Grogono BJ, Soper KC. The etiology and treatment of congenital dislocation of the knee. J Bone Joint Surg Br. 1967;49(1):112–20.

[16] Abdelaziz TH, Samir S. Congenital dislocation of the knee: a protocol for management based on degree of knee flexion. J Child Orthop . 2011;5(2):143–9.

[17] Nogi J, MacEwen GD. Congenital dislocation of the knee. J Pediatr Orthop .. 1982;2(5):509–13.

[18] Ellsworth BK, Dawkins BJ, Perea SH, Green DW. Management of congenital dislocation of the knee: Current concept review. Journal of the Pediatric Orthopaedic Society of North America . 2021;3(3):272.