



Congenital Hip Dislocation with a Genu Recurvatum in Togo: A Case Report

Foli Yvon Agbeko^{1,2*}, Mawouto Fiawoo^{1,3}, Rollin Arnaud Djomaleu³, Magnoulem NZonou⁴, Sollim Talboussouma⁵, Manani Hemou², Homba Daké Batalia³, Rachel Bayahou Kérékou², Mazama Pakoudjare², Kokouvi Evenyo Abalo³, Bayaki Saka⁶, Deladem Koffi Azoumah⁶, Edem Koffi Djadou^{1,3}, Kokou Nadiédjoa Douti^{1,2}, Komlatsè Gamedzi Akakpo-Numado⁷, Adama Dodji Gbadoe^{1,4}, Yawo Dzayissé Atakouma^{1,3}

¹Department of Pediatrics, Faculty of Health Sciences, University of Lomé, Togo

²CHU Campus, Department of Pediatrics, University of Lomé, Togo

³CHU Sylvanus Olympio, Department of Pediatrics, University of Lomé, Togo

⁴Hôpital de Bè, Department of Pediatrics, University of Lomé, Togo

⁵CHU Kara, Department of Pediatrics, University of Lomé, Togo

⁶CHU Sylvanus Olympio, Department of Dermatology, University of Lomé, Togo

⁷CHU Campus, Department of Pediatrics Surgery, University of Lomé, Togo

Corresponding Author: **Foli Yvon AGBEKO** [ORCID ID](#)

Address: Department of Pediatrics, Faculty of Health Sciences, University of Lomé, 03 BOX 30 434, Lomé, Togo.

Received date: 22 January 2021; **Accepted date:** 02 March 2021; **Published date:** 12 March 2021

Citation: Agbeko FY, Fiawoo M, Djomaleu RA, NZonou M, Talboussouma S, Hemou M, Batalia HD, Kérékou RB, Pakoudjare M, Abalo KE, Saka B, Azoumah DK, Djadou EK, Douti KN, Akakpo-Numado KG, Gbadoe AD, Atakouma YD. Congenital Hip Dislocation with a Genu Recurvatum in Togo: A Case Report. *Asp Biomed Clin Case Rep.* 2021 Mar 12;4(1):72-76.

Copyright © 2021 Agbeko FY, Fiawoo M, Djomaleu RA, NZonou M, Talboussouma S, Hemou M, Batalia HD, Kérékou RB, Pakoudjare M, Abalo KE, Saka B, Azoumah DK, Djadou EK, Douti KN, Akakpo-Numado KG, Gbadoe AD, Atakouma YD. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited.

Abstract

Introduction: CHD is a condition, which is frequent in pediatrics in the Caucasian population, remains rare in the Black population, and exceptional in sub-Saharan Africa.

The Patient: We report this first Togolese case of bilateral congenital dislocation of the hip associated with genu recurvatum observed in a newborn received on the second day of life.

The Primary Diagnoses, Interventions, and Outcomes: The pediatric examination had noted extension of lower limbs. The thighs were in adduction with a stiff bilateral genu recurvatum. The abduction of the thighs on the pelvis was considerably limited. The Barlow and Ortolani maneuvers showed a protrusion. There was also a camptodactyly of the thumbs and a cleft palate. The rest of the examination was normal. Ultrasound of the hip showed a bilateral congenital dislocation of the hip with an estimated acetabular fundus of 7 mm on both the right and left sides. Ultrasound and radiography of the knees were normal.

Conclusion: Clinical examination at birth is the key step in diagnosis of congenital hip dislocation. In situations where diagnosis is difficult, ultrasound is of capital importance. Treatment is in the majority of cases orthopedic.

Keywords

Congenital Hip Dislocation, Genu Recurvatum, Newborns, Togo, Case Report

Case Report

Abbreviations

CHD: Congenital Hip Dislocation

Introduction

A Congenital Hip Dislocation (CHD) is a loss of anatomical relationships between the articular surfaces of the femur and acetabulum that can be detected at birth [1]. In the majority of cases, it is an acquired disease due to an anomaly in the child's intrauterine positioning which may explain the association with other limb anomalies [1]. A CHD is a condition which, although frequent in pediatrics is rather related to Caucasian population [1,2], remains rare in the Black population [3] and exceptional in sub-Saharan Africa [4-6]. In South Africa, out of 16,000 black newborns examined, no case had been found [5]. In 1990 in Congo, after examination of 4,465 newborn babies, no case had also been found [6]. In 2003, out of 2,551 newborns examined, Wandaogo et al also failed to find any cases [4]. The aim of this work was to report this first Togolese case of bilateral congenital dislocation of the hip associated with genu recurvatum observed in a newborn baby received in consultation on the second day of life.

Patient Information

It was a female newborn transferred from the maternity ward of the Regional Hospital Center of

Lomé-Commune for vicious lower limb attitude noted at the midwife's initial examination.

The mother, a 27-year-old primiparous, had 7 prenatal consultations. The last one was four weeks before delivery. The mother's HIV, syphilis, toxoplasmosis, and rubella serologies were negative. The Hepatitis B antigen test was also negative.

The delivery took place vaginally. The presentation was an incomplete breech. The gestational age was 37 weeks and 5 days. The Apgar score at birth was 8, 10, and 10 at the first, fifth, and tenth minute. The birth weight was 3,000g, height 50cm, and head circumference 35cm. The newborn had received basic care.

Clinical Findings

The pediatric examination had noted an extension of lower limbs. The thighs had a stiff bilateral genu recurvatum. The abduction of the thighs on the pelvis was considerably limited. The Barlow and Ortolani maneuvers showed a protrusion. There was also a camptodactyly of the thumb and a cleft palate. The rest of the examination was normal (**Fig-1**).



Fig-1:



Diagnostic Assessment

An ultrasound of the hip showed a bilateral congenital dislocation of the hip with an estimated acetabular fundus of 7 mm on both the right and left sides. The ultrasound and radiography of the knees were normal (Fig-2).



Fig-2:

Therapeutic Intervention

The baby had been monitored for 24 hours in the pediatric ward. then she was transferred to surgical ward, where she received orthopedic treatment for the hips.

Follow-up and Outcomes

The clinician- and patient-assessed outcomes: referred to surgery wards.

Discussion

Female patients are most often affected [6,7] as in our observation. The genetic and mechanical factors seem to be the most important risk factors [6]. A breech presentation such as incomplete breech, breech with bent knees and hip in external rotation, or tight thighs are important risk factors, but this involvement occurs at variable frequencies [4,6]. The newborn in our observation was in the incomplete breech with extended knees. Other factors such as primiparity in 50 to 60% of cases [8], oligohydramnios, twin pregnancy, and macrosomia are also involved [6] and can be explained by an interaction between the narrowed uterine cavity and the fetus.

A clinical examination of the hips at birth and in the first month of life is fundamental to the diagnosis of

congenital hip dislocation [9]. Clinically, a congenital dislocation of the hip is characterized by an asymmetric attitude of the thighs: either the two thighs are brought together in adduction of less than 60° with hypertonic adductors, or there is a difference in the length of the knees when the child is lying down, with the hips bent, the knees bent and the feet on the examination table (Galleazi sign). There may also be a jump in the Barlow and Ortolani maneuvers [9,10]. In about 28% to 50% of cases, the damage can be bilateral [6,11]. A genu recurvatum of both knees may be associated in rare situation [6,12,13] with the pathology. The association with malformations such as abnormalities of the thoracic limb has not been found, but there was a cleft palate. This togolese clinical case could be part of arthrogyrosis, a congenital disease manifested mainly by stiffness in various joints. It may be an independent disease or part of a syndrome associating other signs. More than 150 types have been described, including nearly 400 genetic abnormalities [14].

The paraclinical diagnosis is based on X-rays, but the best is ultrasound examination of the hip, which has the advantage of being more precise and less toxic [6]. The most commonly used techniques are the stitching technique, which measures the base of the acetabulum, so the dimension must be less than 5 mm [15]. The technique of de Graaf studies the acetabular cavity by frontal cuts passing through the centre [16]. Orthopaedic surgeons treat the patient. Total hip arthroplasty in congenital hip disease is generally considered as having higher failure rates [17]. It has to be stressed that the interpretation of results is difficult because in the majority of the studies all types of the disease are included, to a varying degree. Due to the fact that different reconstructive challenges are addressed in each type of the disease. Moreover, different techniques and implants are used, making the comparative evaluation of the results a difficult task [18].

Conclusion

CHD is a disease which is rare in the black population. The etiologies are various and can sometimes be multiple. In rare cases, it is associated with other abnormalities such as genu recurvatum. A

clinical examination at birth is the key step in diagnosis. A lot of studies are being carried out to improve screening through systematic clinical diagnosis and the evaluation of the coxofemoral joint in imaging. In situations where diagnosis is difficult, an ultrasound is of capital importance. The treatment is in the majority of cases orthopedic.

Acknowledgements

We acknowledge Professor Komlatsè Gamedzi Akakpo-Numado and his team for the surgical management.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Ethics Approval and Consent to Participate

This study was approved by the ethics committee of the Lome Commune Regional Hospital (Ref N°09/2019/PED/CHRLC), Lomé, Togo.

Consent for Publication

We obtained consent from parents of the new-born examined in the study. For the respondent, the objectives and benefits of participating in the survey and its conduct were clearly stated, as well as his right to interrupt the interview without justification. An informed consent form signed after the verbal explanation was made by the investigating officer in the language understood by the mother. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Availability of Data and Materials

“Data sharing not applicable to this article as no datasets were generated or analysed during the current study”.

Competing Interests

The authors declare that they have no competing interests. The authors have no association with financial or non-financial organizations.

References

- [1] Clinical practice guideline: early detection of developmental dysplasia of the hip. Committee on Quality Improvement, Subcommittee on Developmental Dysplasia of the Hip. American Academy of Pediatrics. *Pediatrics*. 2000 Apr;105(4 Pt 1):896-905. [PMID: 10742345]
- [2] Pfliger F. Luxation congénitale de hanche. Conduite à tenir en période néonatale [Congenital hip dislocation. What to do during the neonatal period]. *Archives de pédiatrie*. 2012;6(19):H239-40. (French)
- [3] Demange P, Adamsbaum C, Manlot D, Kalifa G, Seringe R. Imagerie de la dysplasie et de la luxation congénitale de hanche [Imaging of dysplasia and congenital hip dislocation]. *Encycl Med Chir Pédiatrie u Mal Infect*. 2002. (French)
- [4] Bourgeois E. La luxation congénitale de hanche, résultats coxométriques et évaluation des traitements, à propos d'une série de 35 cas. *Médecine humaine et pathologie*. 2010. dumas-00626453.
- [5] Wandaogo A, Bandre E, Tapsoba TL, Cisse R, Traore O, Traore A, Sanou A. La maladie luxante de la hanche (MLH). Dépistage au CHU de Ouagadougou sur un échantillon de 2514 nouveaux-nés [Dislocated hip disease (MLH). Screening at Ouagadougou University Hospital on a sample of 2,514 newborns]. *e-mémoires de l'Académie Nationale de Chirurgie*. 2003;2(2):43-46. (French)
- [6] Akkouchi L, EL-Fezzazi R. Prise en charge de la luxation congénitale de la hanche avant l'âge de la marche: Expérience du service: A propos de 60 cas. *Faculté de Médecine et de Pharmacie - Marrakech*. Thèse N 51 / 2014.
- [7] Tréguier C, Chapuis M, Branger B, Violas P, Le Guen A, Juquin MF, Bruneau B, Rambeau M, Darnault P, Bracq H, Gandon Y. Dépistage échographique de la luxation congénitale de hanche centré sur la mesure du fond cotyloïdien [Ultrasound screening for congenital hip dislocation focused on measuring the acetabulum]. *Journal de Radiologie*. 2006 Oct 1;87(10):1240. (French)
- [8] Fenoll B, Sebah L, Chapuis M. Luxation congénitale de la hanche. Monographie de la SOFOP, Editions Montpellier; Sauramps Médical, 2006.
- [9] Ortolani M. Congenital hip dysplasia in the light of early and very early diagnosis. *Clin Orthop Relat Res*. 1976 Sep;(119):6-10. [PMID: 954324]
- [10] Barlow TG. Early Diagnosis and Treatment of

Case Report

Congenital Dislocation of the Hip. *Proc R Soc Med.* 1963 Sep;56(9):804-806. [PMID: 14080075]

[11] Mirdad T. Incidence and pattern of congenital dislocation of the hip in Aseer region of Saudi Arabia. *West Afr J Med.* 2002 Jul-Sep;21(3):218-22. [PMID: 12744572]

[12] Shaw BA, Segal LS; SECTION ON ORTHOPAEDICS. Evaluation and Referral for Developmental Dysplasia of the Hip in Infants. *Pediatrics.* 2016 Dec;138(6):e20163107. [PMID: 27940740]

[13] Es-Seddiki A, Nkhili H, Amrani R. Congenital genu recurvatum: a rare situation in the delivery room. About two cases. *Rev med perinat.* 2016;8:54-57.

[14] Hall JG. Arthrogryposis (multiple congenital contractures): diagnostic approach to etiology, classification, genetics, and general principles. *Eur J Med Genet.* 2014 Aug;57(8):464-72. [PMID: 24704792]

[15] Couture A. L'Echographie de la hanche chez l'enfant. Montpellier: Axone; 1988.

[16] Graf R. New possibilities for the diagnosis of congenital hip joint dislocation by ultrasonography. *J Pediatr Orthop.* 1983 Jul;3(3):354-59. [PMID: 6874934]

[17] Sochart DH, Porter ML. The long-term results of Charnley low-friction arthroplasty in young patients who have congenital dislocation, degenerative osteoarthritis, or rheumatoid arthritis. *J Bone Joint Surg Am.* 1997 Nov;79(11):1599-17. [PMID: 9384419]

[18] Hartofilakidis G, Lampropoulou-Adamidou K, Karachalios TS. An attempt to throw light on congenital hip disease terminology and anticipation of clinical outcomes when treated with total hip arthroplasty. *Hip Int.* 2017 May 12;27(3):211-14. [PMID: 28497452]