ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25oct1346

Constriction Band Syndrome of the Left Leg with Late Presentation: A Case Report

Abdullahi Galdima Bello[1]; Dr. Altine Aliyu Nuradeen[2*]; Lukman Olalekan Ajiboye[3]; Abdulazeez Mukhtar[4]; Aminu Hassan[5]; Abdulrahman Hassan Muhammad[6]

[1;2;3;4;5;6]Department of Orthopaedics and Trauma, Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria

Corresponding Author: Dr. Altine Aliyu Nuradeen[2*]

Publication Date: 2025/11/06

Abstract: Congenital constriction band is uncommon and usually requires no treatment for the milder form. The surgical release of the band through Z plasty is promising in those requiring intervention to avoid vascular complications and loss of the affected limb. Early presentation is therefore crucial. The purpose of this study is to report a male baby with late presentation who had amputation. The 1-week-old male baby presented with a swollen, dark, and painful left leg with CBS in the middle of the left leg that warranted amputation with a subsequent uneventful postoperative period. This case has highlighted the need for early presentation of such cases for assessment and prompt treatment to avoid complications, including loss of the affected limb.

Keywords: *Constriction Band Syndrome, Leg Constriction Band, Amputation, Syndactyly.*

How to Cite: Abdullahi Galdima Bello; Dr. Altine Aliyu Nuradeen; Lukman Olalekan Ajiboye; Abdulazeez Mukhtar; Aminu Hassan; Abdulrahman Hassan Muhammad (2025) Constriction Band Syndrome of the Left Leg with Late Presentation: A Case Report. *International Journal of Innovative Science and Research Technology*, 10(10), 2594-2596. https://doi.org/10.38124/ijisrt/25oct1346

I. INTRODUCTION

Constriction band syndrome (CBS) is an uncommon pathology in newborns with a still unclear etiology [1]. In literature, different terminologies can be used to refer to this condition, like Streeter dysplasia, amniotic constriction bands, annular defects, and anomalous bands. It has varying clinical presentations from simple constriction rings of the digits, syndactyly, acrosyndactyly, to more severe malformations of the head, face, and trunk with anencephalia, encephalocele, microphtalmia, cleft lip, hydrocephalus, thoracoschisis, gastroschisis, and extra-thoracic heart [2]. The limb lesion is usually asymmetric, and the incidence is 1:2000 to 1:15000 live births with an equal male to female ratio [3]. There is a high incidence among the premature and low weighted babies [4]. Treatment with constriction release through Z plasty is the common surgical procedure for early presentation [5]. We reported this case because of its rarity and the late presentation, which may complicate management.

II. CASE REPORT

A week-old male neonate presented with circumscribed narrowing of the left leg and deformed fingers since birth. No hospital treatment was sought, and the left leg gradually started swelling and becoming dark, which prompted the parents to present to the hospital. There was deformity of the right hand with fusion and flexion deformity of fingers bilaterally. No other associated anomaly was noticed. The antenatal period and labour were uneventful. No history of similar condition in the family. The examination findings were a healthy-looking neonate, Pinkish, febrile, anicteric, acyanosed. Heart Rate=110b/m and Heart sound=1 & 2, no murmur. Chest, Abdomen, urological, and neurological examinations were essentially normal.

Musculoskeletal system: Circumferential constriction around the middle of the left leg with swollen, darkened, and non-sensory part of the leg distal to the constriction (Figure 1A). There was a presence of bilateral upper limb acrosyndactly (Figure 2).

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25oct1346

A diagnosis of CBS was made, and investigations to prepare the patient for operation and to rule out other congenital anomalies, which include abdominal USS, Echocardiography, and Haematological profiles, were done. Diagnosis of a congenital constriction band of the left leg was made. The patient was optimized, and below-knee amputation was done (Figure 1B & 1C). Management of syndactyly was deferred for a later time in conjunction with the plastic and reconstructive surgery specialty. The patient was discharged 5 days after an uneventful postoperative period and was to be followed up on periodic clinic visits.

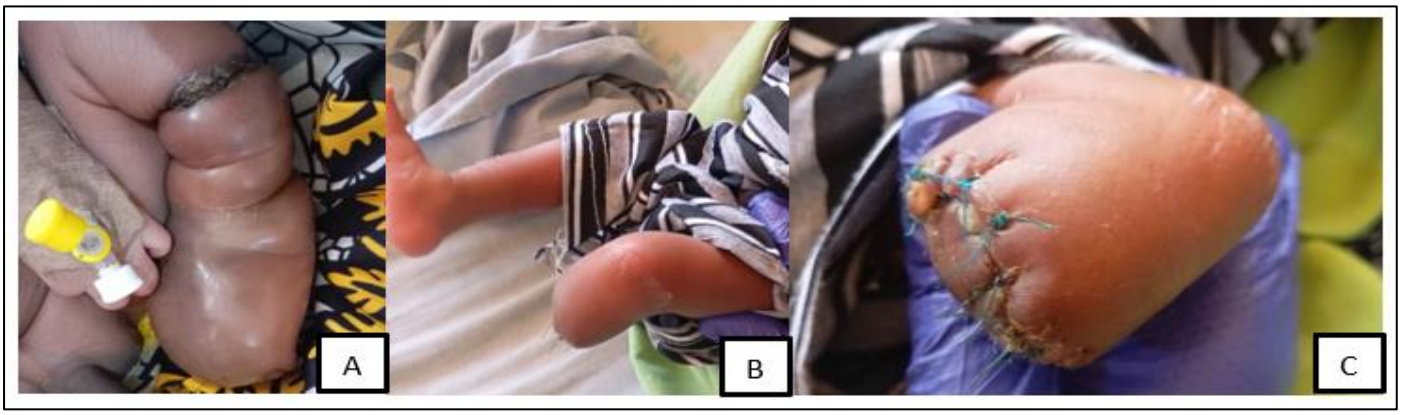

Fig 1 [A] Left Leg CCB with Imminent Gangrene; [B] and [C] After Amputation


Fig 2 Right Upper Limb Syndactly/Acrosyndactly

III. DISCUSSION

The congenital constriction band syndrome (CBS) is rare, and its etiology is not completely known and it mainly presents sporadically [1,4,6]. Although the literature mentioned equal gender occurrence, our study has a male baby presenting. Presentation is usually at birth and varies with the degree of constriction, location, and associated deformities. The time of presentation is also important in the management, as late presentation may risk limb loss, as seen in our patient who presented 1 week after birth. However, the degree and severity of the constriction may be more important because a study by Jaiman R et al. reported satisfactory results after Z-plasty constriction band release in a 4 year old child who presented with Congenital CBS [7]. Another study showed one-stage 24 constriction bands release in 19 patients with excellent results [8]. Our patient developed imminent gangrene after late presentation, probably due to the severity of the constriction band. The CBS varies in its type and level of soft tissue affectation, ranging from only the skin, subcutaneous tissues to a deeper location affecting vascular supply and lymphatic channels, resulting in chronic limb oedema [9]. The CBS could be a partial or complete ring, single or multiple, superficial or deep, and can occur anywhere in the limb, resulting in intrauterine limb gangrene and amputation [8,10]. The treatment options for the CBS include observation in superficial ring that is confined to the skin to Z-plasty in deep rings with risk of vascular compromise [3,11]. To minimize recurrence and risk of further vascular injury, complete excision of the constrictive tissue with a 1 to 2 mm skin margin and soft tissue with removal of dense fibrous tissue is advised.

IV. CONCLUSION

Congenital constriction band syndrome of the limb may present either in mild form or svere form requiring intervention which usually results in good outcome when presented early. The late presentation particularly with associated vascular compromise may threaten loss of limb by gangrene and subsequent amputation.

➢ *Conflict of Interest*
The author declares no conflict of interest

➢ *Funding*

- None

➢ *Acknowledgement*

- None

REFERENCES

[1]. Demetri LR, Starcevich AG, Manske MC, James MA. Clinical manifestations of constriction band syndrome. JBJS. 2021 Feb 26:10-2106.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25oct1346

[2]. Sabapathy SR, Mohan M. Surgical Considerations in the Management of Constriction Ring Syndrome. The Journal of Hand Surgery (Asian-Pacific Volume). 2024 Dec 14;29(06):537-46.
[3]. Goldfarb CA, Sathienkijkanchai A, Robin NH. Amniotic constriction band: a multidisciplinary assessment of etiology and clinical presentation. JBJS. 2009 Jul 1;91(Supplement_4):68-75.
[4]. Koskimies E, Syvänen J, Nietosvaara Y, Mäkitie O, Pakkasjärvi N. Congenital constriction band syndrome with limb defects. Journal of Pediatric Orthopaedics. 2015 Jan 1;35(1):100-3.
[5]. Sanjaya IG, Hamid AR, Samsarga GW. One stage release of circumferential constriction band in upper limb with multiple Z-plasty technique: a case report. Indonesia Journal of Biomedical Science. 2019 Jul 21;13(2).
[6]. Innes AM, Lynch DC. Fifty years of recognizable patterns of human malformation: Insights and opportunities. American Journal of Medical Genetics Part A. 2021 Sep;185(9):2653-69.
[7]. Jaiman R, Gangopadhyay AN, Gupta DK, Srivastava P, Upadhyaya VD, Sharma SP, Kumar V. A child presented with bilateral congenital constriction ring in lower extremity: a case report. Cases Journal. 2009 Jul 23;2(1):7772.
[8]. Das SP, Sahoo PK, Mohanty RN, Das SK. One-stage release of congenital constriction band in lower limb from new born to 3 years. Indian Journal of Orthopaedics. 2010 Apr;44(2):198-201.
[9]. Goldfarb CA, Sathienkijkanchai A, Robin NH. Amniotic constriction band: a multidisciplinary assessment of etiology and clinical presentation. JBJS. 2009 Jul 1;91(Supplement_4):68-75.
[10]. Richardson S, Khandeparker RV, Pellerin P. Amniotic constriction band: a report of two cases with unique clinical presentations. Journal of the Korean Association of Oral and Maxillofacial Surgeons. 2017 Jun 28;43(3):171.
[11]. Walter Jr JH, Goss LR, Lazzara AT. Amniotic band syndrome. The Journal of foot and ankle surgery. 1998 Jul 1;37(4):325-33.