

Unicortical Tibial Fracture in a Severely Premature Newborn with Constriction Ring Syndrome: A Case Report

^{1,2}Z, Shukriah Aqilah; ¹SM, Faisal Amir; ¹A, Atikah Amirah @ Suzannah

¹Department of Orthopaedics, Hospital Sultanah Nur Zahirah, Jalan Sultan Mahmud, 20400, Kuala Terengganu, Malaysia

² Department of Orthopaedics, Traumatology and Rehabilitation, IIUM, Jalan Hospital Campus, 25050 Kuantan, Pahang, Malaysia

INTRODUCTION:

The constriction ring syndrome is characterized by fibrous bands that surround, strangulate and even amputate some parts of the foetus. It may be presented with simple constriction ring, constriction ring with deformity of the distal part, constriction rings accompanied by fusion of distal part and intrauterine amputations.

REPORT:

We report a case of congenital constriction ring syndrome in a preterm monochorionic diamniotic (MCDA) 2nd twin with birthweight of 1.24kg.

There was a circumferential constriction ring over distal right leg with toes fusion over the right foot. There was no sign of circulation compromise over the right foot. She was also born with gangrenous acrosyndactily of left middle finger and left ring finger with proximal constriction band. Radiograph of left hand showed deformity in both size and shaped of middle and ring fingers. Radiograph of right tibia/fibula showed strangling constriction ring causing unicortical fracture over medial cortex distal tibia. Constriction band release and Z-plasty of right leg was done at the age of 44 days of life. The left middle and ring fingers were left to be autoamputated.

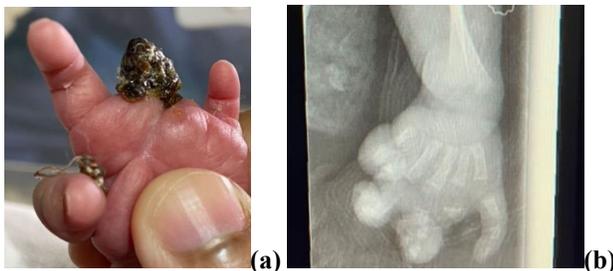


Figure 1:(a) middle and ring fingers dry gangrene with fibrous band. (b) radiograph left hand

Prenatally, her mother was a 29-year-old gravida 4 para 3. She had history of 1 previous scar for fetal distress and history of neonatal death for complex cyanotic heart disease. She also had anemia in pregnancy secondary to Hbe

trait with baseline hemoglobin 9.5 g/dl. The baby was born by emergency cesarean section for MCDA twin with threatened preterm labor at 30week 6 days period of gestation.

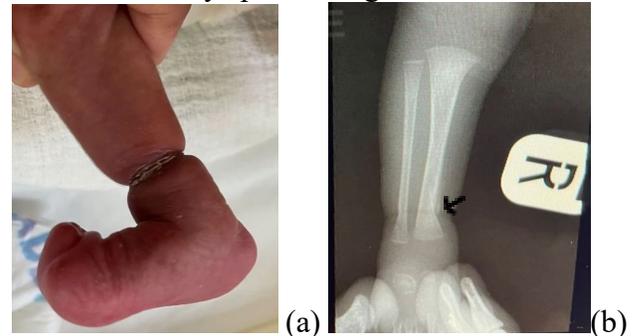


Figure 2: (a)circumferential constriction ring distal right leg. (b) unicortical fracture distal right tibia with callus formation (arrow)

The mother did routine antenatal follow up at the general hospital obstetric clinic. Ultrasounds were uneventful. There was neither history of fever, trauma, bleeding, consumption of herbal preparations, nor family history of hand and foot deformity.

CONCLUSION:

Constriction band related fracture results from continuous increasing mechanical stress on the bones. Early intervention is prudent to prevent morbidity to the newborn with successful outcome.



Figure 3: Post constriction ring release and Z-plasty

REFERENCES:

1. Kristian, S. D., Ibrahim, M. A. N., & Hanum, N. (2020). *A Newborn With Constriction Ring Syndrome: A Case Report*. 3.
2. Adu, E., & Annan, C. (2008). Congenital constriction ring syndrome of the limbs: A prospective study of 16 cases. *African Journal of Paediatric Surgery*, 5(2), 79. <https://doi.org/10.4103/0189-6725.44182>