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Case report of congenital constriction ring of right thigh with impending amputation operated on day 1 of birth with linear excision

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ABSTRACT

Introduction: Congenital peripheral constriction ring originating from soft tissues of the leg that is characterized with compression in the soft tissue usually involving the deep fascia surrounding the leg at the time of birth is occasionally observed in lower extremity. At the region of the constriction, fractures of tibia and fibula and foot deformities like clubfoot can be observed. **Case presentation**: In our report, 1 day old neonate with congenital constriction band zone 1 grade 3 right side with ulceration in the local region and impending amputation presented to us. We operated it with linear excision technique, removed constriction and limb was salvaged. **Conclusion**: Congenital-constricting bands can be effectively released with linear excision. Linear excision is simple and very fast way of releasing constriction in high risk surgery cases.

Keywords: Emergency constriction ring surgery, Zone 1 Grade 3 constriction ring, Linear excision of constriction ring, constriction ring thigh, 1 day neonate constriction ring.

Introduction

This condition is named as either congenital peripheral constriction rings originating from soft tissues of the leg or as streeter band is occasionally observed in lower extremity [1]. It is characterized with compression in the soft tissue usually involving the deep fascia surrounding the leg at the time of birth. Lymphatic vessels and superficial vascular circulation is usually partially obstructed. At the distal side of the constriction, oedema and cyanosis could be seen. At the region of the constriction, fractures of tibia and fibula and foot deformities (clubfoot) can be observed. Unlike congenital pseudoarthrosis, the fractures can be healed by means of releasing the constriction without need of an operation.

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According to Patterson [2] constriction ring can be classified into four subgroups:

(i) Simple constricting ring,
(ii) Constricting ring with deformity of distal part,
(iii) Constricting with fusion of distal parts,
(iv) Complete intrauterine amputation.

The management worldwide is Z plasty or W plasty with concurrent treatment of associated deformity. In cases like this where anesthesia risk is very high, a fast and effective linear excision can be performed and limb can be salvaged.

Case presentation

A case of 1 day old baby having constriction ring on her right thigh zone 1 grade 3. Patient having severe lymphoedema impending amputation with ulcerative lesion over constriction ring. Patient was immediately taken for operation. We did linear excision and after the resection of soft tissue and deep fascia, constriction bands was removed, wound was sutured with loose tagging stiches. After 1 month from the operation, wound healed without any complication. The patients after 1 year of follow up had good result (no shortening of limb, bilateral girth of thigh normal, no deviation or bony abnormality).

Discussion

The prevalence of clubfeet with constriction bands ranges from 12 to 56 % [5-7]. A series by Cowell and Hensinger reported 14 patients with clubfeet among 25 patients with congenital constriction band syndrome [8]. The location of constriction bands are divided into 4 zones. Zone 1 bands occur between the greater trochanter and the knee. Zone 2 bands occur between the knee and the ankle. Zone 3 bands occur between the ankle and metatarsophalangeal joints. Zone 4 bands are limited to toes. Severity of bands is also considered. Grade 1 bands are subcutanaous, not to the level of fascia. Grade 2 bands are to the level of fascia and not compromise the circulation to the distal extremity. Grade 3 bands are to the level of fascia, such that lymphedema or circulatory compromise necessitates surgical release. Grade 4 bands include all congenital amputations [3]. Zone 1 band are uncommon.We here had Zone 1 Grade 3 right side constriction ring. Operated on day 1 of birth in emergency. Linear excision is quicker and very useful when performing high risk patients like in our case (ASA 5).

Abbreviation ASA - American Society of Anesthesiologists classification

Fig 1:Pre operation

Fig 2:Post Op

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