

LIMB GANGRENE PRESENTING AT BIRTH

Esin KOÇ, M.D., Ertuğrul ŞENER*, M.D., Yıldız ATALAY, M.D., Canan TÜRKYILMAZ, M.D.

Gazi University, Faculty of Medicine, Departments of Pediatrics and Orthopedics*, Ankara, Turkey
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SUMMARY :

Although peripheral limb ischemia and gangrene is a well recognized hazardous problem, gangrene of an extremity presenting at birth is rare. We present a case of an upper extremity gangrene established at birth and had to undergo amputation without any identified cause.

Key Words: Ischemia, Gangrene, Newborn.

INTRODUCTION

Peripheral ischemia and gangrene presenting at birth is a rare clinical problem with a heterogeneous etiology and generally a poor outcome(1). Although the association with maternal diabetes is probably significant (2), in most cases no identified cause has been found. In recent years, death from this condition is rare, however when gangrene is established at birth, surgical amputation, autoamputation, or some loss of function is usual (3).

We report a case of an upper extremity gangrene of unknown etiology presenting at birth.

CASE REPORT

A full-term male neonate of a 23-year-old biparous mother was born via an uncomplicated vaginal delivery. The patient was an otherwise healthy neonate with a birth weight of 3400 g and his mother had an uncomplicated pregnancy. Shortly after the delivery, the left hand and forearm were noted to be swollen, cyanosed, cool, and necrosis of the tips of the thumb, long, ring and

small fingers developed in a few hours (Fig. 1). The skin blistering was present on the anterior side of the forearm. The infant had no spontaneous finger or wrist motion, and no pulses could be detected in the forearm and hand on palpation or with Doppler



Fig. 1 : Preoperative view of the left arm.

studies. The x-ray of the whole extremity was normal. The hematocrit of the baby was 48 % and the blood glucose levels obtained severally in the first three days were within the normal ranges. Twenty hours after birth, a forearm fasciotomy and carpal tunnel release were performed to restore circulation to the extremity, and the brachial, radial, ulnar arteries were explored. The spasm of brachial artery was observed at the time of surgery and retrograde intraarterial Fogarty cannule was introduced.

Postoperatively, the radial and ulnar pulses were not restored and the patient did not demonstrate return of sensibility and motor function. The angiography of the left upper extremity revealed the patency of the left subclavian artery; however, the axillary artery was not patent at the level of thoracoabdominal artery junction. The blood glucose levels, the glucose tolerance test, and Hb A1c levels of the mother were normal. The levels of PT, PTT, protein C, S, and antitrombin III were within the normal range. An infusion of heparin at 100 units/h and 0.02 % lidoacain were administered but the necrosis extended progressively and a demarcation line was noted on the forearm near the elbow. On day 3, the infant underwent amputation of the gangrenous left forearm. In the operation, the muscle tissues were necrotic and non contractile.

Postoperatively, the infant did well and was discharged on the seventh postoperative day.

DISCUSSION

Peripheral limb ischemia and gangrene is a recognized complication of the modern neonatal care with its potential for iatrogenic insults. Cases of associated entities with neonatal gangrene include prematurety, congenital syphilis, eclampsia, asphyxia, maternal diabetes, indwelling catheters, sepsis, polycythemia, dehydration, protein C deficiency and emboli from closing patent ductus arteriosus⁴⁻⁹. Although peripheral gangrene is not seen after most difficult and traumatic deliveries, oligohydramnios or ödryí labor and birth trauma were noted as causes of gangrene¹⁰. Less well appreciated is the rare problem of limb gangrene presenting at birth or shortly following birth in the absence of any obvious precipitating cause. The present case demonstrates the difficulty in identifying the etiology in these cases. None of the causes

mentioned above could be demonstrated as an etiologic factor in our patient. The baby was an otherwise healthy fullterm neonate without any evidence of infection or trauma and the cause of the event remained unknown.

Like in our case, Turnpenny et al. reported that the gangrene in the neonate appeared to predominate in the upper limbs, male cases predominate over female and in the majority of reports no etiologic factor was identified³.

The management of neonatal arterial occlusion includes supportive care, close clinical monitoring and surgery when indicated. Supportive care is aimed at preventing trauma, sepsis and further compromise of blood supply to the affected extremity. When gangrene is established at birth, surgical amputation is not rare. In the present case despite supportive therapy, as the demarcation of necrosis was noted on the forearm, the infant had to undergo amputation of the gangrenous limb.

Correspondence to : Dr.Esin KOÇ
Hatır Sokak 15 / 2
Gaziosmanpaşa
06700 ANKARA - TÜRKİYE
Phone : 312 - 214 10 00 / 6019
Fax : 312 - 215 10 43

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