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Amniotic Deformity, Adhesions, Mutilations (ADAM) Complex: A Frightful Condition

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A term male infant with a birth weight of 2.5 kg was born to primigravida mother through normal vaginal delivery. Baby cried after birth with an Apgar score of 8/9/9 and did not require any resuscitation. Maternal history was not significant for any drug intake or medical illness. On physical examination baby was diagnosed to have smaller sized medial four toes of both lower limbs, constriction bands around the fingers, distal atrophy of fingers with absence of nails in all toes (Figures 1 and 2).

Little toe was larger in size than the other toes of lower limbs. Baby was evaluated for other malformations which showed normal echocardio-graphy, cranial ultrasound, and ultrasound of abdomen and renal region. Baby was discharged after plastic surgeon's opinion. The infant was in regular follow up for four months, after which parents gave the spot, hence was lost in follow up. In follow up no new malformations were observed.

Amniotic deformity, adhesions, mutilations (ADAM) complex is recognized by varying names which includes ABS, Amnion rupture sequence, Amniotic bands, Amniotic band sequence, Congenital constriction rings, Constriction band syndrome, Limb body wall complex, Streeter anomaly, Streeter bands, TEARS (The Early Amnion Rupture Spectrum), Streeter dysplasia or Pseudoainhum. The cause of ADAM syndrome is believed to be entrapment of the fetal parts like hands or feet in amniotic bands intrauterine which leads to fall in blood supply to affected organ leading to its malformation (1). In that respect is no definitive theory for the cause of ADAM syndrome, but amniotic band theory and vascular band theory are postulated for ADAM syndrome. On that point are no genetic associations (2, 3). The effect of band entrapment can be many, ranging from congenital lymphedema, amputation or constriction rings around the extremities. ADAM syndrome is linked with other malformations which includes club hands, clubfoot, cleft lip and palate (4, 5). Treatment calls for supportive care and plastic or reconstructive surgical procedure (6).

Figure 1. showing small sized medial four toes of both lower limbs, constriction bands around the fingers, distal atrophy of fingers with absence of nails in all toes. Also note little toe is large in size than other toes of lower limbs.

Figure 2. showing small sized medial four toes of both lower limbs, constriction bands around the fingers, distal atrophy of fingers with absence of nails in all toes. Also note little toe is large in size than other toes of lower limbs

Learning Points/Take Home Message

1) ADAM syndrome is induced by the amniotic bands and it contributes to a varied spectrum of deformities to the fetus from distal ring constrictions to complete limb amputations.

2) Appropriate surgical intervention and regular follow up of these neonates can eliminate potential limb threatening constrictions and provide a respectable caliber of liveliness.

Associated malformations must be explored in these newborn infants and parents must be counseled regarding this problem.

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