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Case Report

A rare case of acardiac acephalus twin pregnancy

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Introduction

Acardiac twining also referred to as the twin reversed arterial perfusion sequence (TRAP) represents an extreme manifestation of the twin transfusion syndrome and has an incidence of approximately 1 in 35,000 deliveries [1]. The acardiac twin is transfused by the normal co twin by means of reversal of circulation through large vein to vein and artery to artery anastomosis and has no direct communication with placenta. The acardiac twin presents with many bizarre anomalies thought to be due to low oxygen tension and dramatic alterations in the fetal physiology [1]. Complications in the pump twin of an acardiac fetus include congenital heart failure, polyhydramnios, preterm labor and death in 50-70% of the cases. We present a case of acardiac – acephalus twin which was initially mistaken for a dead anomalous twin.

Case report

A 20 year old 3rd gravida having two full term vaginal deliveries with one living was referred to us at 29 weeks gestation with an ultrasound report documenting twin pregnancy with one fetus of 28 weeks and the other showing anomalies like Wilm's tumor anencephaly and having no cardiac activity. Her clinical examination revealed a 34-36 weeks size, tense distended uterus with multiple fetal parts. She was admitted for observation as a case of twin pregnancy with one dead fetus. Repeat ultrasonography with color doppler was done which showed two fetuses inside the uterus, only single placenta with absence of amniotic membranes suggestive of monochorionic monoamniotic twin pregnancy. The first fetus was dead (26 weeks gestational age), showed gross congenital malformations in the form of absence of fetal cranium replaced by soft tissue density mass lesion, spinal deformity, gross edema of limbs, abdomen and body (Figure 1). The second fetus was apparently normal and alive with normal growth of 29 weeks 4 days.

She was treated conservatively for the live twin but on 9th March 2006, the 3rd day of admission she developed labor pains and delivered the 1st still born congenitally malformed baby by breech at 6.30 pm and the 2nd preterm baby by vertex at 6.34 pm.

The only recognizable parts in the malformed twin were lower limbs that too deformed. On gross

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examination the proximal part of the fetus was multilocular cyst filled with a transparent fluid, covered with a gelatinous swollen skin and no heart or lung like structure. There were no upper limbs or head and neck. The patient refused autopsy. Radiograph of the fetus showed normal skeletal features below the umbilicus but no bony shadow was present in the upper part of the body. Single placenta was delivered with single amniotic membrane and two cords inserted side by side, one of them was very small and attenuated which belonged to the acephalus twin.

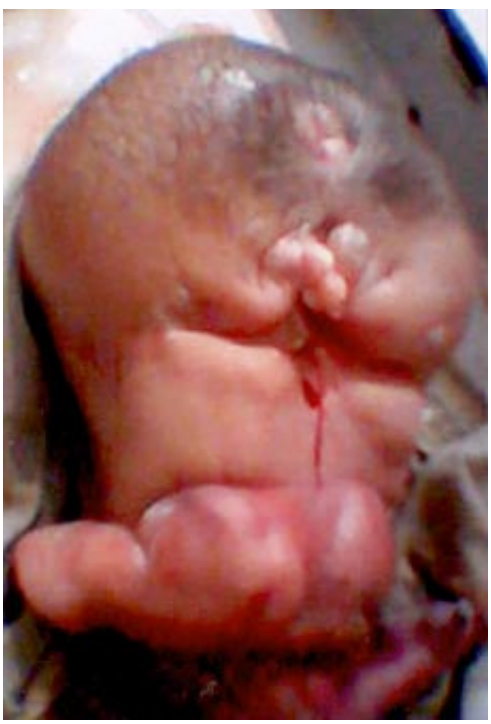

Figure 1 (Showing acardiac twin)

Postnatal period was uneventful and the 2nd baby was admitted in neonatal intensive care unit for prematurity and expired on the 4th day of life. The patient was discharged on 6th postnatal day in satisfactory general condition.

Discussion

Twin reversed arterial perfusion (TRAP) first defined by Greenwald in 1942, is probably responsible for acardiac fetus as one of the forms of twin to twin transfusion syndrome. The donor twin or the pump twin provides circulation for itself and recipient acardiac twin; used arterial blood reaching the recipient twin preferentially goes to the iliac vessels leading to disruption or deterioration of growth and development of the upper body as seen in our case.

Twin to twin transfusion syndrome (TTTS) cannot be prevented but an early diagnosis of this disorder in an identical twin pregnancy can possibly save one or both babies. This can be detected in the early stage of pregnancy by ultrasound scanning and doppler velocimetry [2].

Currently to stop the blood flow to the acardiac twin, a high energy radiofrequency ablation is utilized to destroy the blood vessels and surrounding tissues at the site where they enter the acardiac twin[3]. The other therapy is fetoscopic placental laser surgery directed at the vascular connection between the twins.

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