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SONOGRAPHY IS THE MODE OF CHOICE TO DIAGNOSE THE "MONSTER TWIN" OF MONOAMNIOTIC-MONOCHORIONIC.

OBJECTIVE:

"Mono-chorionic-Mono-Amniotic-Second Monster Twin" was diagnosed during Sonography at Radiology Department, Aga Khan Hospital for Women & children, Kharadar {Lyari Town Karachi}, AKUH.

INTRODUCTION & BURDEN OF DISEASE:

Acardiac -Acephalic twin(or recipient twins) are haemodynamically dis-advantaged non-viable twins that undergo secondary atrophy in association with a twin reversed arterial perfusion sequence.

Epidemiology is an Acardiac twinning is thought to affect 1 in 100 monozygotic twin pregnancies and 1 in 35,000 pregnancies overall [1-2]. There is no recognised familial recurrence.

Pathology of acardiac & acephalic twin: undergoes secondary atrophy of the heart and dependent organs (brain) & often develops a characteristic set of anomalies including Acardiac-Acephalic twin. This twin exerts abnormal strain on the opposite (pump) twin by stealing its circulation.

There are two schools of thought in the pathogenesis of the acardiac twin:

1. Some propose that the primary defect is one of cardiac embryogenesis [dysmorphogenesis].
2. Others consider the primary cause being an abnormal vascular communication between embryos in the placenta with arterial to arterial communication leading to reversed flow of blood to the haemodynamically disadvantaged or recipient twin, with resulting secondary atrophy of the heart and dependent organs.

Twin reverse arterial perfusion syndrome (TRAP) is a type of twin to twin transfusion which occurs in "Monochronic Gestation". There are two accepted theories about the pathogenesis of the TRAP sequence. The popular theory suggests that perfusion of the recipient twin occurs by reversal of flow through the umbilical vessels of the normal pump twin mainly through vascular anastomosis in the placenta. This blood entering the recipient twin is under reduced oxygen tension. The desaturated blood [reduced oxygen tension] that enters the body of the affected twin allows some development of lower body and lower extremities but by the time the blood reaches the upper half of the body the oxygen saturation is too low causing disruption of organ morphogenesis and poor development of heart, head and upper torso.[3] The second theory suggests that there is primary failure in early organogenesis with cardiac dysmorphogenesis.[3] Twin reversed arterial perfusion (TRAP) sequence is classified according to the degree of development of the parasitic twin.[3] 1. **Acardius-Acephalus**, where head & upper extremities are not developed. It is most common variety[3], Which is seen in our [Present Case] case.

METHODOLOGY:

RADIOGRAPHIC FEATURES:

I: ULTRASOUND CRITERIA:

While features can vary with each sub type, general features include Fetal biometric discordance, Marked edema (fetal anasarca) of the affected twin with cystic changes, Normal or accelerated growth of the lower extremities due to imbalance in the inter-fetal circulation. Retrograde supply of the desaturated blood to the upper body and head, leads to maldevelopment of the heart, head, and upper torso, which are completely absent or severely deficient. Umbilical cord to the acardiac twin is often quite short and may be difficult to identify.

Associations: Single umbilical artery: ~66% 2 underlying chromosomal anomaly: ~33% 2

II: DOPPLER ASSESSMENT:

Shows reversed flow through the umbilical arteries to the affected fetus.

A PARTICULAR CASE OF MONSTER TWIN WITH ACARDIAC-ACEPHALIC SECOND TWIN:

A women of 35 years old with Para 2+0, Gestational age **19.5 weeks**. The ultrasound scanning showed a normal **single placenta** and a moderate degree polyhydramnios. The fetuses were seen within the **single Gestation sac**.

Twin-A: The active fetus showed normal biometry and morphology, while **Twin-B:** without Head-Brain, Thorax [No Chest], No Heart seen, only blood flow seen in cords & lower abdomen was seen with Moving Long Bones [All four Long bones were slightly curve & Talipes feet & Talipes Hands], No abdominal organ identified separately & Body edema noticed.

The Acardiac -Acephalic twin is non viable and management is aimed at maintaining viability of the other (donor/pump) twin, including close surveillance for development of hydrops. Interrupting blood flow to the acardiac twin may be performed by various methods which include hysterectomy and removal of the acardiac twin, ligation of the umbilical cord and/or laser ablation of vessels, but due to High expenses for above mentioned management, In our case study, Patient seek the **low cost treatment that's why patient moved to Local GP clinic and Terminated the both twin.**

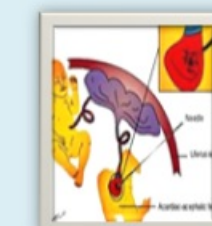
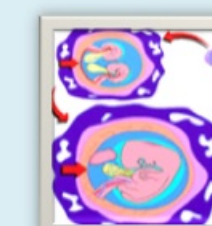
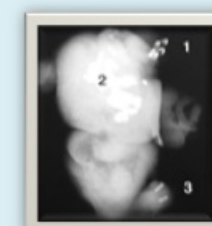
ULTRASOUND IMAGES WITH DESCRIPTIVE POINTS IN OUR CASE:



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IMAGES & DIAGRAMS OF MONSTER TWIN



RECOMMENDATION:

MCMA-twins should be checked carefully to rule out Cords in vessels, Heart, conjoint twin, twin to twin inter-fetal circulation & especially to rule out Monster-Acardiac -Acephalic twin, so patients, family & primary consultant take early decision for treatment & Management.

KEY WORDS:

- Acardiac -Acephalic twin.
- Monster Twin.
- Sonography for Monochorionic Twin.

ABBREVIATION:

- ACAC: Acardiac-Acephalic twin
- MCMA: Mono-chorionic & Mono-Amniotic.

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