

Acardiac Twin - Antenatal Ultrasound Diagnosis

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Key words: acardiac twin, ultrasound scan, antenatal diagnosis

Case Report

A 26-year-old primigravida with 26 weeks gestation was referred for ultrasound scanning because of a disproportionately increased uterine size.

Her personal and family history did not contribute significantly. She was non-diabetic and there was no history of teratogens or serious infections.

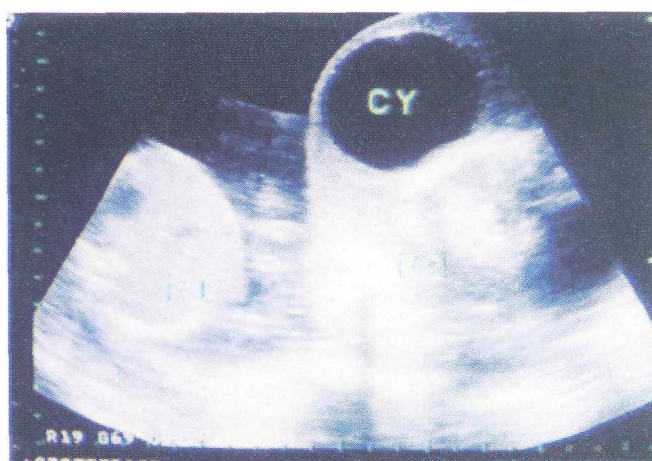
The ultrasound scanning showed a normal single placenta and a moderate degree of polyhydramnios. Two fetuses were seen within the single sac. The active fetus showed normal biometry and morphology. The poorly developed spine represented another smaller fetus. An irregular soft tissue mass was seen at the cephalic end. Only specks of bones vaguely denoted the lower limb bones. The upper limbs were not definable. Large clear fluid filled cysts were seen at the paraspinal regions. The cardiac shadow was conspicuously absent (photographs 1 and 2).

The pregnancy was closely monitored, and terminated by cesarian section at 37 weeks. The normal looking fetus was delivered. The acardiac monster was in a degenerated state.

Discussion

These features are typical of an acardiac twin (holocardius, acardiac monster) occurring in monozygotic monochorionic twins or triplets. The inheritance of this anomaly is sporadic with an incidence of 1 in 100 monozygotic twins or 1 in 35,000 births. This is an example of twin reverse arterial perfusion sequence (TRAP sequence) resulting from abnormal placental vascular anastomosis. Endovaginal sonography can detect this as early as 11-12 weeks of gestation. Color doppler evaluation can demonstrate the umbilical arterial flow directed towards the affected fetal abdomen contrary to the

normal one-. Single umbilical artery may be noted in 50% of the cases. The oxygen deprived 'perfused twin' develops aplasia or hypoplasia of the head, heart and upper limbs. The skin may be thickened and multiple lymph cysts may be present. The normal 'pump twin' is prone to develop hydrops due to congestive cardiac failure.



Photograph 1: The normal fetal abdomen (F1) is lying closer to the acardiac fetus (F2). The lymph cyst (CY) is seen near the neck.



Photograph 2: The longitudinal section of the monster shows the soft tissue mass at the cephalic end (CEPH END) and the spine in its whole length. The lymph cyst (CYST) is seen posterior to the spine. Upper limbs and heart shadows are absent. A small bone represents the femur.

Paper received on 4/10/02 ; accepted on 18/8/03

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