Are we getting our wires crossed? Transposition of the great arteries

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Case study:

Background:

- G3 P2
- Previous normal vaginal deliveries
- No significant medical/surgical/obstetric history
- BMI 30 at booking

- Dating scan was performed at 11+6/40 weeks gestation (= dates)
- Routine anomaly scan at 21/40 weeks gestation-incomplete
- Patient cancelled her follow up examination to complete the anomaly scan and this appointment was then rescheduled
- Presented at 32+2/40 weeks gestation in order to complete the anomaly examination
Ultrasound findings 21/40.

Figure 1:

Transverse view of thoracic cavity

Four chamber view with colour Doppler

Technically unable to complete the assessment due to poor fetal lie and fetal movements.
Ultrasound findings 32+2/40.

Figure 2:

Pre-set cardiac package was selected, and the settings adjusted as necessary.
Figure 3:

Intact ventricular septum

4 chamber view, colour Doppler
Figure 4:

Intact ventricular septum

No crossing over of vessels, Parallel appearance noted.

Aorta?

Pulmonary Artery?
Figure 5:

Thoracic chest wall

Abnormal 3 vessel view
Diagnosis and Follow up:

• Extended cardiac views were performed, and abnormalities noted
• Referral was sent to be seen by a fetal medicine specialist
• Transposition of the great arteries was diagnosed
• Plan was made to deliver at the tertiary facility for paediatric support
• Baby was delivered at a tertiary facility and promptly transferred to a children's hospital
• Cardiac surgery was performed which was successful
Transposition of the Great Arteries (TGA)

- Congenital heart defects (CHD) are significantly related to infant morbidity and mortality.
- Incidence of CHD range from 4-13/1000 livebirths, with 5-7% of these being related to transposition of the great arteries.
- TGA > aorta and the pulmonary artery arise from the opposite chambers of the heart; the aorta from the right ventricle and the pulmonary artery from the left ventricle.
- Historically detection rates varied from 25-40%, however with extended views detection is now approx 77%.
- Approximately half of all cases of TGA occur with an intraventricular septum defect.
- Abnormal 3 vessel views can indicate structural anomalies of the great vessels.
References


