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An increasing experience in the antenatal diagnosis of right aortic arch.

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Background

The 3VT (3 vessel and trachea) view has been introduced in mid trimester obstetric screening. This images the SVC, transverse aortic arch, ductus arteriosus and trachea. RAA (right aortic arch) can be a variation of normal and 25% are associated with vascular ring.

Aim

To look at the antenatal detection of a cardiac abnormality where a 3VT abnormality has been suspected, and to look at the outcome of patients where this is confirmed.

Method

Retrospective Fetal Cardiology database review over 2 years in a Congenital Cardiology centre.

Results

Table 1- Reason for referral to Fetal Cardiology

	2016	2017 (to date)
Total number of Fetal echoes	1153	1111
Number referred for suspected fetal cardiac abnormality	295	330
Number referred for abnormal 3VT	40	74

Table 2- Outcome of suspected abnormal 3VT

	2016 (n=40)	2017 (n=74)
Normal Fetal Echo	19	28
Right aortic arch	15	26
	+ 2 RAA referred with inc NT	+ 2 RAA referred with inc NT
Other abnormality	6	20

In 2016, RAA was identified in 38% referred with abnormal 3VT. 5/17 (29%) children with antenatally diagnosed RAA had surgery to release a vascular ring (4=abnormal 3VT, 1= increased NT). All these had RAA and aberrant LSCA and 1 RAA, aberrant LSCA + CoA. The age at operation was 22 days-9 months

Cardiac pathology was identified in 53% referred with abnormal 3VT (15 RAA, 3 bilateral SVCs, 1 TGA, 1 TOF, 1 PS).

In 2017, RAA was identified in 35% referred with abnormal 3VT. None of the children diagnosed with RAA have had cardiac surgery yet.

Cardiac pathology was identified in 62% referred with abnormal 3VT (26 RAA, 6 bilateral SVCs, 2 single LSVC to CS, 3 TOF, 1 TOF+ bilateral SVCs, 2 CoA, 1 simple TGA, 4 complex TGA, 1 Ebstein's)

Conclusion

There is an increasing antenatal detection of RAA due the increasing awareness at mid trimester screening. RAA was previously only diagnosed in a symptomatic postnatal population and therefore remains a grey area as to follow up and management in an asymptomatic well population.