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A decade of antenatally diagnosed unbalanced ventricles – comparing fetal outcomes with a postnatal cohort

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Objectives:
To compare presentation, management and outcome in a cohort of antenatally (AN) and postnatally (PN) diagnosed patients with unbalanced ventricular chambers referred to a single tertiary fetal cardiac unit and tertiary paediatric cardiac surgical centre.

Methods:
Retrospective review of the fetal database and case-notes of patients seen between 2001 and 2010 at Liverpool Women's Hospital and Alder Hey Liverpool Children's Hospital. All fetuses diagnosed with unbalanced ventricles, as well as those with borderline ventricular chambers were included. Among postnatally diagnosed babies, only confirmed unbalanced chambers were included.

Results:
256 patients were diagnosed with complex cardiac lesions with unbalanced ventricles (AN=207; PN=49). The annual antenatal detection rates remained constant during the period at 80% (SD +/- 10%). Reasons for antenatal referral were predominantly abnormal four chamber views on routine screening (96%) with approximately 1% each for positive family history, associated anomalies and abnormal outflow tracts. The gestation at initial antenatal referral was less than 22 weeks in 46% (mean +/- SD 10%) – 44% of these opted for termination. When antenatal referral was made later than 22 weeks, similar proportion of cases were terminated (mean 40%). This trend was consistent over the last decade. On a yearly basis, 42% (mean ± SD 14%) of pregnancies diagnosed with ventricular size imbalance underwent termination or ended in spontaneous fetal demise. Among liveborn babies, 69% in the antenatal group and 90% in the postnatal group underwent active intervention. Antenatal detection did not influence longterm survival in complex unbalanced ventricles.

Conclusions:
In our region, antenatal detection of complex cardiac lesions with unbalanced ventricular size is high. Termination rates have stayed constant, irrespective of the gestation of antenatal referral. In our study, active management was less likely pursued in the antenatally diagnosed group (AN=69%; PN=90%). Survival following active management did not significantly differ between the antenatally and postnatally diagnosed groups.