The outcome of isolated prenatal ventricular size disproportion in the absence of aortic coarctation

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Objective
Ventricular size disproportion is a marker for aortic coarctation (CoA) in fetal life, however, approximately 50% of fetuses do not develop CoA after birth. The aim of this study was to evaluate the postnatal outcome of cases with ventricular disproportion in the absence of CoA in this cohort.

Methods
All cases with prenatal isolated ventricular size disproportion in the period 2002-2015 were extracted from a prenatal congenital heart defects (CHD) registry of a regional cohort. Cases were assigned to a group without aortic arch anomalies (non-CoA) or to the group with CoA (CoA). Postnatal outcome of non-CoA cases was evaluated by assessing the presence of cardiac and other congenital malformations, genetic syndromes and other morbidity after birth. Non-CoA cases were subdivided in a group without and a group with cardiovascular pathology requiring medication or intervention.

Results
Seventy-seven cases were identified of which 46 (60%) did not develop CoA (non-CoA). Thirty-five cases (35/46) did not require cardiovascular intervention or medication, whereas 11 cases (11/46) did. In the non-CoA cases, 6/46 presented with clinical pulmonary hypertension requiring treatment after birth. Cardiac defects were present in 24/46 cases. Syndromic features were seen in 4/46 cases. Overall, 43% of all non-CoA children are still under surveillance at the end of the study period.

Conclusion
The postnatal course of cases with fetal ventricular size disproportion was complicated by prenatally undetected congenital defects (61%) and pulmonary or transition problems (35%) in a significant number of non-CoA cases. Proper monitoring of these cases is therefore important and it is advisable to incorporate the risks of additional morbidity and neonatal complications in prenatal counseling.