Placenta-related complications in women carrying a foetus with congenital heart disease

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Objective
Recent studies pointed to an intrinsically angiogenic imbalance in CHD in the maternal and foetal circulation suggestive of impaired placentation. The objective of this study was to assess whether pregnant women with a CHD foetus are at greater risk of placenta-related complications.

Methods
Perinatal results of women with a CDH foetus were compared with those of a non-selected population followed up at our centre. Multiple pregnancies and chromosomal abnormalities were excluded from the analysis.

Results
279 pregnancies with CHD foetuses were included. Mothers were classified in 3 groups according to the foetal cardiac defect: 104 (37.3%) atrioventricular defect, 102 (36.5%) conotruncal anomalies and 73 (26.2%) left ventricular outflow tract obstruction. A significantly higher incidence of pre-eclampsia was observed in the CHD group compared with the normal population (5.7% vs 1.2% p<0.0001) (OR 5.96 (95% CI - 3.19-10.54)). 9.7% of foetuses with CHD had < 3rd birth weight percentile compared with 3% for the normal population (OR 3.32 (95% CI – 2.39 – 4.56)). A higher incidence of stillbirth was also observed in the CHD group compared with the normal population (2.5% vs 0.4%) (OR 9.45 (95% IC – 3.35 –23.3)).

Conclusion
Women carrying a foetus with CHD have a high risk of pre-eclampsia and intrauterine growth restriction. The relationship between CHD and placenta-related complications could be an encouraging topic for future research.