Objective
Several reports have suggested that congenital heart defects (CHD) impact on prenatal growth and more particularly on head growth and brain development. The aim of this study is to investigate head growth at birth in fetuses with hypoplastic left heart syndrome (HLHS), transposition of the great arteries (TGA), suspected coarctation of the aorta (CoA) and tetralogy of Fallot (TOF).

Methods
We reviewed all consecutive cases of CHD between 2009 and 2013 born in our institution and excluded those that were not HLHS, TGA, TOF or suspected CoA as well as those born <34 weeks. Based on prenatal karyotyping and imaging, we excluded cases associated with extracardiac anomalies. For each case, two controls were matched for parity, gestation at delivery, sex and birthweight. Prenatal growth was assessed by weight and head circumference (HC) at birth as part of the routine examination of a newborn.

Results
108 cases were analyzed: 22 HLHS, 37 TGA, 26 TOF and 23 CoA. Matching for parity, gestational age and sex, there was no difference in overall HC (mean difference=0. 005 cm, P=0. 98) and birthweight (mean difference=1. 6 g, P=0. 98). No differences in HC or birthweight were found by group of CHD. No difference in HC was found either when matching controls by gestational age and birthweight (mean difference=0. 03, P=0. 83), overall and by group of CHD.

Conclusion
In the most common CHD, prenatal growth is comparable to non-affected fetuses. Prenatally, CHD do not affect head growth.