

50%. Isolate Total Anomalous Pulmonary Venous Return had never been screened before 2009. Only a few cases are screened recently. The detection rate of congenital heart defects has been increasing after 2000. Our educational activity may be related with this rapid increasing of detection rate. We need farther efforts for education to increase the detection rate of transposition of the great arteries and Total Anomalous Pulmonary Venous Return.

Conclusions: We have achieved rapid progress in fetal cardiac screening in last 2 decades. Our task is to increase the detection rate of transposition of the great arteries and isolate Total Anomalous Pulmonary Venous Return.

P06.20

Feasibility and limitations of the use of STIC to obtain the necessary views for a satisfactory congenital heart defects screening program

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Objectives: To evaluate the feasibility of the use of STIC technology during routine obstetric scans as a screening program for congenital heart disease (CHD) and the influence of professional experience in those exams.

Methods: 64 pregnant women with a normal heart fetus at gestational age between 20 and 34 weeks and 12 physicians, who would scan those patients were included in two groups: Group 1- 'STIC specialist' and Group 2- 'STIC non- specialist'. STIC volume acquisition was performed during prenatal scans, in all patients booked sequentially, to mimetize a screening routine. Volumes were analyzed for 2 specialists in fetal echocardiography to obtain the five axial views for optimal fetal heart screening: Abdominal situs, four-chamber view (4CV), outflow tract views (OTV), three vessels and trachea view (3VT).

Results: STIC volume acquisition was successful in 97.3%. 197 STIC volumes were used in this study. In 71% it was possible to demonstrate 4CV and OTV (Group 1: 88.9%, group 2: 58.6%). In 49% of volumes, all the five views for optimal fetal heart screening were seen (Group 1: 67%, group 2: 36%). From the all volumes that were considered inappropriate to perform the complete screening, 42 % had inadequate acquisition angle or region of interest (ROI).

Conclusions: We believe that STIC can be used as a tool to improve the cardiac screening examination of the fetus with a small increase of the exam time. In 71% of the volumes used in this study, we could obtain 4CV and OTV, and those images have a detection rate of CHD of 70-86%. Professional experience was the most important influence in the image quality of the STIC volume.

P06.21

Extra cardiac malformations associated with hypoplastic left and right ventricle

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Objectives: We sought to compare maternal characteristics, neonatal outcomes and prevalence of extracardiac malformations (ECM) in pregnancies complicated by fetal hypoplastic left ventricle (HLV) and hypoplastic right ventricle (HRV).

Methods: This is a retrospective cohort study of patients in whom fetal HLV or HRV was diagnosed at time of prenatal ultrasound. Cases were ascertained from a fetal ultrasound database from 2003-2012 at a tertiary referral center for congenital heart disease. The ultrasound database was reviewed along with maternal and neonatal charts. The HLV and HRV groups were compared using basic inferential statistics.

Results: There were 305 patients meeting criteria for inclusion in the study: 246 with HLV and 59 with HRV. When comparing the HLV group to the HRV group, there were no significant differences in maternal or neonatal characteristics including rate of pregestational diabetes, birthweight, Apgar scores, or days to first surgery. There was a trend towards increased preterm birth in the HRV group: 21.6% of fetuses with HRV delivered prior to 37 weeks gestation, as compared to 11.1% of fetuses with HLV ($p = 0.062$). There was no difference in the prevalence of ECM, however fetuses with HLV were significantly more likely to have craniofacial malformations than those with HRV (15.0% versus 1.7%, $p = 0.003$). There was a trend towards a higher prevalence of central nervous system (CNS) malformations in the HLV group (8.5% versus 1.7%, $p = 0.09$).

Conclusions: Fetal HLV and HRV are equally likely to be associated with extracardiac malformations, however craniofacial malformations are more common in fetuses with HLV than HRV. There is a trend towards more CNS anomalies in the HLV group. The high preterm birth rate in the HRV group is attributable to the large number of twin pregnancies in that group.

P06.22

Fetal cardiac function at term: evidence of impaired performance

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Objectives: To systematically evaluate fetal cardiac ventricular geometry, myocardial performance and chamber function in normal pregnancy at term.

Methods: This was a prospective study of 107 women with normal pregnancy. Fetal echos were conducted after 37 weeks of gestation in women scheduled for routine induction of labour in uncomplicated pregnancies. Fetal B-mode, M-mode, spectral pulsed wave (PW) Doppler, tissue Doppler imaging (TDI) and speckle tracking imaging (STI) echocardiography were performed.

Results: The fetuses at term exhibit considerably altered ventricular geometry, reduced myocardial performance and cardiac chamber dysfunction - not evident at mid-gestation.

Conclusions: The study findings demonstrate that the fetal heart in apparently normal pregnancies has to undergo profound geometric and functional transformation towards the end of gestation. These novel findings suggest that the fetal heart near term may be

P06.21: Table 1. Prevalence of extra cardiac malformations by organ system

	Hypoplastic right ventricle (n = 59)	Hypoplastic right ventricle (%)	Hypoplastic left ventricle (n = 246)	Hypoplastic left ventricle (%)	p-value
Any organ system	16	27.6	85	34.6	0.311
CNS	1	1.7	21	8.5	0.09
Craniofacial	1	1.7	37	15.0	0.003