−3.47 for those without coarctation. Difference between means in the two groups was −0.18 (95%CI = −1.56 to 1.2). In sagittal views, mean Z-scores were −2.97 and −3.45 for those with and without coarctation, respectively. Difference between the means was 0.49 (95%CI = −0.95 to 1.93).
Conclusions: In this small case series of prenatally suspected coarctation of the aorta, the use of aortic isthmus Z-scores did not allow prompt identification of affected fetuses.

OP02.10
Can measurements of the pulmonary artery (PA) and aorta (Ao) diagnose true coarctation of the aorta (CoA) in the 3rd trimester of pregnancy?

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Objectives: to determine whether the ratio of PA to Ao could distinguish between true CoA and false (+) CoA and simple ventricular disproportion.
Methods: Fetal echocardiograms with the diagnosis of ventricular disproportion and suspicion of CoA were retrieved. Inclusion criteria were: disproportion of ventricular size on the 4 chamber view, foramen ovale > 4 *mm*, disproportion of the great vessels PA min 2 mm > than Ao, visualization of the aortic arch in the longitudinal view, ductus arteriosus pulsatility index (PI) > 2, and availability of a neonatal echocardiogram for postnatal confirmation our center. Exclusion criteria were: extracardiac malformations, twins, associated complex cardiac anomaly, ductal constriction with PI < 2. We divided the fetal subjects into 3 study groups: true CoA confirmed after birth ($n = 12$); false (+) CoA (suspected in the fetus but no CoA after birth) ($n = 20$); and fetal ventricular disproportion, but no suggestion of fetal CoA and normal neonatal echocardiogram. ($n = 20$). Fetal echos were reviewed for the ratio of PA/Ao and analyzed via t-test.
Results: Mean PA/Ao ratio was significantly greater in true CoA than in false (+) CoA ($P = 0.0018$) and was significantly greater in false (+) CoA than in simple visual ventricular size disproportion ($P = 0.0002$). Results are shown in a table.

	True CoA n = *12*	*False (+) CoA* n = *20*	*P value*	*Disproportion* n = *20*	p *value*
Mean gestational age (weeks)	32.4 +/− 4.5	35 +/− 2.4	0.04	33.6 +/− 4.6	0.23
Mean birth weight (g)	2920 +/− 570	2986 +/− 559	0.7	3393 +/− 488	0.01
Mean PA/Ao ratio	2.03 +/− 0.48	1.6 +/− 0.23	0.0018	1.35 +/− 0.14	0.0002

Conclusions: In the 3rd trimester of pregnancy, the PA/Ao diameter ratio index can help distinguish between true anatomical CoA, a small but normal aortic isthmus (false (+) CoA), and simple ventricular size discrepancy.

OP02.11
Comparison of cardiovascular functional parameters and Doppler flow waveforms in fetuses with two-vessel cord versus three-vessel cord at 20–23 weeks gestational age

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Objectives: To evaluate and compare echocardiography functional parameters and peripheral Doppler waveforms in singleton fetuses with either two vessels (2 VC) or three vessels (3 VC) in umbilical cord.
Methods: We conducted a retrospective analysis of the echocardiography parameters and Doppler waveform parameters from 2006–2007 of fetuses with 2 VC and 3 VC between 20–23 weeks gestational age. A 2 VC was confirmed by identification of only one umbilical artery around the bladder and in the free loop of umbilical artery (FLUA). Fetal cardiovascular function variables analyzed were cardiac circumference/thoracic circumference ratio (CC/TC), left ventricular shortening fraction (LVSF), Tei index, tricuspid E and A velocities and E/A ratio, and mitral E and A velocities and E/A ratio. The Doppler flow variables included were pulsatility index (PI) in FLUA, middle cerebral artery (MCA), ductus venosus (DV) and ductus arteriosus (DA). These parameters were compared to age matched normal fetuses with 3 VC from our data base. Statistical analysis was performed using SPSS.
Results: Thirty fetuses each in two groups: group 1 (2 VC) and group 2 (3 VC) were included for analysis. All measured cardiovascular parameters and Doppler parameters were similar in two groups (Table) except mitral E/A ratio and FLUA PI.
Conclusions: Cardiovascular structural and functional disease is rare in fetuses with 2 VC. Isolated 2 VC may not be an indication for comprehensive fetal echocardiography.

OP02.12
Visualization of the fetal three vessel view, aortic arch, and ductal arch views: A comparison of 2-D and 3-D rapid acquisition at 18–22 weeks gestation

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Objectives: To compare the quality of fetal arch views obtained by 2-D and 3-D ultrasound.
Methods: A prospective IRB-approved study of 50 patients at 18–22 weeks gestation was performed when patients at the time of routine scheduled anatomic surveys. Forty minutes was allowed for the anatomic surveys. Images obtained at repeat visits were not used. The Philips IU-22 and GE E-8 platforms were used. Three 1–2 seconds volumes were taken using fetal echo settings. The best 2-D images of the three vessel view, aortic arch, ductal arch, and matching views extracted from the 3-D volume sets were

Table OP02.11: Table

n	*CC/TC†*	*LVSF*	*Tei index*	*Mitral E/A†*	*FLUA PI†*	*MCA PI*	*DV PI*	*DA PI*
2 VC (30)	0.49 ± 0.20	45 ± 10	0.30 ± 0.60	0.68 ± 0.29	1.10 ± 0.18	1.84 ± 0.34	0.51 ± 0.18	3.33 ± 0.43
3 VC (30)	0.49 ± 0.30	46 ± 9	0.31 ± 0.50	0.60 ± 0.08	1.26 ± 0.29	1.80 ± 0.31	0.43 ± 0.21	3.45 ± 0.73

All data presented as mean ± standard deviation; †significant p-value ($P < 0.05$)