Ductus venosus blood flow in the evaluation of cardiac function in the presence of echogenic focus
Avci ME, Yozgat Y, Şanlıkan F, Yıldırım G, Polat İ, Karaarslan U
İstanbul Kanuni Sultan Süleyman Eğitim ve Araştırma Hastanesi, İSTANBUL, Turkey

Objective
The purpose of this study was to investigate fetal ductus venosus (DV) wave velocities, DV velocity ratios, and DV diastolic time intervals to derive additional information on fetal cardiac function in the presence of an intracardiac echogenic focus (IEF).

Methods
Seventy fetuses at 19 to 28 weeks of gestation with an IEF and 63 controls were screened using two-dimensional and power Doppler echocardiography. DV wave velocities, DV velocity ratios, and diastolic time intervals were measured. The aortic peak velocity, pulmonary artery peak velocity, atrioventricular early-diastolic filling velocity (E), atrial contraction velocity (A), and E/A ratio were also measured.

Results
The study and control groups were similar in terms of maternal age, body mass index, and gestational age in weeks at the time of examination (p > 0.05). Significant group differences were found in DV v-descent and a-wave velocities (p = 0.028 and p = 0.037, respectively).

Conclusion
Although the presence of an IEF in the fetal heart does not influence conventional measurements (DV velocity ratios and DV diastolic time intervals), it is associated with changes in DV v-descent and a-wave velocities. These changes may be indirectly related to reduced end-systolic relaxation and augmented atrial contraction in the fetal heart. We suggest examination of DV flow velocities in fetuses with IEF.