Accuracy of early fetal echocardiography in the diagnosis of outflow tracts anomalies in a high-risk population

De Robertis V, Votino C, Fanelli T, Rembouskos G, Volpe P
Fetal Medicine Unit, Bari, Italy

Objective
The aim of the study was to evaluate the feasibility of making a correct prenatal diagnosis of the anomalies of the outflow tracts with early fetal echocardiography in an high-risk population.

Methods
Early fetal echocardiography was performed in high-risk pregnancies (NT > 99th percentile, NT between 95th and 99th percentile with tricuspid regurgitation (TR) or abnormal flow of the ductus venosus (DV), TR and abnormal DV, previous child affected by congenital heart disease (CHD), suspected CHD or extra-cardiac anomaly during early fetal anomaly scan). In all the cases a fetal echocardiographic evaluation was offered at 19-21, 32-34 weeks of gestation and postnatally.

Results
On early fetal echocardiography we identified 43 cases of outflow tracts anomalies. Twenty-six cases were excluded from the study because parents opted for termination of pregnancy in the first trimester. In the 17 remaining cases, we diagnosed 5 transposition of great arteries (TGA) (3 TGA and 2 corrected TGA), 2 double outlet right ventricle (DORV), 3 Tetralogy of Fallot (TOF), 1 malalignment VSD, 4 pulmonary atresia with VSD (PAVSD), 1 critical stenosis of the aorta and 1 of the pulmonary artery. In 3 cases the diagnosis was slightly modified later in gestation. In addition, we had 3 false negative cases (2 TOF, 1 moderate stenosis of pulmonary artery).

Conclusion
Our study confirmed the feasibility of making a correct prenatal diagnosis of outflow tracts anomalies based on early fetal echocardiography.