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## Early fetal echocardiography: Early congenital heart diseases detection in an experienced fetal cardiology project

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**Background:** Early fetal echocardiography (EFE) is a third level diagnostic test, indicated at 12-16 weeks gestational age (GA) to diagnose severe congenital heart diseases (CHD), with some significant technical limitations. Currently, the test should be repeated at 18th wks of GA to confirm the previous report, to start the first trimester follow-up and to identify potential undiagnosed anomalies. Two clinical protocols, the obstetric and the cardiologic, have been used so far: The first one, detected 90% of CHDs and the second one, with systematic-sequential approach, had 100% sensitivity and negative predictive value for major CHDs.

**Aim:** To evaluate the real added clinical value of early fetal CHDs diagnosis by extending the criteria to interdisciplinary approaches that is those cardiologic, obstetric (extra-cardiac malformations) and genetic.

**Material & Methods:** The research protocol, set by the Obstetric, Pediatric Cardiology and Molecular Medicine Departments of the Sapienza University, approved by the ethics committee, is started by a year and is still ongoing to diagnose fetal CHDs as early as possible. 75 pregnant women (12 to 16 wks GA) have been EFE-scanned from January 2014, using a 3D Convex trans abdominal volumetric probe.

**Results:** 6 groups of women have been selected and all underwent serial fetal echocardiographic control: between 12 and 16 wks GA, after 18 wk GA and the postnatal screening.

**Discussion & Conclusions:** Based on clinical outcome, these preliminary data suggest that the EFE protocol enablesto a more predictive diagnosis of CHD, respect to aloneobstetric protocol. Even if not indicated as population screening, it allows the detection of CHD in high-risk group; EFE is therefore useful for early CHDs diagnosis and follow-up, allowing a multidisciplinary support for a subsequent better management of pregnancies.

### Biography

Flavia Ventriglia, graduated and specialized in Pediatrics and Cardiology at the "Sapienza" University of Rome. PhD in Congenital Heart Disease at the University of Padua. Researcher Aggregate Professor of Pediatric Cardiology at the "Sapienza" University of Rome, first level manager at the UOC of Pediatric Cardiology at the Policlinico Umberto I in Rome, responsible for the ECHOLab of Fetal Echocardiography. She has published numerous scientific papers in the field of pediatric cardiology and fetal cardiology.

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