

**Antenatal echocardiographic parameters to predict postnatal outcome of neonates with Ebstein anomaly**

Rossi A. (1), Massardier J. (1), Joly H. (2), Veyrier M. (2), Bozio A. (2), Pangaud N. (1), Di Filippo S. (1)

Department of Obstetrics, Mother and Child Hospital, University Medical Center of Lyon, France (1)  
Fetal Cardiology, Cardiovascular Hospital Louis Pradel, University Medical Center of Lyon, France (2)

Ebstein tricuspid valve anomaly is a rare CHD with uncertain postnatal prognosis. Criteria to predict outcome are still a matter of debate. The aim of this study was to determine antenatal echocardiographic predictive parameters.

Methods : Retrospective multicentric analysis of fetus with diagnosis of Ebstein anomaly.

Echocardiographic measurements of ventricles, atria, great vessels and tricuspid regurgitation were collected. Comparisons were made between group I (poor outcome= death occurred in utero or within the first 3 months of life) and group II (favourable outcome : postnatal survival > 3 months).

Results : 16 fetuses were included in the study : 10 in group I (62.5% : 2 TOP, 2 fetal deaths, 6 postnatal deaths) and 6 in group II (37.5%). Mean gestational age at diagnosis was 29weeks (22 to 38). The mean number of echocardiographic records per patient was 2 (1 to 6). LV to RV ratio, tricuspid valve regurgitation grade and retrograde or anterograde ductal flow did not differ between the 2 groups. Significant differences were found between groups I and II regarding the presence of pulmonary flow (none or mild RV to PA flow : 8 of 9 cases died= 89%), AO to PA ratio (75% death if > 97°p vs 25% if 3-97°p), RA diameter (77.3% death if > 97°p vs 0%), PA diameter (100% death if < 3°p) and pericardial effusion (80% death vs 0%). Only 1 case had arrhythmia and died.

Conclusion : this small sample size study showed that the absence of RV to PA flow and/ or pulmonary valve opening, increased AO to PA ratio, RA and decreased PA diameter and the presence of pericardial effusion might represent prognosis factors in fetus with Ebstein anomaly. These results should be confirmed by large scale prospective study.