

Poster number (4307904 / EP09.11). Echocardiographic factors associated with mortality in fetuses with tricuspid dysplasia and Ebstein's anomaly in a hospital in Mexico

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Objectives

Describe perinatal outcomes in fetuses diagnosed with TVD or EA at a single center in Mexico city and determine echocardiographic factors associated with perinatal mortality in fetuses diagnosed with these conditions.

Methods

This is a retrospective cohort and descriptive study that included pregnant women diagnosed with a fetus with TVD or EA, evaluated at the Fetal Cardiac Clinic at the National Institute of Perinatology in Mexico city from January 2017 to April 2024, and who had one or more fetal echocardiograms performed.

Results

The study included 33 pregnant patients. EA was diagnosed in 57.6% of cases, and tricuspid dysplasia in 42.4%. Perinatal mortality was 63.6%. Pulmonary atresia was the main associated factor in patients with perinatal death (76.1%). Significant differences in fetal echocardiographic measurements were noted between fetuses currently alive and those with perinatal death: higher cardiac-thoracic ratio (p=0.014), Celermajer index (p=0.008), tricuspid regurgitation jet velocity (p=0.044) and the presence of pulmonary atresia (p=0.015).

	Currently live newborn N = 7	Perinatal death N = 21	P value
Gestational age at study, WOG, median (IQR)	34.2 [30.2, 34.3]	33 [28.4, 34.3]	0.110
Cardiomegaly, number (%)	5 [71.4%]	21 [100%]	0.056
Cardiothoracic index, median (IQR)	0.5 [0.4, 0.57]	0.64 [0.59, 0.7]	0.014
Celermajer index, median (IQR)	0.61 [0.6, 0.78]	1.3 [1.04, 1.5]	0.008
Maximum tricuspid regurgitation velocity (cm/seg), median (IQR)	221 [215, 232]	200 [160, 202]	0.044
Tricuspid annulus diameter (mm), median (IQR)	13.2 [10.9, 15.6]	12.9 [9.1, 18.5]	0.999
Right atrium area (mm2), median (IQR)	557 [413, 849.5]	940 [495.5, 1098.5]	0.820
Pulmonary atresia, number (%)	2 [28.6%]	16 [76.1%]	0.015
Hydrops, number (%)	1 [14.3%]	4 [19%]	0.999

WOG: weeks of gestation, IQR: interquartile range

Table 1.- First echocardiogram: Currently live newborn (CLN) vs perinatal death.

Conclusions

The reported mortality rate at NIP is 63.6%. An increase in perinatal mortality was observed in those groups of patients with increased cardiothoracic index (p=0.014), Celermajer index (p=0.008), maximum tricuspid regurgitation velocity (p=0.044) and the presence of pulmonary atresia (p=0.015). Detailed fetal echocardiography can predict perinatal mortality in patients with EA and TVD.

