Prenatal echocardiographic finding in Persistent Pulmonary Hypertension of newborns


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Objectives: Persistent pulmonary hypertension of the newborns PPHN can lead to right ventricular failure and death. Based on targeted fetal echocardiography CoA or hypoplastic Ao arch were suspected prenatally.

Methods: It was retrospective analyses of 15 cases with prenatal echo and „CoA”. In study group: 6 fetuses – dgn was false + and postnatal dgn was PH; In control group (9 fetuses) postnatal dgn was CoA.

Results:
In 6/6 cases with PPHN there was prenatally moderate cardiomegaly, in 3/6 cases myocardial hypertrophy, in 4/6 disproportion of the ventricles and atria, in 6/6 disproportion at the level of the 3 vessels, in 6/6 was significant TR (2m/sec up to 3,6 m/sec) and in 4/6 cases PR (0,7 up to 1,5 m/sec). In study group mean MPA Z-score was: 3.14/-1.46 f and in the CoA group AO Z-score was: -3.09/-2.16.

Conclusions:
PPH of N during fetal life may mimick fetal CoA. PPH of N was preceded during fetal life in 3rd trimester by several functional abnormalities: cardiomegaly, myocardial hypertrophy, disproportion at the level of big vessels, main pulmonary artery dilatation, functional TR and PR. Higher positive values of MPA Z-scores could indicate the increased risk of PH.