

Echocardiographic evaluation of cardiac functions in newborns of mildly preeclamptic pregnant women within postnatal 24-48 hours

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Objective: The aim of this study is to detect the preeclampsia-related cardiac dysfunction within postnatal 24-48 hours in newborns born from preeclamptic mothers .

Material and Method: Forty newborns born from mildly preeclamptic mothers consisted the study group and 40 healthy newborns matched with the study group in terms of gestational age, weight and gender consisted the control group. Cardiac functions of the study and the control group were evaluated using conventional echocardiography (shortening fraction, SF; mitral and tricuspid E/A with pulsed wave; peak systolic gradient of aortic and pulmonary valves) and myocardial performance index (MPI) within the first 24-48 hours of life and results were compared.

Results: Median age of the pregnant women in study group was 26 years (min 21, max 35) and it was 25 years (min 20-max 35) in control group. A statistically significant difference was not detected between groups with regard to weight, type of delivery, week of delivery and gender ($p>0,005$). A statistically significant difference was not detected between conventional echocardiography measurements of study and control groups. A significant difference was detected when left and right ventricle PW Doppler MPI measurements of study and control groups were compared (left ventricle MPI $0,37 \pm 0,09$ and $0,26 \pm 0,11$, $p<0.001$; right ventricle MPI $0,29 \pm 0,08$ and $0,26 \pm 0,07$ $p<0,035$).

Conclusion: According to the results of the study, elongation in right and left ventricle MPI was detected to be more significant compared to systolic and diastolic functions for determining preeclampsia-related cardiac injury in newborns of preeclamptic mothers within 24-48 hours of their life. Ventricle functions of the newborns of preeclamptic mothers should also be evaluated with MPI measurement beside conventional echocardiography measurements.