

Diastolic dysfunction in fetuses of Diabetic Mothers , Prenatal two dimensional and Doppler echocardiography study .

*Asleh N., Badarneh N.
Saint Vincent Depaul French Hospital .
Nazareth.
Israel*

Background : Pre-gestational diabetes occurs in 0.5%, while gestational diabetes occurs in 1-4%. Fetal hypertrophic cardiomyopathy due to maternal diabetes occurs in up to 35% of fetuses and may cause ventricular diastolic dysfunction , that can be evaluated by echocardiography . Our purpose was to evaluate cardiac diastolic function in fetuses of diabetic mothers using pulmonary veins Doppler flow velocity pattern .

Methods: Using trans-thoracic echocardiography in 65 pregnant women , Doppler flow velocity pattern in the pulmonary veins , mitral and tricuspid valves , and M-mode echocardiography measurement of Right and left ventricular free wall , (RV / LV FW) , and interventricular septal (IVS) thickness were recorded. All women were divided into three groups : Group 1 : included 21 women with pre – gestational diabetes. Group 2 : included 25 women with Gestational diabetes . Group 3 : included 19 without diabetes . Gestational age was 32-35 wk . All the fetuses were without cardiac or extracardiac malformations .

Results : Mean gestational age of the study fetuses was 33 +/- 2 weeks . Pulmonary veins Doppler , interventricular septum and left and right ventricular free wall diameters were recorded in the three groups. Results were in all groups (Group 1 - Pre- Gestational Diabetes, group 2 Gestational Diabetes and group 3 Controls) were respectively as follows: Mean PV S/D ratio was (0.74 , 0.64, 0.62) : Left ventricular free wall (3.59 mm . 3.52 mm . 2.53 mm) and right ventricular free wall 3.48 mm, 3.57 mm, 2.77 mm .

Conclusion : Myocardial hypertrophy in Pregestational and gestational diabetes may cause ventricular dysfunction that can be evaluated by Doppler echocardiography of pulmonary veins . Pulmonary veins Pulsatility are higher in fetuses with normal glycemia