Objectives: To investigate the influence of gestational diabetes mellitus (GDM) on fetal cardiac structure and function.

Methods: Ultrasound and controlled GDM with 71 pregnancies with diet control and 25 pregnancies with insulin treatment and the same period 176 normal pregnancies were studied. All the fetuses were divided into 2 groups: 17 pregnancies with insulin treatment and the same period 176 normal pregnancies.

Results: After 28th weeks of pregnancy, there was a significant increase in ventricular walls and interventricular septal thickness in GDM with insulin treatment compared with normal pregnancies. The diastolic function is mainly impaired.

Conclusions: Gestational diabetes mellitus affect fetal heart mainly in the third pregnancy. After 28 weeks of pregnancy, there was a significant increase in ventricular walls and interventricular septal thickness in GDM with insulin treatment compared with normal pregnancies. The diastolic function of right ventricle was lower in GDM with insulin treatment compared with pregnancies with diet control.