Introduction:
The importance of the reference echocardiographic values of fetal cardiac structures has been reported. However racial variation in fetal size and development can lead to variation in the size of fetal cardiac structures.

Objective:
We established the reference values for Japanese normal fetal heart structures and determined the parameter that was most correlated with fetal heart growth.

Methods:
Two hundred Japanese uncomplicated singleton pregnancies with a normal fetal heart at 20.4-35.4 weeks of gestational age(GA) were included. The parameters that were assessed included the total cardiac diameter(TCD), right ventricular width(RV), and left ventricul width(LV), at end diastole, and the ratio of RV to LV (RV/LV ratio). We then determined the correlation between each measurement and the GA, femoral length(FL), biparietal diameter(BPD), and antero-posterior diameter(APD).

Results:
Fetal cardiac dimensions (such as TCD, RV, and LV) were all correlated with GA, FL, BPD and APD(p<0.001). (Table 1) GA was the dependent variable that provided the highest correlation coefficient for the fetal heart size(R=0.837-0.892).
The mean RV/LV ratio was 1.12(SD 0.15) and was also associated with GA(p=0.04). (Figure1)

Discussion:
We established reference values for normal heart structures in the Japanese population. The parameter that was most correlated with fetal heart growth was GA. There were appreciable divergences between our data and the data of previous studies from other countries with regard to the RV/LV ratio from 24 weeks of GA to term.

Conclusions:
GA was the highest correlation with the fetal heart growth in Japanese populations.