The incidence of FGR is rising due to a large number of the elderly pregnant women since Two Children Policy open in China. It has been reported that FGR was significant related to adverse pregnancy outcome with high prenatal mortality and morbidity including prematurity, respiratory distress syndrome and necrotizing enterocolitis and so on. The study is to insight into the changes in fetal Doppler flow of early-onset FGR and late-onset FGR respectively by ultrasound evaluation and to explore ultrasound predictors associated with pregnancy outcome.

Methods
A total of 77 early-onset FGR and 100 late-onset FGR were recruited in our study with the normal controls established respectively. Ultrasound evaluation indicators included fetal growth, UA, DV, MCA and MPI. The pregnancy outcomes of all cases were followed up.

Results
Early-onset FGR had increased UA-PI, DV-PI and MPI, while decreased MCA-PI and CPR. Moreover, only increased MPI and decreased UA-PI were significant predictors associated with early-onset FGR pregnancy outcome, while MPI and EFW by ultrasound were significant predictors associated with late-onset FGR pregnancy outcome by logistic regression.

Conclusion
MPI demonstrated clinical utility both in early and late fetal growth restriction. UA-PI and MPI should be monitored in order to improve pregnancy outcome, especially for early-onset FGR fetuses which tend to be with a higher perinatal morbidity and mortality rate than late-onset FGR fetuses.