Objectives
To analyze echocardiographic parameters of fetal large VSD and TOF in the context of multicenter data and big data analysis, and to find the key parameters for this two diagnosis and differential diagnosis. To improve the accuracy of diagnosis of prenatal VSD and TOF.

Methods:
The normal Q range of the 48 echocardiographic parameters of the 6272 normal fetuses was determined from 7 Chinese medical institution. 48 parameters of ultrasonic examination of diseased fetus and normal fetus were analyzed retrospectively. Compared the key diagnostic parameters of 192 cases of TOF and 305 cases of large VSD.

Results:
AO Q-score, PA/AO, and PA/AO Q-score are the key parameters for the differential diagnosis of fetal large VSD and TOF. PA/AO is the primary parameter, which AUC of PA/AO is 0.951. The mean value of PA/AO in normal fetuses was 1.22, in fetuses with large VSD was 1.21, and in TOP fetuses was 0.49. If we set the threshold of two differential diagnosis of PA/AO to 0.89, then the diagnostic sensitivity can be guaranteed more than 90% in range of false positive rate of 10%.

Conclusion
The diagnostic accuracy of ultrasonic diagnostic parameters of large VSD and TOF is high by medical data statistics and big data analysis. It provides a new way for prenatal diagnosis of large VSD and TOF. By setting the threshold of PA/AO to 0.89, it may help us to improve the diagnostic accuracy of two diseases.