to describe the outcome of the fetus with VSD after birth in Jiangsu Province, and to identify factors contributing to spontaneous closure (SC) of VSD. We hope to provide a reference for prenatal counseling and clinical decision making.

**METHODS**
A total of 445 fetal patients who had been diagnosed with isolated VSD by fetal echocardiographic in their mother’s second trimester were enrolled in this retrospective study at Nanjing Maternity and Child Health Care Hospital and Jiangsu Province Maternity and Child Health Care Hospital between January 2011 and December 2013. Data in ultrasound record contained gestational weeks, mother’s age, fetal heart rate, width of aorta and pulmonary artery, location and diameter of the defect, direction of the shunt. Questions in the interview contained whether the defect was closed, specific time of the SC, current treatment, gender, birth weight, whether premature birth existed, whether there were infection or metabolic disease during pregnancy, with or without a family history of heart disease.

**RESULTS**
Effective follow-up was 257 cases, 44 cases received termination of pregnancy, 213 infants were born. 8 cases died after birth. 205 cases survived, among which 19 cases underwent clinical surgery, 24 cases were still not closed, SC occurred in 110 children (49 closed during pregnancy, and 61 closed postpartum). The post-natal death, children underwent surgery and children with uncontrolled umbilicalmen, who were diagnosed in their mothers second trimester, the smaller the defect was, the more likely SC will happen. B. greater birth weight, male fetuses, muscle defect, full-term infants has higher probability of SC; C. defect without bloodstream detection were easier to close.

The 3 cases of fetal CoA or IAA all conformed to the echocardiography showed severe constriction(0.17cm) or interruption of aortic arch, the cavity and flow of descending aorta was not evident, the cast demonstrated the IAA with type A, interrupted between the PDA and PA in line with forecasts. The another case was IAA, the characteristic findings include:
1. the echocardiography showed severe constriction(0.17cm) or interruption of aortic arch, the cavity and flow of descending aorta was not evident, the cast demonstrated the IAA with type A, interrupted between the PDA and PA in line with forecasts.
2. large VSD (Taussing-Bing), pulmonary artery dilated;
3. also with the crossover PA.

**CONCLUSIONS**
Fetal echocardiography as the only observation way to the congenital heart disease, is still uncertain with the diagnosis to the morphological and location features of the great vessels. The combination of cardiovascular cast and fetal echocardiography would improve the specificity and veracity of fetal CHD diagnosis.

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Flow field changes of right ventricle in diastole pre- and post-operation in patients with atrial septal defect by vector flow mapping
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**OBJECTIVES**
In this study, we apply a novel echocardiographic method, vector flow mapping (VFM), to assess the flow field changes of the right ventricle in diastole pre- and post-operation in patients with ASD, investigating its value in the evaluation of hemodynamic changes ASD patients.

**METHODS**
20 patients with secundum ASD were enrolled as patient group, while 20 healthy volunteers were chosen as controls group. The characteristics of flow field pre- and post-operation were analyzed by vector, streamline and vortex modes, separately. The parameters including diastolic peak velocity(Vp), diastolic peak flow(Fp) and diastolic Q<sub>V</sub> at basal, mid and apical segments of the two groups were also recorded and compared with VFM.

**RESULTS**
Compared with normal group, the ASD group had intensive but disordered vector and stream lines and vortexes with more area below the tricuspid leaflets in diastolic right ventricle before operation. After operation, the line intensity and direction consistency were recovered and the vortexes were reduced to some degree, but still different from the normal group. The Vp, Fp and Q<sub>V</sub> in each segment of right ventricle after operation were also lower than those before ASD closure, but higher than control group (P<0.05).

**CONCLUSIONS**
The flow field hemodynamics of the right ventricle in ASD patients was recovered after operation, but still not back to normal in the short time. The vector flow mapping could be used in the postoperative hemodynamic monitoring and follow-up.