abnormalities of orbital hypertelorism, ascites and hydrocele. Meanwhile, the maximum distances of tricuspid valve displacement measured by STIC-TUI ranged from 0.46cm to 1.23cm, which were similar with the 2DE measurements. The consistency of 2DE and STIC-TUI analyzed by Bland-Altman method suggested these two methods agreed well.

CONCLUSIONS Fetal echocardiography can provide reliable evidence for the diagnosis of Ebstein’s anomaly. The maximum distance between the septal hingepoints of tricuspid and mitral valve measured by STIC-TUI was well consistent with the results obtained by 2DE, which indicates STIC-TUI has an important role in the prenatal diagnosis of Ebstein’s anomaly.

GW26-e4598
The Impact of Cardiac Catheterization and Pulmonary Vasoreactivity Testing in Children with Idiopathic Pulmonary Arterial Hypertension
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OBJECTIVES The aim of this study was to investigate the hemodynamic changes, pulmonary vasodilator agent selection, and responder definition in pediatric patients with IPAH.

METHODS 44 patients with suspected IPAH who admitted to Department of Pediatric Cardiology of Beijing Anzhen Hospital between March 2008 and January 2015 were enrolled. All patients were arranged to receive left and right heart catheterization respectively. The pulmonary vasoreactivity testing with inhalation of pure oxygen and iloprost (PGI2) were performed during the catheterization. The European Society of Cardiology recommendation criteria (Sitbon criteria) and traditional application criteria (Barst criteria) were used to evaluate the hemodynamic changes.

RESULTS 44 patients with suspected IPAH underwent cardiac catheterization. The mean age was (7.3±4.2) years. 7 patients was excluded from this study with different diagnosis; 7 patients developed pulmonary hypertension crisis during the catheterization. 30 patients received standard cardiac catheterization and pulmonary vasoreactivity testing. The baseline mean pulmonary artery pressure (mPAP) was (66±20) mmHg, and pulmonary vascular resistance index (PVRI) (18±17.9) Wood U m2. After inhalation of pure oxygen, mPAP decreased to (61±18) mmHg, and PVRI to (18±8.5) Wood U m2. After inhalation of PGI2, mPAP decreased to (49±19) mmHg, and PVRI to (12.2±7.3) Wood U m2 (both $P<0.001$). According to the Sitbon criteria, the proportion of pure oxygen responders were 6.7% (2/30), while PGI2 responders were 30% (9/30), and the difference was significant ($P=0.004$). According to the Barst criteria, the proportion of pure oxygen responders were 16.7% (5/30), while PGL2, the responders were 20% (6/30), and the difference was significant ($P=0.001$).

CONCLUSIONS For children with IPAH, cardiac catheterization combined with pulmonary vasoreactivity testing plays an important role in differential diagnosis, severity estimation, and treatment (including the emergency treatment ) choices. Pulmonary hypertension crisis is an important complication of cardiac catheterization in pediatric IPAH. Younger age, general anesthesia, crisis history, and poor heart function are important risk factors for pulmonary hypertension crisis. PGI2 is a relatively ideal agent for vasoreactivity testing in children with IPAH, which has more responders than traditionally used pure oxygen. Results of responders are not completely consistent using different criteria, and comprehensive evaluation should be done according to target of treatment in clinical practice.

GW26-e0237
Prenatal diagnosis of vascular ring by fetal echocardiography combined with STIC technique
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OBJECTIVES To evaluate the clinical value of fetal echocardiography combined with STIC for the diagnosis of fetal vascular ring.

METHODS According to the guidelines of ASE, 285 cases of pregnant women were examined by prenatal fetal echocardiography in Union hospital using sequential segmental approach. STIC technique was used to analyze the cardiac volume. All data were collected and stored for further off-line analysis.

RESULTS 1. Among these patients, we found 8 cases of fetus with vascular ring. 5 cases were confirmed by echocardiography after delivery, and other 3 cases were proven by autopsy after induction of labor. 2. 7 out of these 8 cases had the following manifestations in the three vessel and trachea view : aortic arch was on the right side of the trachea while duct artery arch on the left, seen as a “U” shape vascular ring around the trachea. 3. In the three vessel and trachea view, the other 1 case showed the aortic and duct artery arch were both on the left side of the trachea, with the ayzgos vein flowing into the SVC across the trachea, constituting a “U” shape vascular ring around the trachea.

CONCLUSIONS 1. Fetal vascular ring is a rare congenital heart disease. 2. The three vessel and trachea view is vital for the diagnosis of fetal vascular ring, which consist of dextroaortic arch, left ductus arteriosus and other types of abnormal vessel orientation around the trachea. 3. STIC can show the blood vessel orientation and adjacent structures, which could provide more diagnostic information of fetal vascular ring. 4. Accurate prenatal diagnosis is very important for the prognosis and management of newborns.

GW26-e3538
Pulmonary Hypertension Associated with an Unusual Pattern of Abernethy Malformation - A case report and literature review
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OBJECTIVES We present a case of a 10 month female who was diagnosed with Abernethy Malformation(AM) complicated with Pulmonary Hypertension(PH), whose portal venous blood return has not been described previously. The aim is not only further the knowledge of AM, but also make physicians aware that, in the absence of other disorders, the AM should also be considered as a determinant of PH.

METHODS We put forward the case report primarily. Then we provide a contemporary review of the literature with a total of 21 patients complicated with PH from 30 series of 200 patients, and analyze the clinical data, including basic information, AM subtype, severity of PH, medical treatment an prognosis.

RESULTS The 10 month female was finally diagnosed with AM by CT angiography, which demonstrated the absence of portal vein and inferior vena cava, the hepatic vein and superior mesenteric vein joined and drained directly into the hemiazygos vein without passing the liver. The echocardiography certified the complication of arterial septal defect and moderate PH.

CONCLUSIONS Pulmonary Hypertension is an extremely rare complication of AM, which has a substantial impact on survival and requires focused treatment. So we intend to pay more attention to it.

GW26-e0236
Prenatal diagnosis of pulmonary stenosis/atresia by fetal echocardiography and cardiovascular cast
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OBJECTIVES Fetal pulmonary stenosis/atresia is a complicated congenital heart disease. This study aims to investigate the diagnosis of fetal pulmonary stenosis/atresia by fetal echocardiography and cardiovascular cast.

METHODS Forty-three out of 432 cases were diagnosed as congenital pulmonary stenosis/atresia by fetal echocardiography, of which 5 cases associated with other complex malformations underwent labor induction. The fetal hearts with the great vessels were made into cardiovascular cast under patients’ consent.

RESULTS ① Five cases of fetal pulmonary stenosis/atresia associated with other complex malformations diagnosed by prenatal echocardiography, were all confirmed by fetal cardiovascular cast. ② Abnormalities diagnosed by echocardiography which cannot be displayed in the fetal cardiovascular casts: aortic regurgitation, mitral...
value cleft, right ventricular wall hypertrophy, fetal bradycardia, dextrocardia, and anterolateral wall hypoechoic region.

① Other anomalies detected in the fetal cardiovascular casts while misdiagnosed in echocardiography: pulmonary artery crossover, double outlet of the morphological left ventricle, abnormal origin of the left common carotid artery by innominate artery, persistent left superior vena cava, right atrial isomerism.

CONCLUSIONS ① Prenatal echocardiography has an indispensable role in the diagnosis of pulmonary artery stenosis/atresia.
② Fetal cardiovascular cast can accurately and vividly represent the orientation of great vessels and branches, which is helpful to understand malformations of abnormal great vessels and to initiate the diagnosis of the diagnosis.
③ Pulmonary stenosis/atresia is always accompanied with other cardiovascular abnormalities. More attention should be paid in the analysis and diagnosis of associated malformations.
④ The comparative study of fetal echocardiography and cardiovascular casts in the diagnosis of pulmonary artery stenosis/atresia has an important value in clinical application, which can offer valuable information to the families and physicians, and also can evaluate pregnancy outcome and provide appropriate guidance for further necessary interventions.

GW26-e2332
Acute pericarditis with pneumonia caused by Mycoplasma pneumoniae in childhood
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OBJECTIVES Mycoplasma pneumoniae (M. pneumoniae) primarily causes upper respiratory tract infection and atypical pneumonia in school-aged children. Mycoplasma-associated Cardiac involvement such as acute myocarditis, or pericarditis isan uncommon complication occurring in only less than 5% of patients. In this report, we report one case with acute pericarditis due to M. pneumoniae in our hospital over 5 year period.

METHODS Retrospective analysis was performed on 60 patients (<14 years old) with serologically confirmed M. pneumoniae presenting to the emergency department from January 2009 to March 2015. Among them, one patient developed acute pericarditis due to M. pneumoniae infection.

RESULTS This 8 year old boy was admitted to the emergency department in July 2009 with a 6 day history of fever up to 38.5°C, cough, wheeze, vomiting and lethargy. He had been started on oral clarithromycin by pediatric clinic for one day. On the second hospital day, the patient developed shortness of breath, obvious chest pain, oliguria and the fever increased up to 39°C. His rate of heart was up to 147bpm. Blood pressure was 76/51mmHg. The pericardial friction rub could be heard at his precordium region and lung auscultation revealed coarse rhonchi and wheezes. Blood test results showed his hemoglobin level 11.0 g/dL, platelet count was 87000/μL, platelets count was 215000/μL; aspartate aminotransferase was 132 IU/L, alanine transaminase was 145 IU/L; lactate dehydrogenase was 429 IU/L; erythrocyte sedimentation rate was 14 mm/h; C-reactive protein was 19 mg/L; and ELISA test for M. pneumoniae IgM was positive (1:800), influenza virus (A and B), respiratory syncytial virus, adenovirus, parainfluenza virus, Chlamydia pneumoniae, legionella pneumophila, Coxackie A, Coxackie B, and echovirus antibodies were negative. Abdominal hepato-biliary ultrasound was normal. Chest radiograph showed signs of bronchopneumonia. Echocardiogram showed mild pericardial effusion, normal left ventricle contractility. Based on these findings, mycoplasma pneumonia complicated by acute pericarditis was diagnosed. We treated the patient with intravenous azithromycin 10 mg/kg/day and intravenous immunoglobulin, diuretics, dopamine, Antileukotriene agents, nebulized bronchodilators and corticosteroid (ICS). On the next few days, the child’s symptoms of lower respiratory tract gradually improved and became afebrile in four days, CK-MB and pro-BNP had gradually improved to normal. Pericardial effusion disappeared in two weeks.

CONCLUSIONS M. pneumoniae may be the pathogen of acute pericarditis patients. Appropriate and timely treatment is required. Serological testing for Mycoplasma pneumoniae should be part of the routine examination for pericarditis of unknown Origin.

GW26-e6631
Prenatal diagnosis of ductus arteriosus constriction: report of six cases and review of the literature
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OBJECTIVES To describe a series of fetal ductus arteriosus constriction and review the literatures.

METHODS The databases were searched for all cases of ductal constriction detected during the last 3 years. The following variables were analyzed: gestational age at diagnosis, indication for echocardiography, presence of right ventricular hypertrophy, presence of tricuspid valve regurgitation, ductal pulsatility index, signs of fetal heart failure, pregnancy and feto-neonatal outcome, and ductal status at neonatal echocardiography.

RESULTS Six cases of fetus were presented with tricuspid valve regurgitation secondary to an S-shaped ductus arteriosus with distal constriction diagnosed by pulsed Doppler imaging. None of the cases were secondary to maternal exposure to indomethacin or other non-steroidal anti-inflammatory medications, or structural cardiac lesions. A review of the recent English literature of similar cases is presented.

CONCLUSIONS Constriction of the ductus arteriosus can be diagnosed prenatally with careful interrogation of the ductal arch using pulsed Doppler sonography and complete fetal echocardiography. Close monitoring of the fetus is then warranted to detect development of right heart failure and to intervene prior to development of hydrops.

RELATED PHARMACEUTICAL CLINICAL RESEARCH

GW26-e1564
Angiotensin blockades are associated with a lower mortality in patients with atrial fibrillation: results from a national wide atrial fibrillation database
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OBJECTIVES Few studies have investigated the effects of angiotensin blockades (ABs) on mortality and cardiovascular events of established patients with atrial fibrillation (AF). Aim of the current study was to assess the association between ABs treatment and 1-year survival in patients with AF in real-world clinical practice.

METHODS The present study consecutively enrolled AF patients presenting to an emergency department at 20 hospitals in China from November 1, 2008 to October, 31 2011. Multivariate Cox proportional hazards regression was used on all the patients. End points of the analyses were All-cause mortality, stroke and major adverse events (MAE).

RESULTS A total of 2015 AF patients were included in the analysis, and 42.2% patients received ABs treatment. During 1-year follow-up, 13.8% patients died. In the final multivariate Cox proportional models of predictors for all-cause mortality and stroke, after adjustment for multiple relevant co-variables, ABs was significantly associated with a lower risk of all-cause mortality (HR: 0.66, 95% CI: 0.50-0.88, p=0.004) compared to non-ABs patients. Meanwhile, ABs was not an independent risk factor for stroke (HR: 0.81, 95% CI: 0.56-1.9, p=0.287).

CONCLUSIONS ABs usage was associated with a lower all-cause mortality in patients with AF, as well as it did not increase the risk of stroke and MAE incidences.

GW26-e0266
Safety and effectiveness of Tadalafil on PAH from a post-marketing surveillance (Investigation on all patients in Japan, interim data)
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OBJECTIVES To present the interim analysis of long-term safety and effectiveness profiles of tadalafil (Adcirca) in daily clinical practice