

**Conclusion:** this small sample size study showed that the absence of RV to PA flow and/ or pulmonary valve opening, increased AO to PA ratio, RA and decreased PA diameter and the presence of pericardial effusion might represent prognosis factors in fetus with Ebstein anomaly. These results should be confirmed by large scale prospective study.

## 0328

### Evaluation of coronary artery wall echogenicity in Kawasaki disease acute phase

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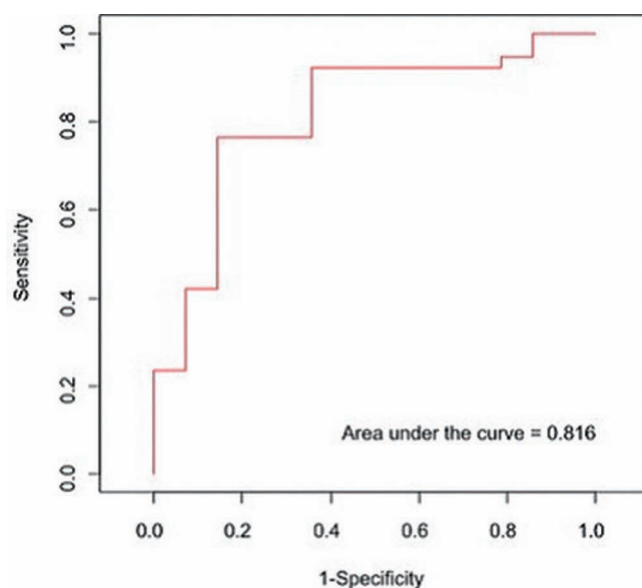
**Background:** Kawasaki Disease (KD) diagnostic is based on clinical, laboratory and echocardiographic criteria. Coronary artery brightness has been proposed as a criterion for diagnosis KD at the acute phase, but it is qualitative and subjective. Evaluation depends on the experience of individual echocardiographers.

**Objectives:** Diagnostic value of quantitative evaluation of echogenicity of the coronary artery wall (CAW) in KD at the acute phase.

**Methods:** A retrospective case-control study was performed in Clermont-Ferrand university hospital. Echocardiograms of 0 to 18 years old children between January 2012 to January 2014 was enrolled: 19 KD confirmed, 14 acute febrile illness and 34 afebrile children with congenital heart disease without coronary disease. The value of echogenicity was evaluated in decibel on 2mm<sup>2</sup> Regions Of Interest (ROI) using Q LAB software -Philips-. For each examination, precordial short axis cross-section at level of aortic valve, 3 ROI are placed at the coronary artery environment, 3 ROI at the proximal segment of the left or right CAW, and 3 ROI at the aorta. Quantitative evaluation of echogenicity of CAW was performed with the measurement differences between ROI. Intraobserver variability was 0.8.

**Results:** Echogenicity of right CAW was significantly higher in the acute phase of KD than the other groups –  $p = 0.004$ , area under curve ROC = 0.8 –. Also it has been observed for left CAW –  $p = 0.17$  –.

**Debate and outcome:** This first study highlights the interest of echogenicity quantitative measure of CAW for KD diagnostic. Echogenicity of CAW might be helpful in diagnostic for atypical or incomplete KD. The reproducibility has to be confirmed by a prospective study with more children suspected of KD.



Abstract 0328 – Figure: Area under curve ROC of the CAW echogenicity

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## 0377

### Atrial septostomy in very low birth weight infants

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The interventional management of D-Transposition of great arteries D-TGA is more required with the advances in NICU and pediatric cardiology.

**Objective:** To describe our experience in balloon atrial septostomy (BAS) in D-TGA patients weighing < 1500 g.

**Methods:** we reported retrospectively all BAS in VLBW infants from January 2002 to June 2013. We collected information about the vital parameters before and after BAS. We described the atrial septostomy.

**Results:** We have 3 patients with a mean weight of 1333 g. D-TGA was diagnosed at a mean age of 3 days. Four atrial septostomy attempts were done at a mean age of 10.3 days. One infant had two attempts with balloon dilatation in the first, then BAS 24 h later. Procedures were done in catheterization laboratory in three cases and in NICU in one case. Patients were ventilated, sedated and transported by the NICU team. Venous access was obtained by the femoral vein puncture in two cases, femoral vein cutdown in one case and by the umbilical vein in one case. BAS were performed successfully in two cases, one using 4Fr. Swan Ganz catheter, and the other with 5 Fr. Z-Med septostomy catheter. BAS failed in two procedures, one because of atrial wall perforation, and the second because of restrictive foramen ovale which was dilated by a coronary balloon. Complications occurred in 3 cases, one minor (balloon rupture), and two major: atrial perforation in one patient, and severe bradycardia in one patient. BAS was effective with sustained clinical improvement. BAS failure in two patients was followed by heart failure in one patient and the death in the other.

**Conclusion:** BAS is mandatory in VLBW infants with D-TGA and restrictive atrial communication. It should be performed quickly if possible to use the valuable umbilical access, and to avoid the clinical compromise. A hole-end BAS catheter is required for successful procedure. FO balloon dilatation constitutes another life-saving option.

## 0397

### Cardiac remodeling and factors determining occurrence of atrial arrhythmia after surgical closure of atrial septal defect in adults

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**Objectives:** the purpose of this study was to assess cardiac remodeling and to determine factors predicting the occurrence of atrial arrhythmia after surgical closure of atrial septal defect (ASD) in adults.

**Methods:** Retrospective study including 33 adult patients (>20 years old, mean age: 34±11 years, 26 women) who underwent surgical closure of secundum or sinus venosus ASD. Before operation, all patients had dyspnea and 15% were in NYHA III-IV. Sinus rhythm was present in 85% of patients. The ratio of pulmonary to systemic blood flow was calculated, yielding a mean of 2.8±1 and pulmonary artery hypertension (PAH) was observed in 80% of patients with a mean value of 41.3±10 mmHg. The ASD were closed by pericardial or Dacron patch in 97% of cases.

**Results:** operative death was observed in 2 cases. In survival patient, with a follow-up of 97± 57 months, regression of right ventricular dilatation and PAH occurred in the first post-operative month and was maintained at late follow-up. Atrial arrhythmia occurred in 4 patients and were determined by older operative age ( $p=0.003$ ) and the absence of cardiac remodeling after surgery.