

GW25-e0841

The Investigation of the Method of Continuously transverse Scan of Fetal Heart

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Objectives: By analyzing the detection rate of the typical sections that established in the anatomical image database of normal fetal heart cross-section during the 105 fetal heart scan transversely. And further investigate the feasibility of the screening method of continuously transverse scan for comprehensive cardiac evaluation.

Methods: After pretreating, 5 cases of normal fetal heart samples induced labor were cut transversely and serially, producing 60um thick sections and then mactshot by a digital camera to obtain serial images of the section. Then establish the database of anatomical cross-sectional images of fetal heart. The typical anatomical cross-sections that can display seteadily and reflect the characteristics of auricular vein connection, atrioventricular connection, ventricular artery connection and vessels of bottom of the heart were chosed from the database. And simultaneously, 105 cases of fetal heart were scanned transversely by Fetal Echocardiography (FECG) during second trimester the detection rate of the typical sections above were analyzed.

Results: In the database of the 5 normal fetal hearts, the typical sections conformed to the standards mentioned above are the section of coronary sinus, four-chamber, outflow tract of left ventricle, outflow tract of right ventricle and the transverse-section of ductal arches and aortic arch. During the transverse scan of the 105 cases fetal heart examination, the detection rate of the sections above is 100%, except for the coronary sinus, with the presenting rate of 79%.

Conclusions: The anatomical cross-section image database of normal fetal heart provides the anatomical basis to transverse scan of fetal heart. The highly dection rate of the typical sections during the 105 cases fetal heart examination has further proved the feasibility of transversely scanning method.

Chronic Rheumatic Valve Disease (CRVD) when compared to sedimentation rate (ESR) .

Methods: 1135 Patients were screened and separated into two groups according to the in-hospital death during hospitalization: the survival group and the death group. The data of participants was collected with the use of standardized electronic case report form to determine the correlation between CRP and short-term clinical outcome compared to ESR.

Results: We represent 1081 patients survived and 54 patients died during hospitalization. The laboratory findings were: CRP 4.7 ± 4.3 vs 9.0 ± 3.5 mg/l ($P=0.000$) ; ESR 13.5 ± 13.2 vs 22.7 ± 10.2 mm/h ($P=0.000$) . The CRP and ESR level before surgery represented significant difference with in-hospital death ($P=0.000$). And CRP (OR 3.677; 95%CI 1.35, 8.808; $P=0.000$), ESR (OR 1.512; 95%CI 1.061, 5.948; $P=0.036$) were independently associated with in-hospital death by multiple logistic regression analysis. Furthermore, during hospitalization, the CRP and ESR were significant difference with paravalvular or perivalvular leakage (PVL) and cardiac valve re-replacement ($P<0.05$).

Conclusions: We conclude that level of CRP and ESR had substantial relationship with the short-term clinical outcome. Integration of CRP and ESR may be valuable for risk evaluation in patients with CRVD.

GW25-e5129

Bicuspid aortic valve may be more common in China—a Single-center study by echocardiographic screening

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Objectives: Transcatheter aortic valve implantation (TAVI) in aortic stenosis patients with bicuspid aortic valve (BAV) is widely noted, but there are few data on the prevalence of BAV and its morphology in China. The purpose of the study is to investigate the prevalence of the BAV and the distribution of BAV types and the associated aortic abnormalities.

Methods: The 2D transthoracic echocardiographic database of the patients (more than 18 years) who referred to our hospital from June 2008 to March 2011 was analyzed retrospectively. The first examination recording was analyzed if the patients examined more than once during this period. The patient's gender, age, number and morphology of the aortic valve leaflets, ascending aorta were obtained from the echocardiographic report.

Results: Of the 12040 subjects, the aortic valve lesion was observed in 8612 patients (7.2%), and the BAV was 543 patients (4.5%). Of the 543 BAV patients, patients combined with congenital heart disease, infective endocarditis and aortic dissection were 39 cases (7.3%) 34 cases (6.4%), and 2 cases (0.4%), respectively. In the residual 459 BAV patients, 63.2% was male and 36.8% female, 112 patients with severe aortic stenosis (24.4%), 60 patients with moderate aortic stenosis (13%), 36 patients with severe aortic regurgitation (7.8%) and 49 patients with moderate aortic regurgitation (10.7%). According to the age, the 459 pure BAV patients were divided into 3 groups: age ≥ 65 years, age of 40-64 years, age 18-39 years. The detection rate of server aortic stenosis was highest in patients ≥ 65 years and lowest in patients with age 18-39 years.

Apart from the 29 cases without description of the aortic valve in the report, there were four types of the morphology of the aortic valve: left anterior-right posterior (172 cases: 37.5%); right anterior- left posterior (88 cases: 19.2%); left-right (128 cases: 27.8%); anterior-posterior (40 cases: 8.7%). Compared with tricuspid aortic valve, the ascending aorta with BAV had obvious dilation (39.7 ± 7.7 cm vs. 37.1 ± 5.8 cm, $P=0.00$), the same results were observed after matching the age and the degree of aortic stenosis.

Conclusions: BAV may be more common in China than the previous reports, and the male prevailed over the female. The detective rate of the aortic stenosis of BAV was higher than the aortic regurgitation. The most common morphology of the BAV was left anterior-right posterior type. And the ascending aorta of BAV were larger than of the tricuspid aortic valve.

GW25-e0768

Circulating level of miR-378 predicts left ventricular hypertrophy in patients with aortic stenosis

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Objectives: MicroRNAs (miRs) play crucial roles in the regulation of left ventricle hypertrophy (LVH). However, few circulating miRs have been established as predictors of LVH in aortic stenosis (AS) patients. In this study, we aimed to investigate whether circulating levels of miR-1, miR-133, and miR-378 predict LVH in patients with AS.

Methods: One-hundred twelve moderate to severe AS patients without heart failure and 40 healthy controls were included in the study. All patients received routine transthoracic echocardiography examination. Left ventricular mass (LVM) was calculated by the Deiereux correction formula. AS patients were further divided into two subgroups according to their LVM index (LVH group: LVM index >105 g/m² for male or >95 g/m² for female). Circulating levels of miR-1, miR-133 and miR-378 were measured using miRcute miRNA qPCR detection kit and compared between groups. Data are shown as the means \pm standard deviation or median (25th and 75th IQR).

Rheumatic and Valvular Heart Disease

GW25-e5115

Comparison of Characteristics and Outcome From Infective Endocarditis in Blood-culture Negative Endocarditis Versus Blood-culture Positive Endocarditis

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Objectives: Diagnosis and management of blood culture-negative endocarditis constitute a formidable clinical challenge and a systemic approach is necessary for a successful outcome.

Methods: This study was designed to explore the general characteristics, treatment patterns, and outcomes of patients with IE in Fuwai hospital and compare these data between blood culture-negative endocarditis (BCNE) and blood culture-positive endocarditis (BCPE).

Results: Five hundred and eight patients were admitted to Fuwai hospital from January 2006 to December 2011. BCNE accounted for 43.3% (220 cases) of all IE cases. Patients with BCNE, compared with BCPE, were more likely to affect mitral valve (33.6% vs. 20.8%, $P=0.001$), more common in moderately severe regurgitation (57.3% vs.39.6%, $P<0.01$) and peri-valve complications (70% vs. 50.7%, $P<0.01$). Streptococcus viridans remained the predominant causative pathogen (27.6% of all IE). Patients with PVE, compared with NVE, and were more likely to have Coagulase negative staphylococcus (21.3% vs. 9.4%, $P<0.05$), staphylococcus aureus (16% vs. 8%, $P<0.05$) and fungi (16% vs.9.4%, $P<0.05$) . Patients with BCNE, compared with BCPE, were more likely to have heart failure, severe sepsis, and operation ($P<0.05$). In-hospital mortality rate was 10.2%, and the 12-month cumulative mortality rate was 27%. Recurrence of IE was more common in BCNE patients during the 3-month follow-up. The incidence of combined end point events was no significant difference between two groups.

Conclusions: BCNE is associated with high moderately severe regurgitation, heart failure, peri-valve complications and recurrence rates.

GW25-e0615

Value of C-reactive protein in predicting adverse prognosis after cardiac valve replacement surgery in patient with Chronic Rheumatic Valve Disease

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Objectives: Aimed to evaluate the usefulness of C-reactive protein (CRP) in predicting the short-term clinical outcome after valve replacement surgery in patient with