was measured before, during and after the procedure. Septal branch occlusion was finally documented by coronary angiography.

RESULTS All patients were symptomatic (NYHA class 3 or 4). The target septal vessels were successfully occluded in all patients, without complications. The embolized septal branches: 1 vessel in 8 patients; 2 vessels in 5 patients. The number of coils delivered ranged from 1to 3 / patient. Moderate pain was recorded during and after the procedure and the cTnI level increased four- to nine-fold. The pressure gradient diminished during the procedure from 82 ± 2.3 mm Hg to 27 ±15 mm Hg. Transthoracic echocardiography showed a significant reduction of the interventricular septum thickness and left ventricular outflow tract gradient (23 ± 3 vs. 15± 2 mm, P = 0.0001; 79 ± 2.3 to 33 ± 14mmHg, P =0.0001, respectively) at 6 month-follow-up. Clinical improvement was recorded in all patients compared with baseline (NYHA class 1 or 2), and all patients were neither detected severe ventricular arrhythmia nor permanent atrioventricular blockage following the procedure.Three patients presented permanent bundle branch block.

CONCLUSIONS Percutaneous transluminal coil embolization is an efficient and safe approach for transcatheter ablation of septal hypertrophy in HOCM. This technique induced myocardial necrosis without the toxic effects of alcohol septal ablation and surgical myocardial septal reduction.

GW26-e2376

Genetic anticipation in familial hypertrophic cardiomyopathy

Liwen Liu
Department of Ultrasound, Xijing Hospital, Fourth Military Medical University

OBJECTIVES From the pedigrees of families with or without mutations in beta-myosin heavy chain gene (MYH7) afflicted in two or more generations with hypertrophic cardiomyopathy (HCM), age and maximal wall thickness (MWT) of left ventricle at diagnoses were evaluated to investigate the patterns of inheritance.

METHODS 56 individuals were analyzed from 25 families. Linear mixed effects models were adopted to prevent misinterpretation due to the cohort effect. Publication data contain 9 sarcomere mutations (181 individuals in 52 families) were also extracted.

RESULTS MYH7 mutations were detected in 9 of the 25 probands, The median age of HCM diagnosis was 24 in younger generation and 55 in older ($p < 0.001$). In the parametric model, the estimated change in the expected age at diagnosis for the entire cohort was 25.8 years ($p < 0.001$). Statistically significant earlier ages at diagnosis were also observed within subgroups of MYH7+ and MYH7- mutations, proband over and below 30 years old families. Although the estimated change in MWT at diagnosis for the entire cohort was only 2.161 mm ($p = 0.212$), proband below 30 years subgroup got 10.393 mm ($p = 0.018$) thicker in younger generation in MWT, and showed a significant reversed correlation with age. Analysis of publication data also supports above finding.

CONCLUSIONS Familial HCM prone to be diagnosed at an earlier age in later generations. Patients who are younger with relative contract to HCM, especially those who be diagnosed earlier than 30 should continue to be tracked to offer appropriate screening modalities as earlier as possible.

GW26-e1310

Effects of recombinant human brain natriuretic peptide on heart failure in acute severe viral myocarditis patients

Zhenda Zhang, Cailian Cheng, Ruimin Dong, Min Wang, Shujie Yu, Lin Chen, Xiaoxian Qian
The Third Hospital Affiliated to Sun Yat-sen University, Guangzhou, China

OBJECTIVES To investigate the effect and safety of recombinant human brain natriuretic peptide(rhBNP) on heart failure in acute severe viral myocarditis patients(ASVMC).

METHODS 27 patients from Jan 2010 to Dec 2013 admitted to the Third Affiliated Hospital of Sun Yat-Sen University were divided into two group, rhBNP group 14 patients, control group 13 patients, rhBNP group received rhBNP on the treatment of cedilanid, diuresis, vascular dilation, BNP, cTnI, CK-MB and echocardiography were observed, therapeutic effect of two group were also observed.

RESULTS rhBNP decreased BNP [(203.1±39.8)vs.(1185.5±48.3) pg/ml], cTnT [(13.5±9.8)vs. (24.8±13.2) μg/L], CK-MB[(32.9±10.7) vs.(195.3±48.2) U/L], improved LVEF [(59.2±9.2)% vs.(38.1±8.8)%] significantly, $P<0.05$. Furthermore, the therapeutic effect of rhBNP group were better than control group (92.8% vs.84.6%, $P<0.05$), and we didn't observe obvious side effects in rhBNP group.

CONCLUSIONS rhBNP is an effective and safe therapeutic measures for heart failure in ASVMC.

GW26-e0458

Clinical features of the fulminant myocarditis

Jianchang Xie, Ningfu Wang
Hangzhou First People's Hospital

OBJECTIVES To review the clinical features of fulminant myocartitis, in order to provide assistance to the clinical management.

METHODS The clinic data of 183 patients with viral myocarditis, including 153 cases of acute myocarditis and 30 cases of fulminant myocarditis admitted in our hospital during January 2008 and Dec 2012 were retrospectively analyzed. The age of onset, interval after virus infect, initial symptoms, auxiliary examination, treatment, and turnover were compared in the study.

RESULTS The average onset age of fulminant myocarditis and acute myocarditis were similar[(22.3±7.6) vs(26.2±12.6) years, P=0.1055]. There was a significant difference between the two gourps in the rate of patients with a explicit history of virus infection[30.0%(9/30)vs 78.4%(120/153), χ^2=28.3, P<0.001], the average interval after virus infect [(3.1±2.2) vs(7.0±3.80) d, P<0.001] and the length of hospital stay[(12.1±6.9) vs(6.9±4.50) d, P<0.001]. Chest congestion (101/153,66.0%), feebleness(76/153,49.7%), fluster(74/153,48.4%) are the most onset symptoms of acute myocarditis, while chest congestion (24/30,80.0%), shortness of breath(14/30,46.7%), feebleness(13/30,43.3%) in flunimant myocarditis. Advanced A-V block(19/30,63.3%), cardiogenic shock(18/30 ,60.0%), ventricular arrhythmia(16/30,53.3%), Adams-Stokes syndrome(8/30,26.67%) and acute renal failure(8/30,26.7%) were the most complications of flunimant myocarditis. Temporary pacemaker(11 cases), extracorporeal membrane exygenator(7 cases) and intra-aortic balloon pump(7 cases) were applied in critical patients. In acute phase, 21 cases were cured, 9 cases was dead of cardiogenic shock and ventricular(27,30.0%). Two dead cases applied with ECMO because of delay. These dead cases were died within one week after be in hospital. Low ventricular ejection fraction(P=0.032), cardiogenic shock(P=0.004), and mechanical ventilation(P=0.001) were relatived with dead of fulminant myocarditis in acute phase. Three cases with low left ventricular ejection fraction(EF<50%) who reviewed the echocardiography was normal one month later. Besides 11 cases with ST-T wave imitated myocardiac infarction was normal one month later. In follow-up of 21 cases fulminant myocarditis, their heart functions were recovered(NYHA I), and 2 cases relapsed, while 2 cases relapsed in the follow-up of 50 cases of acute myocarditis. The relapsed cases all diagnosed with acute myocarditis, and cured by nutritional supportive therapy. There is no significant difference between 2 groups(P=0.357).

CONCLUSIONS The fulminant myocarditis has a rapid onset, most of which has no prodrome of virus infection or a shorter interval than acute myocarditis. Timely and effective mechanical circulatory support is critical for fulminant myocarditis. The prognosis of fulminant myocarditis is favorable, and these is no difference compared with acute myocarditis.

GW26-e2448

Echocardiographic feature of cardiac amyloidosis due to multiple myeloma

Xiaoli Wang, Rongqin Zheng
The Third Affiliated Hospital of Sun Yat-sen University

OBJECTIVES To explore the echocardiographic feature and prognosis of cardiac amyloidosis due to multiple myeloma.

METHODS Patients with cardiac involvement of light-chain type amyloidosis due to multiple myeloma confirmed by pathology were enrolled and echocardiographic data were analyzed retrospectively.

RESULTS Seven patients were identified (five man and two woman) between 1998 and 2015. Mean age at diagnosis was 53.19 ±5. 9 (49-59) years. All patients presented cardiac manifestations (heart failure n=6, rhythm disorders n=1) and extra-cardiac manifestations (renal n=6, gastrointestinal n=5). Echocardiography demonstrated: Symmetrically increased LV wall thickness in seven patients, one with normal size of LV cavity and six with small LV cavity. Five patients showed small pericardial effusions. Five patients with granular speckled appearance and two patients with diffuse sparkling appearance . E/A = 0.71±0.22, EF = 52.1±16.2%. All patients with cardiac failure at diagnosis (n=6) died with a median survival of 1.5 month duration.

CONCLUSIONS Cardiac involvement is rare but crucial in patients' prognosis with multiple myeloma. The typical echocardiographic appearances would be enough to diagnose cardiac amyloidosis, if an additional histological specimen from another tissue confirms amyloidosis.