**GW25-e2273**

**Velocity vector imaging for measuring regional myocardial function in patients with hypertrophic cardiomyopathy**

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**Objectives:** To determine the efficacy of velocity vector imaging (VVI) in assessing regional myocardial function of left ventricle (LV) in patients with hypertrophic cardiomyopathy (HCM).

**Methods:** Twenty-two HCM patients and thirty normal subjects underwent conventional echocardiography. Two dimensional dynamic images from apical four chamber, long axis view of LV, parasternal short axis view of valvula mitralis level were obtained for offline analysis. The strain rate (SR) of sixteen segments of LV was measured by VVI.

**Results:** The E/A ratio of HCM were significantly lower than control (0.94 ± 0.21 vs 1.21 ± 0.23; P < 0.05), but there is no significant difference of LVEF between groups (61.98 ± 7.73 vs 64.57 ± 6.58; P > 0.05). Whatever in longitudinal or radial direction, the systolic and diastolic SR of different segments in HCM were significantly lower than control (e.g. longitudinal direction, systolic phase, baseline segment of anterior septal -0.70 ± 0.22 vs -1.45 ± 0.13, P < 0.05), and the SR of the septal and posterior wall was significantly lower than walls in HCM (e.g. longitudinal direction, systolic phase, basal segment of anterior septal vs lateral wall: -0.70 ± 0.22 vs -1.05 ± 0.23, P < 0.05).

**Conclusions:** VVI can assess SR of different segments in both longitudinal and radial direction, and can be used to measure regional myocardial function of LV in HCM patients effectively.

**GW25-e3416**

The prevalence and prognostic effects of subclinical thyroid dysfunction in dilated cardiomyopathy patients: a single-center cohort study

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**Objectives:** Subclinical thyroid dysfunction may be a risk factor for mortality in patients with heart failure, and it may be associated with dilated cardiomyopathy (DCM). The present study is the first cohort study to examine the possible association between subclinical thyroid dysfunction and all-cause mortality in only DCM patients as the most important evidence on this association so far.

**Methods:** A retrospective cohort study examining 963 hospitalized DCM patients at Fuwai Hospital was performed between November 2003 and September 2011. Standard demographics, echocardiography and routine blood samples were obtained from all subjects shortly after admission. The outcomes were assessed using all-cause mortality after a mean follow-up period of 3.5 ± 2.3 years and were analyzed using Kaplan-Meier survival curves (i.e., log-rank tests) and Cox regression analysis.

**Results:** A total of 963 DCM patients were evaluated for thyroid function. Of these patients, 7.1% (n = 68) had subclinical hyperthyroidism (defined as serum TSH < 0.35 μIU/ml), 3.7% (n = 36) had euthyroidism (TSH 0.35-5.5 μIU/ml), and 9.2% (n = 79) had subclinical hypothyroidism (TSH > 5.5 μIU/ml). There was a significant difference in the all-cause mortality rate between patients with euthyroidism and patients with subclinical hyper- and hypothyroidism (21%, 38.2%, and 26.6%, respectively, log-rank χ²=13.104, P = 0.001) with mean follow-up 3.5 years. After adjustment for other confounding factors at baseline, QRS duration, N-terminal fragment pro-brain natriuretic peptide, NYHA functional class, left atrium diameter and subclinical hyperthyroidism (HR 1.793, 95% CI 1.010-3.183, P = 0.046) emerged as significant predictors of all-cause mortality.

**Conclusions:** Subclinical hyper- and hypothyroidism in DCM patients had higher all-cause mortality rate. However, only subclinical hyperthyroidism, not subclinical hypothyroidism, was an independent predictor for increased risk of all-cause mortality.

**GW25-e2267**

A long-term follow-up study in HOCM patients after percutaneous transluminal septal myocardial ablation therapy

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**Objectives:** To evaluate the long-term efficacy of PTMSA in patients with HOCM and the effect of medication treatment to left ventricular structure and LVOTPG, evaluate the accuracy of TDE quantitative estimation of LVOTPG.

**Methods:** (1) All the HOCM patients with PTMSA during January 2005 to October 2013 underwent TDE examination and LVOTPG determination a week before the operation, and catheter measured LVOTPG again in the operation. (2) All the patients were followed up 24 months, the average (17.00±8.20) months, included the change of clinical symptoms, postoperative medication case, LVOTPG, cardiac structure and function.

**Results:** (1) Pearson correlation analysis and the Bland-Altman method of TDE, the left heart catheterization measurement TDE, showed that the measurement of LVOTPG by TDE is an important and effective non-invasive inspection approach. (2) All the HOCM patients with PTMSA immediately LVOTPG is 3-78mmHg, decreased significantly compared with preoperative (29.16±18.70) mm Hg and preoperative (120.48±49.28) mm Hg, P < 0.01. On postoperative patients (One pa tient died from acute myocardial infarction 4 hours after ablation) to track follow-up 1-24 months, averaged (17.00±8.20) a month, 24 cases with obstructive symptoms were lessened or disappeared after operation, significantly improved quality of life compared with the preoperative. There was no significant difference ether between the two groups except the average LVOTPG overall the trend of the curves.

**Conclusions:** (1) The LVOTPG estimated by TDE was highly correlated with it left heart catheterization measurement LVOTPG, TDE can be used as the main noninvasive diagnostic left ventricular outflow tract obstruction, but it cannot completely replace left heart catheterization . (2) The average LAD on a gradually improved trend, with its apparent improvement occurred in 2 weeks-3 months Postoperative. All of them had continued to improve in 24 months postoperative. (3) The left ventricular EF% and SBP showed significant improvement in 2 weeks postoperation, but to recover slightly near to preoperative levels after 1-3 months, no significant changes to the operation within 24 months. (4) There was no significant difference between the two groups except the average LVOTPG, it showed a gradually improved trend of all the items, and they had still changes in 24 months postoperative. We could not blindly deny continuing taking the pills, but recommended that patients continue to taking the pills only. (5) TDE indications in screening the HOCM patients, the PTMSA intraoperative monitoring, and the postoperative evaluation all have great value. (6) PTMSA is a effective treatment in patients with HOCM and effective minimally invasive approach, but because of a destructive operation, the risks should be strictly controlled.