coronary heart disease and hypertension, heart function, no prescription of ACEI/ARB, the size of LA before pacemaker implantation, pacing mode and SSS were significant variables (P<0.05). Gender, age, history of smoking and drinking, diabetes, dyslipidemia, and prescription of statin were not significant variables in this study. Multivariate logistic regression analysis showed that coronary heart disease, hypertension, and no prescription of ACEI/ARB remained significant.

CONCLUSIONS The rapid atrial arrhythmias had a higher incidence after pacemaker implantation, especially AF, consistent with the domestic research results, lower than the foreign research results. Coronary heart disease and hypertension, heart function, no prescription of ACEI/ARB, the size of LA before pacemaker implantation, pacing mode were associated with the new onset RAT patients with permanent pacemakers, especially coronary heart disease, hypertension, and no prescription of ACEI/ARB.

GW26-e2246
Atrial Fibrillation and Endothelial Dysfunction–Review

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OBJECTIVES Atrial fibrillation (AF) is the most common sustained arrhythmia associated with increased risk of stroke and systemic embolism. There is plausible evidence linking AF to endothelial dysfunction / damage. Proposed mechanisms of endothelial damage / dysfunction in AF include inflammation, oxidative stress, renal angiotensin system activation and decreased shear stress. The present review aims to provide an update on the relationship of AF and endothelial damage / dysfunction.

METHODS PubMed and EMBase database between April 1999 and March 2015 has been searched with the following terms in combination or individually: “atrial fibrillation”, “endothelial dysfunction”, “endothelial activation”, “endothelial damage”, “ADMA”, “von Willebrand factor”, “thrombomodulin”, “FMD”, “RHI”, “E-selectin”, “nitric oxide synthase” “oxidative stress”, “inflammation” and “renal-angiotensin system”. We also reviewed references from relevant articles.

RESULTS 1) Endothelial dysfunction is almost universal in AF. Various of biomarkers and accessory examinations are applied in evaluation of endothelial function in clinical and basic researches, such as von-willebrand factor, thrombomodulin, flow mediated dilation and asymmetric diethylarginine. But the results are quiet different because of inconsistent inclusion criteria and measurement methods.

2) Some endothelial dysfunction biomarkers can even forecast cardiovascular event in AF, especially stroke and systemic embolism. These biomarkers might applied to risk classification in the future.

3) Inflammation, oxidative stress, neurohormonal system activation and abnormal hemodynamics may participate the pathology process of endothelial dysfunction in AF. Administration of antioxidant, anti-inflammation agent and ACEI/ARBs can be useful in endothelial function protection.

CONCLUSIONS All types of AF have intimate relationship with endothelial dysfunction. Intervention focused on pathophysiology mechanisms in AF can be promising way to alleviate endothelial function and improve prognosis of AF. In clinical practice, there is no standard evaluation method of endothelial function. Given the important role of endothelial function in cardiovascular disease, especially AF, large scale researches on this issue are needed.

GW26-e1576
The Association between Frequent Premature Ventricular Contractions and the Left Ventricular Function of Late Pregnant Women

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OBJECTIVES Ventricular premature contractions (PVCs) are frequently present during pregnancy. However, whether frequent PVCs impair the left ventricular function of late pregnant women is unclear. In this study, it was aimed to investigate the association between frequent PVCs and the left ventricular function of late pregnant women.

METHODS Seventy-two late pregnant women (32.4±1.7 weeks) with frequent PVCs evaluated by ambulatory ECG (10548±3674 beats/24h on average) were enrolled, while sixty-five late pregnant women (32.7±2.1 weeks) without PVCs were also included as control. All subjects received two-dimensional echocardiography for evaluation of the left ventricular ejection fraction (LVEF), left ventricular end-diastolic dimension (LVEDD), left ventricular posterior wall thickness in diastole (LVPWT), and interventricular septum thickness in diastole (IVST).

RESULTS There were significant differences in LVEF between PVCs group and non-PVCs group (52.4%±4.8% vs. 60.7%±4.3%, p=0.024). However, there were no statistical differences in LVEDD, LVPWT and IVST between two groups. Pearson correlation analysis indicated that the number of PVCs evaluated by 24h ambulatory ECG was positively correlated with LVEF (r = 0.376, p= 0.042), while no correlation was showed between the number of PVCs and the left ventricular structure (LVEDD, LVPWT and IVST).

CONCLUSIONS Frequent PVCs may impair the LVEF of late pregnant women. The relationship of PVCs and the pregnancy outcome should be evaluated in the future.

GW26-e4820
Explore an Electrocardiographic Algorithm for Determination of the Location of the Origins of Outflow PVCs

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OBJECTIVES RFCA is the optimal therapy to eradicate PVCs. The accuracy of the ECG identifying the origins of PVCs, not only improve the successful rate of RFCA but also cut down the time of RFCA and reduce the complications during the surgery. Although several ECG criteria have been proposed for differentiating between the origins of LVOT and RVOT of the PVCs, their accuracy remain limited. The study is undergoing to explore the discrepancies of the characteristics of morphologies by assessing the criteria for the localization of outflow PVCs and make a process flowchart for identifying the origins of the PVCs.

METHODS The study retrospectively enrolled 75 consecutive patients of frequent premature ventricular contractions who were hospitalized for RFCA in our Hospital. According to the results of RFCA, all patients were divided into two groups: RVOT and LVOT. By collecting and analyzing all patients’ ECGs, we measure the statistics of ECGs, utilize the correlations with the origins of RVOT/LVOT, and make the ROC curves to calculate the parameters’ value of sensitivity, specificity, and AUC. Thereby, we integrate them and produce the process flowchart for identifying the origins of PVCs. As a result, the overall sensitivity, specificity, and positive and negative predictive values can be obtained by verifying the flowchart.

RESULTS According to the localizations of the successful RFCAs, RVOT Group includes 58 patients (77.33%) and LVOT Group 17 patients (22.67%). For identifying RVOT origins of PVCs, the sensitivity, specificity, and AUC of transition in lead V3 and later are 75.90%, 100%, 0.879 respectively. The sensitivity, specificity, and AUC of transitional index ≥0 are 89.70%, 82.40%, 0.860 respectively. The sensitivity, specificity, and AUC of V1 lead R/QRS duration<50% are 77.60%, 88.20%, 0.859 respectively. For identifying LVOT origins of PVCs, the sensitivity, specificity, and AUC of transition before lead V3 are 100.0%, 75.9%, 0.879 respectively. The sensitivity, specificity, and AUC of transitional index<0 are 82.40%, 89.70%, 0.860 respectively. The sensitivity, specificity, and AUC of V1 lead R/QRS duration≥50% are 88.20%, 77.60%, 0.859 respectively. We use these three criteria to produce a flowchart to identify the RVOT or LVOT the origins of the PVCs. The first step of flowchart is to identify whether the transition is in lead V3 and later. The second step is used to identify transitional index≥0 and then the third step is to show V1 lead R/QRS duration<50%. Overall sensitivity was 90.67% and specificity was 80.00%.

CONCLUSIONS The origins of PVCs from LVOT and ROVT have different specific electrocardiogram characteristics. The research proposes a flowchart for the better identifying of the origins of PVCs.

GW26-e4560
Using implantable cardioversion defibrillator to treat those patients with malignant arrhythmia (with 4 cases report)

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OBJECTIVES To assess the effect of the implantable cardioversion defibrillator (ICD) in the treatment of patients with malignant arrhythmia.

METHODS We found 4 cases with ventricular tachycardia (VT) or ventricular fibrillation (VF) patients, among of them, 2 cases with ischemic cardiomyopathy, and 2 patients with DCM. All patients were implanted