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Antithrombotic Therapy in Chinese Patients with Atrial Fibrillation: Results from a multicenter, prospective Registry

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Objectives: Aim of this study was to describe the use of antithrombotic therapy in Chinese patients with atrial fibrillation (AF) and identify factors associated with warfarin use at baseline and at 12-month follow-up.
Methods: Between November 2008 and October 2011, this prospective registry enrolled patients presenting to an emergency department (ED) with AF at 20 sites in China; 12-month follow-up was completed for all patients. Multivariate regression models were used to determine predictors of warfarin use, respectively.
Results: Among 319 patients with valvular AF, 132 at baseline and 111 at follow-up were on warfarin, while 43 (32.6%) and 64 (57.7%) have international normalized ratio (INR) levels between 2.0 to 3.0, respectively. In patients with non-valvular AF warfarin was most used in patients with CHADS2 scores=1, and proportion of patients met the target INR levels increased as rising of the CHADS2 score. Use of aspirin also increased with risk score rising. Over half of low-risk patients received antithrombotic drugs (60.2% and 55.3%, respectively). History of stroke/transient ischemic attack (TIA) and prior diagnosis of AF were predictors for warfarin use at baseline, as well as at follow-up, while there was a decreased likelihood of warfarin use as increasing age, increasing heart rate (HR), and history of coronary artery disease (CAD).
Conclusions: In China, antithrombotic therapy were overused in AF patients at low risk of stroke and underused in high-risk patients. History of stroke/TIA, prior diagnosis of AF, age, heart rate, and history of CAD were related with warfarin use.

GW25-e0716

Different influences of Single and Dual-chamber Pacing on Brachial Blood Pressure, Central Aortic Pressure and Augmentation Index

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Objectives: To assess the different effects of cardiac pacing mode on brachial blood pressure, central aortic pressure (CAP) and augmentation index.
Methods: 103 pacemaker-implanted patients were enrolled in this study in cohort. The 103 patients were divided into three groups: single-chamber pacemaker group (41 cases), dual-chamber pacemaker group (42 cases). But the control group (20 cases) enrolled pacemaker-implanted patients without pacing while examined. The brachial systolic blood pressure (SBP_1), brachial diastolic blood pressure (DBP_1), pulse pressure (PP), central aortic pressure (CAP), augmentation index (AI) were measured in all enrolled subjects. And then DDD pacing mode of patients in dual-chamber pacemaker group was programmed into VVI pacing mode and these parameters were measured again.
Results: The values of SBP_1, DBP_1, PP, CAP and AI in control group were 138.6±22.43 mmHg, 74.35±12.65 mmHg, 67.05±23.17 mmHg, 138.70±18.69 mmHg and 78.95±13.31 respectively; Those in dual-chamber pacemaker group were 143.79±19.39 mmHg, 73.24±10.11 mmHg, 70.33±17.81 mmHg, 149.67±19.62 mmHg and 88.19±10.29 respectively; those values in single-chamber pacemaker group were 121.23±19.84 mmHg, 65.62±11.22 mmHg, 56.92±18.12 mmHg, 124.33±19.34 mmHg and 81.26±12.28 respectively. The SBP_1, DBP_1 and PP in dual-chamber pacing group were significantly higher than single-chamber pacing group (P<0.05). The CAP and AI in dual-chamber pacing group was significantly higher than the control group and single-chamber pacing group (P<0.05). The CAP in control group were significantly higher than VVI group (P<0.05).
Conclusions: Dual-chamber pacing could significantly enhance patients' brachial blood pressure. Dual-chamber pacing may boost people's CAP and AI, which could be attributed to one of the adverse effects on cardiovascular events and long-term prognosis in patient with right apex pacing.

GW25-e0800

Automatic home monitoring in patients with implantable cardioverter defibrillator or cardiac resynchronization therapy defibrillator

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Objectives: To evaluate the benefit of Home monitoring (HM) system in patients with implantable cardioverter defibrillator (ICD) or cardiac resynchronization therapy defibrillator (CRT-D).
Methods: Twenty-three patients undergoing implantation of ICD or CRT-D with HM in our hospital were enrolled from January 2011 to August 2013. Data of patients were transmitted by Home monitoring system. Data automatically collected on a daily basis and alerts by HM were analyzed. Early detection and intervention effect of Home monitoring system included arrhythmias or heart failure to clinical events and system related events.

Results: The mean follow-up duration was 452.1±262.2 days, a total of 1991 remote transmissions were received. Among these transmissions, 1481 abnormal events were reported and 96.4% of events were clinical-related, and 1.5% were system-related, no transmissions by 2.1%. Most of the system-related events were abnormal sensing, and one loose electrode placement of left ventricular was detected. Clinical events included 84.7% arrhythmic events and 15.3% HF monitoring events. Alerts for HF monitoring including heart rate at rest were increasing and CRT pacing percentage was reduced. Through alerts of the HM, patients got physician advices by telephone in 65 times, parameters were optimized in 11 times, and treatment plan was adjusted in18 times, four patients were hospitalized again.
Conclusions: Home monitoring is necessary and safe method which could early detect the abnormal events in the patients with ICD or CRT-D, This system is helpful in making earlier clinical intervention, and optimizing follow-up management, it may improve patients, quality of life and safety.

GW25-e1403

Validation of CHA2DS2-VASc for predicting stroke and thromboembolism in atrial fibrillation patients with or without application of oral anticoagulant: a meta-analysis of cohort studies

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Objectives: $CHADS_2$ and CHA_2DS_2-VASc have been validated as predictors of embolic risk, contributing to the optimization of antithrombotic prescribing practices in heterogeneous atrial fibrillation (AF) patients. However, independent validations have reported conflicting results. This meta-analysis therefore aimed to compare the diverse predictive values of these two methods for risk assessment in AF individuals with and without anticoagulation therapy based on previous studies.
Methods: The data were systematically retrieved by searching the Cochrane Library, PubMed and Embase databases reporting the diagnostic performance between $CHADS_2$ and CHA_2DS_2-VASc. In addition, we reviewed references, major textbooks, and review articles. Pooled risk ratios were estimated by using a random-effects model. Defined endpoints were then compared between scores<2 and ≥2, considering the presence or absence of anticoagulation therapy.
Results: Twelve cohort studies were identified in the meta-analysis. With regard to the occurrence of outcomes individually, patients with CHA_2DS_2-VASc scores≥2 showed a greater risk for stroke (RR 5.31, CI 3.69-7.62; P<0.00001) and thromboembolism (RR 5.94, CI 5.48-6.43; P<0.00001) (p_{diff}=0.55), regardless of the presence or absence of anticoagulation therapy (RR 5.43, CI 4.92-6.00; P<0.00001 and RR 5.92, CI 5.26-6.67; P<0.00001, respectively) (p_{diff}=0.57). A chi-squared test to evaluate trends also confirmed an increased risk of events in patients receiving anticoagulants (both p_{trend}<0.001).
Conclusions: Our results showed better diagnostic performance for CHA_2DS_2-VASc over $CHADS_2$ for the distribution of greater numbers of patients and a greater incidence of endpoints events into the high-risk stratification, as well as the identification of patients with atrial fibrillation who are at substantial risk of endpoint events with or without optimal anticoagulant therapy.

GW25-e1460

A study on the methodology and safety of CS ventricular pacing substituting the traditional right ventricular pacing

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Objectives: By trying implanting a ventricular electrode through the coronary sinus (CS) approach to achieve the conventional cardiac pacing, this study was designed to overcome the potential risk of the traditional right ventricular endocardial pacing through the tricuspid valve approach.
Methods: (1) 61 patients in line with ordinary cardiac pacing were continually enrolled. All cases were randomly divided into the research group of CS ventricular pacing and the traditional right ventricular pacing group. (2) For the research group, firstly patients underwent a routine perfusion imaging through the CS approach or accepted an insertion of a mapping electrode or conventional right ventricular electrode to search for the CS port, then a dedicated left ventricular electrode through a pushing sheath or a conventional right ventricular electrode was planted into a corresponding targeted vein. For the traditional right ventricular pacing group, a conventional right ventricular electrode was planted through the tricuspid valve approach. (3) Indexes such as the X-ray exposure time of ventricular electrode implantation, the success rate, the operation complications, the pacing parameters were collected. (4) The SPSS 17.0 statistical software package was used for data processing, and there was a significant difference if P<0.05.
Results: (1) The success rate of the study group lower than the traditional right ventricular pacing group (65.52% vs 100%, P=0.001). In the study group the success rate of CRT-dedicated left ventricular electrodes and delivery sheaths was higher than that of conventional right ventricular electrodes (80.95% vs 25%, P=0.009). (2) There was no significant difference of the severe pacing- related complications rate (10.34% vs 0%, P=0.203) between the two groups and the traditional group, and all 61 patients survived. (3) The X-ray exposure time of the study group was longer (3.85±2.21 min vs 7.43±5.56 min, P=0.01). (4) Tests during operation showed that