

dependent ventriculoatrial conduction were demonstrated to exist by EP study and the atrio-ventricular reentrant tachycardia with the earliest atrial activated site located were induced. When pacing with slow rate in RVA, there were no ventriculoatrial conduction by AP; when pacing with fast rate, there were internal ventriculoatrial conduction by AP and when pacing with faster rate, there were 1:1 ventriculoatrial conduction by AP. Ablation were identified during rapid rate ventricular pacing and a successful ablation was attained in every patient.

Conclusion Rapid rate dependent conduction of left concealed atrioventricular accessory pathway is existent and it can also induce atrioventricular reentrant tachycardia. We should pay attention to it avoiding missed diagnosis.

e0551 RADIOFREQUENCY CATHETER ABLATION OF VENTRICULAR TACHYCARDIA IN PATIENTS WITH STRUCTURAL HEART DISEASES USING CARTO ELECTROANATOMIC MAPPING SYSTEM AND A SALINEIRRIGATED TIP CATHETER

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Introduction The aim of this study was to investigate the results of radiofrequency catheter ablation of ventricular tachycardia (VT) in patients with organic heart diseases utilising CARTO system and a saline-irrigated tip catheter.

Method 31 patients (26 men), aged from 6 to 75 years, had palpitation and sustained VT or ventricular fibrillation (VF) and 15 patients had the histories of syncope. 9 patients with Fallot syndromes after cardiac surgery, 4 patients with old myocardial infarction (one had ventricular electrical storm after ICD implantation), 1 patient with ventricular electrical storm after acute myocardial infarction, 17 patients with ARVC or dilated cardiomyopathy. CARTO system was used for directing mapping and ablating VT. For mappable VT, the VT mapping techniques included activation, entrainment, and voltage mapping using standard criteria. For unmappable VT, the site of origin was approximated by the site of pace mapping that generated QRS complexes similar to those of VT. Radiofrequency ablation was performed as linear lesions based on the location of the best pace map, the location of valvular anatomic boundaries, and the substrate defined by the voltage mapping.

Result 56 morphologies of VT (1–5 morphologies of VT in 1 patient) were induced in 29 patients, including 38 morphologies of mappable VT and 18 unmappable VT. In 24 patients who had at least 1 morphology of mappable VT, mapping and ablation was performed during VT, and in the other 5 patients who had unmappable VT, substrate mapping and ablation was performed during sinus rhythm. Radiofrequency ablation eliminated VT in 20 patients and failed to ablate VT in 9 patients (most had cardiomyopathy). In 1 ARVC patient with multiple morphologies of frequent ventricular premature beats (VPBs) and syncope, ablation of VPBs and VT substrate were performed. In the other patient who had drug-refractory ventricular electrical storm after acute myocardial infarction, ablation of VPBs originating from Purkinje network eliminated VT and VF recurrence. During 3 to 42 months of follow-up, 20 out of 22 patients who had a successful VT or VPBs ablation did not had VT and VF recurrence, and the 2 patient who had VT recurrence had a successful VT ablation in the second procedures. In the 9 patients who had a failure ablation of VT (no ICD implantation because of economic reason), antiarrhythmic drugs were taken. There were no VT recurrence in 2 patients and less VT attacks in 4 patients.

Conclusion Based on the electronanatomic mapping, radiofrequency ablation of VT using a saline-irrigated tip catheter in patients with organic heart diseases might have high successful and effective rate.

e0552 THE ANALYSIS OF CAUSE AND INCIDENCE OF NONRESPONSE AFTER CARDIAC RESYNCHRONISATION THERAPY

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Introduction The aim of this study was to observe the incidence of CRT nonresponse in our center and investigate the possible reasons to lead to CRT nonresponse.

Methods 112 patients with CRT implantation were included in this study. There were 33 with ischaemic heart disease and 79 with non-ischaemic heart disease, 23 patients with permanent atrial fibrillation, 59 in NYHA class III and 53 in class IV. Patients were followed up more than 1 year. CRT response was defined as the improvement in NYHA class of ≥ 1 grade and 6-min walk test (6-MWT) of $\geq 25\%$ and/or the increase of left ventricular ejection fraction (LVEF) of $\geq 15\%$.

Results The all mortality was 11.61%, the reasons of death were due to heart failure aggravation in 3 patients, sudden death in 4, acute myocardial infarction in 2 and noncardiac death in 4. 82 patients had a positive CRT response, but the other 30 patients (26.79%) were nonresponse to CRT including 9 patients (8.04%) with no improvement in NYHA class, 6-MWT and LVEF. 21 patients (18.75%) with no improvement in LVEF but with significant improvement in NYHA class and 6-MWT. Among nonresponders 3 patients died for heart failure aggravation. The basal data before CRT implantation were comparable between CRT response group and nonresponse group ($p > 0.05$). The age, gender, narrow QRS duration before CRT and increased QRS duration after CRT did not impacted in CRT response ($p > 0.05$). Permanent atrial fibrillation (AF) did not lead to CRT nonresponse, among them the incidence of nonresponse was not more than in patients without AF (17.39% vs 25.84%, $p > 0.05$). There was also no relation between different RV pacing leads position and the incidence of CRT nonresponse (27.06% in RV apex leads vs 25.93% in RV septum, $p > 0.05$). There were 6 patients with right bundle branch block (RBBB), 5 of them had nonresponse to CRT (83.33%, $p < 0.01$). The patients with non-ischaemic heart disease had higher incidence than patients with ischaemic heart disease (32.05% vs 14.71%, $p < 0.05$). LV lead positions can impact CRT response. The incidence of CRT nonresponse was 23.08% in lateral marginal, 22.22% in posterolateral vein, 38.10% in middle cardiac vein and 75% in great cardiac vein ($p < 0.01$).

Conclusions The incidence of CRT nonresponse was higher in patients with non-ischaemic heart disease than with ischaemic heart disease since coronary angioplasty had been completed in the criminal vessels. Although QRS duration was obviously wider in RBBB, the incidence of CRT nonresponse was still significant increase. LV pacing lead positions was the crucial factor to response of CRT.

e0553 EFFECT OF PULMONARY HYPERTENSION ON THE PROGNOSIS OF PATIENTS WITH CARDIAC RESYNCHRONISATION THERAPY

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Introduction There was a little of information about the effect of pulmonary artery hypertension to the clinical prognosis in patients with cardiac resynchronisation therapy (CRT). We aimed to