J Clin Exp Cardiolog 2016, 7:10(Suppl)
http://dx.doi.org/10.4172/2155-9880.C1.054

Ablation dot number at pulmonary vein antrum is related to the long term efficacy of paroxysmal atrial fibrillation

Caiyi Lu, Yuxiao Zhang, Wenjie Guo, Kai Lan, Hongtao Yuan and Hongyang Guo
PLA General Hospital, China

Objective: Evaluate the relationship between ablation dot number at pulmonary vein antrum (PVA) and long term efficacy of paroxysmal atrial fibrillation (PAF).

Methods: Patients with PAF history more than 6 months were selected to isolate pulmonary veins (PV) at PVA. 3D mapping system (Carto-C3) and cool flow catheter (Smar Touch) were used to make the shell of atrium-PVA and ablation circle around PVA. Superior and inferior PVAs were ablated by single ablation circle. Maximal perpendicular diameters of the circle were measured. The ablation dot on the circle was counted and divided by the sum of two maximal circle diameters. Ablation dot number was defined as addition of left and right PVA ablation dot number. PVA isolation was defined as complete disappear of PV potential. PAF long term efficacy was evaluated by regular clinical check and Hoter monitoring at 6 and 12 months after procedure.

Results: 160 patients with PAF (65.7±8.6 yrs, male 110) and with PAF history of 15.7±9.3 months were enrolled into the study. All PVs in each patient were isolated successfully by single procedure. Ablation dot number per circle and per patient was 32.6±7.3 and 61.7±9.1 respectively. During the follow up of 16.5±3.3 months, 131 patients (81.9%) were free of PAF. PAF was recurrence in 29 patients (18.1%) in 4.2±2.7 months after procedure. Ablation dot number was significantly different between patients with and without PAF recurrence (56.3±5.7 vs. 63.8±7.1, P<0.01).

Conclusions: Ablation dot number around PVA is positively related to the long term efficacy of PAF. Dot creation per patient more than 63 significantly decreases PAF recurrence.

cylu2000@126.com

Wideband MRI methods for imaging patients with an intracardiac device

Dan Kim
Northwestern University, USA

Patients with heart failure (LVEF≤30%) are clinically indicated for either an implantable cardioverter-defibrillators (ICD) or cardiac resynchronization therapy (CRT) device for prevention of sudden cardiac death. Those patients are at risk for cardiac events and may benefit from cardiac MRI to guide advanced therapy, including clinical decision making on: (i) whom and when for VT ablation or generator replacement, (ii) whom and when for myocardial recovery therapy such as left ventricular assist device. Despite that fact the cardiac MRI can be conducted safely in most patients with intracardiac device implantation, it is not performed routinely due to severe image artifacts associated with intracardiac devices. We have developed and implemented novel MRI methods that can suppress image artifacts induced by intracardiac devices and are able to produce diagnostically valuable images. These methods include late gadolinium enhanced (LGE, scar), first-pass myocardial perfusion, and cardiac T1 mapping (diffuse fibrosis) MRI methods. We present a novel approach to assess myocardial perfusion and fibrosis in patients who are traditionally not imaged with MRI. New imaging capability may be used to guide therapy in patients post intracardiac device implantation.

daniel.kim3@northwestern.edu