Acute performance of high-power short-duration ablation at pulmonary vein isolation.

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Introduction: Efficacy of radio-frequency catheter ablation is not fully satisfaction in pulmonary vein isolation (PVI) for atrial fibrillation (afib), especially in procedure time. High-power short-duration (HPSD) ablation method has the potential to less time consumption and simplify isolation without compensate of the durability. We report first experience of HPSD in our institute at PVI for afib patients.

Methods: Our ablation strategy was extended pulmonary vein isolation with Agilis steerable introducer steer ablation method. General anesthesia with iGEL by Dexmedetomidine and Propofol was performed in all cases. Radio-frequency ablation was performed with 50 watt power and used contact force enable irrigation catheter. Esophageal temperature monitoring was used in all cases.

Result: Forty-one patients were performed PVI for afib with HPSD from March 2019 in our institute. The patient included with 18 paroxysmal afib, 14 persistent afib and 8 long-standing afib, average age was 66.7±11.4 years old. Totally 2029 lesion of HPSD were analyzed, 58.6 lesion per session. We performed totally 164 pulmonary veins isolation, and 98 pulmonary veins 59.8% were isolated with first-pass ablation. Mean isolation time of each side of pulmonary vein was 9.8±3.3 min for left pulmonary vein and 9.7±3.4 min for right pulmonary vein. Ablation mean power was 46.8 ± 0.6 watt, duration was 10.7 ± 0.6 sec, contact force was 10.3 ± 5.3 g, LSI was 4.8 ± 0.7, FTI was 109 ± 53.0 watt.sec, and impedance drop percent was 13.7 ± 3.8 percent. Carina area was most common area of remained conduction in first-pass isolation. There was no complication related with HPSD.

Conclusion: HPSD ablation is less time consumption, but for particular area HPSD was not suitable.