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EFFICACY, SAFETY AND EFFICIENCY OF HIGH-POWER AND SHORT-DURATION ABLATION FOR PULMONARY VEIN ISOLATION

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Background: The High Power Short Duration (HPSD) algorithm is a new feature of Qdot catheter, that, maintaining the target temperature during 90 W-4 s lesions, allow to minimize conductive heating and increase resistive heating.

Objectives: This study sought to compare the efficacy, safety and efficiency of pulmonary vein (PV) isolation using the standard ablation with Qdot catheter and Ablation Index (450 anterior, 330 posterior) (Group A) and the Qdot catheter with HPSD ablation (Group B).

Methods: This is a prospective, single center, single-arm study enrolling patients with symptomatic atrial fibrillation (AF) undergoing first catheter-based PV isolation. Primary endpoints were PV first pass isolation and 30-day safety. Secondary endpoints included procedural, ablation, and fluoroscopic times.

Results: A total of 110 patients (mean age 57 ± 8 yrs, 67% male, 69% paroxysmal AF, heart disease 49%) underwent PV isolation and divided in two groups: 55 patients in Group A, 55 patients in Group B. The rate of first-pass PV isolation was similar among the two groups ($91 \pm 15\%$ vs $89 \pm 19\%$, $p=0.14$), whereas the procedural (100 ± 22 min vs 80 ± 23 min, $p<0.001$) and ablation times (26 ± 4 min vs 6 ± 1 min, $p<0.001$) were longer in Group A. No acute and 30-day complication was observed.

Conclusions: The HPSD ablation allows a significantly reduction in procedural and ablation time in patients with AF undergoing first PV isolation. These results were obtained without compromising safety.

