

Ablation Index guided high power (50W) short duration for anterior line and roof line ablation: feasibility, procedural data and lesion analysis

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Objectives: To evaluate the feasibility, procedural data, and lesion characteristics of anterior line (AL) and roof line (RL) ablation by using ablation index (AI) guided high-power(50W) among patients with recurrent atrial fibrillation (AF) or atrial tachycardia (AT) after pulmonary vein isolation (PVI).

Methods: 35 consecutive patients with macro-reentrant left atrial tachycardia (LAT) or substrate at LA anterior wall or roof after previous PVI were enrolled. Ablation power was set to 50W, targeting AI 500 for AL and 400 for RL. First-pass conduction block (FPB) was evaluated. The AL was arbitrarily divided into 3(caudal, middle and cranial) segments to analyze the location of conduction gaps in non-FPB patients.

Results: A total of 32 AL and 17 RL were deployed and FPB was achieved in 24 (75%) and 14 (82%) of them respectively. In non-FPB group, the most frequent gap location along the AL was the middle third. Final block of AL was achieved in 97%, and block of RL was achieved in 100%. The RF ablation time was short ($2,9 \pm 0,8$ min for AL and $46,2 \pm 15,6$ sec for RL). For AL, female gender was significantly more frequent in FPB than in non-FPB patients($p 0,028$); patients with non-FPB were associated with significantly longer RF time as compared to patients with FPB (204 ± 47 sec vs 161 ± 41 sec; $p = 0,02$). No procedural complications occurred.

Conclusion: AI guided high-power(50W) ablation appears to be a feasible, effective and fast technique for AL and RL ablation.