Abstract: P1001

Compound motor action potential guided 240s freeze plus bonus protocol for safe and durable left atrial appendage isolation

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Introduction: Pulmonary vein isolation (PVI) is the cornerstone ablation strategy for treatment of atrial fibrillation (AF). Ablation outside the PVs is sometimes desired particularly in persistent or long-standing AF.

Purpose: This study reported left atrial appendage isolation (LAAI) using cryoballoon (CB) focusing on the procedural data and short-term clinical follow-up.

Methods: Patients with recurrent persistent AF after multiple AF procedures were enrolled. LAAI was performed using second generation CB guided by Compound motor action potential (CMAP) and 240s freeze plus Bonus (ICE-B) protocol.

Results: Ten patients were included, median age was 69.5 (56-73) years, CHA2DS2-VASc score was 3 (1.8-4), LA diameter was 44 (38.8-46.5) mm. All patients had a mean of three AF procedures before LAAI procedure. All patients were under successful CMAP guidance. During the CB LAAI procedure, median time to LAA isolation was 100 (76-270) seconds, minimal freeze temperature was -50 (-57 to -47)?. A "pull-down" CB maneuver was needed in 30% patients. Median fluoroscopic time was 4.8 (3.4-6.8) minutes, acute LAAI success rate was 100%. No phrenic nerve injury or other major complications were observed. At six-week follow-up, re-mapping of the LAA showed durable isolation of all PVs (100%). Six-month follow-up showed 80% patients were free from AF/AT recurrence.

Conclusion: CMAP and ICE-B guided LAAI using cryo-technology appears feasible and safe, results in durable LAAI, and shows promising clinical results in patient with recurrent persistent AF.