INTELLANAV STABLEPOINT™
Ablation Catheter

Boston Scientific
Advancing science for life™

Contact with deeper insights

Insight into contact force local impedance technology for predicting effective pulmonary vein isolation

Lepillier, et al. Frontiers in Cardiovascular Medicine 10: 1169037. DOI 10.3389/fcvm.2023.1169037

Objective
Determine what procedural parameters were predictive of successful lesions during local impedance (LI) guided ablation.

Methods
- Prospective, multicenter study (NCT03793998).
- 212 consecutive atrial fibrillation (AF) patients (61.3% paroxysmal AF, 38.7% persistent AF) were enrolled for de novo pulmonary vein isolation (PVI) with STABLEPOINT™ high-power short duration (HPSD) workflow (45-50W) and guided by RHYTHMIA™ HDx.

Procedural characteristics and safety
- **Procedural Characteristics:**
  - The mean procedure duration was 115±41 min, mean fluoroscopy time was 10±7 min, and the total radiofrequency (RF) duration was 9.2±4 seconds.
  - The first-pass PVI rate was 93.3%.
- **Safety:** There were no steam pops or recorded cases of tamponade, stroke, or esophageal fistulas.

Results
- **Local Impedance (LI):**
  - 13,891 RF applications with a ≥3 second duration were assessed.
  - Starting LI was 161.2±19 Ω with an absolute LI drop of 21.0±9 Ω (3.2±2 Ω/s LI drop rate) and a 13.5± 5% LI drop.
- **Optimal LI Drops:**
  - 80 total PV gaps were detected, most often, in the right PVs (63.7%).
  - In successful HPSD ablations, baseline LI, absolute LI drop, percentage of LI drop and contact force were greater than the areas where PV gaps were detected.
  - ROC analysis showed that the LI that best predicted a successful ablation was >20Ω.
  - Optimal LI drops for the posterior anatomical sites were >21Ω and >18Ω in the anterior region.
  - The average ideal cut-off for % LI drop was >12.5%; >12% for posterior sites and >14% for anterior sites.

Conclusions
- HPSD ablation with both CF and LI on the STABLEPOINT ablation catheter resulted in a high first-pass isolation rate of 93.3% with no reported steam pops or major complications.
- A LI drop >21Ω on the anterior and >18Ω on the posterior left atrial anatomical sites predicted acutely successful ablation sites.
- A higher CF was associated with optimal LI drops with forces above 25g having little impact on LI drop.

Results

93%	No reported steam pops, tamponade, stroke or esophageal fistula	>21Ω	>14%	>18Ω	>12%
First Pass Isolation		Anterior optimal LI drop	Anterior optimal % LI drop	Posterior optimal LI drop	Posterior optimal % LI drop

Boston Scientific

Advancing science for life™

Cardiology
300 Boston Scientific Way
Marlborough, MA 01752-1234
www.bostonscientific.com

Medical Professionals:
1.800.CARDIAC (227.3422)
Customer Service:
1.888.272.1001

EP-1651306-AA

CAUTION: Investigational device. Limited by US law to investigational use only. Not available for sale.