Highlights from:
Evan Hiner, MD, and Dipak P. Shah, MD
Hiner et al, *J Innov Card Rhythm Manag*. 2021;12(12):4790-4795. Published 2021 Dec 15. doi:10.19102/icrm.2021.121205

Boston Scientific
Advancing science for life™

Choice of Steerable Sheath Impacts Contact Force Consistency During Pulmonary Vein Isolation

INTRODUCTION

- Contact force (CF) consistency during radiofrequency ablation (RFA) for pulmonary vein isolation (PVI) is associated with formation of effective lesions.
- In experimental studies, different steerable sheaths have shown better precision.
- This study evaluated CF consistency during RFA using two different steerable sheaths.

METHODS

- A single-center retrospective analysis of catheter stability was performed on 30 patients undergoing first time RFA procedures using two sheaths:
  - Agilis™ NxT Steerable Introducer (Abbott; 15 patients)
  - SureFlex™ Steerable Guiding Sheath (Boston Scientific; 15 patients)

Imaging

- EnSite Precision™ Mapping System (Abbott) was used for catheter guidance and contact force measurement.

Radiofrequency ablation

- Ablations were performed using the TactiCath™ CF-sensing Catheter (Abbott).
- CF was measured for each lesion at ~ 10 ms intervals.
- High-power short-duration ablation was used to achieve a local impedance drop of ~ 10 Ω.

Data analysis

- CF consistency around each pulmonary vein (PV) was assessed based on the following parameters:
  1. Mean CF for each lesion
  2. CF variability (i.e. CF variability in each lesion)
  3. Inefficient lesions (i.e. lesions with a CF < 5g ≥ 10% of the total RF time)

RESULTS

- Baseline parameters were similar in both groups with an exception of higher BMI and percentage of females in the SureFlex™ group ($p < 0.05$).
- Both sheaths achieved similar operator-targeted mean CF.
- Trend of 12.8% lower overall CF variability ($p = 0.08$) was seen using the SureFlex™ Sheath compared to Agilis™ NxT.
- In general, right PVs showed greater CF variability compared to the left PVs.
  - Trend of lower CF variability among individual PVs with the SureFlex™ Sheath compared to Agilis™ NxT.
- Fewer inefficient lesions with the SureFlex™ Sheath:
  - Higher odds ratio for inefficient lesions with Agilis™ NxT than the SureFlex™ Sheath over entire procedure (OR = 0.605, $p = 0.03$).
  - Similar trend among individual PVs and most significantly in the right inferior PV (OR = 0.607, $p = 0.009$).

DISCUSSION AND CONCLUSIONS

- This study suggests that the choice of steerable sheath can affect the quality of RFA lesions.
- Preliminary results from this study suggest:
  1. MA trend of lower CF variability using the SureFlex™ Steerable Guiding Sheath than the Agilis™ NxT, specifically for the right-sided veins.
  2. Significant reduction in inefficient lesions using the SureFlex™ Steerable Guiding Sheath than the Agilis™ NxT.

Indications, safety, and warnings for SureFlex™ Steerable Guiding Sheath

All trademarks are property of their respective owners. Patents Pending and/or issued. CAUTION: The law restricts these devices to sale by or on the order of a physician. Rx only. Indications, Contraindications, Warnings, and Instructions For Use can be found in the product labelling supplied with each device or at www.IFU-BSCI.com.

Products shown for INFORMATION purposes only and may not be approved or for sale in certain countries.
This material not intended for use in France.

Boston Scientific is a Global Company. Please note that model numbers, indications, contraindications, warnings and specifications may differ depending on geographic region. Not all information displayed in this brochure may be licensed in accordance with Canadian law. Please contact your Boston Scientific representative for local labeling, product specifications and licensed model numbers.

Boston Scientific

Advancing science for life™

© 2025 Boston Scientific Corporation or its affiliates. All rights reserved.

EP-1583403-AA