The Office of Scientific Affairs Presents Highlights from:

Radiofrequency-Assisted Transseptal Access for Atrial Fibrillation Ablation Via a Superior Approach

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INTRODUCTION

- This study reports outcomes of transseptal puncture and AF ablation from a superior approach in patients without access to the inferior vena cava (IVC) using dedicated radiofrequency (RF) tools.

METHODS

- Retrospective analysis was performed on 15 patients undergoing RFA using the superior approach after an initial failed attempt using the femoral route.

Transseptal puncture

- Ultrasound-guided superior access was obtained using the internal jugular, subclavian or axillary veins; radial arterial access was used for continuous blood pressure monitoring.
- SupraCross® Steerable Sheath (Baylis Medical) or Agilis™ EPI Steerable Introducer (Abbott) were advanced into the right atrium and deflected towards interatrial septum.
- A dedicated RF needle or wire (Baylis Medical) were used for transseptal puncture under intracardiac echocardiography (ICE) and fluoroscopy guidance.
- The steerable sheath was advanced into the left atrium over the pigtail SupraCross® RF Wire or ProTrack™ Pigtail Wire (Baylis Medical).

Radiofrequency ablation

- Electroanatomic mapping (CARTO® 3 System, Biosense Webster) and wide antral PVI using a THERMACOOL® catheter (Biosense Webster) were performed.

RESULTS

- Single (8 patients) or double (7 patients) transseptal access was obtained within 16.1 ± 4.8 min.
- Mapping and ablation were performed successfully in 100% of cases within 227.9 ± 120.7 min.

DISCUSSION & CONCLUSIONS

- Superior transseptal access for AF ablation in patients with interrupted IVC can be achieved safely and effectively from a superior approach using dedicated RF transseptal devices.
  - May also provide a simpler strategy for delivery of endocardial LV leads
- Downward force on a standard transseptal needle and non-deflectable sheath from a superior approach can dislodge the contact site on the fossa ovalis.
- Use of a steerable sheath and stiff pigtail RF wire supported LA catheterization without difficulty.
- To better engage the fossa in two patients, the Agilis™ EPI sheath was exchanged for the SupraCross® sheath.
  - SupraCross® sheath had a smoother sheath-dilator transition than the Agilis™ sheath
  - SupraCross® sheath had a more flexible distal end that can be easily bent with the dilator in place for a tighter angle of deflection than the Agilis™ sheath (Figure 1)
- Technical considerations for performing AF ablation from the superior approach include:
  - ICE images are inverted compared to standard view; descending aorta can be used as a reference
  - Superio-anterior transseptal puncture improves catheter contact and stability in the left atrium
  - Left axillary vein access may improve operator ergonomics over right internal jugular vein

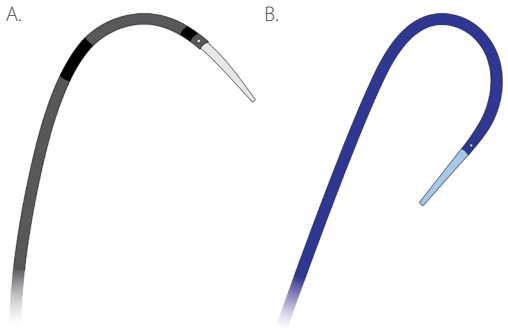

Figure 1 *Graphical reconstruction of sheath curvature presented in Liang et al using the (A) Agilis™ EPI sheath or (B) SupraCross® sheath with flexible dilator.*

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