

Transseptal access and pulmonary vein isolation via internal jugular veins for persistent atrial fibrillation treatment in a patient with left atrial isomerism, sinus node dysfunction and interrupted inferior vena cava: The usefulness of robotic magnetic navigation.

Jaime Hernandez-Ojeda, MD, PhD, Walter Hoyt, MD, Meet Patel, MD, Judith Mackall, MD, Mauricio Arruda, MD

Hernández-Ojeda et al. HeartRhythm Case Reports, 2020; in press.

INTRODUCTION

- ▶ This case report describes successful pulmonary vein isolation (PVI) for persistent atrial fibrillation (AF) in a patient with interrupted inferior vena cava (IVC) and sinus node dysfunction associated with left atrial (LA) isomerism.

METHODS

Case summary

- ▶ Initial attempt for LA access using the Agilis™ NxT steerable sheath (Abbott) through the femoral vein failed due to difficult catheter manipulation and cardiac visualization.
- ▶ Post-procedural MRI revealed IVC interruption.
- ▶ A second attempt was planned from the superior approach using the internal jugular (IJ) veins.

Transseptal access

- ▶ Left IJ vein access was used to introduce an intracardiac echocardiography (ICE) catheter into the mid-right atrium.
- ▶ The 8.5Fr SupraCross® RF System* (Baylis Medical) was introduced through the right IJ vein under fluoroscopic and ICE guidance.
- ▶ SupraCross® Steerable Sheath was advanced towards the tricuspid annulus posteriorly and deflected to position the tip leftward and anterior (i.e. 10 o'clock position from operator's view).
- ▶ The sheath was then rotated counterclockwise, pulled back approx. 2 cm to position the tip leftward and posterior (i.e. 8 o'clock position) onto the fossa ovalis.
- ▶ Sufficient tenting of the septum was confirmed on ICE prior to transseptal puncture using the RF wire system.*
- ▶ SupraCross® sheath was advanced into the left atrium for subsequent ablation.

Radiofrequency ablation

- ▶ 3D electroanatomic mapping (CARTO®3, Biosense Webster) and Stereotaxis® robotic magnetic navigation were used for catheter guidance.
- ▶ High power (45W) bilateral wide-area circumferential ablation was performed using the Thermocool® RMT (Biosense Webster) catheter.

RESULTS

- ▶ Transseptal puncture using the RF wire system* was successful on the first attempt, without complications.
- ▶ PVI was achieved with no difficulties in catheter manipulation, procedural complications, or recurrence of symptoms after 6 months of follow-up.

DISCUSSION & CONCLUSIONS

- ▶ The SupraCross® Steerable Sheath enabled angle correction from the IJ approach to optimize position on the fossa ovalis and tenting of the interatrial septum.
- ▶ Dedicated RF transseptal devices improve crossing success and reduces procedure time compared to mechanical needles, especially from an unconventional approach.
- ▶ Other techniques using a fixed curve sheath and Brockenbrough needle require manual curving in order to achieve a similar trajectory through the septum as a femoral approach, as well as mechanical force to puncture.

* The article was published as using the TorFlex™ Steerable Guiding Sheath and NRG® Transseptal Needle. In actual fact, authors used the SupraCross® RF Solution (Baylis Medical) for left atrial catheterization, including the SupraCross® Steerable Sheath and pigtail SupraCross® RF Wire.

PRM-00587 EN J-1,2,3 V-1 © Copyright Baylis Medical Company Inc., 2020. SupraCross, TorFlex, NRG, and the Baylis Medical logo are trademarks and/or registered trademarks of Baylis Medical Company Inc. in the USA and/or other countries. Other trademarks are property of their respective owners. Patents pending and/or issued. Baylis Medical reserves the right to change specifications or to incorporate design changes without notice and without incurring any obligation relating to equipment previously manufactured or delivered. Before use, consult product labels and Instructions for Use for Indications for Use, Contraindications, Warnings, Precautions, Adverse Events and Directions for Use. Caution: Federal Law (USA) restricts the sale of these devices to or by the order of a physician.

Baylis Medical Company Inc.
5959 Trans-Canada Highway,
Montreal, QC, Canada, H4T 1A1
Tel.: (514) 488-9801, Fax: (514) 488-7209
www.baylismedical.com