



 **CARDIAC ARRHYTHMIAS**

**PATENT FORAMEN OVALE CLOSURE WITH A CONVENTIONAL RADIOFREQUENCY ABLATION CATHETER:
EARLY FEASIBILITY**

ACC Poster Contributions
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Introduction: A patent foramen ovale (PFO) has been reported to be present in 26-27% of autopsy and/or echocardiographic studies. The incidence of PFO in patients undergoing catheter ablation of atrial fibrillation is similar if not higher.

PFO maybe responsible for cryptogenic stroke, obstructive sleep apnea, paradoxical embolism, and migraine. Closure of the PFO with surgical or closure devices could be associated with a variety of complications and may limit future access to the left atrium.

The aim of this study was to utilize radiofrequency energy delivered with a standard open irrigation catheter to achieve PFO closure in patients undergoing atrial fibrillation ablation.

Methods: Ten patients undergoing catheter ablation for drug resistant atrial fibrillation have been enrolled in this study. All patients had transthoracic echo with bubble study. In addition, intracardiac echo (ICE) examination with pulse, continuous and color Doppler was performed. All patients showed a PFO during the baseline echo examination. To close the PFO, RF delivery was extended along the upper edge of the septum primum guided by ICE imaging via a 3.5 mm irrigated ablation catheter.

ICE was repeated and a second agitated saline study with Valsalva was done immediately following PVAI after the transeptal sheaths were withdrawn from the LA into the right atrium. Three months later a transthoracic bubble study was repeated.

Results: Mean E.F. and LA diameter were $55\pm 5\%$ and 4.4 ± 0.8 cm respectively. Mean RF time along the PFO was 5.4 ± 2.2 minutes.

At the end of the procedure only one patient did not show bubble shunt. However, at the 3 month follow up all patients except one showed absence of any ASD. No complications occurred during and after the procedures.

Conclusion: Radiofrequency energy delivery via the 3.5 mm ablation catheter in patients with PFO appears to be a good strategy to obtain PFO closure. Larger studies are required to extend these preliminary results into clinical practice.