

# Long Term Efficacy When Using Multi-Array Catheters and Phased Radiofrequency Energy for Ablation of Chronic Atrial Fibrillation

Christoph Scharf, Lam Dang, Klinik im Park, Zurich, Switzerland; Lucas Boersma, St Antonius Hosp., Nieuwegein, The Netherlands; Wyn Davies, Prapa Kanagaratnam, Nicholas Peters, St. Mary's Hosp., London, United Kingdom; Vince Paul, Edward Rowland, St. George's Hosp., London, United Kingdom; Andrew Grace, Simon Fynn, Papworth Hosp., Cambridge, United Kingdom; Hakan Oral, Fred Morady, Univ. of Michigan, Ann Arbor, MI.

## INTRODUCTION

Widespread adoption of radiofrequency catheter ablation (RFCA) of chronic atrial fibrillation (CAF) has been limited by long procedure times, low efficacy and substantial risk. This study was designed to evaluate the safety and efficacy of multi-array mapping and ablation catheters combined with low power phased radiofrequency energy for RFCA of CAF.

## METHODS

- 53 patients (57 ± 8 years) from 5 European centers
- Combination of 3 catheters utilized for all patients
  - PVAC - circumferential 10-electrode catheter for PVI (Fig. 1)
  - MASC - 3-arm, 12 electrode catheter for septal CFAEs (Fig. 2)
  - MAAC - 4-arm, 8 electrode catheter for LA free wall CFAEs (Fig. 3)
- Energy delivered as phased unipolar/bipolar RF
  - Ratio of phased RF and combinations of electrodes selected were operator dependent
- Power limited to 10 W/electrode (3-5 W avg., Fig. 4)
- **Acute Success** - complete isolation of all PVs and sinus rhythm at the end of the procedure
- **Chronic Success** – measurement of AF assessed with a continuous 7-day Holter monitor at six months post procedure

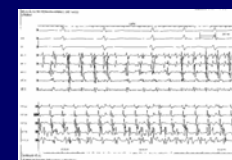


## RESULTS

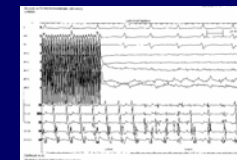
1 transient neurologic event \*\*  
 1 cardiac tamponade due to the transeptal puncture  
 \*\*No Char observed on catheters

Acute Success	50/53	94.3%
Single Treatment	26/53	49.1%
Completed Follow Up	45/53	84.9%
No AF	35/45	77.8%
PAF (< 12%)	2/45	4.4%
<b>6 Month Efficacy**</b>	<b>37/45</b>	<b>82.2%</b>

\*\*4/37 patients remain on AAD therapy



LSPV Pre Ablation



LSPV Post Ablation

## CONCLUSIONS

The multi-array catheters in conjunction with low power phased radiofrequency energy may allow good safety and long term efficacy for RFCA of CAF.

Caution: Investigational Device, Limited by Federal (U.S.) Law to Investigational Use. Not available for sale in the United States