

## V938 - Efficacy of a novel duty-cycled phased radiofrequency ablation system to treat patients with atrial fibrillation

*D.-I. Shin<sup>1</sup>, K. Bünz<sup>1</sup>, H. Anders<sup>1</sup>, E. Gorr<sup>1</sup>, R. Haberkorn-Butendeich<sup>1</sup>, A. Bastian<sup>1</sup>, B. Orth<sup>1</sup>, E. Berenkoub<sup>1</sup>, B. Reinartz<sup>1</sup>, M. Horlitz<sup>1</sup>, T. Deneke<sup>1</sup>*

<sup>1</sup>Klinik für Kardiologie, Elektrophysiologie u. Rhythmologie, Krankenhaus Porz am Rhein gGmbH, Köln;

Catheter ablation of atrial fibrillation (AF) has been increasingly used in experienced electrophysiology centers. A novel ablation system delivering duty-cycled phased radiofrequency energy via an over-the-wire multipolar circular ablation catheter (PVAC™, Medtronic) to perform linear continuous ablation has been tested for isolation of pulmonary veins (PVs).

**Methods:** Consecutive patients with indication for AF ablation have been included. Patients underwent PV isolation using the novel ablation system and the PVAC catheter. In addition, in patients with persistent AF catheters specifically designed for ablation of the left sided interatrial septum (MASC™) and to ablate complex fractionated atrial electrograms within the left atrium (MAAC™) have been applied. PV isolation was confirmed by mapping of PV potentials using the PVAC catheter. Follow-up consisted of EKG, history-taking and 7-day-holter EKG recordings at 3 and 6 months after the procedure. 10 patients had implanted devices for continuous rhythm monitoring. No AF was defined as no documentation of AF episodes > 30seconds during EKG analysis.

**Results:** 118 patients (27 female) with a mean age of 55 ( $\pm$ 12) years were included. 76 patients (64%) had paroxysmal and 42 patients (36%) persistent AF. During the ablation procedure 462 out of 466 (99%) were effectively isolated during a mean procedure duration of 103 ( $\pm$ 26)minutes, radiation duration of 21 ( $\pm$ )minutes and total energy delivery duration of 28 ( $\pm$ 9)minutes. A mean of 7 ( $\pm$ 3) ablation impulses (a 60 seconds) were needed for isolation of the left superior PV, 6 ( $\pm$ 3) for the left inferior PV, 7 ( $\pm$ 3) for the right superior and 5 ( $\pm$ 2) for the right inferior PV (left common ostium 14 ( $\pm$ 4) ablation sequences). In patients with persistent AF PV isolation alone was performed in 23, additional ablation of the septum in 16 and/or ablations with the MAAC in 7.

During a median follow-up of 4 months 72% of patients with paroxysmal AF and 54% of patients with persistent AF had no AF off antiarrhythmic drugs as documented during 7-day-holter EKG analysis. 4 patients underwent redo-procedures. 3 (3%) patients had procedure-related access-site complications.

**Conclusions:** Using a novel duty-cycled phased radiofrequency ablation system is effective and safe in treating AF patients. Whereas 72% of paroxysmal AF patients have stable sinus rhythm during short-term follow-up only 54% of patients with persistent AF are effectively treated using the presented approach. Further studies need to evaluate the mid- and long-term success rates.

Clin Res Cardiol 99, Suppl 1, April 2010

Zitierung mit Vortrags- oder Posternummer s.o.

DOI 10.1007/s00392-010-1100-3