**ATRIAL FIBRILLATION ABLATION USING ANATOMICALLY DESIGNED CATHETERS AND UNDER DIRECT VISION**

T. Deneke, J. Krug, G.A. Szoelloesi, M. Hautmann, M. El Tarahony, **A. Schade**

Dept. of Electrophysiology, Heart Center Bad Neustadt, Bad Neustadt, Germany

Because of the rising demand of pulmonary vein isolation procedures, anatomically designed catheters have been developed to simplify and shorten this ablation. PVAC System (Medtronic Inc.) is an over-the-wire multipolar circular ablation catheter (PVAC, Medtronic) using duty-cycled phased radiofrequency energy to perform linear continuous ablations for isolation of the PVs. Published data show high acute success with 93% of PVs isolated after using PVAC only and a similar medium term efficacy as known for PVI using RF point by point linear ablation technique. Procedure duration is short (84 ±5 to 201 ±44 min). The rate of major complications is low (1.6 %). Recently this method came into discussion because of a comparatively high rate of silent cerebral lesions detected by cerebral MRI (up to 38%). However, their clinical relevance is still unclarified. Techniques to reduce this risk are under research. Endoscopic ablation system (Cardiofocus Inc.) is a balloon based ablation device allowing for the first time direct visual guidance of energy delivery at the antral site of the PV ostia. Lesions are created by overlapping laserbeam applications. Acute success is high reaching PVI in 98% of all PVs. Animal and remapping studies showed good lesion durability. Multicenter experience indicates 12 months freedom of AF recurrences of 65%. Complication rate seems to be similar to that of conventional RF ablation, apart from phrenic nerve injuries as a typical risk of balloon based technologies. Long term results of larger cohorts are necessary to finally judge this exciting technology.