



 **CARDIAC ARRHYTHMIAS**

**FLUOROSCOPY-FREE ABLATION OF PAROXYSMAL AND PERSISTENT ATRIAL FIBRILLATION**

ACC Poster Contributions

Georgia World Congress Center, Hall B5

Sunday, March 14, 2010, 3:30 p.m.-4:30 p.m.

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Session Title: Clinical Electrophysiology--Supraventricular Arrhythmias

Abstract Category: Clinical Electrophysiology--Supraventricular Arrhythmias

Presentation Number: 1080-137

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**Background:** Partly or mainly fluoroscopy-guided ablation therapy is a successful treatment option in atrial fibrillation (AF). However, this strategy bears a substantial lifetime risk of radiation-induced severe malignant diseases. Therefore, fluoroscopy-free ablation of AF was targeted in this study.

**Methods:** Ten consecutive patients (8 males, 62±8 years) were chosen for our strategy when quality of intracardiac echo (ICE) was sufficient. An ICE probe (AcuNav, Siemens, Germany) was advanced into the right atrium under visualization of adjacent structures by the ICE itself. Guide wires and consecutively sheaths were placed in the superior vena cava under ICE control and withdrawn into the right atrium. ICE guided double transseptal puncture was performed. A Lasso catheter (Lasso, Biosense Webster) and an irrigation-tip catheter (Navistar Thermocool, Biosense Webster) were advanced into the left atrium (LA). Electroanatomical mapping of the (LA) was used for registration of 3D reconstructions of preprocedural CT scans (CartoMerge). Ablation procedures were guided by Lasso and ICE in the registered 3D surface. Antral pulmonary vein (PV) isolation was performed. Additional lesions were added optionally.

**Results:** In 8 patients ablation was performed successfully without fluoroscopy. In two patients fluoroscopy was needed for sequences of the ablation procedure. Fluoroscopy time in these patients was 20±1 minutes. All targeted pulmonary veins could be isolated confirmed by entrance block. One patient suffering from persistent AF converted into an atrial tachycardia which was successfully slowed down and finally terminated by creation of a roofline. Procedure time was 222±55 minutes. Distances between the imported 3D surface and the electroanatomical mapping were found to be 2.6±0.5 mm. No complications occurred.

**Conclusions:** Fluoroscopy-free ablation is feasible in different kinds of AF using ICE and 3D image integration. Procedure times and distances to electroanatomical mapping seem to be acceptable. Preprocedural magnetic resonance imaging may lead to a complete radiation free treatment.