

PO06-36 - Oesophageal Temperature Monitoring During Cryo-balloon Isolation of the Pulmonary Veins

Author(s): Jean-Sylvain Hermida, MD, Georges Nadji, MD, Maciej Kubala, MD, Vincent Mouquet, MD, Serge Quenum, MD and Genevieve Jarry, MD. University Hospital, Amiens, France

Introduction: Preservation of the oesophagus integrity during RF catheter ablation of atrial fibrillation is a permanent and major concern. Preliminary reports have suggested that cryo-ablation avoid the risk of injury to the oesophagus. The aim of the study was to monitor oesophageal temperature during cryo-balloon isolation of PVs.

Methods: Balloon cryo-isolations were performed sequentially in the left superior (LS), left inferior (LI), right superior (RS) and right inferior (RI) pulmonary veins (PV) in 90 patients (55 ± 11 y.o; M=70) with paroxysmal (n=60) or persistent (n=30) AF. Cryo-ablations were completed during 5 minutes periods. Electrograms of the targeted PVs were recorded before and after the cryo-ablation. Temperatures of the PVs and of the oesophagus were measured during cryo-ablation. The closest position between the balloon and the thermal probe in the oesophagus was checked by using fluoroscopy

Results: A significant decrease of the temperature in the oesophagus was observed in all the cryo-ablation procedures. The lowest temperatures were observed in the LSPV vs. RSPV (32.9 ± 4.2 vs. 34.7 ± 1.5 °C; p=.02) and in the LIPV vs. RIPV (32.5 ± 2.2 vs. 34.2 ± 2.2 °C; p=.02). Oesophageal temperature decreased less than 30°C in 28% of the pts (25/90) and less than 20°C in 4.5% of the pts (4/90). Oesophageal endoscopy was performed in the 2 pts in whom the temperature dropped to less than 15°C. A superficial parietal lesion associated to a clot was visualized in 1 case which recovered under PPI treatment. In the other case, a 12 h delayed tamponnade needing percutaneous drainage occurred. All the reduction of the oesophageal temperature less than 20°C occurred with a 28 mm diameter balloon.

Conclusions: We observed, mainly in the left PVs, a weak but significant cooling of the oesophagus during cryo-balloon isolation of pulmonary veins. A temperature drop in the oesophagus less than 20°C occurred in 4.5% of the pts and should be avoided

Disclosures: J. Hermida, CryoCath Technologies, Inc., Modest, A - Consulting Fees/Honoraria ; G. Nadji, None; M. Kubala, None; V. Mouquet, None; S. Quenum, None; G. Jarry, None.

Presented at the Heart Rhythm Society 2009 Scientific Sessions, Boston, MA
May 13-16.