

P388 - Esophageal Endoscopy Results after Pulmonary Vein Isolation Using the Single Big Cryoballoon Technique

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Introduction: Reversible esophageal thermal lesions after cryoballoon pulmonary vein isolation (CB-PVI) have been reported when using variable balloon sizes. The aim of this study was to investigate (1) the incidence of esophageal thermal lesions, and (2) esophageal temperature changes associated with CB-PVI using the single big cryoballoon technique.

Methods and Results: 38 patients with atrial fibrillation underwent successful CB-PVI using only the 28 mm cryoballoon. Luminal esophageal temperature (LET) was continuously monitored by 3 thermocouples. Fluoroscopic distance from cryoballoon to esophagus probe was retrospectively evaluated in RAO 30° and LAO 40° projections. All patients underwent post-procedural esophageal endoscopy. Average minimal LET was lower during freezing at inferior PVs, when compared to superior PVs: 35,4±0,9 (range: 32,6 to 37,4; RSPV); 31,5±7,5 (2,5 to 37,6; RIPV); 32,9±5,2 (8,5 to 36,5; LSPV); and 30,3±8,4°C (-6 to 36,7°C; LIPV); p=0,001. We found steep temperature gradients over distance (1) from the cryoballoon center (LETs < 10°C confined to a distance of < 15 mm in both RAO 30° and LAO 40° projections), and (2) along the esophagus long axis, underscoring the need for multiple measurement sites. None of the patients showed esophageal thermal lesions at endoscopy after 3±1 (range 1-7) days. No AEF occurred during a follow-up of 125±78 days.

Conclusion: In a cohort of AF patients treated by the single big cryoballoon technique, CB-PVI was not associated with thermal esophageal lesions. Exclusive use of the 28 mm balloon may be the preferable ablation strategy.

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