Abstract: **P1034**

**Pulmonary vein reconnection observed with multielectrode mapping late after second-generation cryoballoon or contact force-sensing radiofrequency catheter ablation for atrial fibrillation**

**Authors:**
Z Nagy¹, Z Kis¹, Z Som¹, L Csakany¹, T Major¹, C Foldesi¹, A Kardos¹, ¹Gottsegen Gyorgy Hungarian Institute of Cardiology - Budapest - Hungary,

**Topic(s):**
Rhythm Control, Catheter Ablation

**Citation:**
Background: Late pulmonary vein reconnection (PVR) determines recurrence of paroxysmal atrial fibrillation (AF) after pulmonary vein isolation (PVI) procedures. The PVR rate was reported to be lower following the second-generation cryoballoon (CB) as compared to contact-force sensing radiofrequency (CF-RF) ablation using circular mapping catheters. Purpose: In this single-center, retrospective study, the incidence/pattern of late PVR following an index PVI using the second-generation CB versus open-irrigated, CF-RF catheter were examined with multielectrode mapping catheters (PentaRay). Methods: A total of 44 [26 (59.1%) women, mean age=60±8.3 years] pts underwent a redo ablation due to AF recurrence after an index PVI accomplished with CB (n=22 pts, index PVI 20±12 months prior redo procedure) or CF-RF (n=22 pts, index PVI 15±8 months prior redo procedure). All repeated procedures were achieved in sinus rhythm using bipolar voltage map with multielectrode mapping catheter and the CARTO 3 Confidense Module (mean number of points=633±171). We examined the reconnection pattern of the antral lesion sets. Low-voltage scar was defined if bipolar voltage was <0.2mV. CF-RF ablation was performed during all redo procedures. Results: Among 85 PVs in the CF-RF group, 33 (38.8%) showed conduction gaps in 21 pts (1.6 per patient). Whereas among 86 PVs in the CB group, 31 (36%) showed a PVR in 22 pts (1.4 per patient) (p=0.79). Irrespective of the ablation technique, the left atrial appendage-left superior PV ridge, the inferior part of the left inferior PV and the infero-posterior part of the right inferior PV showed conduction gaps more likely, while the right superior PVs were less frequently reconnected. In the CB group late PVR was associated with higher nadir temperature (-50.6±5.5°C vs -42.4±8.9°C, p=0.034), while in the CF-RF group the mean CF was lower in the reconnected PVs as compared to those PVs which remained isolated (10.9±2.8 g vs 19±5.1 g, p<0.05). Conclusion: In our single-center analysis no difference was observed in the PV reconnection patterns and the antral lesion sets following an index PVI performed by CB or CF-RF catheter.