**PRESSURE-GUIDED CRYOABLATION OF PULMONARY VEINS IN ATRIAL FIBRILLATION: A FAST AND EFFECTIVE STRATEGY**

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**Background:** Cryoballoon ablation of atrial fibrillation (AF) involves successful electrical pulmonary vein isolation (PVI). Pulmonary vein (PV) ostial occlusion with the cryoballoon is classically assessed using PV angiography. A pressure-guided technique to assess ostial occlusion has also been evaluated in small cohorts with mixed results. We evaluated the efficacy of this pressure-guided PVI technique and its impact on reducing contrast and fluoroscopy time as compared to the traditional approach.

**Methods:** We retrospectively evaluated patients with paroxysmal AF who underwent cryoballoon PVI. Patients prior to January 20th 2013 underwent confirmation of PV occlusion by angiography only. Patients ablated after this time had PV occlusion initially determined by pressure monitoring and further confirmed by contrast injection into the PV in most cases (Pressure-guided PVI).

Successful ablation of AF was defined as presence of entrance and/or exit block in the PV after administration of isoproterenol in the electrophysiology lab. Differences in volume of contrast used, fluoroscopy time and total procedure time were also evaluated between the two methods used to assess PV ostial occlusion prior to cryoballoon ablation.

**Results:**

|                          | Pressure-guided PVI (46 patients) | PV angiography only (29 patients) | p-value |
|--------------------------|-----------------------------------|----------------------------------|---------|
| Number of PV successfully ablated/ total PV(%) | 182/183 (99.45%)                  | 112/116 (96.55%)                | 0.0764  |
| Contrast volume in cc Mean (SD) | 8.05 (4.24)                      | 29.84 (15.29)                   | <0.0001 |
| Fluoroscopy time in minutes Mean (SD) | 21.47 (6.23)                     | 29.10 (8.26)                    | <0.0001 |
| Procedure time in minutes Mean (SD) | 100.83 (16.55)                   | 144.07 (24.11)                  | <0.0001 |

**Conclusion:** Pressure-guided PVI is an effective method for cryoablation of AF. This method not only significantly reduces volume of contrast used but also decreases the fluoroscopy and total procedure time, without compromising the success of PVI.