Introduction: Recent studies reported that simple PVI employing cryoballoon ablation (CBA) was not inferior to more complex ablation strategy in patients with persistent AF (PeAF). The aim of this study is to assess the outcomes and its predictors of PVI only strategy in patients with PeAF undergoing CBA comparing with those of pulmonary vein antrum isolation (PVAI) using radiofrequency catheter ablation (RFCA).

Methods: The subjects consisted of 47 PeAF patients (mean 62 year-old, 40 males) underwent CBA and 48 PeAF patients (mean 60 year-old, 41 males) treated with PVAI. We evaluated the outcomes and the patients’ backgrounds in both groups.

Result: PeAF recurred in 9 patients (16%) in CBA group and in 22 patients (46%) in PVAI group >1 year after PVI. Success in cardioversion prior to PVI, the recurrence of AF during the blanking periods and the duration of PeAF before PVI were predictors for ablation outcomes in both group.

Conclusion: While the predictors of PeAF recurrence were similar, simple PVI employing CBA considered to be more feasible therapy in patients with PeAF comparing with PVAI using RFCA.