Introduction: Previous studies have reported the outcome of Cryoballon ablation (CBA) for paroxysmal atrial fibrillation (AF). However, data on the efficacy and safety of CBA in elderly patients are sparse.

Methods: We investigated the safety and efficacy of CBA in patients ≥ or more than 75 years compared to patients less than 75 years.

Result: Two hundred and thirty-nine consecutive patients (n=40 ≥ or more than 75 years (elderly group); n=199 less than 75 years (younger group)), who underwent pulmonary vein isolation using CBA, were enrolled. Prevalence of female sex and history of heart failure were higher in elderly group compared to younger group (24/40 (60%) vs 79/199 (40%), p=0.018, 4/40 (10%) vs 6/199 (3%), p=0.044, respectively). The mean left atrial diameter was larger in elderly group compared to younger group (40.5 ± 5.2 mm vs 37.1 ± 5.3 mm, p<0.001). The complication rate was not significantly different between elderly group and younger group (1/40 (2.5%) vs 7/199 (3%), p=0.744). One pericardial effusion was occurred in elderly group. On the other hand, 1 quadrantic hemianopsia due to right branch retinal artery occlusion, 1 cardiac tamponade and 5 transient phrenic nerve injury were occurred in younger group. One hundred and forty-three patients (n=20 ≥ or more than 75 years; n=123 less than 75 years) were followed 12 months after ablation. Recurrences of AF at 12 months after ablation were more frequently observed in elderly patients compared to younger patients (6/20 (30%) vs 12/123 (10%), p=0.011).

Conclusion: CBA for paroxysmal AF in elderly patients is safe procedure compared with younger patients. However, AF recurrence rate after CBA is higher in elderly patients than younger patients.