Introduction: The incidence rate of atrial fibrillation (AF) is known to be high in patients with atrial septal defect (ASD), and AF could not be cured even after ASD closure. There are few reports regarding the feasibility of catheter ablation for AF prior to transcatheter closure of ASD, however, the clinical impact of the serial interventions has not been well known. The aim of this study was to clarify the clinical impact of the stepwise intervention of catheter ablation for AF and transcatheter closure of ASD in ASD patients complicated with AF.

Methods: We retrospectively analyzed 9 patients who underwent catheter ablation for AF prior to transcatheter closure of ASD from 2014 to 2018. We examined BNP before and after the stepwise intervention and the recurrence of AF after the intervention.

Result: The mean age of 9 patients (5 male, 4 female) was 64 ± 8 years old. Five were persistent and 4 were paroxysmal AF. The median value of BNP was significantly reduced from 133.2 [19.25, 185.5] pg/ml to 24.1 [14.2, 44.8] pg/ml after the interventions. The recurrence rate of AF was as low as 33%.

Conclusion: The stepwise intervention of catheter ablation for AF and transcatheter closure of ASD could be effective in ASD patients complicated with AF.