**Introduction** : Post-operative atrial fibrillation (POAF) is a common problem after cardiac surgery, but an effective preventive therapy has not been established. We evaluated the efficacy of cryoablation for autonomic ganglionic plexus (GP) during open heart surgery in the prevention of POAF.

**Methods** : Post-operative atrial fibrillation (POAF) is a common problem after cardiac surgery, but an effective preventive therapy has not been established. We evaluated the efficacy of cryoablation for autonomic ganglionic plexus (GP) during open heart surgery in the prevention of POAF.

**Result** : Mean age was 65.5 (±8.2) years and 22 (61.1%) were male. There was no significant difference in baseline characteristics, underlying comorbidities and left atrial size between the two groups. Cryoablation of GP was associated with higher operation time (320 ± 76 vs. 254 ± 36 minutes, p=0.008), and cardiopulmonary bypass time (96 ± 27 vs. 74 ± 16, p=0.017). POAF was developed in 6 (25%) in GP ablation group and 4 (33.3%) in control group during one month, with no significant difference between the groups (p=0.567). There was no major postoperative complication in entire subjects.

**Conclusion** : Addition of GP cryoablation during open heart surgery did not significantly reduce the risk of POAF in this pilot study.