

## The Efficacy of Box Lesion+ Procedure in Patients with Atrial Fibrillation: Two-Year Follow-up Results

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**Abstract :** OBJECTIVE: MAZE procedure is one of the most effective surgical methods in atrial fibrillation (AF) treatment. Nowadays we are all aware of its modifications. In our study we conducted clinical analysis of “Box lesion+” approach during MAZE procedure in two-year follow-up. METHODS: We studied the results of the open-heart on-pump procedures performed in our hospital from 2017 to 2018 years. Thirty-two (32) patients with atrial fibrillation (AF) were included in this study. Fifteen (15) patients had concomitant coronary bypass grafting and seventeen (17) patients had mitral valve repair. Mean age was  $62.3 \pm 8.7$  years; prevalence of men was admitted (56.1%). Mean duration of AF was  $4.75 \pm 5.44$  and  $7.07 \pm 8.14$  years. In all cases, we performed endocardial Cryo-MAZE procedure with one-time myocardium revascularization or mitral-valve surgery. All patients of this study underwent pulmonary vein (PV) isolation and ablation of mitral isthmus with additional isolation of LA posterior wall (Box-lesion+ procedure). Mean follow-up was 2 years. RESULTS: All cases were performed without any complications. Additional isolation of posterior wall did not prolong the operative time and artificial circulation significantly. Cryo-MAZE procedure directly lasted  $20 \pm 2.1$  min, the whole operation time was  $192 \pm 24$  min and artificial circulation time was  $103 \pm 12$  min. According to design of the study, we performed clinical investigation of the patients in 12 months and in 2 years from the initial procedure. In 12 months, the number of AF free patients 81.8% and 75.8% in two years of follow-up. CONCLUSIONS: Isolation of the left atrial posterior wall and perimitral area may considerably improve the efficacy of surgical treatment, which was demonstrated in significant decrease of AF recurrences during the whole period of follow-up.

**Keywords :** atrial fibrillation, cryoablation, left atrium isolation, open heart procedure

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