

## **Left Atrial Ablation for Atrial Fibrillation: "Box Lesion" with Bipolar Radiofrequency Device**

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Background: Maze with a "Box lesion" around pulmonary veins (PV) is the gold standard procedure. Recently, we perform "Box lesion" with bipolar radiofrequency (RF) ablator, abandoning the usual use of this device for bilateral epicardial isolation of PV. This has the advantage of epi- and endocardial ablation of one layer compared to two layers of atrial wall, in epicardial PV ablation.

Methods: Between March 2009 and November 2010 we performed atrial fibrillation ablation in 48 patients by the "Box" technique around the PV, using a bipolar RF device. Patients were 64±9 years. 28 patients had persistent and 8 permanent atrial fibrillation; 5 had left atrial volume >200 cc. "Box" was made by connecting left atriotomy to the amputated left atrial appendage with two lines along transverse and oblique sinuses by epi- and endocardial application of a bipolar RF device. Left atrial isthmus was ablated by cryoprobe.

Results: No complications were related to the ablation. 29 (94%) and 19 (95%) of patients were in sinus rhythm at 3 and 6 months of follow-up respectively. In 205 patients who underwent ablation including bilateral pulmonary vein isolation with interconnecting and isthmus lesion with the same devices sinus rhythm was also found in 95% of patients at 6 months follow-up.

Conclusions: "Box lesion" technique was found to be easier to perform and provides good mid term freedom from AF. This technique may improve long term results due to better transmural ablation then PV isolation technique and by isolating of the whole posterior wall of the left atrium.