

Left Atrial Reduction Surgery for Chronic Atrial Fibrillation with Mitral Valve Disease

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Background: Chronic atrial fibrillation (AF) associated mitral valve disease has been successfully treated by surgery. The size of left atrium is a major factor in the initiation and maintenance of AF. We performed left atrial reduction and pulmonary vein isolation without radiofrequency, microwave or cryoablation with mitral valve surgery.

Methods: From July 1999 to November 2003, Six patients (all female, range of age, 16~51 years, mean 43 years) were operated on for chronic AF with mitral valve disease. Cardio-pulmonary bypass was established with cannulation of the aorta and inferior vena cava and a right angled cannula was placed in the superior vena cava (SVC) above the pericardial reflection. After SVC division, the incision was carried superiorly over the dome of the left atrium. The complete transection of the left atrium was carried out by continuing this incision immediately anterior to the left pulmonary veins. A rim of left atrial wall, including appendage was excised and thereafter, mitral valve surgery was performed(Fig. 1). Left atrium was

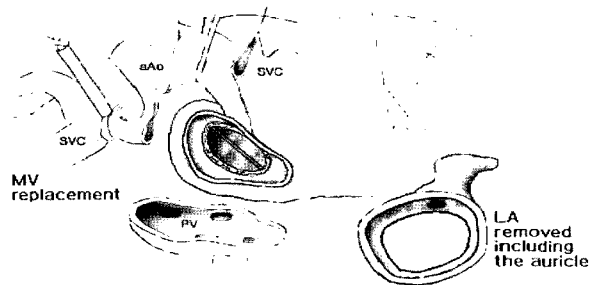


Fig. 1. Left atrial reduction surgery.

reconstituted by continuous 4-0 Prolene and then SVC with continuous 6-0 Prolene.

Results: Sinus rhythm was achieved in 100% of patients at mean 31 months (1~53 months) follow-up. Left atrial dimension was decreased from 81 mm (mean) preoperatively to 44 mm (mean) postoperatively on echocardiogram. All patients had improved to NYHA functional class I at 31 months.

Conclusion: Left atrial reduction surgery is an effective technique in restoring sinus rhythm in patients with chronic AF with mitral valve disease.