EFFECT OF CONVERGENT PROCEDURE ON LEFT ATRIAL SIZE AND VENTRICULAR FUNCTION IN PATIENTS WITH PERSISTENT ATRIAL FIBRILLATION

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Background: The convergent procedure, an endoscopic transdiaphragmatic ablation procedure with concomitant conventional percutaneous endocardial ablation is potential curative treatment for persistent atrial fibrillation (AF) and long-standing persistent atrial fibrillation (LSPAF). We wanted to determine the effect of the arrhythmia elimination on left atrial (LA) size and left ventricular (LV) function.

Methods: Twenty-one patients with symptomatic drug refractory persistent AF or LSPAF underwent the convergent procedure. All underwent combined surgical epicardial radiofrequency ablation and electrophysiological transseptal endocardial ablation to electrically isolate the 4 pulmonary veins, to exclude the posterior left atrium, to ablate along the coronary sinus, and to confirm block at the cavotricuspid isthmus. Arrhythmia burden was followed by the implantable loop recorder. LA dimensions and LV function were determined echocardiographically at baseline and after 12 months.

Results: In 21 patients (mean age 55 years, mean duration of AF 4.1 years) convergent procedure reverted 18 patients (85%) to sinus rhythm at 12 months, and 61% were free of AF and antiarrhythmic medications. Average 30 day AF burden during 12th month, as measured by implantable loop recorder, in patients that were clinically in sinus rhythm, was 1.5%. This was accompanied by a significant reduction in LA antero-posterior diameter (4.9 cm vs. 4.5 cm at baseline, p ≤ 0.003) and increase of LV ejection fraction (56% vs. 64% at baseline, p <0.001).

Conclusion: The convergent procedure effectively combines surgical and electrophysiological expertise to provide a viable treatment option for patients with persistent AF. Elimination of the arrhythmia is accompanied with left atrial reverse remodeling and improvement in left ventricular systolic function.