

## **Left Ventricular Geometric Reconstruction**

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**Objective:** The aim of left ventricle reconstruction, regarding all modern principles, is the maximal approximation of the intracavitary characteristics to physiological. We evaluated the results of left ventricular reconstruction in cohort of 102 patients who had undergone surgical treatment for last 10 years.

**Methods:**Mainly patients (79,4%) were in III-IV NYHA FC. Triple-vessel disease was observed in 51, 9% patients, double-vessel in 22, 5%, left main involvement in 10, 8%. In 55 (53, 9%) patients mural thrombi were identified. Diabetes mellitus was present in 28, 4% of the patients, lipid abnormalities in 94, 1%, hypertension in 70, 6%. Severely depressed myocardial contractility,  $EF \leq 25$ , was present in 26,4 % of cases, in 48 % of patients EF ranged ~ 25-40%, in 25,5% cases was  $\geq 40\%$ . Left ventricular diastolic and systolic dimensions, LV end-diastolic and end-systolic volume indexes, LV ejection fraction, sphericity index, grade of mitral regurgitation were measured by Echo and MRI.

**Results:**In all patients we performed circular LV restoration with autologous patch repair (V. Dor 1989). Operations were performed by 2 staff surgeons. CABG was done in all cases, average number of distal anastomosis was 2,53. Mitral valve repair was performed in 29 (28,4%). Dynamic changes of indices and parameters describing LV geometry, volumes, myocardial stiffness, chamber compliance and wall kinetics showed LV physiological shape restoration in majority of patients. The mean length of hospitalization was 12, 1 days. Hospital mortality was 5, 9 %. All 6 deaths were of cardiac origin. Actuarial survival rates at 12 months, 5 and 10 years were 97,9%, 82, 9% and 64,2% (respectively). Five-year freedom from hospital readmission for CHF was 55,2 % (53).

**Conclusion:**The clinical and hemodynamic effects after LV restoration can be achieved by adequate choice (individually for each patient) of the left ventricular reconstruction method.