

*Materials of Conferences***MYOCARDIAL REVASCULARIZATION  
IN PATIENTS WITH ADVANCED  
ATHEROSCLEROSIS: TACTICAL ISSUES**<sup>1</sup>Abzaliev K.B., <sup>1</sup>Kuzhukeyev M.E.,  
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In order to assess the efficiency of CABG using nonlinear venous bypass grafts (experimental group) we compared its outcomes with linear venous bypass grafts-only CABG (control group). A total of 272 coronary arteries were bypassed in experimental group vs. 217 arteries in control one. Using sequential venous bypass grafts, we managed to restore blood flow in a total of 145 coronary arteries (53,3%). Most bypassed were left margin artery 48 (33,1%), circumflex artery 33 (22,7%), diagonal artery 28 (19,3%), posterior interventricular artery 17 (11,7%). Using naturally bifurcated venous bypass grafts, we restored blood flow in 68 (25%) coronary arteries. Most bypassed were CA 18 (26,4%), left margin artery 16 (23,5%), diagonal artery 15 (22%), and posterior interventricular artery 11 (16,1%). Using composite and combined bypass grafts, we restored blood flow in 12 (4,4%) coronary arteries. The incidence of intraoperative injury to the aorta in both groups differ dramatically: 2% vs. 11,1%, respectively. Such a difference in intraoperative injury to the aorta is due to a lesser number of aortic anastomoses in experimental group where nonlinear versions of venous grafts were used. Acute heart failure was also notably higher in the control group: 14,8% vs. 3,9%. Acute heart failure caused death in four (7,4%) control patients. Acute cerebrovascular event rate was higher in controls: 14,8% vs. 2%. One patient in the control group succumbed to acute cerebrovascular event. Also, there was reported high rate of respiratory failure (25,9%) among controls compared to experimental group (11,7%). Infective complications as represented by mediastinitis in all cases were noted in 3,9% of experimental cases, which was almost twice as less than in controls (9,2%). Postop hemorrhage mandating resternotomy was almost equal in both groups (3,9% vs. 3,7%). Significant difference in the rates of acute heart failure, acute cerebrovascular events, respiratory insufficiency, and infections is secondary to the length of pump and aorta cross-clamping times in both experimental, and control groups: 116/71 minutes vs. 138/85 minutes, respectively.

So, using the algorithm developed for nonlinear venous bypass graft CABG in multivessel

coronary lesions, combined with atherosclerosis of the ascending aorta, we managed to reduce the number of aortic anastomoses and achieve complete myocardial revascularization, reduce pump time and aorta cross clamping time.

The work is submitted to the International Scientific Conference "Fundamental research", CRO-ATIA (Istria) 23 July–30 July 2015, came to the editorial office on 20.07.2015.

**RESULTS OF APPLYING A NEW  
TECHNOLOGY FOR MEASURING  
THE LEFT ATRIUM VOLUME  
DURING ATRIOPLASTY**<sup>1</sup>Abzaliev K.B., <sup>1</sup>Kuzhukeyev M.E.,  
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Johnson Jetal, 1967, Barnhorst D.A. et al. 1975., Deeg P. et al. 1977, Kawazoe J. et al, 1983). Piccoh G.P. et al. (1984) made a comparative analysis of outcomes of surgically treated patients who underwent mitral valve replacement. They found total mortality at 8,5%, with mortality in a group of patients with giant left atrium (GLA) being as high as 20%. Many researchers were able to demonstrate that the repair of atriomegaly would have positive effect on both early, and late postoperative period with improved life expectancy in such patients.

**The purpose** of the study was to reliably measure the LA volume and specify indications for atrioplasty. To achieve this goal, the following tasks were set:

1. Develop a new method for measuring the LA volume.
2. Compare the obtained data with those in the control group where measurements were made using echocardiography.

**Material and methods.** From 2005 to 2014, 176 patients suffering from mitral valve diseases complicated with atriomegaly and atrial fibrillation were operated upon at the cardiac surgery unit, National Scientific Center of Surgery. Seventy-three were male (41.5%) and 103 were female (58,5%), with median age of  $41,5 \pm 27,5$  years. The breakdown of patients by the degree of heart failure was as follows: 124 (70,4%) patients were in NYHA Class III, the remaining 52 (29,5%) in NYHA Class IV; 119 patients (67,6%) were in ACC 2 stage with remaining 57 (32,3%) in ACC 3 stage. All patients had the history of atrial fibrillation in excess of three years. The LA sizes were obtained using the heart ultrasound (see Table).