Abstract: **P884**

**Dynamics of left ventricular ejection fraction in patients with stable coronary artery disease after coronary artery bypass grafting**

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Purpose: to study clinical characteristics of patients with stable coronary artery disease (CAD) in groups with different dynamics of left ventricular (LV) ejection fraction (EF) after coronary artery bypass grafting (CABG); to assess LV EF dynamics after CABG in groups with different baseline value (grade) of LV EF.

Methods. We conducted a prospective single-center study and enrolled 384 patients with stable CAD, selected for CABG (328 (85,4%) males and 56 (14,6%) females, age 39-92; average age (61±8) years. We analyzed demographic, clinical, laboratory, echocardiographic, coronary angiographic, intra- and postoperative data. The changes of LV EF were evaluated at period 1 (between 6 and 12 months after CABG) and period 2 (24 months after CABG). The total sample of enrolled patients were subdivided retrospectively into three groups according to the LV EF change: 1) 1st – LV EF relative change of =10% towards its improvement (n=110 [28,7%]); 2) 2nd – "without change" (LV EF relative change up to 10% in both directions; n=207 (53,9%); 3) 3rd – LV EF relative change of =10% towards its decline (n=67 [17,4%]). LV EF at both follow-up periods was assessed in 128 (33,3%) patients. The sample of 128 patients was used for LV EF change evaluation depending on baseline LV EF grade: LV EF =50% (n=35; 27,3%); LV EF 40-49% (n=27; 21,1%) and LV EF <40% (n=66; 51,6%). Numeric data were presented as median with interquartile range.

Results. Group 3, compared to the pooled group 1 and 2, was characterized by the higher frequency of patients with HF stage C2 (modified AHA/ACC classification, 2007): 20/67 (18,2%) vs. 10/274 (3,6%), respectively (??0,001). The baseline LV EF in group 1 was significantly lower compared to that in groups 2 and 3: 37% (32-47%), 55% (45-62%) and 52% (38-59%), respectively (??0,001 for both comparisons). The frequency of patients with preserved LV EF (=50%) was lower in group 2, as opposed to groups 2 and 3. Group 3, in contrast to groups 1 and 2, was characterized by the higher value of end-systolic LV volume (and its index), as well as the higher frequency of patients with mitral and tricuspid regurgitation. At period 1, the structure of the sample of 128 patients by LV EF grades was as follows: LV EF =50%, 40-49% and <40%, respectively, 54 (42,2%) patients, 38 (29,7%) and 36 (28,1%). At period 2 we observed the shift towards increased frequency of patients with LV EF <40% (55 (43,0%) patients).

Conclusions. The LV EF improvement at different follow-up periods was associated with worse baseline LV EF and more prevalent HF stage C2 cases. The LV EF dynamics in patients with baseline LV EF <50% was "biphasic": the initial LV EF improvement or recovery was subsequently shifted to its decline in part of the patients. The determination of predictors of different LV EF dynamics patterns is crucially important for individualized management of post-CABG patients.