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Changes in the quality of life in patients with stable coronary artery disease after coronary artery bypass grafting or stenting at 6-month follow-up

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Background. Coronary artery bypass grafting (CABG) in patients with stable coronary artery disease (CAD) and preserved left ventricular (LV) ejection fraction (EF) is mainly performed to decrease angina and improve quality of life (QOL). The parameters of QOL may be related to LV diastolic dysfunction.

Purpose: to evaluate QOL, LV diastolic function parameters and brain natriuretic peptide (BNP) in patients with CAD and preserved or mid-range LVEF before and 6 months after CABG.

Methods. The cross-sectional single-center retrospective study included data from clinical and instrumental examination of 71 patients with CAD and preserved or mid-range systolic function (LVEF =40%), consecutively selected for CABG. Among them, there were 60 men and 11 women aged 57 to 70 years, middle age (64±4) years. 11 (17%) patients had signs of stable angina ?I functional class (FC), 44 (69%) had III FC, 9 (14%) – IV FC. We analyzed FC of angina, QOL parameters by using SF-36, Seattle Angina Questionnaire (SAQ), the Minnesota Living with Heart Failure Questionnaire (MLHFQ), the echocardiographic parameters and the BNP level before and 6 months after CABG.

Results. Six months after CABG a significant improvement of QOL was registered by questionnaires MLHFQ, SF-36 and SAQ, compared to baseline (p <0,001), including the scales of the frequency of angina attacks, physical and emotional functioning, mental health and manifestations of heart failure. The angina symptoms significantly decreased: there were no angina attacks in 38 (59%) patients, and I and II FC were observed in 25 (39%) patients (p <0,001). Reduced FC by 2 or more grades was registered in 45 (70%) patients after CABG. Six months after surgery, there was a significant improvement in LV diastolic function, namely reduction of DT from median 262 (quartiles 223-296) ms to 250 (220-280) ms (p <0,001), IVRT from 118 (109-125) ms to 112 (105-115) ms (p = 0,021), and increase of E/A from 0.82 (0.73-0.93) to 0.92 (0.76-0.99) ( p = 0,043). The BNP level decreased from 115,4 (62,0-150,6) pg/ml to 52,4 (20,4-95,9) pg/ml (p <0,001).

Conclusion. Reducing angina pectoris and improving parameters of QOL 6 months after CABG is associated with positive changes of LV diastolic function parameters and decrease of BNP.