RESULTS OF OFF-PUMP MYOCARDIAL REVASCULARIZATION IN PATIENTS WITH LV EJECTION FRACTION <45%

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Conventional on-pump coronary artery bypass grafting operations in patients with compromised left ventricular (LV) systolic function are accompanied by high rates of morbidity and mortality. The wide spread in the last two decades of off-pump myocardial revascularization techniques in patients with low surgical risk showed the safety of such operations. In this regard, the question of the possibility and results of such operations in patients with high risk, in particular, with low contractility of the LV, is especially actual.

Aim – to study the results of off-pump myocardial revascularization operations in patients with LV ejection fraction (LVEF) less than 45%.

Material and methods. A comparative analysis of the results of surgical treatment of 450 patients with ischemic heart disease, to whom off-pump myocardial revascularization operations were performed, was done. All patients were divided into two groups: Group I – 91 (20,2%) patients with LVEF less than 45%, and II Group-359 (79,8%) patients whose LVEF was more than 45%. Patients of both groups were comparable by sex, age and basic clinical-functional parameters. The majority of patients were male – 85,7% (78 patients) and 83,0% (298 patients) respectively in the I and II groups. The average age of patients in the I group was 60,6±7,1 years, and in group II-58,57±7,8 years. In the first group there were more patients in the acute stage of myocardial infarction – in I group 23,1% (21 patients), and in II Group – in 16,7% (60 patients), although the difference was statistically nonsignificant (p=0,426). The risk of surgery calculated by EuroScore calculator amounted in the I group 6,66±6,9%, and in group II – 3,39±2,9% (p=0,005).

Results and discussion. In the first group, the average number of grafts was 3,02±0,68 per patient, and in group II – 3,13±0.7 grafts. The duration of the operation in both groups was 221±5,6 and 248±5,46 min respectively. Inotropic support intraoperatively and in the immediate postoperative period was necessary in I group in 59.3% (54 patients), and in II group-in 33,1% (119 patients) (p=0,03). The average time of ventilation in the ICU was in the first group 6,05±3,6 hours, in the II group – 5,72±3,3 hours. The ICU stay was averaged 53,5±2,5 hours in group I and 40,08±1,5 hours in group II (p=0,07). In the first group hospital mortality amounted to 1,1% (1 patient) – at expected 6.66%, and in II Group – 0,8% (3 patients) – at expected 3,39%.

Conclusions. Off-pump coronary artery bypass grafting operations in patients with LV systolic dysfunction are safe and can be performed with low levels of complications and hospital mortality without interfering the completeness of revascularization.

RESULTS OF OFF-PUMP MYOCARDIAL REVASCULARIZATION IN HIGH-RISK PATIENTS WITH EUROSCORE≥5

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Background. With the wide spread in the last two decades of the technology of performing myocardial revascularization off-pump, acquires a great scientific and practical significance a question of expanding indications to these operations on patients of high surgical risk group.

Aim. To carry out comparative analysis of results of off-pump coronary artery bypass grafting surgery in patients with high and low surgical risks.

Material and methods. The comparative analysis of results of surgical treatment of 450 patients with ischemic heart disease, to whom was performed off-pump myocardial revascularization surgery, was carried out. Depending on the meaning of EuroSCORE risk-calculator, all patients were divided into two groups – I group – 188 (41,8%) patients of high surgical risk with EuroScore ≥ 5, and group II – 262 (58,2%) low-risk patients (Euroscore<5). In the first group there were significantly more female patients – (23,1% versus 11,1%), aged patients (average age 63,9 years versus 57,8 years in II Group), with ACS (34,1% versus 5,6%), persons with LVEF less than 45% (30,8% versus 12,8% in group II). Surgical risk by EuroScore calculator was in group I – 7,3±4,4% (6,5±1,5 points), and in group II – 1,9±0,7% (2,4±1,3 points), the difference was statistically significant (p<0,001).

Results and discussion. The operation times in both groups amounted to 232,2 and 227,9 minutes respectively. In the first group, the average number of distal anastomomoses amounted to 3,12±0,7 per patient (2–6 grafts), while in group II – 3,13±0,8 (1–5 grafts). In patients of I group significantly more was the need for inotropic support in the postoperative period (51,5% versus 26,8%), the time of ventilation (6,8±4,1 versus 5,0±2,2 hours), the ICU stay (49,2±22,4 vs. 46,6±18,8 hours), the duration of the hospital stay after surgery (8,2 days versus 6,8 days). The frequency of nonfatal complications in both groups amounted to 18,5% versus 7,2% in group II (p=0,074). The mortality in the first group amounted to 1.1% (two patients) at the expected EuroScore 7.3%, and in group II – 0,8% (two patients) with the expected 1,9%. There were no statistically significant differences in the mortality rate between the groups (p=0,198).

Conclusions. Although off-pump myocardial revascularization in patients with high surgical risk is accompanied by a higher need for inotropic support, a slight extension of the time of ventilation and the hospital stay after surgery, and also by the increase in the frequency of nonfatal complications, it is not accompanied by a statistically significant increase in mortality. Thus, this method is a safe method in terms of complications and mortality.

«SURGICAL REMODELING OF THE HEART» IN MULTI-VALVULAR DISEASES

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Objective. The purpose is to present results of surgical remodeling at rheumatic multivalve heart diseases.

Methods. There were executed 64 operations. Male – 15, female – 49, age 42,1±11,7 years old. Mitral-tricuspid disease with enlarged Left Atrium – 33, Mitral-aortal-tricuspidal disease – 19, mitral-aortal-tricuspidal disease with enlarged LA-12. On MV there were following haemodynamic infringements: MS-34, Mitral regurgitation – 20, mitral restenosis – 10. On the aortal valve: AS-10, aortal disease without the accurate prevalence – 21. On the tricuspidal valve: combined tricuspidal stenosis with prevalence of insufficiency – 48, TS-6. The term of «Surgical Remodeling of the Heart» we includ kinds of operations when 2 or 3 valves correction with left atrium reduction are done.

Results. Correction of 2valves with atrioplastic of LA is executed at 33,3 valves – at 19,3 valves with atrioplastic LA-12. At correction of a pathology of valves following kinds of interventions are executed. There were done 24 MV prosthetics with preservation of MV basic chords, at 40 – multicomponent MV repeir with annuloplasty with a band from two layers of vascular graft. Aortal Valve reconstruction was done at 25 (by Carpentier – 22, by ElKhury-3), at 25 prosthetics of AV. Annuloplasty of tricuspid valve was done at 48 by DeVega, by Doty – 16, 24 cases were taken further TV comissuroplastic. At 45 patients were done LA atrioplastic with one-stage suturing of the LA appendage (by Kawazoe-31, by «Mercedes» – 12, by Sinatra – 1), suturing of LA appendage – 28, thrombectomy from LA-10. Time of CPB was 140,3±35,5 min, cross-clamp time –105,8±24,3 min. Hospital mortality – 1,5% (n=1).

Conclusions. Surgical remodeling at rheumatic multivalve heart diseases, including multicomponent correction 2 and 3 valves in a combination to one of reduction methods at left atrial, allows to restore normal functional indicators of heart with good nearest results.

ИНТРАОПЕРАЦИОННАЯ ОЦЕНКА КРОВОТОКА ПО КОРОНАРНЫМ ШУНТАМ МЕТОДОМ УЛЬТРАЗВУКОВОЙ ФЛОУМЕТРИИ

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Введение (цели/задачи). Оценить результаты интраоперационной флоуметрии коронарных шунтов у больных, перенесших прямую реваскуляризацию миокарда.

Материал и методы. В исследование вошли 126 пациентов, оперированных в ОССХ НМИЦ Кардиологии Минздрава РФ в 2018 году. Всем больным выполнялось коронарное шунтирование