



TITLE: Coronary artery bypass grafting for patients with diabetes mellitus and lesion of coronary arteries with diameter less than 1,5 mm

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ABSTRACT

Diabetes mellitus (DM) is a prognostically unfavourable factor for patients with coronary artery disease who need coronary artery bypass grafting (CABG). These patients usually have multiple occlusions and diffuse lesions, besides they are often refused to surgery due to “small” coronary arteries (CA) (diameter ≤ 1.5 mm). Using of microsurgical technique makes it possible to reconstruct small-caliber vessels, however, there has been no detailed analysis of the results on this problem yet.

We studied 100 patients with multiple CA lesions and small CA diameter, who underwent CABG and graft control one month after operation. In all cases cardiopulmonary bypass and microsurgical techniques were used.

32 patients (32 %) had long-term DM in anamnesis. All patients underwent complete revascular-

ization of CA, the average number of distal anastomoses was $4,3 \pm 0,5$. Complex anastomoses to small arteries were performed in all cases with DM, single and multiple endarterectomies were performed more often (11 patients with DM vs 6 without DM, $p < 0,01$). Early postoperative bleeding that required resternotomy was the same in both groups – 2 (2 %) vs 2 (2 %), $p = 0,495$. 2 patients with DM (6,3%) had perioperative myocardial infarction (MI), 1 (1,5 %) – without DM, $p = 0,304$. All patients underwent coronary bypasses control using computer tomography or coronary angiography: there were 10 cases of autovenous bypasses occlusions. 8 of them were patients with DM (5 occlusions to CA with $d < 1,5$ mm and 3 – to CA with $d > 1,5$ mm). Only 2 patients without DM demonstrated early occlusion of autovenous grafts – 0,9 % of all autovenous grafts.

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1/3 of patients who underwent CABG have DM. This group requires complex reconstructive techniques (onlay-patch anastomoses, endarterectomies) significantly more often. Using complex microsurgical techniques and optimal drug therapy makes it possible to achieve effective revascularization with better results in patients with difficult lesion of CA.

BIOGRAPHY

Dmitrii Petrovskii has finished I.M. Sechenov First Moscow State Medical University (Moscow, Russia) as first medical education at the age of 23. At the age of 25 he has finished his residency in cardiovascular surgery in E.I. Chazov's National Medical Research Centre of Cardiology of the Ministry of Health of the Russian Federation (Moscow, Russia). Now he is studying as Senior Residency in cardiovascular surgery at the same place and writing his PhD thesis about CABG of CA with occlusion and unknown distal bed.

He published several articles at different Local and foreign Journals (REJR, AORTA), often visit Congresses in Russia and other countries. This summer he presented his abstract about Influence Of Coronary Artery Diameter On The Pattern Of Bypass Volumetric Blood Flow Curve According To Intraoperative Ultrasonic Flowmetry Data In Patients Undergoing CABG on 70th Congress of ESCVS and 7th IMAD in Liege, Belgium, where he took first place award as a Young Cardiac Investigator.



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