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ANGIOGRAPHIC DECISIONS IN PATIENTS WITH LEFT MAIN CORONARY ARTERY DISEASE: STENTING VERSUS CORONARY ARTERY BYPASS GRAFT

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Relevance. The left main coronary artery (LMCA) disease is the highest-risk lesion subgroup among the different types of obstructive coronary artery disease (CAD) and is associated with poorer outcomes. Coronary artery bypass grafting (CABG) is the "gold standard" in the treatment of LMCA disease. Despite its clinical significance, uncertainties persist regarding the optimal management strategy for patients, particularly given its phenotypic variations.

Aim: to compare angiographic decisions in patients with LMCA disease in chronic CAD (stenting versus CABG).

Materials and methods. The single-center study included 106 patients with chronic coronary syndrome, who were admitted to the Grodno Regional Cardiological Center for diagnostic coronary angiography from January 2023 to December 2025. Patients were divided into 2 groups according to the coronary angiography results: Group 1 included 46 patients with LMCA disease (>50% stenosis), while Group 2 – included 60 patients with non-LMCA disease defined as obstructive stenosis in one or more epicardial coronary arteries not involving the LMCA.

Patients underwent coronary angiography with possible percutaneous coronary intervention (PCI) in the X-ray operating room on the Philips Azurion angiographic unit. Statistical analysis was performed using the STATISTICA 12.0 software.

Results and their discussion. Patients of both groups were comparable in age ($p>0.05$); with male gender being more common in patients with LMCA (80.4% vs. 60%, $p=0.034$). The mean age of LMCA patients was 67.3 [62; 74] years, and only 3 (6.5) % of LMCA patients were less than 50 years. There were no significant intergroup differences in the prevalence of hypertension, stable angina, diabetes mellitus and prior myocardial infarction ($p>0.05$).

Angiographic decision of CABG was three times more common in LMCA stenosis group (65.2% vs. 20%, $p<0.001$), while in patients with non-LMCA disease coronary stenting was prevalent (58.3 vs. 26.1%). In patients with LMCA disease approximately half of patients had proximal and ostial involvement – 22 (47.8%) while 24 (52.2%) had middle part and distal stenosis. 20 patients with proximal LMCA affection undergone CABG operation, while in 2 patients PCI was performed. In patients with middle part and distal involvement stenting was more common (10 operations out of 24 (41.6%)), while 14 (58.4%) patients received traditional CABG surgery.

Conclusion. This study demonstrates that patients with LMCA disease were characterized by significantly higher number of stenotic coronary segments and vessels and higher incidence of CABG in comparison with non-LMCA group. However, PCI becomes a more common and effective treatment method in this patient group, especially in distal LMCA involvement. We recommend large-scale studies to develop a predictive model of obstructive LMCA disease.