MODERNIZED ASPECTS OF MANAGEMENT PATIENTS WITH RESTENOSIS

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Relevance. Over the past 50 years, many countries of the world have distinguished themselves by their economically rapid growth and development, which served as the basis for dividing them into the following groups: developed and developing. This fact leads to significant changes in both living conditions for the better, and directly increases the quality of life. In turn, the factors provoking the occurrence of atherosclerotic changes are the following types: adherence to an unhealthy lifestyle, in particular to an unhealthy diet; a high rate of arterial hypertension; hypodynamic work and lifestyle in general, smoking and all other risk factors designated as bad habits. These include atherosclerosis of the cardiovascular system (CVS), which was the definition of coronary heart disease (CHD). It is this above-mentioned nosology that acts as a leader in the level of death and disability in the countries of the world [1,3,5]. Percutaneous intervention (PCI) as the most widely used, in particular, the method of CV stenting, for therapeutic purposes of various forms of coronary artery disease, leading to a progressive increase in the number of restenoses, this method is currently the most urgent problem of interventional cardiology [2,4,7]. A reliably established frequency of restenosis, after PCI, is not such an easy task. Many reliable sources say that during the period before the creation of coronary stents, after balloon angioplasty, the frequency of restenosis reaches 38-58%.

Introduction. Over the past 25-35 years, a number of high-tech medical implementations have been introduced into practical medicine, the purpose of which was to reduce the number of emerging restenoses.

Initially, holometallic stents (HMS) appeared; the use of which allows to reduce the incidence of restenosis to 17.8—43.8%; later, stents with drug or

medicine coating (MS/DS) of the first and second generations and cylinders with MS / DS appeared; the introduction of this helps to reduce the number of restenoses to 7.85-9.85% and less [3,5,8-10]. All this as an innovation leads to the fact that patients who have been subjected to surgical revascularization (with lesions of the trunk of the left coronary artery; complex bifurcation lesions, stenoses with pronounced calcification), would have suffered PCI. As a consequence of the above, there is a difference in the number of restenoses that have occurred according to research data from various registries, including patients with more severe CVS lesions, showing a high level of restenoses compared with randomized studies [1,6,9]. The data of the majority of clinical studies on the detection of restenosis, came to the conclusion that it is necessary to define this term as a decrease in the lumen of the vessel after PCI by 50.31% compared with the original diameter [3,7,11]. Practices in the clinic most widely apply the definition of restenosis proposed by the Academic Consortium (AC) and is used when repeated revascularization is necessary, as a consequence of ischemic manifestation; it is a stenosed narrowed lumen, more than 70.25% or narrowing of more than 50.20%, accompanied by angina pectoris. In this case, objectively (ECG, EchoCG), signs of ischemia appear both during rest and during exercise. Including when reading the indicators of functional invasive tests, in particular the fractional reserve of blood flow (FRK) is more than 0.83; as a calculated indicator of pathology [6,8]. Many cases of restenosis should be considered as a relative benign condition, manifested in the form of indicators and symptoms of stable angina pectoris.; but there are also data confirming stent restenosis as a phenomenon of an independent risk factor for death, as well as other important clinical factors such as: age, gender, diabetes mellitus, smoking, coronary artery bypass grafting and a decrease in the left ventricular ejection fraction [7]. Most patients with the development of restenosis complain of the occurrence of unstable angina and myocardial infarction, including death [10].

Classification of restenosis, depending on the period of development from the moment of stent implantation, are divided into the following types:

- acute (during the first day);
- subacute (from the first day to 30 days);
- late (from 30 days to 1 year);
- and very late (more than 1 year) [8,9].

The actual indicator and the degree of study of predictors of the development of recurrent stenosis (restenosis), pathogenetic aspects of the above process, methodological data for its prediction, including preventive medicine in the form of primary, secondary and tertiary prevention. All of the above are open topical issues, since the development of such complications serve as the basis for the occurrence of repeated ischemias, which in turn reduce the quality and life expectancy of patients included in this study.

Keywords: high-tech research methods, percutaneous intervention, stenting, restenosis, revascularization, cardiovascular diseases, cardiovascular system, stent implantation.

The purpose of the study. Justification of the choice of a particular surgical method for the treatment of restenoses, in particular high-tech methods of medical care.

Materials and methods of research. We included 110 patients in the study who were treated for the first time or hospitalized for the first time with restenosis. The entire follow-up period for patients with restenosis was from 1.5 months to 5.5 years (median follow-up = 2.85±1.43 years). The quantitative indicator of patients who required PCI earlier or up to 10-12 months was 48 patients. Which, as a percentage, amounted to 43.63%. The quantitative indicator of patients who underwent PCI > 12 months ago was 62 people and 56.36%, respectively.

The results of the study. In order to eliminate the causes and consequences necessary in solving the tasks, a statistical analysis of patients treated for the first

time or hospitalized for the first time with restenosis was carried out; in accordance with the following characteristic features:

1) clinical features (Quetelet index within > 29.95 kg/m2; from 1st to 12th months of follow-up after PCI; female; diabetes mellitus (DM); 2 or more times suffered myocardial infarction (PIM) in anamnesis data confirmed by electrocardiographic (ECG) examination;

2) angiographic features (compliance with the indicators of high-class restenosis according to the R.Mehran classification; presence of subtotal and/or total occlusions; volume of vascular lesions, measured as length-(L); vessel diameter-as a meter of small vessel volume (d); presence of multivessel lesions and laboratory data (fibrinogen level and aggregation the ability of platelets (AST) in the form of a degree is an increased level).

Discussion. From all of the above studies, indicators of results were obtained: from all respondents who underwent coronary artery bypass grafting (CABG), clinical measurement markers (as a research factor excluded: female) occurred from 19.73 to 59.75%, with the peak indicator (59.75%) falling on the indicator - BMI > 29.85 kg/m2. When taking into account the markers of angiographic examination involved in the CABG sample, the presence of multivessel lesions (in all 100% of patients), stenosis ≥ 94.75% (79.5%) and d arteries <2.97mm (79.85%) played a significant role. According to laboratory studies – the degree of AST ≥ 2.75; significantly influenced the sample in favor of CABG.

A sample of patients who underwent intra–aortic balloon counterpulsation were included in the sample only if the factors had a certain influence in favor of this particular recanalization method: clinical sign - DM, for up to 1 year and the multiplicity of the presence of PIM in the anamnesis; angiographic sign - L vascular lesion >20.15 mm and d arteries <3mm; laboratory indication – PH level ≥ 3.85mg/dl. And at the same time, the occurrence of the above markers did not exceed 59.75%.

Conclusion. The combined recanalization technique was performed in patients who, in addition to restenosis, were diagnosed with stenotic narrowing of a non-target artery. Angiographic and laboratory markers were used as a basis for sampling this research method. In the statistical processing of research data from angiography indicators, the main percentage indicator fell on developed multivessel lesions, and laboratory ones affect the degree of AST $\geq$ 2.85.

The analysis of the correlation method between the total calculation of markers and the chosen tactics for restoring the blood flow of the cardiovascular system (CVS) revealed a direct dependence of a reliable nature, with a high index ($p<0.000021$), i.e. with an increase in the number of markers in a particular patient, the need for more complex therapies among high-tech medical care (HTMC) increased disproportionately.

Acknowledgement. Due to the statistical analyses carried out, an algorithm of differentiation tactics for surgical therapy of restenoses has been developed, taking into account the above-mentioned triad of leading syndromes.

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