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RENAL DYSFUNCTION IN PATIENTS WITH ACUTE CORONARY SYNDROME

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Annotation: Since the mid-20th century, CVDs have become the leading cause of death and disability among the working-age population worldwide, which has naturally led to a significant increase in healthcare costs. And if at the beginning of the 20th century, mortality from CVDs accounted for less than 10% of all fatalities [34], then, according to the World Health Organization (WHO), in 2008, more than 17 million people died from various CVDs, which is 30% of all deaths worldwide. Of this number, about 7.3 million people died from ischemic heart disease (IHD). Based on the current trend, WHO experts predict a further increase in morbidity and mortality from CVDs in both developed and developing countries, which they explain by the aging of the population and the lifestyle characteristics of modern people. According to expert forecasts, by 2030 the number of deaths from CVD will reach 23.6 million cases, mainly due to heart disease and stroke, which are expected to remain the main causes of death [46, 94]..

Keywords: renal dysfunction, coronary heart disease, acute coronary syndrome.

The problem of increasing morbidity and mortality from CVD is most acute in Eastern European countries, in particular Russia, where, according to experts, mortality rates remain the highest in the world and the rate of its decline "cannot be considered sufficient" [67]. It is also worth noting that the mortality rate from CVD and, in particular, from ischemic heart disease and cerebrovascular diseases (CVD) in women is significantly higher than in men [89].

And yet, in Uzbekistan, the greatest concern is currently the mortality rate of the working-age population: according to official statistics, about 40% of all deaths from CVD occur among the working-age population [23]. If we compare Russia with countries such as Finland, the USA, Canada, Australia, New Zealand, France and Japan, then over the past thirty years, a diametrically opposite trend has been noted in these countries: mortality from coronary heart disease in these countries has decreased by more than 50%, which may be associated with an improvement in both primary prevention measures and treatment of acute forms of coronary heart disease. However, the mortality rate from chronic and acute forms of coronary heart disease remains at a fairly high level [96]. And given that mortality from ACS depends not only on the severity of the disease itself, but also on the quality of medical care provided at all its stages, it is assumed that the identification and implementation of new markers of cardiovascular risk in practice will help reduce the mortality rate from acute coronary events.

Currently, MI is one of the most prognostically unfavorable diseases of the cardiovascular system, which makes it one of the urgent problems of cardiology worldwide, and also determines the priority of the direction for its prevention and treatment [39]. Thus, every sixth man and every seventh woman in Europe dies from MI. According to the European Society of Cardiology, hospital mortality from myocardial infarction with ST segment elevation fluctuates within 6-14%, and mortality within 6 months after MI reaches 12% [60]. Over the past years, an increase in the overall mortality rate from MI has been observed

in Uzbekistan, largely due to an increase in this indicator among women, although mortality from MI continues to grow among the male population [26]. If we continue the topic of gender differences in the incidence of coronary heart disease and, in particular, MI, the most indicative results are the results of the Framingham study, which demonstrated that the prevalence and mortality from coronary heart disease among young women, as well as from MI, are lower than in men of the same age group, but after 50-55 years, the picture of gender differences becomes diametrically opposed: coronary heart disease becomes the main cause of death in post- and menopausal women. This "change in position" is due, first of all, to a deficiency of estrogens during menopause, which are believed to have cardioprotective properties, which leads to more pronounced hypertension (mainly isolated systolic hypertension) and, as a consequence, the development of left ventricular hypertrophy (LVH) and heart failure [99, 66, 75]. However, despite the well-known fact that MI develops in women approximately 7-15 years later than in men, an increase in the incidence of MI in women of childbearing age has been noted over the past decade [11, 26]. This is primarily due to the underestimation of the risk of CVD and its significance in women of reproductive age, which in turn leads to a decrease in the frequency and quality of examination to detect coronary insufficiency [26]. At the same time, MI is one of the most common diseases leading to disability in people of working age: after MI, about 22% of men and 46% of women become incapacitated [6].

That is why special attention today is focused on early verification and timely correction of risk factors that determine not only the short-term, but also the long-term prognosis after MI. According to the third universal definition of MI, which is the result of the joint work of the European Society of Cardiology (ESC), American College of Cardiology (ACC), American Heart Association (AHA) and World Heart Federation (WHF), the diagnosis of ACS is established in the presence of clinical symptoms for at least 20 minutes (anginal pain syndrome or its equivalents) and persistent ST segment elevation on the electrocardiogram (ECG) in 2 consecutive leads or the first (presumably first) registered left bundle branch block (LBBB) [40]. The most common cause of ACS is occlusion of the coronary artery due to rupture of an atherosclerotic plaque, which leads to platelet hyperaggregation and a decrease in fibrinolytic activity with subsequent formation of intravascular thrombosis. At the same time, coronary vasoconstriction and microembolization occur, which often contribute to the worsening of ischemia and a decrease in the effect of the therapy [55, 66].

Currently, certain algorithms for treating patients with ACS have been developed and successfully applied. Active use of reperfusion strategy - thrombolytic therapy and primary PCI - is considered the most effective tactic for reducing the size of the infarcted myocardial zone and improving clinical outcomes [32]. However, determining the prognosis after MI remains one of the most difficult tasks due to the presence of many factors that often have an ambiguous effect on its outcome. As is known, the characteristics of the course of MI already in the first day determine the likelihood of developing various complications and make it possible to predict long-term outcomes of the disease and, therefore, choose the appropriate treatment strategy. That is why predicting MI outcomes is becoming a global goal in optimizing the treatment process and patient adaptation after MI, which, in turn, is a factor in controlling morbidity and mortality from cardiovascular catastrophes. The most frequent life-threatening complications of MI, which include AHF and cardiogenic shock (CS), as well as ventricular tachyarrhythmias and myocardial conduction disturbances, develop during the first day of the disease. In most cases, they determine the further course of the disease, often leading to death [5]. CS, which develops, according to various authors, in 3-10% of cases, is the most serious complication of MI. The main reason for the development of CS in the vast majority of cases is a decrease in the inotropic function of the myocardium due to a significant decrease in the ejection fraction (EF) of the LV due to extensive myocardial damage, which is accompanied by acute hypotension, tissue hypoperfusion, the development of acidosis and microcirculation disorders with further aggravation of shock phenomena [20, 51, 97]. It should be noted that before the introduction of modern methods of treating ACS (surgical revascularization methods, intra-aortic balloon counterpulsation (IABC) and

widespread use of TLT), mortality from CABG in patients with MI reached 95%. At present, it has been possible to achieve a reduction in both 30-day mortality, which is about 30-50%, and mortality within a year (up to 50-60%), although this percentage cannot be called sufficient [15, 51, 92]. Myocardial rhythm and conduction disturbances recorded throughout the entire period of MI deserve special attention. Despite the fact that life-threatening rhythm disturbances most often develop in the first two days of MI, the risk of death remains high during the first year after ACS. Numerous studies demonstrate that a decrease in LVEF is an independent predictor of sudden cardiac death (SCD) in the post-infarction period, the main cause of which is ventricular tachyarrhythmia [74]. As early as 1984, J. T. Bigger reported that in patients who have had an MI, the risk of SCD increases significantly with a combination of ventricular rhythm disturbances with a decrease in LVEF of less than 40% [76]. A little later, M. P. Hudson and co-authors showed that the development of paroxysms of non-sustained ventricular tachycardia (VT) increases the risk of SCD by 4 times, and with episodes of sustained VT, the risk of SCD increases several times more.

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