Optimization of the Principles of Secondary Prevention of Myocardial Infarction

1. Rakhmatova Dilbar
2. Baxriddinovna

1,2 Bukhara State Medical Institute

Abstract: Prevention of pathologies of the cardiovascular system, in particular ischemic heart disease (ISD), remains one of the modern tasks of applied health and medical science in recent decades. Significant increase in mortality is associated with high prevalence and low efficacy of primary and secondary prevention systems of cardiovascular pathology. Ischemic heart disease at its acute manifestations, such as primary and recurrent myocardial infarction (MI), are the leading causes of death from circulatory system diseases. The incidence and mortality from myocardial infarction remain high in our country. It should be noted that the mortality rate from MI is also high among the elderly and the elderly population. It accounts for 2/3 of death from cardiovascular pathologies. Despite the active introduction of modern methods of traditional treatment, modern methods of myocardial revascularization, mortality from MI remains very high in all age groups.

Key words: myocardial infarction, secondary prevention, cardiovascular system, modern treatment methods.

Introduction. One of the most dangerous complications of acute myocardial infarction is chronic heart failure and recurrent myocardial infarction, which are the leading causes of early death [1,5,7]. Indeed, today the diagnosis of myocardial infarction is based on clinical evaluation, taking into account the patient's condition, clinical history, ECG data and specific laboratory parameters. Early diagnosis of myocardial infarction is not a completely solved problem. Chronic heart failure worsens patients’ quality of life to a certain extent, which is complicated by death. One of the main tasks of modern cardiology is to solve the problem of heart reconstruction in patients of different ages in order to prevent myocardial dysfunction and chronic heart failure in patients with myocardial infarction [1,2,3,8]. Recurrent myocardial infarction is accompanied by many complications, clear formation of cardiac myocardium, and a high mortality rate. It should be borne in mind that due to the early application of modern therapies, the number of patients surviving after primary myocardial infarction increases and the number of patients with recurrent myocardial infarction increases significantly [4,6,9]. Chronic heart failure worsens patients’ quality of life to a certain extent, which is complicated by death. One of the main tasks of modern cardiology is to solve the problem of heart reconstruction in patients of different ages in order to prevent myocardial dysfunction and chronic heart failure in patients with myocardial infarction [10,11,13,15].
The purpose of the study: To develop a method for improving the secondary prevention of myocardial infarction in patients.

Materials and research methods: The study was conducted in Bukhara. In the Bukhara branch of the Republican Scientific Center of Emergency Care 378 cases of disease were studied retrospectively in the department of emergency cardiology.

For research purposes, linear statistical methods and two methods of multivariate statistical analysis were used: the cluster analysis method [12,14,17], and the tree classification method. [15,18]. The study was analyzed using the STATISTICS10 program. In a comparative analysis of data on attractiveness after myocardial infarction, taking into account the age and sex of 378 patients, an analysis of their ability to access health facilities was conducted: emergency medical care (EMS), clinics and hospitals. Cardiovascular disease is a set of tasks aimed at preventing complications and death from heart disease by correcting the principles of treatment in patients with cardiovascular disease and implementing measures to eliminate risk factors. For patients with diseases of the cardiovascular system, preventive measures should be taken as soon as possible[16,17]. Secondary prevention of diseases with this pathology is carried out in two stages:

1. As part of outpatient monitoring of patients with cardiovascular disease by cardiologists and district physicians in primary health care facilities;
2. The second way is specialized, including high-tech, medical care, medical rehabilitation and spa treatment.

To prevent complications and recurrence of diseases of the cardiovascular system, the following is done:

- timely consultation with a specialist doctor,
- examination in accordance with the instructions for specialized treatment,
- special high-tech treatment with instructions for its implementation,
- prevention counseling and correction of risk factors during specialized interventions with the participation of the physician performing this intervention to correct the identified risk factors in the hospital and maintain a healthy lifestyle;
- medical rehabilitation.

Research results: Patients were divided into four groups according to the cluster analysis, which were structured according to the principle of minimal difference in symptoms and were similar to the initial data (Table 1). The age and sex of patients with coronary artery disease were the main criteria, and the number of patients who consulted a cardiologist or local therapist in outpatient clinics was included. The first group included 139 patients, the second - 152, the third - 56 and the fourth - 31 people (a total of 378 patients), taking into account the number of days hospitalized for complex treatment in the hospital and rehabilitation department.

In the first group, 139 patients had low visits to a cardiologist or outpatient therapist, and hospitalization of patients with cardiovascular disease in the post-myocardial infarction period was one of the lowest. This is due to the fact that the mean age in the first group was 65.40 ± 0.93 years (Table 1).

In contrast to the patients in the other group, the mean age of the 152 patients in the second group was 74.31 ± 0.67 years, including women. That is, the second group included the oldest patients. The majority and the lowest proportion of hospitalized patients in the second group sought emergency care and were referred to the rehabilitation department. The third group of patients were elderly people,
their mean age was 78.52 ± 0.54 years, and almost all patients were men. The third group of patients had an average rate of outpatient treatment and hospitalization.

Table 1: Statistics of patients assigned to one of the four groups (M ± m)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Group 1 (M ± m)</th>
<th>Group 2 (M ± m)</th>
<th>Group 3 (M ± m)</th>
<th>Group 4 (M ± m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The number of calls to a cardiologist or therapist per patient in polyclinics</td>
<td>1.34±0.17</td>
<td>1.69±0.11</td>
<td>2.30±0.19</td>
<td>1.52±0.27</td>
</tr>
<tr>
<td>The number of calls to the emergency ambulance for each patient</td>
<td>0.53±0.11</td>
<td>1.27±0.24</td>
<td>0.41±0.18</td>
<td>0.39±0.19</td>
</tr>
<tr>
<td>Hospitalization of each patient</td>
<td>0.21±0.04</td>
<td>0.30±0.05</td>
<td>0.38±0.09</td>
<td>0.19±0.11</td>
</tr>
<tr>
<td>Number of hospitalizations (to the rehabilitation unit) for each patient</td>
<td>0.34±0.04</td>
<td>0.10±0.02</td>
<td>0.43±0.07</td>
<td>1.03±0.03</td>
</tr>
<tr>
<td>Age of patients</td>
<td>65.40±0.93</td>
<td>74.31±0.67</td>
<td>78.52±0.54</td>
<td>86.01±1.48</td>
</tr>
<tr>
<td>Gender</td>
<td>1.00±0.00</td>
<td>2.00±0.00</td>
<td>1.02±0.02</td>
<td>1.71±0.08</td>
</tr>
</tbody>
</table>

They ranked third in the number of visits to the emergency ambulance and second in the rehabilitation department. In the fourth group, one-third of men and two-thirds of women were older, with an average age of 86.01 ± 1.48 years. The fourth group of patients ranked third in the number of outpatient and hospitalizations in the rehabilitation department. But they received minimal calls for emergency medical care and were hospitalized. The number of inpatient treatment courses in each group was high. In the post-infarction period, 102 of the 378 patients were hospitalized - that’s 27%, or one-third of all patients. In all four groups of patients, the number of visits to the cardiologist and general practitioner was low, in the third group of patients - a maximum of 2.30 ± 0.19. Of the 378 patients, 118 or - 31% with coronary artery disease had never seen a physician or cardiologist and had not seen a district therapist. This is due to the lack of communication between the hospital and the clinic in the transfer of patients with myocardial infarction and the lack of data on patients with myocardial infarction in the clinics in their area. 'may be.

In all four groups of patients, the number of hospitalizations and visits to the emergency department was very high (Table 1). Probably due to the lack of cardiologist and doctor visits, the number of hospitalizations did not decrease with the increase in the number of visits to the cardiologist and therapist. In contrast, frequent visits to the cardiologist and therapist accounted for a third group of hospitalized patients (Table 1). Some cases are related to rehabilitation. The average number of hospitalizations in the rehabilitation unit corresponded to the lowest number of hospitalizations of the fourth group and the lowest frequency of visits to the emergency ambulance (Table 1).

The analysis of the clusters made it possible to determine the direction of the inverse relationship between the number of patients admitted to the rehabilitation unit. Also, the number of hospitalizations with coronary heart disease in the post-infarction period and the number of calls to the NSMC. In general, the number of hospitalizations in the rehabilitation unit is small, but in the first, second, and third groups of patients is much lower than for each patient (Table 1). Presumably, in the post-infarction period, this is in part due to the high frequency of hospitalizations. The information value of
each criterion studied was determined by the tree classification method. That is, the patient's age, sex, number of hospitalizations in the rehabilitation unit, number of visits to the cardiologist or general practitioner, number of calls to the medical ambulance, number of previous hospitalizations, clusters were found (Table 2).

In the post-infarction period, “age”, “gender” and the number of patients admitted to the rehabilitation unit play a key role in predicting hospitalization with coronary artery disease in order to assign a patient to one of 4 groups.

The criterion of “referring patients to a cardiologist or therapist in outpatient clinics” is also more informative.

It should be borne in mind that myocardial infarction leads to death in 30% of cases before hospitalization - during hospitalization and in the first hours of the disease. Hospital deaths occur in 13 - 28% of patients in the first 28 weeks of illness. During the first year after myocardial infarction, mortality was observed in 4–10% of cases, of which 35% were over 65 years of age.

Table 2. A set of information criteria used to create a classification tree

<table>
<thead>
<tr>
<th>Criteria</th>
<th>A number of information criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>100</td>
</tr>
<tr>
<td>Gender</td>
<td>75</td>
</tr>
<tr>
<td>Number of hospitalizations in the rehabilitation department</td>
<td>63</td>
</tr>
<tr>
<td>Patients' referrals to a cardiologist or therapist in outpatient clinics</td>
<td>57</td>
</tr>
<tr>
<td>Number of calls to emergency ambulance</td>
<td>11</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>7</td>
</tr>
</tbody>
</table>

Early thrombolysis, restoration of coronary conduction, use of acetylsalicylic acid-blockers and angiotensin-converting enzyme inhibitor improve disease outcome, maintain left ventricular systolic activity during inferior wall infarction. Lack of timely reperfusion (delayed or complete), decreased left ventricular systolic activity, ventricular arrhythmia, necrosis of a large part of the myocardium, decreased blood pressure from the beginning of the disease, signs of acute left ventricular failure and distant signs indicate ischemic ECG results. The great social significance of ischemic heart disease is related to the prevalence of this disease, its severity, developmental trend, severe complications, and serious economic losses.

Improving the existing dispensary monitoring system can become a promising technology for the prevention of complications of cardiovascular pathology in patients with myocardial infarction in primary health care facilities. At present, the effectiveness of clinical examination as a prophylactic technology in real clinical practice is low. Because many of its components are not fully developed organizationally and methodologically. A number of studies devoted to this problem in cardiology, particularly in the prevention and treatment of coronary heart disease, have identified inconsistencies between international medical practice standards and actual medical practice. Based on the data obtained in the outpatient treatment of patients with myocardial infarction in the post-infarction period, targeted clinical examination allows to assess the degree, timing and quality of secondary prevention of myocardial infarction.
In order to improve the quality of low-level dispensary control in the examination of patients with MI and increase the effectiveness of rehabilitation measures, it is necessary to create a single database of patients with MI in the region. Applying the results of this study in health care practice reduces the risk of cardiovascular disease, i.e. death. It is necessary to increase the effectiveness of rehabilitation measures and provide information about patients with myocardial infarction in the region, control their access to clinics, ambulances, hospitals, improve the organization of active calls to them. It is advisable to monitor the regular medical examination of patients with myocardial infarction and to develop rehabilitation of patients with myocardial infarction.

Conclusion.

1. The frequency of hospitalization of patients with myocardial infarction does not decrease with the increase in the number of visits to clinics due to the low quality of dispensary control.
2. Treatment of patients in the rehabilitation wards in the post-infarction period reduces the number of days of inpatient treatment and leads to a decrease in the number of patients visiting the NSC with coronary heart disease.
3. Due to the low level of secondary prevention of myocardial infarction, almost one-third of patients in the post-infarction period are re-hospitalized for coronary heart disease within six months.
4. The number of hospitalizations for cardiovascular diseases in patients in the post-infarction period can be determined using statistical analysis methods, taking into account the most informative features, gender, age of the patient, the number of hospitalizations in the rehabilitation department.
5. It is necessary to create a single database of patients with MI in the region to improve the quality of low-level dispensary control and increase the effectiveness of rehabilitation measures during the examination of patients with MI. Applying the results of this study in health care practice reduces the risk of cardiovascular disease, i.e. death.

References:


