

Secondary Prevention of Ischemic Stroke in the Outpatient Stage

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Abstract

An assessment of the quality of basic pharmacotherapy in patients with ischemic stroke and an analysis of the frequency and nature of cardiovascular complications according to prospective follow-up data was carried out. The study included 114 patients with acute ischemic stroke and sinus rhythm. After discharge from the hospital, a telephone survey was used to assess patients' adherence to medication and the frequency of cardiovascular complications was recorded. The prospective follow-up period was 21 months (15 months; 44 months). Cardiovascular complications were observed in 33 patients (21%), of which 11 (8%) were fatal. These 11 patients were older than the rest, had a greater number of repeated ischemic strokes, more stable forms of coronary heart disease (post-infarction atherosclerosis, angina pectoris), a higher risk of cardiovascular complications on the ESRS scale and a smaller amount of treatment with diuretics, antithrombotic drugs, especially indirect anticoagulants ($p < 0.05$).

Keywords: cardiovascular vascular complications, ischemic stroke, secondary prevention.

Acute disorders of cerebral circulation remain the most important medical and social problem, account for a high proportion of morbidity and mortality of the population, are an important indicator of temporary disability and primary disability [1, 2]. It has also been shown that patients with a history of stroke have a 9-fold higher risk of recurrent acute cerebrovascular events and a 2-3-fold higher risk of developing myocardial infarction (MI) and sudden cardiac death (SCD) [3]. The importance of early initiation of secondary prevention in patients with acute cerebrovascular disorders is emphasized in many practical recommendations. Currently, strict adherence to the principles of secondary stroke prevention, based on the correction of modifiable risk factors, pharmacotherapy and vascular surgery, allows minimizing all cardiovascular complications [4, 5]. However, despite the widespread dissemination of evidence-based medicine data and attempts to introduce them into clinical practice, cardiovascular outcomes after stroke worsen due to patients' non-compliance with the necessary recommendations [6]. In addition, the management of arterial hypertension (AH) and dyslipidemia is suboptimal even in cases where patients with stroke and/or coronary heart disease (CHD) receive regular pharmacological therapy.

According to the literature, the indicators characterizing the frequency of cardiovascular complications and mortality vary significantly depending on a number of factors, including the patient's age, the severity of neurological disorders, the subtype of stroke, the presence of coronary artery disease, atrial fibrillation (AF) and other complications [8, 9]. It is also necessary to take into account the nature of the study population (urban or rural), duration of observation and objective conditions. In the last decade, great importance has been attached to patients' adherence to treatment, mainly with drugs with proven preventive effect [9]. Given the results of major studies on the prevention of recurrent stroke, this is becoming an increasingly important factor in the long-term prognosis. On the quality of polyclinic basic pharmacotherapy in patients with ischemic stroke and to analyze the frequency and nature of cardiovascular complications

according to prospective follow-up data. Patients and methods The study included 104 patients (74 men (63%) and 30 women (37%)) with acute ischemic stroke and sinus rhythm treated in neurology. The average age of patients was 59 (53; 67) years. The study was conducted in two stages: inpatient and outpatient. At the reception stage, a complete clinical and instrumental assessment of the patient's condition was carried out. All patients underwent computed tomography (CT) or magnetic resonance imaging (MRI) of the brain. Neuroimaging features of brain damage (localization and size of infarction) were evaluated. Duplex scanning was used to determine the presence and degree of atherosclerotic stenosis, deformities and abnormalities of the brachiocephalic artery (BCA). Cardiological studies included transthoracic echocardiography of KG and daily Holter monitoring (HM). FM was performed 21-22 days after the onset of stroke to exclude acute brain effects. The presence of disorders associated with an increased risk of cardiovascular complications, such as paroxysmal AF and frequent ventricular extrasystoles (>10 extrasystoles per hour), was analyzed using CM in addition to standard processing of the results. The type of ischemic stroke was determined by synthesizing the results of a clinical and instrumental examination, taking into account the characteristics of the clinical examination data and the clinical picture. In all patients, the risk of recurrent cardiovascular complications in the long-term post-stroke period was assessed using the ESRS prognostic scale [9, 10], the minimum ESRS score was 0 points, the maximum was 9. A score of 3 or more points is a high-risk category with a probability of developing serious complications within one year of more than 4%. Equivalent. In addition, after the end of the acute phase of stroke (day 21), the severity of neurological symptoms on the Scandinavian scale and the functional status of the patient on the modified Rankin scale were determined: 0 points - the absence of neurological symptoms; 5 points - the inability to carry out daily life activities without assistance.

Patients were included in prospective follow-up 20-30 days after the onset of stroke, which in principle coincided with the end of treatment in the department of acute cerebral circulation disorders. The study included.

Patients with severe physical pathology, including severe speech disorders, dementia and neoplastic pathology, were not included in the study. At the outpatient follow-up stage, a standard telephone survey was conducted every three months.

At the stage of outpatient follow-up, a unified telephone survey of patients or their relatives was conducted in order to obtain information about their condition, the degree of social and professional adaptation, the presence of cardiovascular complications and drug therapy.

Stroke, TIA, acute myocardial infarction, unstable angina, acute heart failure (including exacerbations of chronic heart failure (CHF) requiring hospitalization), cardiovascular death and death from all causes were recorded as complications. All cardiovascular events were included in a single comprehensive assessment of clinical outcomes (total endpoint).

At the stage of outpatient follow-up, a single telephone survey of patients or their relatives was conducted every three months in order to obtain information about the patient's condition, the degree of his social and professional adaptation, the presence of cardiovascular complications and ongoing drug therapy. Repeated stroke, TIA, acute myocardial infarction, unstable angina, acute heart failure, including exacerbation of chronic heart failure (CHF) requiring hospitalization, cardiovascular death and death from all causes were recorded as complications. All cardiovascular events were taken into account as part of a single comprehensive indicator of clinical outcome (total endpoint). Duplex scanning was used to determine the presence and degree of atherosclerotic stenosis, deformity and abnormal formation of brachiocephalic arteries (BCA). Cardiological studies included transthoracic echocardiography of KG and daily Holter monitoring (HM). FM was performed 21-22 days after the onset of stroke to exclude acute brain effects.

In addition to the standard processing of the results, the presence of disorders associated with an increased risk of cardiovascular complications was analyzed: paroxysmal AF, frequent ventricular extrasystoles - JE (the presence of more than 10 extrasystoles per hour).

(the presence of more than 10 abbreviations per hour)). The type of ischemic stroke was determined based on the totality of the results of a clinical and instrumental examination, taking into account the characteristics of the medical examination data and the clinical picture.

The risk of recurrent cardiovascular complications in the long-term post-stroke period was assessed in all patients using the ESRS prognostic scale [9, 10], taking into account age, hypertension, diabetes mellitus (DM), stroke (DM), a history of MI, a history of stroke.

(DM), a history of MI, other cardiovascular diseases, stiffness of peripheral arteries, smoking and transient ischemic attacks (TIA) or strokes (Table. 1) The minimum score on the ESRS scale is 0 points, the maximum is 9. A score of 3 or more points belongs to the high-risk category with a probability of serious complications within one year of 4% or more. Equivalent. After the end of the acute phase of stroke (day 21) The severity of neurological symptoms was also measured on the Scandinavian scale and the functional status of the patient on a modified scale.

In the absence of neurological symptoms, the patient was assessed at 0 points, and if it was impossible to perform everyday actions without assistance, 5 points.

Patients were included in prospective follow-up 20-30 days after the onset of stroke, which in principle coincided with the end of treatment in the department of acute cerebral circulation disorders. In this study.

The study did not include patients with severe physical pathology, including severe speech disorders, dementia and neoplastic pathology.

At the stage of three-month outpatient follow-up, a single telephone survey of patients or their relatives was conducted in order to obtain information about their condition, the degree of social and professional adaptation, the presence of cardiovascular complications and drug therapy.

Among the registered complications are stroke, TIA, acute myocardial infarction, unstable angina, acute heart failure, including exacerbation of chronic heart failure requiring hospitalization, cardiovascular death and death from all causes.

Deaths and deaths from all causes were recorded. All cardiovascular events were taken into account as part of a single comprehensive indicator of clinical outcome (total endpoint). The data of a systematic study showed that the majority of patients after inpatient treatment continued regular antihypertensive pharmacotherapy, as a rule, as part of combination therapy (Table 3). Preference was given to angiotensin converting enzyme inhibitors (ACE inhibitors) or angiotensin II receptor blockers (ARBs), less often thiazide or thiazide-like diuretics, beta-adrenergic blockers and calcium channel blockers were prescribed in both groups. In group 1, diuretics were prescribed statistically significantly less frequently ($p < 0.05$). Regular antithrombotic therapy was received by 29 (83%) patients of group 1 and 117 (96%) of group 2 ($p < 0.01$). Oral anticoagulants (in the vast majority of cases — warfarin) in the presence of direct indications (AF, prosthetic valve), only 6 (55%) of 11 patients of group 1 were taken, whereas in group 2, 20 (91%) of 22 patients constantly used anticoagulants ($p < 0.01$). The vast majority of patients had regular monitoring of the international normalized ratio (INR), and its values were kept in the target range (2-3). Statins were prescribed to about half of the patients in both groups. Due to the frequent FE, amiodarone was taken by 2 (6%) patients of group 1 and 4 (3%) of group 2 ($p > 0.05$). In the long-term post-stroke period, nine patients underwent planned reconstructive operations for BCA: four - carotid endarterectomy, five - transcatheter angioplasty with stenting (an equal number in both groups). A third of the patients in each group continued to smoke.

It is known that in order to achieve maximum effectiveness in preventing recurrent stroke, it is necessary to overcome the main paradox of preventive angiology - the discrepancy between the data accumulated during studies conducted in accordance with the principles of evidence-based medicine and the actual application of this knowledge in everyday clinical practice [7]. The lack of uniform standards of treatment required by post-stroke patients and insufficient awareness of patients (or their relatives) are associated with worse life outcomes. In this regard, the results of a

study of the long-term consequences of stroke conducted more than 40 years ago, when there was no objective opportunity to introduce appropriate antihypertensive, antithrombotic and hyperlipidemic therapy are important [11]. In this prospective study, post-hospital mortality in the first three years was 41%, and cumulative mortality was 0.5% by the end of the seven-year follow-up. After seven years of follow-up, cumulative mortality reached 61%. The main causes of death after stroke were recurrent stroke, cardiovascular and somatic diseases.

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