
Clinical Picture of Ischemic Stroke in Combination with Ischemic Heart Disease

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ABSTRACT

When studying the features of the clinical picture of ischemic stroke, depending on the presence of cardiac pathology, in 182 patients (95 women and 87 men) aged 41 to 79 years in the most acute and acute periods of ischemic stroke (IS) in the middle cerebral artery (MCA) basin, it was revealed that cerebral and focal stroke symptoms were more pronounced, and the general condition was more often severe in patients with coronary artery disease, especially in females.

KEYWORDS: Ischemic stroke, coronary heart disease.

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THE RELEVANCE OF RESEARCH

The problem of cerebral ischemic stroke (IS) is very acute due to the significant frequency of its development, a high percentage of disability and mortality [2,3]. Every year 6 million people worldwide have a stroke [8,9]. Among the reasons for the development of acute disorders of cerebral circulation (ADCC), according to the concept of pathogenetic heterogeneity of IS, cardiac pathology occupies one of the leading places. With cardiogenic causes of stroke development in its course and prognosis, along with neurological symptoms, extracerebral complications and conditions play a special role [1,5]. From 2 to 6% of patients die of cardiac causes in the first 3 months after acute IS [6]. The complexity of diagnosis in the case of a combination of stroke and cardiac pathology is associated with the prevalence of cerebral symptoms more often.

Success in this type of pathology in patients with combined lesions of the coronary and carotid areas depends on the rational use of modern diagnostic methods with stratification of risk factors, which allows choosing the optimal tactics for the treatment and prevention of cerebral and cardiac complications [4,7]. Timely recognition of cases of a combination of stroke and myocardial infarction is extremely important, which underlines the need for further research.

PURPOSE OF THE STUDY

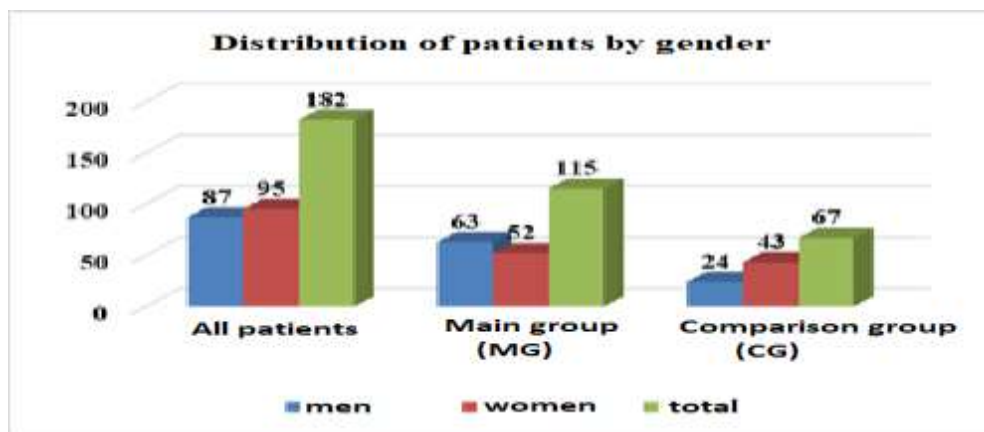
To identify the features of the clinical picture of ischemic stroke in combination with coronary heart disease, taking into account gender differences.

MATERIALS AND METHODS

The studies were carried out on the basis of the neurological department of the Bukhara branch of the RSCEMA. A total of 182 patients (95 women and 87 men) aged 41 to 79 years were studied in the most acute and acute periods of ischemic stroke (IS) in the middle cerebral artery (MCA) basin. Patients were recruited for 5 years. The selection criteria were: 1) patients with ischemic stroke in combination with coronary artery disease (main group - MG); 2) persons with ischemic stroke without coronary artery disease (comparison group - CG).

Of the 182 examined, 115 patients were MG with IS and IHD, the mean age was 69.2 ± 5.1 years. The CG included 67 people with IS without IHD, the average age was 58.4 ± 6.5 years. In the main group, 63 women (54.8%) and 52 men (45.2%) were observed. The average age of men is 65.3 ± 7.6 years, of women - 71.3 ± 6.1 years. In the comparison group and in the main group, the average age of men and women was, respectively, 67.1 ± 6.2 years and 69.0 ± 4.3 years (Figure 1).

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Picture. 1. Distribution of patients by gender.

In addition to studies of the neurological status and routine research methods (general and biochemical blood tests, computed tomography of the brain, ultrasound duplex scanning of brachycephalic vessels), with the help of which the presence of an IS focus was established. To objectify neurological deficits and the severity of the condition, we used the National Institutes of Health Stroke Scale (NIHSS) (Brott T., 1989), the Modified Rankin Scale (Rankin J., 1957), Rivermead mobility index) (Collen FM, 1991), Glasgow Coma Scale.

In pairwise comparison of patient groups, the nonparametric Mann-Whitney U-test was used. Differences were considered significant at the achieved level of significance $p < 0.05$. Results are presented as arithmetic mean and standard deviation ($M \pm s$).

RESULTS The study of the clinical picture of patients with OH included the study of subjective and objective symptoms in comparison with those in persons with CG. Patients with

MG on admission more often (53.0%) complained of weakness in the arm and / or leg, and more often they were men. The second most frequent was speech impairment - 42.6%. 39 (33.9%) patients with MG did not complain due to the severity of the condition, depression of consciousness, aphasia or anosognosia. In the CG, weakness in the arm and leg was also the leading complaint (41.8%), speech impairment also ranked second in frequency (40.3%). In this group, there were only 5 patients (11.6%) who could not complain because of their condition ($p < 0.01$) (Table 2).

Only 8 patients with MG (12.7%) complained of pain in the region of the heart, the rest either did not experience pain or could not report it because of their condition. In patients with CG, complaints of pain in the heart were rare — in 13.4% of cases, they more often complained of headache (40.3%). In the MG, headache worried about 25 women (39.7%) and 19 men (36.5%), i.e., in general, it was the same as in the CG.

Table 1. Complaints of patients of the main group.

Main group, complaints	Women (n=95)		Men (n=87)		Total (n=115)	
	abc.	%	abc.	%	abc	%
Headache	25	39,7%	19	36,5%	44	38,3%
General weakness	13	20,6%	14	26,9%	27	23,5%
Chest pain	8	12,7%	9	17,3%	17	14,8%
Weakness in the arm, leg	29	46,0%	32	61,5%*	61	53,0%
Sensory impairment	8	12,7%	9	17,3%	17	14,8%
"Skewed" face	20	31,7%	25	48,1%*	45	39,1%
Speech impairment	25	39,7%	24	46,12%*	49	42,6%
Dizziness	3	4,8%	5	9,6%	8	7,0%
Impaired coordination	2	3,2%	4	7,7%	6	5,2%
Unsteadiness when walking	2	3,2%	5	9,6%	7	6,1%
Nausea, vomiting	3	4,8%	4	7,7%	7	6,1%
No complaints for condition	26	41,3%	13	25%*	39	33,9%

Note. Statistical significance of differences: * - $p < 0.01$;

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A more typical complaint for MG patients was general weakness (23.5%), with approximately the same frequency in men and women (20.–26.9%). CG patients complained of general weakness in 25.4% of cases.

Facial asymmetry, which the patients called “skew”, disturbed 39.1% of patients with MG and did not statistically differ from the frequency of this complaint in CG (34.3%). Patients of both groups complained of

impaired sensitivity, somewhat more often in the CG, without a significant difference ($p < 0.5$), for men and women in MG this complaint was not very typical.

Impaired coordination, dizziness, and unsteadiness when walking was also uncommon in MG patients. Male patients with MG reported dizziness more often than female patients (see Table 1).

Table 2. Complaints of patients in the comparison group.

Comprasion group, complaints	(n = 43)		(n = 24)		(n = 67)	
		%		%		%
Headache	17	39,5%	10	41,7%	27	40,3%
General weakness	12	27,9%	5	20,8%	17	25,4%
Chest pain	5	11,6%	4	16,7%	9	13,4%
Weakness in the arm, leg	16	37,2%	12	50,0%	28	41,8%
Sensory impairment	9	20,9%	5	20,8%	14	20,9%
"Skewed" face	15	34,9%	8	33,3%	23	34,3%
Speech imparment	16	37,2%	11	45,8%*	27	40,3%
Dizziness	3	7,0%	4	16,7%*	7	10,4%
Impaired coordination	3	7,0%	4	16,7%*	7	10,4%
Unsteadines when walking	3	7,0%	6	25%*	9	13,4%
Nausea, vomiting	1	2,3%	2	8,3%	3	4,5%
No complaints for condition	5	11,6%	3	12,5%	8	11,9%

Note. Statistical significance of differences: * - $p < 0.01$;

In both groups, in general, a serious condition was more common in women (75.4%) than in men (46.0%) ($p < 0.01$). 40.8% of patients with MG were admitted to the hospital with impaired consciousness: stunning occurred in 29 patients (25.2%), stupor - in 12 (10.4%), coma - in 6 (5.2%). At the same time, sopor and coma were observed in women more often - 17 patients (14.8%), than in men - 12 (10.4%) (unreliable, $p < 0.2$). The majority of patients with CG on admission did not have impairment of consciousness. Psychomotor agitation was found in 14 (12.2%) patients with MG: 8 women and 6 men. Hemorrhagic transformation of IS occurred in 8 patients with MG (6.9%) and in 3 patients with IS (4.5%). Hemorrhagic transformation was statistically more common in men with MG: 18.5% versus 2.2% in women ($p < 0.05$).

Focal symptomatology in patients of both groups was predominantly hemispheric and indicated a lesion of the cortex and subcortical region. Central paresis of facial muscles (84.3%) was most common in MG patients. In second place is anisoreflexia (78.3%), in third place are pathological pyramidal reflexes (62.1%), both of which were a manifestation of central hemiparesis or hemiplegia. Hemiplegia, as the most severe manifestation of damage to the motor sphere, was statistically significantly more frequent in MG than mild ($p < 0.01$) or moderate hemiparesis ($p < 0.01$). In the CG, on the contrary, mild hemiparesis prevailed ($p < 0.01$) (Fig. 2,3).

There were no statistically significant differences between the groups in the frequency of anisoreflexia, but pathological pyramidal signs were more common ($p < 0.01$) in MG (Fig. 2).

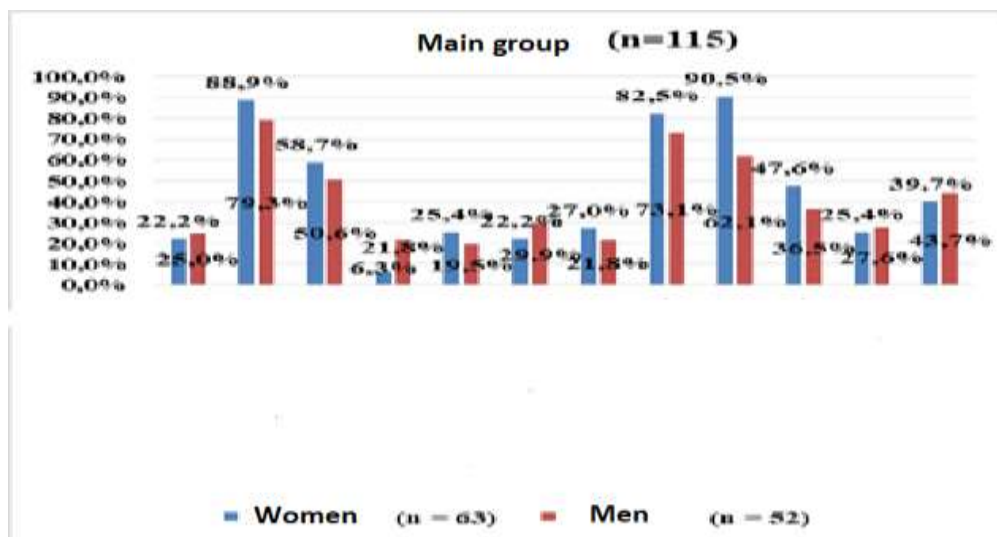


Figure 2. Focal neurological symptoms in patients of the main group (%).

In patients with MG, central paresis of the muscles of the tongue was reliably observed, especially in women ($p < 0.05$), and paresis of the gaze, indicating the vastness of the focus and the severity of the stroke ($p < 0.001$). There was only one patient with gaze paresis in the CG.

Speech disorders were in second place in terms of frequency after movement disorders in patients of both

groups, with aphasia occurring with approximately the same frequency, and dysarthria predominated in CG ($p < 0.05$). In both groups, aphasia was more common in women, and dysarthria in men, without a significant difference (Fig. 2.3).

Sensory disorders in the form of hemianesthesia were revealed a little more often (without a significant difference) in women with MG (47.6%).

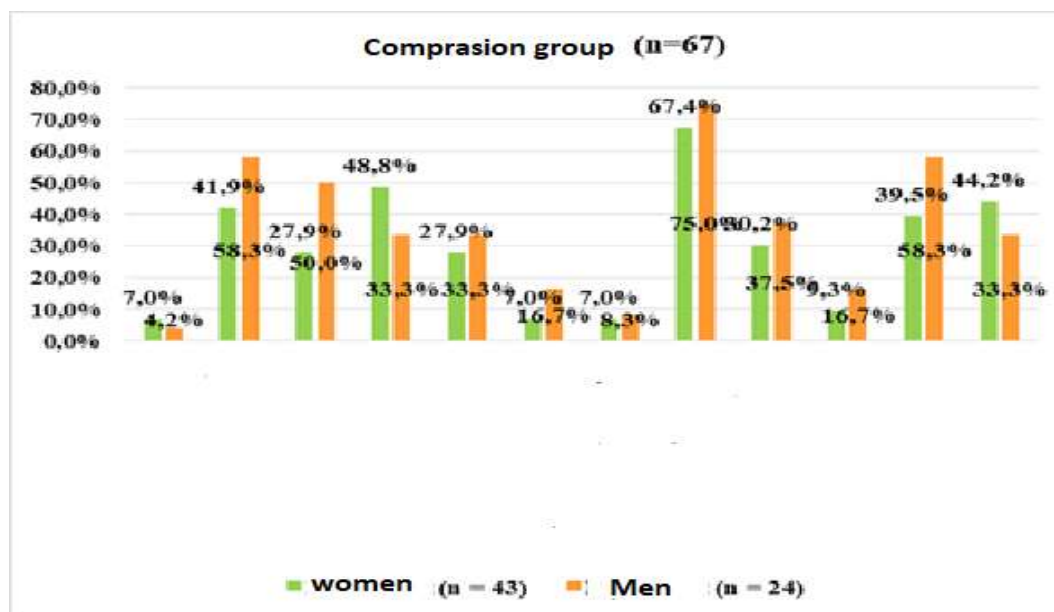


Figure 3. Focal neurological symptoms in patients of the comparison group (%).

When comparing focal neurological symptoms in the gender aspect, it was found that women with AH statistically significantly more often than men had a set of symptoms: paresis of the gaze, tongue, aphasia, hemiplegia and hemianesthesia, which may indicate a greater severity of stroke and the extent of the lesion. Taking into account the total frequency of severe motor disorders, such as hemiplegia, their statistically significant predominance was obtained in women with MG (27.0% versus 21.8% in men, $p < 0.001$). Significantly less frequently in patients with OH, there were such lesion symptoms as dysphagia (9.7%),

nystagmus (6.9%), anisocoria (5.6%), diplopia (2.7%), hemianopsia (1.4%), which did not differ significantly from those in the CG.

CONCLUSION

Thus, the analysis of clinical manifestations in patients with IS showed that cerebral and focal symptoms of stroke were more pronounced, and the general condition was more often severe in patients with coronary artery disease, especially in females.

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