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COGNITIVE FUNCTIONS IN PATIENTS WITH CHRONIC MIGRAINE

Abstract: Migraine is the second most common form of headache, which affects 11-15% of the adult population [1, 2]. The prevalence of migraine in the adult population in Europe is 14% [3], in China – 9.3% [4], in the USA – 20.2% [5], in Russia – 20.3% [6]. Migraine is one of the most common forms of headache in Uzbekistan. According to research, about 8.1% of the population suffers from migraines, and most often this disease occurs in people aged 30 to 49 years. Women suffer from migraines 2-3 times more often than men. Migraine significantly reduces the ability to work and the quality of life of patients [7]. It was noted that patients with migraine are significantly more likely than in the general population to complain of memory loss [8]. Many researchers point out objective deterioration of cognitive functions in patients with migraine. Other authors, on the contrary, report the absence of objective cognitive impairment in migraines. At the same time, over the past decade, clinical data have been obtained that patients with migraine have an increased risk of stroke, arterial hypertension and diabetes mellitus are more common [9-10]. Interestingly, migraines, as well as ischemic stroke and dementia, are more common in women. In some patients with migraine, magnetic resonance imaging (MRI) reveals areas of damage to the white and, to a lesser extent, gray matter of the brain. The clinical significance of these injuries is debated, and their effect on cognitive functions is unclear.

Keywords: migraine, headache, decreased ability to work, quality of life, memory loss, dementia, magnetic resonance imaging, damage to the white and gray matter of the brain.

Prevalence and types of cognitive impairment (CB) in migraine.

A. Costa and co-authors presented a systematic review of 23 controlled studies on the state of cognitive functions in patients with migraine. Adult patients participated in 17 (73.9%) studies, and 6 (26.1%) – children and teenagers. The majority (n=15; 65.3%) of the studies were conducted in neurological institutions, the rest (n=8; 34.4%) were general population. The results of 15 (65.3%) of 23 studies demonstrated impaired cognitive functions according to neuropsychological tests, especially memory, attention and information processing speed. In 10 studies, memory loss was confirmed, in 8 –attention deficit was registered, in 6 – a decrease in the speed of information processing in patients with migraine.

It was noted that CI in migraine was more often detected in patients of neurological institutions, and 11 out of 17 studies were conducted in these institutions, and in most of them (n=9; 82%) were diagnosed with CI in migraine. Most often, the results of neuropsychological tests showed a decrease in visual and auditory memory (in 78% of studies), attention deficit (in 56% of studies), deterioration of executive functions (in a third of studies). At the same time, CI in migraine was rarely detected in general population studies. Only 1 out of 6 such studies found a decrease in cognitive function in adults with migraine. Among the CI, as in previous clinical studies, memory loss (impairment) was determined immediate and delayed memorization), deterioration of attention, slowing down the speed of information processing. In studies involving children suffering from migraine, the same phenomena were observed: CI was more often detected in clinical studies conducted in neurological institutions than in general population; Among the CI, decreased memory, attention, and information processing

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speed prevailed. Probably, in neurological institutions, CI in migraine was detected more often than in general population studies, for several reasons: 1) the use of more sensitive neuropsychological tests; 2) a more severe course of migraine in patients of neurological institutions; 3) a higher prevalence among such patients of combined diseases that worsen cognitive functions (depression, anxiety, cerebrovascular, neurodegenerative disorders).

Causes and probable pathogenesis of CI in migraine.

It is known that in the general population of elderly and senile people, the most common causes of mild and moderate CNS are neurodegenerative and vascular brain damage. In young and middle age, decreased memory and concentration are most often associated with emotional disorders (depression, anxiety), less often with organic brain damage (multiple sclerosis, stroke, infectious meningoencephalitis, neurosyphilis, post–traumatic encephalopathy, etc.).

Migraine is one of the most common forms of headache in both young and elderly patients. The factors that can provoke a decrease in cognitive functions in migraines are being studied. According to MRI data, foci of brain damage may occur in migraines, and their effect on cognitive functions is being discussed. Migraine is associated with an increased risk of developing cardiovascular diseases, in particular hypertension, ischemic stroke, hemorrhagic stroke, which they worsen cognitive functions [9, 10]. The interrelation of chronic pain syndrome and hypertension is discussed. Depression and anxiety are common in patients with migraine, which can also negatively affect cognitive functions. Today, several causes and pathogenetic mechanisms of the development of CI in migraine are being considered: 1) pathophysiological mechanisms of migraine; 2) pathophysiological mechanisms of the actual pain syndrome; 3) emotional disorders (depression, anxiety); 4) combined cerebrovascular and/or neurodegenerative diseases.

The role of migraine in the development of diabetes.

The effect of migraine-associated damage to the brain substance on the development of CI. Migraine is an independent risk factor for damage to the white matter of the brain. In patients with migraine, clinically "mute" areas of brain substance damage are found more often than in the general population, which is not related to age. In the general population, they are clinically "mute" foci of brain damage are associated with the risk of developing CI and dementia. Accordingly, it has been suggested that migraine is a disease with progressive brain damage, leading to BOOK. The validity of this assumption was studied by comparing brain MRI data and the results of a neuropsychological study of patients with migraine.

In migraine, a decrease in the volume of gray matter of the brain was found, especially in the frontal and parietal lobes. In MRI, hyperintensive areas. Lesions are often observed in the white matter in the deep parts of the frontal and parietal lobes, which are supplied with blood by the anterior cerebral artery. These foci resemble those in ischemic lesions of the white matter. The amount of damage to the white matter of the brain does not correlate with the frequency of seizures, the intensity and duration of migraine, and the use of ergotamine preparations. In a number of cases, asymptomatic infarct-like lesions of the white matter of the brain, mainly of infratentorial localization, were detected in patients with migraine. The presence of migraine-associated damage to the brain substance is not associated with age. In migraines with aura, areas of damage to the brain substance are detected more often according to MRI data than in migraines without aura. In some studies, a link was found between damage to the brain substance in migraine and CI, in others such a link has not been confirmed. So, the clinical significance of brain substance damage in the development of CI in migraine remains

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unclear and requires further study. It is advisable to conduct a separate study of the effect of hyperintensive foci and infarct-like foci of the brain on the risk of developing CI in patients of neurological institutions.

The role of vascular and neurodegenerative diseases in the development of CN in migraine.

In the general population, dementia associated with Alzheimer's disease, chronic cerebrovascular disease (vascular dementia), and mixed dementia developing with a combination of neurodegenerative and vascular processes are most common. According to epidemiological studies, there were no significant differences in the incidence of dementia and CI in patients with migraine and those without migraine [7]. Accordingly, if migraines persist in old age, CI may be They are associated with chronic cerebrovascular disease or neurodegenerative process. The definition of migraine as a risk factor for ischemic stroke is highly controversial. It is believed that in the presence of migraine attacks with aura, the risk of ischemic stroke is higher than in migraines without aura. But migraine stroke is very rare – in 0.5–1.5% of all cases of ischemic strokes.

Conclusion

Thus, cognitive decline in migraine patients is most often associated with comorbid emotional disorders (at any age), as well as with combined cerebrovascular or neurodegenerative disease (in elderly patients). The effect of migraines on cognitive function continues to be discussed. There is no clear pathogenetic role of migraine-associated damage to the white matter of the brain in the development of CI. No convincing data has been received and that migraines increase the risk of heart disease and dementia. Based on the established causes of cognitive decline in migraine, the methods of prevention and treatment of hypertension in such patients include: 1) reducing the number of migraine attacks, since a high frequency of attacks is associated with a significant risk of developing anxiety, depression; 2) elimination of emotional disorders (if present); 3) correction of cardiovascular risk factors (if present); 4) conducting cognitive training (in the presence of primary vascular and/or degenerative BOOK). To reduce the frequency of migraine attacks, preventive therapy is prescribed, taking into account the presence of emotional disorders and concomitant diseases. Preventive treatment of migraine includes standard pharmacotherapy and non-drug methods (educational conversations, cognitive behavioral therapy, biofeedback, relaxation method, mindfulness).

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