

Rehabilitation treatment of post-traumatic chronic cerebral ischemia with  
using manual therapy methods

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The rehabilitation of patients with brain ischemia syndrome by the methods of manual therapy

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SUMMARY

The article describes the clinical effect of manual therapeutic techniques in patients with post-traumatic chronic cerebral ischemia. The effectiveness and safety of manual therapy techniques in the rehabilitation of this group of patients has been confirmed. The therapeutic effect has been proven for various consequences of head injuries, which confirms the expediency of the earliest possible use of release, myofascial and neuroreflex, craniosacral and visceral techniques in rehabilitation after head injuries.

Key words: consequence of traumatic brain injury, vegetative-vascular syndrome, craniosacral techniques, manual therapy.

RESUME

The brief review of clinical action of manual therapeutic techniques for patients with post traumatic chronic cerebral ischemia is given. The efficacy and safety of manual therapeutic techniques is confirmed for rehabilitation of this group of patients. The therapeutic effect for various consequences of head injury is proved, confirming reasonability of most early use of release, myofascial, neuroreflexory, craniosacral and visceral techniques in rehabilitation of head injuries.

Keywords: consequences of craniocerebral trauma, vegetative vascular syndrome, cranio-sacral technique, manual therapy.

Introduction

Post-traumatic chronic cerebral ischemia (HCI) determined how non-progressive insufficiency of blood supply to the brain, which occurs after traumatic brain injury (TBI) and is associated with the development of diffuse small-focal changes in the brain tissue, leading to dysfunction of the brain. The main pathogenetic mechanism of HCI is ischemia associated with hypoxia of the brain tissue, leading to multifocal or diffuse brain damage, manifested by a complex of neurological, hemoliquorodynamic, electroneurophysiological and neuropsychological disorders.

In the treatment of these disorders in the practice of domestic health care seldom resort to the methods of manual medicine (MM). Meanwhile, these techniques are pathogenetically substantiated from the standpoint of the etiopathogenesis of HCI and have the properties of regulating the compensatory capabilities of the organism. [10, 12, 14]. The principles of MM are based on thousands of years of positive experience, do not distinguish the brain and its energy supply system from the whole organism, from the entire integral functional system. This is reflected in the concept of the craniosacral mechanism (CSM), from the position of which the functioning of the brain is closely connected in an uninterrupted biomechanical chain of all relationships with other organs and systems. Therefore, supporters of KSM believe that dysfunctions of various systems can participate in the development of pathology of blood circulation and cerebrospinal fluid dynamics, primarily the skull, spine, chest, pelvis, extremities and internal organs [6]. The mechanism for eliminating HCI and restoring the normal functioning of the brain provides for the impact on the above systems through the stimulation of certain reflexogenic zones, selected on the basis of the KSM rules. MM methods are able to introduce individuality into the treatment scheme and become the factor that, smoothly acting on the mechanisms of cerebral circulation autoregulation, is able to provide him with sufficient sanogenetic inertia to restore the lost efficiency. In the treatment of patients with HCI, various authors have used MM as in the form The mechanism for eliminating HCI and restoring the normal functioning of the brain provides for the impact on the above systems through the stimulation of certain reflexogenic zones, selected on the basis of the KSM rules. MM methods are able to introduce individuality into the treatment scheme and become the factor that, smoothly acting on the mechanisms of cerebral circulation autoregulation, is able to provide him with sufficient sanogenetic inertia to restore the lost efficiency. In the treatment of patients with HCI, various authors have used MM as in the form The mechanism for eliminating HCI and restoring the normal functioning of the brain provides for the impact on the above systems through the stimulation of certain reflexogenic zones, selected on the basis of the KSM rules. MM methods are able to introduce individuality into the treatment scheme and become the factor that, smoothly acting on the mechanisms of cerebral circulation autoregulation, is able to provide him with sufficient sanogenetic inertia to restore the lost efficiency. In the treatment of patients with HCI, various authors have used MM as in the form is able to provide him with sufficient sanogenetic inertia to restore the lost efficiency. In the treatment of patients with HCI, various authors have used MM as in the form

monotherapy, and in combination with different methods of reflexology, physiotherapy [8, 11, 12].

Purpose of the work: substantiation of the effectiveness of the use of MM in complex restorative treatment of patients with HCI and determination of the optimal algorithm for the use of various manual techniques.

#### Materials and research methods

Under our supervision there were 279 patients with HCI of I and II degree. traumatic genesis at the age of 14 to 45 years. The average age of the patients was 18.9 years. TBI (sports, household, road transport) in history was in all patients in terms of 1 month to several years. Of these, 217 patients of the main group (MG) received manual therapy, and 62 patients who received pharmacotherapy in combination with physiotherapy made up the control group (CG).

To verify the diagnosis and objectify the dynamics of treatment, clinical neurological research, electroencephalography, impedance measurement, pulse intervalography, neuropsychological research (Spielberger-Hanin anxiety scale, VAS, Luscher eight-color test, SAN scale) were used. Patients with MG received MM sessions (myofascial release, vertebral and visceral manipulations, craniosacral therapy) once a week No. 5-6 (Table 1). Necessarily assigned "homework" in the form of individual recipes for acupressure and neuroreflex gymnastics for three months, 2 times a day.

Table 1

The structure of the observation groups (n = 217)

Дополнительные группы	Методы лечения	Кол-во наблюдений	
ОГ	1	Массаж и миофасциальный релиз	39
	11	Массаж и миофасциальный релиз + вертебральные манипуляции	45
	111	Массаж и миофасциальный релиз + висцеральные манипуляции	39
	1У	Массаж и миофасциальный релиз + вертебральные и висцеральные манипуляции	48
	У	Массаж и миофасциальный релиз + вертебральные и висцеральные манипуляции + кранио-сакральная терапии	46
КГ	фармакотерапия в комплексе с физиотерапией,	62	

During this time, the patients of the CG also underwent a course of treatment with the use of vitamins, neurotropic, vascular preparations in combination with massage of the collar zone, balneotherapy, and electrophoresis.

#### Results and discussion

Clinical and neurological examination in patients with MG and CG revealed cephalgic, vestibular-atactic syndromes, cognitive impairments, emotional lability syndrome and autonomic dysfunction (Table 2).

table 2

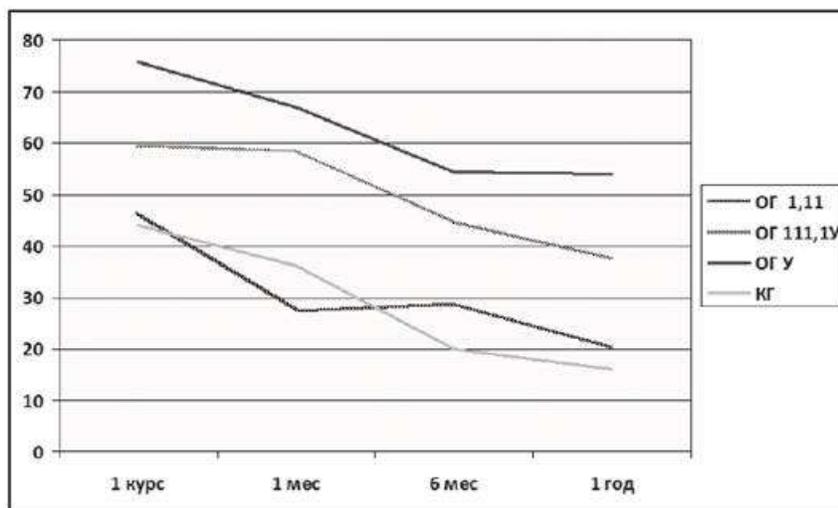
Results of clinical and neurological examination of patients in the main (MG) and control (CG) groups

Симптомы	До лечения		После лечения	
	ОГ	КГ	ОГ	КГ
Уровень тревожности по тесту Люшера	9,1 ± 0,3	9,6 ± 0,2	4,7 ± 0,2	7,5 ± 0,3
Головная боль (по ВАШ)	6,4 ± 0,3	5,7 ± 0,2	2,0 ± 0,2	5,0 ± 0,4
Объемная скорость кровотока, РЭГ	12,2 ± 0,3	11,6 ± 0,3	21,1 ± 0,3	14,5 ± 0,3
Индекс вегетативного равновесия, ИВР	0,12 ± 0,1	0,11 ± 0,2	0,30 ± 0,11	0,15 ± 0,1

As a result of treatment, patients in both groups showed a positive dynamics of complaints and neurological symptoms, of varying severity - both clinically and in terms of time, which was confirmed by the data of clinical, instrumental and neuropsychological studies. Subjectively, the severity of asthenic complaints decreased in patients, and their mood improved significantly. The frequency and severity of headaches, dizziness, noise and ringing in the head also decreased, memory improved, anxiety and emotional lability decreased. The fastest and most pronounced influence of MM was observed in OG-111.1U, U in the psychoemotional sphere, which led to an improvement in the communicative capabilities of patients and their social adaptation, quality of life. The restoration of functions in OG-1.11 and KG turned out to be somewhat less,

a long process.

After the treatment, there was an increase in the velocity characteristics of blood flow by 20% in the MG (1-111) and by 15% in the CG for the studied arteries in both groups in comparison with the initial level and methods of treatment. The positive effect of the therapy was reflected in the trend towards the normalization of the main EEG rhythms. In patients of both groups, against the background of the treatment, an increase in the total spectrum of alpha activity (mostly in the frontal and temporal regions), beta-1 activity (mainly in the central region) and beta-2 activity (mostly in the temporal and central regions) was recorded. The average value of the total spectrum of theta and delta activity decreased during treatment. The greatest dynamics was recorded in the temporal, parietal and frontal lobes. The average value of the decrease in theta- and delta-activity was greater in the MG - IV, Y in comparison with the CG group (Fig. 1).



Rice. 1. Dynamics of positive results in different groups of observation during 1 year.

The results of statistical data processing showed that MM methods had a positive effect both in monotherapy and in combination, where the results were more pronounced in relation to the clinical and psychoemotional status, the general clinical state.

The most stable positive clinical results were obtained in OG-U (patients significantly decreased general weakness, fatigue with various types of exercise, headache, dizziness, noise in the head), as well as a change in the timing of recovery of neurological status (decrease in coordination disorders, the severity of autonomic dysfunction) ...

Behavioral treatment had different durations and different periods of remission (Table 3). Thus, as evidenced by the data presented in the tables, in patients with HCI, the greatest effect from MM was observed in cases of the complex use of various techniques. So, in 80% of patients with OH, during the treatment process, it was possible to completely improve health, mood, achieve stable stabilization of autonomic balance, improve cognitive functions and increase work capacity, and reduce EEG dysrhythmia.

Table 3

Dynamics of the treatment time, an increase in the terms of remission in the main (MG) and control (CG) groups

группы	Количество сеансов, сред. раз		Сроки лечения, сред. дней		Сроки ремиссии, средн. мес	
	ОГ	КГ	ОГ	КГ	ОГ	КГ
	1,6 ± 0,14	нет	4,2 ± 0,11	16,7 ± 0,11	7,8 ± 0,21	2,4 ± 0,1
	1,8 ± 0,11	-	4,5 ± 0,15	17,8 ± 0,12	7,5 ± 0,12	2,3 ± 0,14
	2,8 ± 0,12	-	5,4 ± 0,12	18,9 ± 0,12	6,3 ± 0,1	2,6 ± 0,15
<b>итого</b>	<b>2,65 ± 0,13</b>	<b>-</b>	<b>5,9 ± 0,11</b>	<b>19,9 ± 0,12</b>	<b>6,4 ± 0,2</b>	<b>3,3 ± 0,12</b>

conclusions

1. In the complex of rehabilitation measures in patients with post-traumatic chronic

cerebral ischemia I and II st. it is advisable to use MM methods.

2. To increase the effectiveness of therapy, it is advisable to conduct a course of MM with the inclusion of milfascial techniques, vertebral and visceral manipulations, craniosacral techniques 1-2 times a week (3-6 procedures), then use acupressure and corrective gymnastics in the form of "homework" for 3 months.

3. Inclusion of craniosacral and visceral manual therapy techniques in the treatment of this category of patients allows you to quickly obtain a stable effect (normalization of hemolytic dynamics, autonomic tone) without additional pharmacological load on the body.

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