Possibilities of using electropunctural diagnostics to assess the effectiveness of osteopathic treatment of patients with chronic post-traumatic headaches in

occipital region and neckUsupbekova

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SUMMARY

The results of the study showed that impaired postural balance with a change in the state of fascial chains and muscle hypertonicity, characteristic of chronic post-traumatic headache in the occipital region and neck, are reflected in the indicators of osteopathic diagnostics and electropunctural diagnostics.

On average, there is a normalization of the functional state of about 91% of all AK in osteopathic treatment.

Statistical analysis shows a clear correspondence between the results of electroacupuncture diagnostics in patients with chronic post-traumatic headache in the occipital region and neck before and after the course of osteopathic treatment.

Key words: headache, osteopathic treatment, fascial chains, electropuncturediagnostics.

Headache (GB) is the most common symptom of traumatic brain injury (TBI) in all periods of the disease, with different clinical forms and degrees of brain damage [2]. Chronic post-traumatic headache (CPTH) is paradoxically the most severe and occurs more often (89–92% of cases) after mild closed TBIs. The complexity of the pathogenesis and the polymorphism of the clinical manifestations of CPTHD dictate the need to use integrative diagnostic and therapeutic approaches. Modern instrumental methods of reflex diagnostics meet the requirements of an integral assessment of the functional state of the body, and also allow one to detect those functional systems, the correction of which is primarily necessary at a certain stage of treatment [1]. Currently, data has been received that

Osteopathy, like reflexology, is based on a holistic (integrative) approach to examination and treatment [3, 6]. Unlike reflex diagnostics, osteopathic diagnostics (OD) mainly uses psychophysical methods. One of the types of OD is an objective examination of the patient's postural system in relation to the Barre vertical from the back, where it is necessary to find the average position of the patient in the middle of the postural oscillations of the gluteal fold, spinous process L3, spinous process C7, crown [4]. It is also known that any injury will be reflected at the fascia level. OD using fascial tests is performed manually. They allow you to identify various disorders in the depths of the fascia, in the so-called fascial chains [7].

It can be assumed that an objective EPD method may be useful in the initial examination of patients and monitoring of their condition in the course of osteopathic treatment. The aim of the work was to use electropunctural diagnostics to assess the effectiveness of osteopathic treatment of patients with chronic post-traumatic headaches in the occipital region and neck.

Materials and methods. Examined and treated 28 (59.6%) women and 19 (40.4%) men with CPTHH aged 18 to 46 years (mean age 32 ± 0.6 years).

The average duration of the onset of the disease was 2.0 ± 0.7 years. The causes of mild closed head injury were: domestic injuries (61%), transport (31%) and industrial (8%).

Among the many complaints of patients who underwent a slight closed craniocerebral injury, complaints of headaches in the occipital region and neck were dominant. Each patient underwent OD and EPD before and after osteopathic treatment.

RESULTS AND DISCUSSION

Carrying out postural OD using the vertical Bare from the back [4] in the frontal plane, before the course of osteopathic treatment was applied, determined the presence of postural balance disorders in almost all patients.

Disturbances of postural balance [3, 4] by type B, consisting in displacement to the sides from the vertical plumb line, the region of the neck and head were recorded in all patients with CPTH. Visual palpation revealed tension in the cervico-occipital muscles. With general fascial listening while standing, we noted traction and tension in the posterior, posterior-external, and anterior flexion.

Most often, patients complained of occipital headaches and muscle soreness in the cervical region, provoked by prolonged static load. Often the pains were accompanied by extremely unpleasant sensations, aggravated by jerking movements of the head, shaking it while walking and riding in transport.

EPD results in patients with cervico-occipital muscle tension showed "redundancy" of acupuncture channels (AC) in HT, TE and "insufficiency" in AC BL, LR. It should be noted that the external course of AK BL, LR passing through the cervical region, topographically corresponds to the superficial anterior and posterior fascial chains [7], going to the cervico-occipital muscles. (Fig. 1, 2). According to the basic laws of traditional oriental medicine, CPTHB indicates the involvement in the pathological process of the energy of "cold" - AK BL, "wind" - AK LR. And the path of passage of AK TE, HT coincides with the posterolateral fascial chain at the level of the upper limb [7], which also pass to the cervico-occipital muscles. (fig. 2). This indicates the involvement of the "heat" energy in the pathological process. Patients with CPTHB with tension in the cervicoccipital muscles underwent global fascial restoration of anteroposterior balance [7]. It consists in the alignment of the fascia of the back and front of the body.



Rice. 1. Topographic correspondence of the superficial anterior fascial chain (1) with AK in LR (2), HT (3).

Analyzing the obtained EPD data, we compared the measured values of the electrical skin resistance of acupuncture points (ECS TA), which are input information for the formation of other diagnostic conclusions using the "Forecast" method [1]. Statistical

characteristics of ECS TA are shown in Table 1, where the asymmetry of AK and the maximum values before and after osteopathic treatment were compared.

Table 1 shows that the following AK HT, SI, LR are most susceptible to asymmetry before osteopathic treatment. The number of asymmetric channels on the left side is 5, on the right side is 6, that is, there is no clearly pronounced dependence of asymmetry in this group of patients. After the course of osteopathic treatment, the asymmetry of the canals changed. AK, which had a maximum asymmetry, passed into the category with minimum or average values, and AK LU, LI, KI, BL significantly increased the value of their asymmetry, both in absolute and relative values. It should be noted that the change in the sign of the asymmetry occurred in the AK PC, HT Analysis of the interactions between the AK in the study of their state by the EPD method is carried out using the Kendall correlation coefficients. These results are shown in Table 2.



Rice. 2. Topographic correspondence of the surface back (1) and posterolateral fascial chains (2) with AK in BL (3), TE (4).

Table 1

акунунктур- пые каналы	Статистическая оценка ЭКС ТА												
	левая сторона АК, кОм		правая сторона АК, кОм		Разность сторон АК, кОм		Среднее значение АК, кОм		Показатель асимметрии %				
	до лечения	после лечения	дө лечения	после лечения	до лечения	после лечения	до лечения	после лечения	до лечения	после лечения			
LU	5028	5216	4978	4525	49	693	5003	4870	1	14			
LI	5135	5185	4709	4513	426	672	4922	4849	9	14			
PC	5733	5058	5194	5096	539	-39	5464	5077	10	-1			
TE	5721	5266	5717	5124	4	142	5719	5195	0	3			
HT	6668	4481	5005	4546	1663	-65	5836	4514	28	-1			
SI	6127	4536	4988	4271	1139	266	5558	4404	20	6			
SP	4668	5578	5034	5178	-366	399	4851	5378	-8	7			
LR	4442	4666	3882	4362	559	305	4162	4514	13	7			
ST	4985	4542	5501	4671	-516	-129	5243	4607	-10	-3			
GB	4603	4172	4747	4655	-144	-483	4675	4414	-3	-11			
KI	4188	4451	4681	5458	-494	-1006	4434	4954	-11	-20			
BL	4126	4455	4161	5061	-35	-605	4143	4758	-1	-13			

Statistical characteristics of the pacemaker TA of the group of patients with CPTHB

In Table 2, the values of the correlation coefficients Kendall> 0.456 are highlighted in bold and the AKs in which both the right and left AK values exceed this limit are highlighted in gray. AK values up to

of the course of osteopathic treatment are located above the main diagonal, the values of AK after treatment are below the main diagonal. Analyzing the relationships between AK LU, LI, from Table 2 it can be seen that before the course of osteopathic treatment they are interconnected with AK PC, SP, LR, GB, TE, to a lesser extent with AK SI, HT. After the course of treatment, there is a relationship with TE, to a lesser extent PC, SI. Before the course of osteopathic treatment, AK KI, BL are interrelated to a greater extent with AK ST, SP, PC, LR to a lesser extent with AK HT and SI. After treatment, relationships with AK SP, ST, GB, LR are observed and, to a lesser extent, the relationship is traced with PC, TE. AK SP, ST are interdependent with AK TE, BL, KI, LR, GB before treatment, and after a course of treatment with AK HT, TE.

As a result of the course of osteopathic treatment, the disappearance of muscle spasm and a significant improvement in the general condition of all patients were noted. With repeated OD after a course of treatment, there was a normalization of postural balance in the frontal plane, relaxation of previously tense cervico-occipital muscles with a pronounced decrease in pain. During EPD, patients have a significant positive trend in almost all AK parameters. The results of the average values of EPD measurements in patients with CPTHB before and after the course of osteopathic treatment are shown in Fig. 3. It can be seen from the graph that the amplitude of fluctuations in EPD values has decreased, which is a sign of the effectiveness of the procedures being performed. The quantitative results are presented in Table 1.

table 2

		Результаты электропунктурной диагностики до лечения											
		LU	LI	PC	TE	HT	SI	SP	LR	ST	GB	KI	BL
2001	лево	1,00	0,45	0,44	0,33	0,41	0,27	0,41	0,47	0,50	0,49	0,30	0,44
LU	право	1,00	0,57	0,57	0,57	0,64	0,33	0,49	0,48	0,38	0,57	0,45	0,60
	лево	0,77	1,00	0,71	0,43	0,33	0,61	0,59	0,57	0,60	0,53	0,33	0,53
LI	право	0,65	1,00	0,67	0,72	0,56	0,44	0.47	0,41	0,54	0,45	0,45	0,44
DC	лево	0,28	0,42	1,00	0,39	0,25	0,48	0,63	0,71	0,71	0,57	0,36	0,71
PC	право	0,56	0,44	1,00	0,59	0,56	0,38	0,27	0,29	0,40	0,36	0,46	0.41
mp	лево	0,42	0,53	0,75	1,00	0,39	0,33	0,51	0,22	0,37	0,35	0,33	0,24
TE	право	0,63	0,48	0,51	1,00	0,63	0,56	0,53	0,39	0,52	0,52	0,50	0,44
1100	лево	0,27	0,25	0,62	0,56	1,00	0,55	0,42	0,26	0,29	0,41	0,19	0,33
ні	право	0,42	0,30	0,57	0,67	1,00	0,41	0,43	0,36	0,52	0,40	0,45	0,69
	лево	0,45	0,52	0,60	0,58	0,55	1,00	0,60	0,52	0,52	0,51	0,31	0,56
SI	право	0,51	0,42	0,63	0,70	0,71	1,00	0,45	0,59	0,28	0,55	0,27	0,38
CD	лево	0,41	0,46	0,65	0,76	0,55	0,54	1,00	0,67	0,75	0,77	0,35	0,58
SP	право	0,41	0,41	0,32	0,52	0,57	0,46	1,00	0,59	0,54	0,69	0,53	0,51
1.0	лево	0,34	0,42	0,44	0,44	0,34	0,48	0,28	1,00	0,82	0,76	0,51	0,73
LK	право	0,36	0,30	0,30	0,34	0,51	0,45	0,59	1,00	0,25	8,67	0,36	0,47
c170	лево	0,30	0,41	0,34	0,50	0,28	0,32	0,50	0,49	1,00	0,81	0,49	0,63
SI	право	0,23	0,25	0,29	0,21	0,33	0,39	0,44	0,29	1,00	0,36	0,66	0,49
C D	лево	0,29	0,37	0,44	0,54	0,35	0,43	0,50	0,49	0,71	1,00	0,60	0,55
GB	право	0,45	0,32	0,22	0,49	0,33	0,31	0,58	0,46	0,35	1,00	0,00	0,00
	лево	0,12	0,26	0,40	0,50	0,25	0,35	0,54	0,46	0,70	0,54	1,00	0,56
KI	право	0,21	0,21	0,27	0,43	0,47	0,41	0.61	0,36	0,51	0,66	1,00	0,60
DI	лево	0,26	0,31	0,48	0,58	0,42	0,46	0,59	0.48	0,63	0,78	0,57	1,00
BL	право	0,37	0,22	0,16	0,45	0,38	0,29	0,68	0,56	0,31	0,83	0,63	1,00

Kendall correlation coefficients of measured EPD values in patients with KhPTGB





Conclusion

The results of the study showed that a violation of the postural balance with a change in the state of fascial chains and muscle hypertonicity, characteristic of CPTHB, are reflected in the indicators of OD and EPD. This is most clearly manifested in the indicators of AK HT, TE, BL, LR. On average, there is a normalization of the functional state of about 91% of all AK in osteopathic treatment. Statistical analysis shows a clear correspondence between the results of EPD in patients with CPTH before and after the course of osteopathic treatment. EPD is an informative, simple, non-invasive express method of examination of complex patients with CPTHD and can serve the purpose of monitoring the condition of patients in the course of treatment.

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