

Possibilities of determining cranial-digital reflex connections with a modified osteopathic method E.L.

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Possibilities for determination of cranio-digital reflexory links by modified osteopathic method

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SUMMARY

This article presents the results of a study of the reflex connections of the palmar surface of the distal phalanges of the hands and parts of the cerebral skull. To carry out the study, a modified osteopathic "listening" technique was used. The purpose of the study was to test a new method of searching for reflex connections.

Key words: reflexology, hand, brain, bones of the cranial vault.

RESUME

The results of research of reflexory links between palm surface of distal phalanx and sections of skull are presented. Modified technique of osteopathic listening was suggested and used. As a result a new method of search for reflexory links was positively tested.

Keywords: reflex therapy, palm, brain, bones of skull

The objects of study and therapeutic effects in reflexology have long been identified as acupuncture points, tendon-muscle meridians, exteroceptive zones. The reflex connections of 14 corporal channels (meridians) and 8 "miraculous" meridians are well known [12]. However, reflex connections are not limited to these meridian systems alone. There are tens of them. This is confirmed by information from Indian treatises on the topic of yogic practices (Fig. 1) [11]. The presence in common practice of only a few meridian systems may be associated with the need to unify and simplify treatment methods in order to give them a common look. In this regard, we note that in such a form known to all of us, reflexology is very difficult to master.



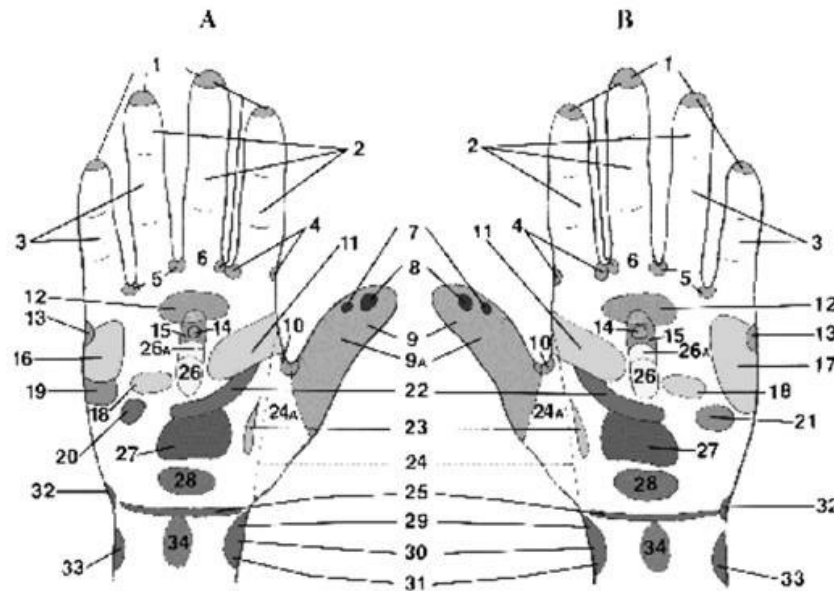
Rice. 1. Illustration of energy reflex connections in the human body.

In this regard, one should also point to the so-called exteroceptive zones. The most famous of these is the exteroceptive area of the ear.

Other exteroceptive zones have become less famous. These include: the iris of the eye, the system of points and reflex zones of the face, feet, hands [12]. It should be noted that the exteroceptive zones of the feet and hands were included in the Su-Jok system. However, independent studies aimed at identifying diagnostic and therapeutic efficacy show the inconsistency of most points on the dorsum and palmar surfaces of the hand [9] and topographic zones of organ correspondence [5, 6, 7].

With regard to the topographic zones of organ correspondence, the McGarrige scheme (Fig. 2) [7, 12] has the highest diagnostic reliability, according to the author's research [7]. According to this scheme, the brain is projected onto the palmar surface of the terminal phalanges of the fingers.

Unfortunately, this diagram does not detail the relationship between individual fingers and parts of the brain, although the location of such zones is indicated (Fig. 2, positions "1-9A"). To fill this gap, this study is being carried out.



Rice. 2. The projection of internal organs on the palmar surface of the hand along E. McGarrigie and T. McGarrigie. A - right hand; B - left hand; 1 - paranasal sinuses; 1A - paranasal sinuses, teeth; 2 - nervous system; 3 - nervous system, hearing; 4 - eyes; 4A — eye; 5 - ears; 5A - ear; 6 - vision; 7 - pineal gland; 8 - pituitary gland; 9 - psychic sphere; 9A - head, brain; 10 - pharynx, larynx; 11 - stomach; 12 - lung; 12A - solar plexus, diaphragm; 13 - joints of the upper limb; 14 - solar plexus; 15 - thymus; 16 - liver; 17 - heart; 18 - pancreas; 19 - gallbladder; 20 - appendix; 21 - spleen; 22 - colon; 22A - descending intestine; 22B - sigmoid colon; 22C - ascending gut; 23 - thyroid gland; 24 - spinal column; 24A — neck; 25 - hemorrhoids; 26 - kidney; 26A - adrenal gland; 27 - small intestine; 28 - bladder; 29 - prostate gland; 30 - uterus; 31 - external genital organs; 32 - joints of the lower limb; 33 - testicle, ovary; 34 - lumbosacral region; 35 - ureter; 36 - organs of the small pelvis; 37 - sciatic nerve.

The aim of the study was to search for topographic correspondences of reflex connections between the palmar surface of the terminal phalanges of the fingers of the hands and parts of the brain.

Materials and methods

The study group was formed by conditionally healthy people from among volunteers. Preference was not given to any professional, age, nosological (etc.) groups, since in fact the research was not clinical, but physiological. For the same reason, the control group was not formed. According to existing statistical

norms, studies of an anthropological type can be carried out without forming a control group, if their purpose is to study one (in this case: human) species. The number of those examined was 20. The age and gender composition of the study group is presented in table. 1 and 2.

Table 1

Возрастная группа, лет	Долевое количество, %
30-39	20
40-49	80

table 2

Мужчин, %	Женщин, %
45	55

The authors have developed a technique for determining reflex connections, called VIOPRes, meaning: vibration determination of reflex connections (of the body). The VIOPRes technique is based on an osteopathic study of changes in the mobility of the skull bones in the RAF categories (rhythm, amplitude, strength), induced by reflexively associated with individual phalanges of the hands.

A source of mechanical vibrations based on an MT6030 vibroacoustic column (ООО Kontrakt Elektronika, Moscow) was used as an inductor (Fig. 3). This vibroacoustic speaker (vibrodynamic speaker) has a household purpose and is designed to communicate mechanical vibrations to various objects and surfaces with their subsequent transformation into acoustic waves. As a result, the acoustic system becomes the object to which the mechanical vibrations were transmitted. In fact, this object becomes an oscillatory system.



Rice. 3. Vibrodynamic MT6030. Pos. "A" - general view; Pos. "B" - bottom view. Letter combination "ae" the active element vibrodynamics is marked.

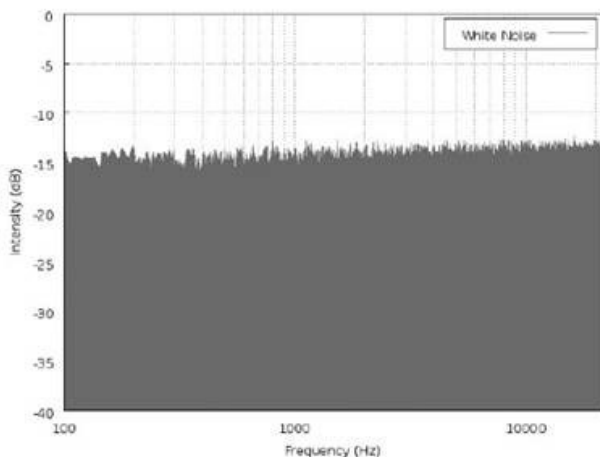
In this case, there is no difference between acoustic (sound) and mechanical vibrations, since sound waves are essentially mechanical. The only difference is the medium through which the mechanical vibrations move.

The same principle of transferring mechanical vibrations to other objects was also used in the described study. The meridian, which carries out a reflex connection between individual parts of the body, is a kind of tract, on the one hand, which determines the connection of these particular organs, and on the other hand, facilitates this connection. Based on these statements, it is possible with a high degree of probability to detect changes in the reflex communication system of two separate organs, influencing one of them. According to the conditions of the experiment, connections were established between the distal phalanges of the fingers of the hand and the bones of the cerebral part of the skull.

White noise was used as an active sound signal fed to the vibroacoustic inductor of the vibrodynamics. White noise - stationary noise, spectral

the components of which are evenly distributed over the entire frequency range of the sound range audible to the human ear. This type of sound noise was named by analogy with white light, which contains electromagnetic waves of the entire visible range of optical waves (Fig. 4).

The choice of "white noise" as an inducing stimulus is due to the need to exclude the selective tuning of the receptor apparatus, as well as individual reflex tracts to a separate frequency. The presence of such frequency selectivity of individual meridian systems is known from the specialized literature on reflexology [1, 12].



Rice. 4. Spectrum of sound "white" noise.

In this regard, information from traditional oriental medicine should be noted [2-4, 8], according to which the specificity of individual meridian systems is also noted. Only in contrast to the physical parameters of mechanical vibrations, oriental medicine ranks the specification of meridian systems and individual points in the philosophical categories of "fire", "wood", "metal", "water", "earth". The next research method: osteopathic "listening" (palpation) of the bones of the cerebral skull. Osteopathy is a set of manual techniques for influencing various organs and tissues of the body in order to restore their positional position and freedom of movement in conditions of interaction with adjacent organs. Osteopathy includes several sections: structural, visceral, cranial. The last section includes diagnostics and therapeutic effects on the structures of the skull. Diagnostic and therapeutic techniques of cranial osteopathy are carried out on the basis of performing cranial osteopathic "listening". In the process of this "listening" information about the movement of the bones of the skull, the condition of the sutures, venous sinuses, and the dura mater are found out. One of the methods of cranial osteopathic "listening" - the study of the movements of the bones of the cerebral skull - and was used in this study. A prerequisite for the correct execution of the experiment, from the standpoint of its objectification, was the participation of more than one participant (experimenter) in its implementation. To fulfill this condition, the study of cranial-manual connections by the VIOPRes method was carried out by the authors of this article. In the process of this "listening" information about the movement of the bones of the skull, the condition of the sutures, venous sinuses, and the dura mater are found out. One of the methods of cranial osteopathic "listening" - the study of the movements of the bones of the cerebral skull - and was used in this study. A prerequisite for the correct execution of the experiment, from the standpoint of its objectification, was the participation of more than one participant (experimenter) in its implementation. To fulfill this condition, the study of cranial-manual connections by the VIOPRes method was carried out by the authors of this article. In the process of this "listening" information about the movement of the bones of the skull, the condition of the sutures, venous sinuses, and the dura mater are found out. One of the methods of cranial osteopathic "listening" - the study of the movements of the bones of the cerebral skull - and was used in this study. A prerequisite for the correct execution of the experiment, from the standpoint of its objectification, was the participation of more than one participant (experimenter) in its implementation. To fulfill this condition, the study of cranial-manual connections by the VIOPRes method was carried out by the authors of this article. One of the methods of cranial osteopathic "listening" - the study of the movements of the bones of the cerebral skull - and was used in this study. A prerequisite for the correct execution of the experiment, from the standpoint of its objectification, was the participation of more than one participant (experimenter) in its implementation. To fulfill this condition, the study of cranial-manual connections by the VIOPRes method was carried out by the authors of this article. One of the methods of cranial osteopathic "listening" - the study of the movements of the bones of the cerebral skull - and was used in this study. A prerequisite for the correct execution of the experiment, from the standpoint of its objectification, was the participation of more than one participant (experimenter) in its implementation. To fulfill this condition, the study of cranial-manual connections by the VIOPRes method was carried out by the authors of this article.

Methodologically, the study was based on the following procedure:

1. A control study of the cerebral skull was performed with the definition of patterns and various dysfunctions of the bones that form the "cerebral" skull (frontal, temporal, parietal, occipital, sphenoid bones). The revealed dysfunctions were not corrected. The study of each volunteer was performed sequentially by both osteopaths participating in the experiment.

2. A mechanical signal of "white noise" with intensity 4.35 dB continuous.

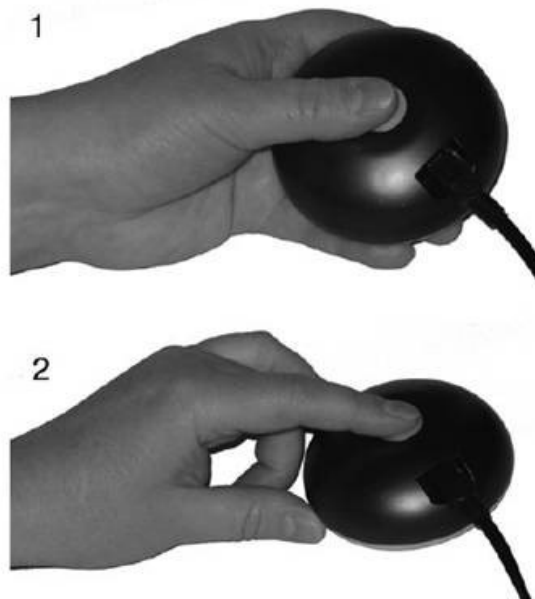
3. The volunteer was asked to alternately press the distal phalanx of each finger of the hand for a period of 20 to 40 seconds. The duration of this period was determined by the experimenter who performed the study. During the positioning of each individual finger on the vibrodynamical plate, "listening" to the bones of the cerebral skull was performed. In the process of osteopathic listening to the bones that form the cerebral skull

the accentuation of movements of any of the listened bones was recorded. It was this bone that was recognized as the target at the time of the study. After each listening, the results were recorded in the research protocol. It was obligatory to perform these actions by both osteopaths without announcing the results obtained (to fulfill the conditions for conducting a double "blind" study).

4. Summation and analysis of the data obtained.

Results and discussion

Analysis of the experimental material carried out on volunteers to establish functional connections between the palmar surface of the distal phalanges of the hands and parts of the brain, revealed the following results (Table 3).



Rice. 5. Investigation of the reflex connection of the fingers of the left hand with the parts of the brain. Pos. "1" - examination of the 1st finger, pos. "2" - examination of the index finger; in the same position is produced 3rd finger examination

Table 3

The distribution of reflex connections of the palmar surface of the distal phalanges of the fingers with bones of the cerebral skull

Дистальная фаланга пальца №	Кость мозгового черепа	Степень совпадения полученных данных, %
1 («большой»)	лобная	69
2 («указательный»)	клиновидная	100
3 («средний»)	височная	57,8
4 («безымянный»)	теменная	70,5
5 («мизинец»)	затылочная	77,8

It should be pointed out that the accentuation of the movement of one of the bones that form the cerebral skull in the process of performing the VIOPRes technique is directly related to the activation of the movements of the corresponding part of the brain. This is due to a certain "expansion" of the target part of the brain due to its stimulation along the reflex connection localized by us. At the same time, palpation sensations when listening to a bone above this part of the brain in the gradations of sensations of the experimenters were comparable to its "emergence" and a temporary (during the described study) increase in the amplitude of movements. At the same time, the range of motion of the remaining bones of the cerebral skull decreased.

As already indicated, the movement of any bone that forms the cerebral skull is determined by a change in the activity of one of the lobes of the brain. Therefore, a change in the movements of one of the bones indicates the corresponding part of the brain. These matches for the majority

the bones of the cranial vault under consideration are quite obvious. The only exception is the sphenoid bone. Data from neurophysiology indicate the presence of connections between the sphenoid bone and the pituitary gland, hypothalamus, midbrain and thalamus [10].

conclusions

In conclusion, it can be stated that the attempt to identify new reflex connections using the new technology was quite successful. When carrying out the above experiment, the authors pursued quite specific tasks aimed at identifying cranial-palpebral connections. However, for the implementation of other tasks, the VIOPRes method can also be used: both for resolving controversial issues (for example, multiple interpretation of segmental innervation), and for the implementation of new developments in the field of reflexology.

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