

Relieving Migraine Headache by Regulating Cerebral Blood Flow with Koryo Hand Therapy

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Abstract

Migraine has to be diagnosed exactly and to be treated effectively. As a therapeutic concept we used Koryo Hand Therapy (KHT) treatment methods in 100 patients with migraine. We performed abdominal diagnosis to determine current three constitution syndrome and checked comparison carotid-radial pulse and person's constitution by biorhythmic theory. In addition, we applied corresponding therapy, fundamental treatment (five element treatment) with KHT-acupuncture needle, magnets and press-pellets.

Changed blood flow velocity of carotid, radial and vertebral artery were confirmed with application of transcranial Doppler. There was positive relationship (positive feedback) between radial and vertebral artery, and a negative relationship between radial or vertebral and carotid arteries. This study should increase our understanding of the true effect of KHT.

INTRODUCTION

Migraine is a type of intense and periodically recurrent headache, usually limited to one side of the head. Clinically, there are many variant forms. Migraine headaches can affect many people although women are slightly more susceptible than men. There are many hypotheses to explain the pathogenesis and pathophysiology of migraine due to the history of migraine is not simple. Much advance of research has been established in last decade.

According to oriental medicine, migraine headaches may be caused by an imbalance in the flow of body energy. Doctors who are experts in oriental medicine have used acupuncture to reestablish this equilibrium, thereby treating the cause and the pain of migraine [1].

Acupuncture has been reported to be beneficial in the treatment of individual cases of migraine and chronic headache [2,3,4].

The principle of treatment is to restore and maintain the harmony between various organs within the human body and the harmony between body and surrounding nature. Acupuncture is a method that can unblock the energy channel of the body, and regulate the functions of six solid and six hollow organs (Jang-Bu). We must determine which organ is excessive or deficient in function in order to treat efficiently, which is not standardized even in oriental

medical community society. We should know the relationships between solid organ and hollow organ in each five element and that between six solid and six hollow organs, which can be explained by the principles of Yin-Yang and promoting-suppression relationship of Jang-Bu organ theory [5].

It is important to diagnose and to treat migraine, but it is difficult to do it perfectly because our knowledge of migraine is not complete [6]. While making diagnosis, we need to analyze careful patient's history and physical examination. Even though we have used international headache classification with detailed questionnaires [7,8], it is not sufficient to make accurate diagnosis. If we examine the accurate site of migraine headache, etiological factors of migraine, we have more chance to treat them effectively and we can increase the rate of response in persons with migraine [9].

In physical examination we emphasize the importance of palpation on the head and neck. We should palpate them along meridian system, because the head is transversed by many meridians, the location of abnormal finding such as tenderness, tightness and sensitivity to palpation determines which meridians are involved. We categorize three groups [10]. One belongs to urinary bladder meridian, another to gall bladder meridian and the other to governing meridian (mid-line of the head). We could find stiffness, tenderness or

tightness in gall bladder meridian in most migraineurs. Migraine has been related to the functioning of gall bladder and urinary bladder [11]. If we check carefully, we could find the exact site which might be ipsilateral or contralateral or both. Actually migraineurs complain of various symptoms that might be explained if we checked a long gall bladder meridian from head, neck, trunk and extremity [12,13].

We performed abdominal diagnosis (compare Fig. 3) to determine current Three Constitution Syndrome and checked Comparison Carotid-Radial Pulse (CCRP) (Fig.1) and person's constitution by biorhythmic theory. We could categorize the headaches using the summary of various diagnostic methods [14,15].

We found some cases of migraine did not response well if the persons had combined conditions such as diabetes mellitus, obesity, severe arthritis and severe lung problems [10].

It has been proved over more than 3000 years that acupuncture can impact positively on health and well-being, the treatment of various medical conditions and prevention of illness, but it has not been well explained why and how we use acupuncture treatment without specific standard. It is more reasonable to treat migraine based on etiological background with several methods [16].

We need definite principles for diagnosis and treatment. Every migraineur has different complaints [1,13] and we need to individualize every migraineur [17]. In KHT we can diagnose the migraine definitely and treat individually according to patient's constitution. We apply different methods to relieve headache pain [18]. We got good result of acupuncture when we applied acupuncture needle to exact site, which was different in every migraineur [9].

We need treatment methods that should be effective, safe without side effect, easy to perform and reproducible. It is much better use only few acupuncture needles when we insert needle. It may be better if the cost is reasonable. Koryo Hand Therapy fulfills such requirement.

We diagnosed the persons with migraine using international classification of headache and KHT diagnostic methods and treated as Yoo's prescription [18]. We evaluated the effect of KHT with several diagnostic methods mentioned in KHT [19].

Modern researchers suggest some hypothesis and explained mechanisms of acupuncture in connection with the central

nerve system and the cerebral blood flow using modern neuroimaging methods. Some suggested the activation of subcortical and cortical centers, while others suggested an increase of cerebral blood flow and cerebral oxygen supply[20,21,22,23,24,25,26,27,28,29,30].

We evaluated 100 migraineurs with several methods of KHT to categorize their constitutions and tried to find out which Jang-Bu is affected. We performed transcranial Doppler sonography (Nicolet Medical Inc., Madison, WI, USA) study to confirm the effect of Koryo Hand Therapy in relieving migraine headache in 30 migraineurs using EME Pioneer Transcranial Dopplers (TCD) as described [31,32,33].

SUBJECTS AND METHODS

The examinees were 11 healthy volunteers and 100 persons with migraine with aura or without aura. We applied several diagnostic procedures such as careful history with questionnaires. We examined tender points, tight area, and stiff area in the head and also used abdominal diagnosis to make current constitutional state in right and left side respectively, CCRP and biorhythmic theory [34,35,36,37,38]. There are six meridians on the head, among three meridians on the back and lateral side for headache. Most migraineurs had tender points or tightness and sensitivity to palpation along gallbladder meridian and urinary bladder meridian, which was also confirmed by corresponding points in the hand (Fig. 2). With CCRP, abdominal examination and biorhythmic theory, persons with migraine had excessive function of gallbladder, lung and spleen that belong to Eum-Sil constitution in Koryo Hand Therapy (Fig. 4). The function of liver, heart, stomach and large intestine was deficient. We have used several instruments of KHT, such as KHT-acupuncture needle, small magnets, press-pellets, KHT-silver ring [39,40].

We applied corresponding therapy, which needed one or two KHT-acupuncture needle at M-5 and/or M-30, fundamental treatment (five element treatment) which needed one KHT-needle inserted in M-micromeridian or C-Micromeridian, or two small magnets along M-meridian or C-meridian, eight extraordinary points which needed combination of two points such as M-31 and L-4 micromeridian according to person's constitutions, combination of I-2 and E-8 points with two different pellets or magnets [30].

The TCD study was performed on 30 migraineurs and 11 healthy volunteers in a quiet TCD laboratory with the subjects' eyes kept closed (Fig. 1).

TCD signals were recorded in the right and left carotid, vertebral and radial arteries with TCD. The Doppler signal was optimized for each artery by adjusting the insonation angle.

The vertebral artery was assessed at depths of 60 mm with pulse wave and the carotid and radial arteries with continuous wave adjusting the insonation angle. Doppler systems allow online calculation of mean blood flow velocity (vm) derived from averaging the peak systolic and peak diastolic components of the Doppler waveform envelope.

Before applying stimulation, we examined the basic data of blood flow velocity. Then we reexamined the velocity of blood flow.

STATISTICAL ANALYSIS

The data were tested with paired t-test applying SPSS (for windows, version 10). The results were expressed as means \pm standard error. The level for significance was $p < 0.05$.

Figure 1

Fig. 1: The Comparison Carotid-Radial Pulsation (1-a) performed by Dr. Yoo, the founder of Koryo Hand Therapy and the locations for evaluating three arteries during TCD are shown (1-b, 1-c, 1-d).



Figure 2

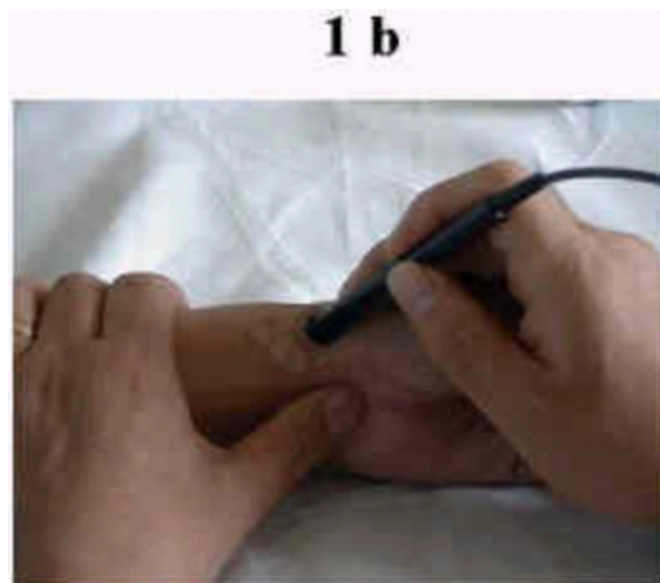


Figure 3



Figure 4



Figure 5

Fig. 2: The meridians in lateral and back on the head (2-b, 2-c), the numbers are the KHT-corresponding points in the hand (2-d). The migraineurs have tenderness, tightness along gallbladder meridian (green line) and micromeridian, the tension type headache along urinary bladder meridian (gray line) and Mircomeridian. This picture was presented at Korea-Japan Koryo Hand Therapy Academic Meeting in Seoul in 1985.

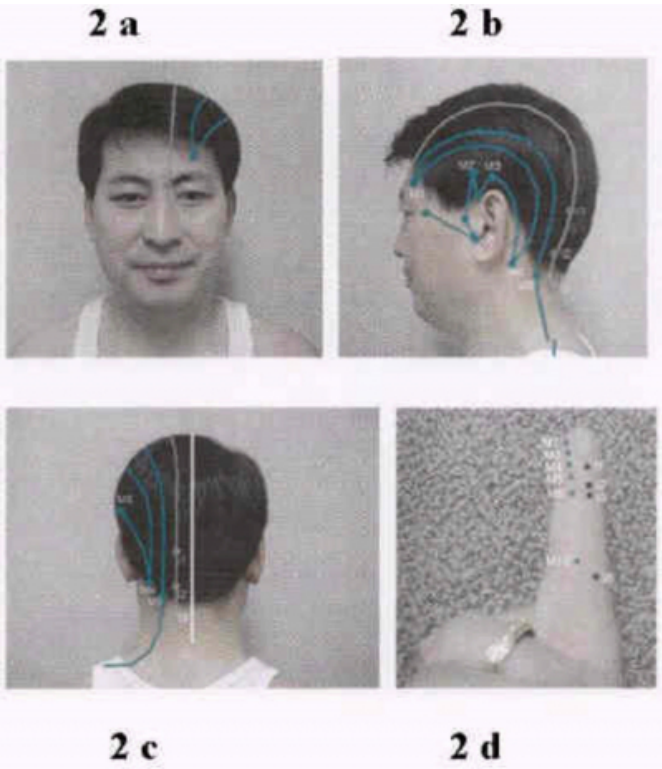
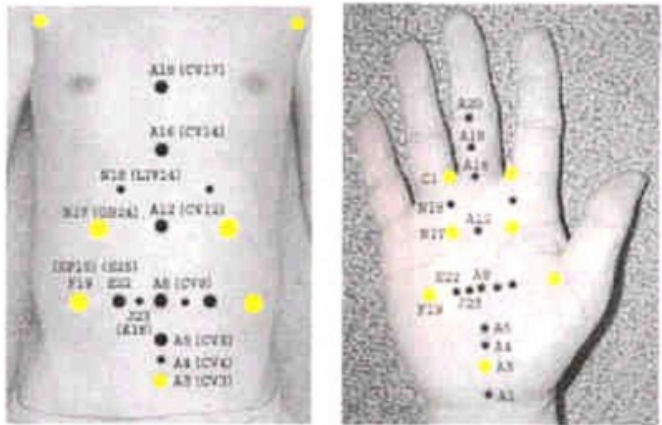


Figure 6

Fig.3: The abdominal (3-a) and hand (3-b) points are shown. Yellow marks (N17, F19, C1, and A3) are typical points of Eum-Sil Syndrome, which shows migraine headache on the right and left side.



RESULTS

Seven of 100 migraineurs had both side same constitution and they were treat on both hands, 49 had migraine headache on the right and 54 on the left side.

The constitution belonged to hyperfunction of spleen, lung and hypofunction of liver and heart and kidney which showed hyperfunction of gall bladder, which was typical pattern of Eum-Sil Syndrome of KHT (Fig. 4).

Figure 7

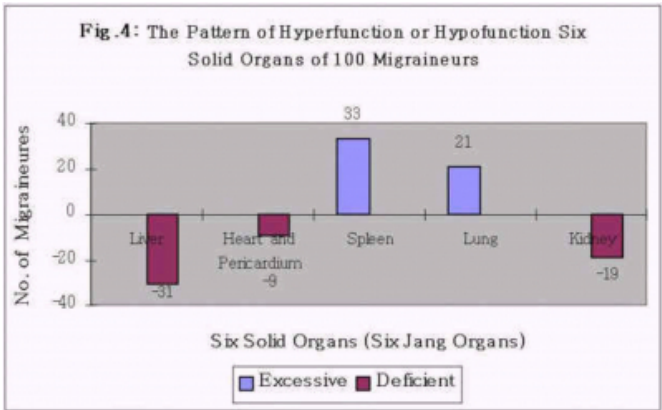


Figure 8

Fig.5: Changes of blood flow before and after Koryo Hand Therapy in migraineur who complained of headache on the right side.

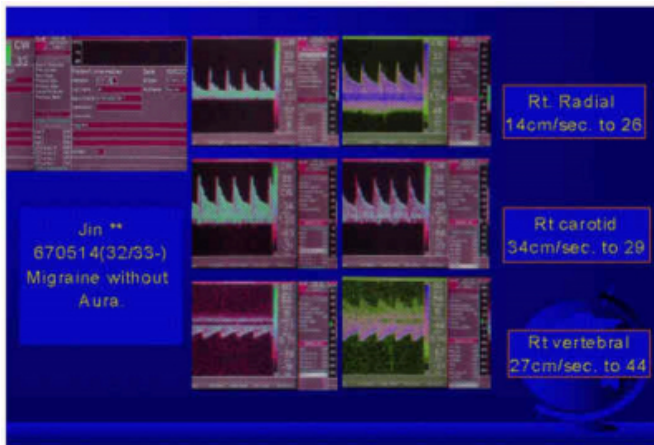


Figure 9

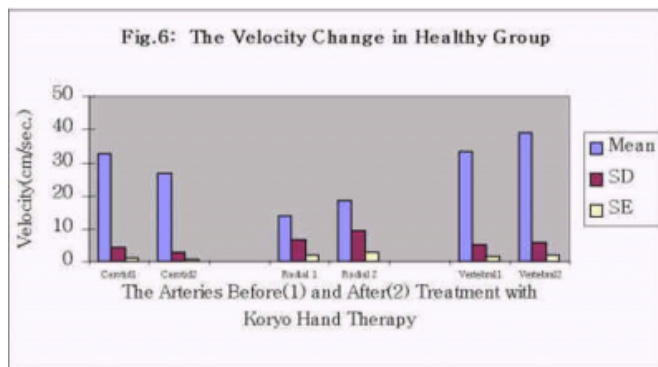
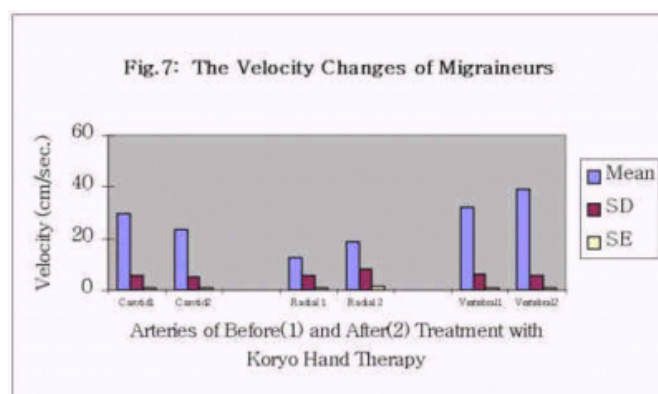


Figure 10



We checked the blood flow velocity of the radial, vertebral and carotid arteries using TCD in 30 persons with migraine headache.

The increased velocity of the vertebral artery (from 32.3 ± 1.0 cm/sec to 39.4 ± 0.9 cm/sec) was accompanied by an

increased velocity of the radial artery (from 12.7 ± 1.0 cm/sec to 18.9 ± 1.3 cm/sec) on the same side after attachment of small magnets, press-pellets on the hand following Yoo's description. The relationship of increased velocity was "positive" (positive feedback).

The decreased velocity of the carotid artery (from 29.7 ± 0.9 cm/sec to 23.5 ± 0.8 cm/sec) was accompanied by an increase in velocity of the radial artery (from 12.7 ± 1.0 to 18.9 ± 1.3 cm/sec) showing reverse relationship (negative feedback) (Fig. 7). The same relationship was observed in 11 healthy volunteers (Fig. 6). There was positive relationship (positive feedback) between radial and vertebral artery, negative relationship (negative feedback) between radial or vertebral and carotid arteries.

DISCUSSION

Many persons have two types of headache alternatively. It may be explained if one person has two constitutions which means congenital right side constitution, acquired left side constitution [41,42].

KHT is based on three constitutions theory (Sam Il Che Jil); the classics of oriental medicine mention classifying people's constitutions by the five elements. Yoo has noted that the "constitutional types" are more than "syndromes" which become more obvious when a disease state develops deeper, and which tend to disappear as soon as the disease is eliminated. We must know to differentiate between the current imbalance (three constitutions) and the congenital constitution. The congenital constitution is formed according to the biorhythm of the five celestial cycles and the six Ki. This shows one's fundamental constitution. The current symptoms are likely to be related to the congenital constitution. However, it often appears differently from the congenital constitution since many acquired factors affect the present conditions. The three constitutions reflect the present condition of imbalance which can be normalized or worsen depending upon many other factors. Since the three constitutions is a method indicating an imbalanced state or diseased condition, it is not applicable to the healthy state.

Once the diseased condition is cured, the category of the three constitutions cannot be applied to the person any longer [43].

In some persons both constitutions are quite different, in others the both are nearly the same. We found some patients complained of only one side migraine headache, others both side migraine headache, others have one side migraine

headache and the other side tension type headache. We must determine which side to treat. It is very difficult to find original tender points. In some aspect we do not know which side is ipsilateral or contralateral. Accurate diagnosis can usually be made from a complete history and examination [44].

In this study most of migraine patients have excessive functions in gallbladder, spleen and lung meridian and deficient functions in liver, stomach and large intestine. Most of tension type headache patients have excessive functions in urinary bladder, heart and liver meridian and deficient functions in kidney, small intestine, and gallbladder. We get good effect of treatment if we know person's constitution.

We also choose treatment instruments for recurrent migraine patients. In KHT, we used small magnets, press-pellet, and silver ring.

It will be more helpful and certainly increase our understanding of the true benefits of acupuncture treatment if researchers give thought to the oriental approach to medicine when devising research studies and allow qualified acupuncturists the opportunity to treat each individual according to their diagnoses. As in all other forms of holistic therapies, treatment cannot be standardized for every patient because the cause of the problem may differ in each individual case.

CONCLUSION

It is most important to make accurate diagnosis of persons with migraine and to treat them effectively. KHT is easy to learn, easy to practice, very effective, very economic and has no side effect when we use according to the principles of KHT.

Persons with migraine have common character, which belong to Eum-Sil Syndrome in KHT. The treatment was done with corresponding therapy, five element therapy using tonifying and sedation methods along micromeridian in the hand ipsilateral side of migraine affected. In some cases it is very difficult to determine which side is affected.

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