

# Classical Chinese Understanding of Migraine: Key to Effectiveness of Acupuncture and Herbal Remedies

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## *1. Introduction*

### 1.1 Word Origin and Dictionary Definition

Migraine means “pain in one side of the head, headache.” Migraine, a Late Middle English (late 14c) word, originates from French *migraigne* (13c.), via Late Latin *hemicrania* from Greek *hemikrania*, which is from *hemi*-“half” + *kranion* “skull.” In German, it is written as “Migräne.”

*Oxford Dictionary of English*, 2<sup>nd</sup> ed. (1998, 1999, 2001, 2003, 2005) defines migraine as “a recurrent throbbing headache that typically affects one side of the head and is often accompanied by nausea and disturbed vision.”

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## 1.2 ICD-10-CM Understanding of Migraine

ICD10, the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (the current version), is a medical classification list by the World Health Organization (WHO), which has been used worldwide to make diagnosis with codes.<sup>2</sup> The ICD-10-CM, the USA Modification, has over 70,000 codes.<sup>3</sup>

In ICD-10-CM Codes, G00-G99 are for Diseases of the nervous system, and G40-G47 are for Episodic and paroxysmal disorders. While the code for Migraine is G43-, which indicates that migraine is an Episodic and paroxysmal disorder, a disease of the nervous system. Based on the description of migraine from ICD-10-CM, hereafter I quote some key points on ICD-10-CM understanding of migraine<sup>4</sup>:

“A class of disabling primary headache disorders, characterized by recurrent unilateral pulsatile headaches. The two major subtypes are common migraine (without aura) and classic migraine (with aura or neurological symptoms).”

“Migraines are recurring attacks of moderate to severe pain.”

“During migraines, people are very sensitive to light and sound. They may also become nauseated and vomit.”

“Some people can tell when they are about to have a migraine because they see flashing lights or zigzag lines or they temporarily lose their vision.”— That’s the classic migraine with aura.

“Many things can trigger a migraine. These include anxiety, stress, lack of food or sleep, exposure to light, hormonal changes (in women).”

“Doctors used to believe migraines were linked to the opening and narrowing of blood vessels in the head. Now they believe the cause is related to genes that control the activity of some brain cells.”

“Medicines can help prevent migraine attacks or help relieve symptoms of attacks when they happen. For many people, treatments to relieve stress can also help.”

“Neural condition characterized by a severe recurrent vascular headache, usually on one side of the head, often accompanied by nausea, vomiting, and photophobia, sometimes preceded by sensory disturbances; triggers include allergic reactions, excess carbohydrates or iodine in the diet, alcohol, bright lights or loud noises.”

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<sup>2</sup> <http://www.who.int/classifications/icd/en/>

<sup>3</sup> <https://www.icd10data.com/ICD10CM/Codes> <https://www.ichd-3.org/>

<sup>4</sup> International classification of headache disorders, 2nd ed. Cephalalgia 2004: suppl 1

### 1.3 Classification and Diagnosis Criteria

The Classification Committee of The International Headache Society presents the third edition of the International Classification of Headache Disorders (ICHD-3)<sup>5</sup> on its official website, the most update and authoritative source for the classification and diagnosis criteria of migraine headaches.<sup>6</sup> According to ICHD-3, there are six subtypes of migraine, among which migraine without aura and migraine with aura are most commonly seen types of migraine.

#### 1.3.1 Migraine without aura

Previously used terms: Common migraine; hemicrania simplex. Description: Recurrent headache disorder manifesting in attacks lasting 4-72 hours. Typical characteristics of the headache are unilateral location, pulsating quality, moderate or severe intensity, aggravation by routine physical activity and association with nausea and/or photophobia and phonophobia. Diagnostic criteria:

- A. At least five attacks fulfilling criteria B-D
- B. Headache attacks lasting 4-72 hr (untreated or unsuccessfully treated)
- C. Headache has at least two of the following four characteristics:
  - 1. unilateral location
  - 2. pulsating quality
  - 3. moderate or severe pain intensity
  - 4. aggravation by or causing avoidance of routine physical activity (eg, walking or climbing stairs)
- D. During headache at least one of the following:
  - 1. nausea and/or vomiting
  - 2. photophobia and phonophobia
- E. Not better accounted for by another ICHD-3 diagnosis.

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<sup>5</sup> <https://www.ichd-3.org/wp-content/uploads/2018/01/The-International-Classification-of-Headache-Disorders-3rd-Edition-2018.pdf>

<sup>6</sup> The International Headache Society: "A contributing reason for the beta version was, as we thought, so that ICHD-3 could when published include the codes of the *International Classification of Diseases*, 11<sup>th</sup> edition (ICD-11), from the World Health Organization (WHO). We expected that ICD-11 would be finished in 2016, but unfortunately there have been long and unexpected delays so that the final codes are still not available. We therefore have to publish ICHD-3 without them."

### 1.3.2 Migraine with aura

Previously used terms: Classic or classical migraine; ophthalmic, hemiparesis, hemiplegic or aphasic migraine; migraine accompagnée; complicated migraine.

Description: Recurrent attacks, lasting minutes, of unilateral fully-reversible visual, sensory or other central nervous system symptoms that usually develop gradually and are usually followed by headache and associated migraine symptoms.

Diagnostic criteria:

- A. At least two attacks fulfilling criteria B and C
- B. One or more of the following fully reversible aura symptoms:
  - visual
  - sensory
  - speech and/or language
  - motor
  - brainstem
  - retinal
- C. At least three of the following six characteristics:
  - at least one aura symptom spreads gradually over  $\geq 5$  minutes
  - two or more aura symptoms occur in succession
  - each individual aura symptom lasts 5-60 minutes
  - at least one aura symptom is unilateral
  - at least one aura symptom is positive
  - the aura is accompanied, or followed within 60 minutes, by headache
- D. Not better accounted for by another ICHD-3 diagnosis.

### 1.4 Migraine: Management in Western Medicine

Prevention: Prophylactic drugs are used to prevent migraine headaches but are unpromising. Botox can be somewhat preventative but may have many side effects, also the current costs is significant.

Treatment: For the management of migraine, triptans drugs are considered as the most effective in almost all the types of migraine. Among them, sumatriptan 舒马曲坦 is the most commonly used one. However, sumatriptan still needs to be carefully administered because it has severe adverse effect in about 0.14% of patients and is contraindicated in patients with cardiovascular disease, hypertension, and hemiplegic or basilar migraine.

The triptan drugs are very expensive too, and may only work for a few hours and often are taken too late as the person wants to save them for the “real bad” headaches and at the beginning he/she may not be sure how a headache will develop.

Other antimigraine therapies are also recommended, such as rizatriptan and onabotulinumtoxin A, which have inhibit pathways of the release of trigeminal calcitonin gene-related peptide. However, most of them inevitably have side effects, which might prevent their wide applications to some extent. In addition, results of the optimal agent are controversial.

### 1.5 Migraine: A Lifestyle Related Disease?!

Many things can trigger a migraine. These include anxiety, stress, lack of food or sleep, exposure to light (bright lights) or loud noises, hormonal changes (in women), allergic reactions, excess carbohydrates or iodine in the diet, alcohol.

Food triggers include food preservatives: Nitrates & nitrites, processed food like hot dogs, ham, sausage, bacon, lunch meats; Sulfite, Wine; Tyramine, a monoamine compound in aged and fermented foods like aged cheeses, cured meat; Monosodium glutamate, soy sauce, canned vegetables, soups, and processed meats; and Caffeine.

Therefore avoiding food triggers, good management of stress and anxiety, and enough sleep and rest are very important to prevent migraine attacks.

## 2. *Research on Acupuncture for Migraine: A History of Timeline*

Acupuncture is one of the non-pharmacologic treatments that have been widely spread for migraine treatment in China and Southeast Asian countries, and two decades ago, acupuncture was recommended as a useful adjunct treatment for headache.

Based on a recent systematic review of 22 clinical trials involving 4985 people, there is evidence that acupuncture reduces the frequency of headache in individuals with migraine, and that the effect may be similar to that observed with preventive medications. The frequency of headache is dropped by 50% or more in up to 59% of individuals receiving acupuncture and this effect can persist for more than 6 months (Linde/Allais/Brinkhaus et al 2016: CD001218).

Hereafter is a brief history of research on acupuncture for Migraine.

### 2.1 Migraine: Acupuncture VS. $\beta$ -blocker

Hesse et al (1994: 451-456) have compared acupuncture with a  $\beta$ -blocker as a treatment for prophylaxis of migraine headache in a smallish trial asking whether acupuncture was equivalent to  $\beta$ -blocker in its therapeutic effects. In this trial, people und randomised to acupuncture were given a placebo medication and people assigned to metoprolol were touched with the blunt end of a needle. However, the study was too small and not analysed appropriately to be certain that these conclusions were robust.

### 2.2 GERAC (German Acupuncture) Trials

In 2000, the German health authorities commissioned a series of large clinical trials evaluating pain, acupuncture for chronic low back pain, osteoarthritis of the knee, migraine and tension headache to evaluate the benefits, if any, of acupuncture (Streitberger et al 2004: 6).

Three series of multi-centre trials were designed to meet the needs of the funders, which included at least 6 months of follow-up and a sham control group (Brinkhaus et al 2006:450-457; Diener et al 2006: 310-316; Linde et al 2006: 101-108; Melchart et al 2005:376-382; Scharf et al 2006: 12-20; Witt et al 2005: 136-143, 2006a:98-106, 2006b: 487-496).

Both GERAC & ART (Acupuncture Randomised Trials) were three-armed. In GERAC, the three groups were:

- Verum acupuncture (true treatment),
- Sham acupuncture (off-meridian, off-point, superficial needling), and
- Standard conventional care predetermined according to the guidelines.

In ART, the three groups were:

- Verum acupuncture (true treatment),
- Sham acupuncture (off-meridian, off-point, superficial needling), and
- Waitlist control group permitted to take medications.

GERAC and ART shared some common features:

- Verum acupuncture (true treatment):
- A selection of predefined points agreed by consensus after consulting acupuncture experts and (in GERAC) acupuncture texts.

Attempt to ensure “optimal treatment” by combining recommendations with some individualization.

The purpose of the trials was largely undertaken to see whether acupuncture should continue to be reimbursed by insurers. So, sham controls were required in all trials. The insurers were applying the policy that a treatment must be shown to have a specific effect beyond the placebo effect before it is acceptable. This idea is from acceptance of new pharmaceutical products. But it is appropriate for acupuncture?

The results of the studies have given the insurers some difficulty in interpretation: most of them (Linde et al 2006: 101-108; Melchart et al 2005: 376-382) found that acupuncture was greatly superior to usual care, but not significantly better than sham acupuncture.

In the migraine trial, Diener et al (2006: 310-316) reported no statistically significant difference between the three groups (acupuncture, sham acupuncture or standard therapy) in the initial three-way comparison. While the authors make the argument that verum acupuncture and standard therapy give similar results.

Another question is: All placebo effects are the same—or not? In such four-armed studies two treatments (for example, a pain killer and acupuncture) are compared with respective placebos (a drug placebo and a sham acupuncture intervention). The results are: Painkiller (treatment A) is clearly superior to its placebo (placebo A); Verum acupuncture (treatment B) is the same as its placebo (placebo B); Treatment B and Placebo B are both superior than Treatment A. Then how do we interpret the results?

“Besides clinical and scientific value, the question of enhanced placebo effects raises complex ethical questions concerning what is ‘legitimate’ healing. What should determine appropriate healing, a patient’s improvement from his or her own baseline (clinical significance) or relative improvement compared with a placebo (fastidious efficacy)? As one philosopher of medicine has asked, are results less important than method (3)?” (Kaptchuk 2002: 817-825)

In fact, taking sham acupuncture as placebo is very problematic. The approach of trying to reduce the subjectivity to zero in order to get the pure effectiveness never exists in Chinese medicine because subjectivity is included into the procedure from the very beginning, e.g. Zhi Shen 治 in acupuncture treatment stated in Ling Shu Jing 灵枢经, the earliest extant

systematic classic on acupuncture. Every single needle changes the system of the world of the body, not just the local area.

### 2.3 A Sham-Controlled Trial of Acupuncture as an Adjunct in Migraine Prophylaxis (Foroughipour et al 2014: 12-16)

Here we brief a sham-controlled trial of acupuncture for migraine, which indicates classical Chinese understanding of migraine is a key to ensure the efficacy of acupuncture for migraine.

A sham-controlled trial of acupuncture as an adjunct in migraine prophylaxis has shown classical Chinese understanding of migraine is a key to its effectiveness. The study aims to assess the effects of adding acupuncture to conventional migraine prophylaxis. In this study, one hundred patients with migraine (41 male, 59 female), in whom prophylactic drugs had not produced a fall of at least 50% in the number of attacks, were chosen to enter the study. The patients were randomised into two groups, sham and true acupuncture. The patients in both groups continued their prophylactic treatment and received 12 sessions of either true or sham acupuncture. Each session was 30 min and was repeated three times a week. The number of headaches in the two groups was compared at baseline, and at the end of four successive months.

The results were as follows: there was no significant difference in the frequency of attacks between the two groups before intervention. After 1 month, the frequency of attacks each month decreased from 5.1 (0.8) to 3.4 (1.2) in the true acupuncture group, and from 5.0 (0.8) to 4.4 (1.1) in the sham acupuncture group (a significant difference,  $p < 0.001$ ). The frequency continued to decrease in month 2 but increased in months 3 and 4; however, it was still significantly lower than baseline, and the difference remained significant after month 4. The authors concluded that acupuncture is applicable as an adjunct to prophylactic drugs in migraineurs in whom the number of attacks does not fall with prophylactic medication.

In this study, patients in the true acupuncture group received acupuncture according to their involved meridians (*Shaoyang*, *Yangming*, *Taiyang* or *Jueyin*) and their Chinese medicine syndrome differentiation (also known as pattern identification), thus adding individualised acupuncture to the semi-standardised protocol based on meridian diagnosis, while patients in the sham acupuncture group were needled superficially, not in real acupuncture points. The traditional Chinese medicine diagnosis was made by



the acupuncturist in the same way for both groups. Each treatment session was 30 min and was repeated three times a week. Manual acupuncture was used without any electrical stimulation, moxa, cupping or any other intervention. Needles on the extremities were stimulated by hand until *de qi* was obtained. Two sizes of Hanyi disposable needles were used: 0.25 mm diameter × 40 mm length and 0.18 mm diameter × 25 mm length.

To sum up, in this study, patients with migraine unresponsive to medication were recruited; real acupuncture based on meridian identification was superior to sham acupuncture; and the clinically useful effect declined after 2 months, and so acupuncture is suggested to be continued on a regular basis to maintain and improve its effectiveness for migraine.

### *3. Classical Chinese Understanding of Migraine: Theoretical Analysis*

In Chinese medicine, migraine is attributed to the category of “headache”, “head wind.” Its pathomechanism may relate to liver, spleen, kidneys and some pathological agents like wind, fire, damp, phlegm, and blood stasis. Here we discuss only the key points with theoretical and clinical significance - liver, wind, blood stasis.

#### 3.1 Migraine and Liver in Chinese Medicine

Based on analysis of 21 articles on migraine, Lu L.Y. et al (2010: 101-103) found that ¼ patterns of migraine cases related to liver, and most commonly seen patterns were hyperactivity of liver yang, liver fire flaming upwards, and liver depression and qi stagnation.

##### 3.1.1 Migraine & Running Routes of Liver Meridian and Gallbladder Meridian

Migraine is closely related to the liver since migraine involve mostly one side of the parietal, temporal, or frontal of the head, which are on the running route of the Liver and Gallbladder meridians. The Foot Jueyin Meridian of Liver starts at the big toe, going upward along the interior of the legs to the side of the abdomen, homing to the Liver, netting with the Gallbladder, then going up to connect the eyes, coming out from the forehead, and meeting the Governing or Du meridian at the top (parietal) of the head. Liver and

Gallbladder stand in exterior-interior relationship with each other, and their meridians connect each other, and Gallbladder meridian distributes the temporal & frontal of the head.

*Pulse Classic. Headache:* If the qi in the [meridians] of foot Jueyin and Shaoyang goes reversely upward, headache and eyeache will ensue.”

《脉经·头痛》：“足厥阴与少阳气逆，则头目痛。”

### 3.1.2 Gender Ratio of Migraine Patients & Liver as Women’s Prenatal Foundation

According to the Migraine Research Foundation, women are three times more likely to get migraine than men.<sup>7</sup> Ye Tianshi 叶天士 (1667-1747) pointed out in his work Clinical Guidance with Care Records that

“Women takes Liver as their Prenatal Foundation.”

士 临证 医 :“女 以肝为 .”

This statement indicates the close relationship in between women’s physiology, pathology and the liver. Liver is particularly important for women. Women take Liver as their prenatal foundation, blood as the function and root. One of the major physiological functions of the liver in Chinese medicine is to store blood. Before or during the menstrual period, yin blood flows downward, so Liver yin or Liver blood may not be sufficient, thereby head and eyes where its meridian pass by may be lack of nourishment and moisturization, migraine headache may ensue because of deficiency and/or stagnation of Liver Yin and Blood. This may partially explain why females are three times more likely to get migraine than males, esp. for migraine attacks come before or during menstrual period.

### 3.1.3 Recurrent Attack of Migraine & Liver’s Physiological Features

In Chinese medicine, Liver relates to wind in the nature, to wood in the five elemental phases. Liver prefers rising and free reaching in all directions, just like a tree (wood) prefers developing upward and free distributing in all directions. Yin blood is extremely important to the normal functioning of the

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<sup>7</sup> Online article: Understanding Migraines: The Gender Divide. Retrieved on 09/19/2019 at <https://migrainebuddy.com/migraine/2018/9/13/understanding-migraines-the-gender-divide>

Liver, just like a tree (wood) needs the nourishment from water. In the five elemental phases, water engenders wood.

Deficiency of Yin Blood may result in Liver being lack of moisturization and nourishment and internal wind may ensue. The internal wind may go along the Liver meridian or Gallbladder meridian to the head when encountering some triggers, then causing migraine headache. When a patient has migraine attack, her or his mood must be affected—depressive or irritable or stressful, which all further consume the Liver Blood. Then yin fails to counterbalance yang, then resulting in wind and/or fire, which disturb upward, thus becoming the pathological foundation of recurrent attacks of migraine headache.

In modern society, people have a lot of anxiety, stress, and/or depress from personal relationship, family, work, and/or school. These are all common triggers to induce migraine headaches. It is worth to mention that Liver relates to anger in the emotions, and problems like anxiety, stress, depression are mostly treated through the Liver.

Chinese understanding of the Liver's physiological features may explain why migraine headache attacks recurrently.

### 3.1.4 Migraine with Visual Disturbances & Liver Opening into Eyes

Among all the aura symptoms, visual disturbances rank the first as the most common symptoms (Wu 2012: 317), including blurred vision, blind spots or even vision loss, flashes of light, distorted vision such as seeing various shapes, or aversion to light, etc. *Huang Di Nei Jing Su Wen* reads that

“The liver opens into the eyes.”

“[When] Liver receives blood then the eyes can see.”

黄 内经· 问 :“肝开窍于目。”

“肝受 目 视。”

If the liver functions normally, then the eyes are sparkling with spirits and can distinguish different colors, and the vision is clear. If the liver blood or liver yin is in deficiency or in detriment, head and eyes are lack of nourishment and moisturization, then headache, blurred vision, blind vision, or dry eyes will ensue; if the yin fails to counterbalance yang, yang will be hyperactive, even liver fire may flame upward, then the patient may have aversion to light, running tears, or swollen red eyes.

According to the theory of Chinese medicine, when the patient has migraine attack, his/her liver may be in pathological conditions like deficiency of liver yin and blood, hyperactivity of liver yang, or even liver fire flaming upward.

### 3.2 Migraine and Wind

In Chinese medicine, headache which is deep, far-reaching (i.e. severe and chronic) and easily induced by various triggers is known as “Head Wind.”

“ 远 为头风 触复发 ”

#### 3.2.1 External Wind and Internal Wind

Wind, in Chinese medicine, can be external or internal.

##### 3.2.1.1 External Wind

External wind refers to the wind from the nature. In most cases, wind is a natural weather condition. But if the wind happens in the transition period in between two seasons, or it is too violent, or it lasts too long, or the person’s constitution is too weak, it may become a pathogenic factor to cause diseases. For example, migraine attacks may come more often in the transition period of two seasons, which may be explained as “the external wind invading the network vessels of the brain.”

Huang Di Nei Jing Su Wen:

“For those injured by wind, the upper/top is the part which got the wind first.”

“On the top and vertex is where only the wind can reach.”

“If the wind qi goes up along with Feng Fu (Wind Palace, Du16), Brain wind will ensue.”

黄 内经. 问 “伤于风 受 .”

“高巅 惟风可 .”

风气循风府 则为脑风.

*Zhu Bing Yuan Hou Lun* or *Treatise on Aetiology and Symptomology of Various Diseases*:

“Head Face Wind happens to people of weak constitutions whose yang meridians are invaded by wind ... heavy head, hot body, invaded by wind, resulting in head wind.”

诸病源论：

“头风 虚 诸阳经 为风 ...使头重身热 反得风 头风。”

*The Book of Changes* reads that “Those with the same qi (features) seek to each other” or “Like attracts alike” or “Similar attracts similar” :

气

Wind is a yang pathogen, which starts to injure people’s yang part. Head is the highest part of a human, and is considered as the meeting point of all yang. Wind is the leading cause of various diseases, and it may cause migraine attack when invading the human together with other external pathogens like cold, dampness, or heat.

*Yi Bian* or *Foundations of Medicine. Headache* (He Mengyao, 1751): “Wind, Cold, Dampness impede the Yang Qi most ... while severe heat may lead to qi obstruction and vessel fullness, so causing pain.”

《医编·头痛》(何梦瑶 1751):

“惟风寒湿三者最能郁遏阳气 ... 然热甚亦气壅脉满, 而为痛矣。”

The above elaboration points out that migraine attack may be closely related to external wind.

### 3.2.1.2 Internal Wind

*Huang Di Nei Jing Su Wen*: “Various winds and vertigos are all attributed to liver.” “诸风掉 皆属于肝.”

Internal wind relates mostly to the liver. The liver relates to the wood in the five elemental phases, to wind in the weather conditions, to Spring in the seasons. If the liver yin is deficient, liver yang will be hyperactive or deficient wind stirs upward because of the brain lack of moisturization and nourishment; liver depression may transform to liver fire. Either hyperactivity of liver yang or deficient wind stirring upward or upward flaming of liver fire may lead to migraine attack.

### 3.2.2 Migraine and Characteristics of Wind

Migraine is paroxysmal and has the characteristics of recurrence and remission. It comes and goes with sudden onset and swift changes, which accords with the characteristics of the wind “being good at moving with many changes 善行数变.” General speaking, for patients with migraine attack, the pain can be temporarily relieved after treatments (medications, acupuncture, herbs, massage), or bed rest, or sleep; but migraine can be induced by factors such as strenuous activity, overwork, stress, emotional instability, sudden weather changes, or improper diets (food triggers). Most of them can be related to wind or liver in Chinese medicine.

### 3.2.3 Herbal Treatment of Migraine: Wind-Dispelling Herbs

Ancient Chinese medical literature shows that wind-dispelling herbs are major herbs to treat headaches.

Li Dongyuan 李东垣 (1180-1251), the founding father of the school of Spleen and Stomach, pointed out clearly in his work entitled *Secrets Stored in Orchid Room* or *Lan Shi Mi Cang. Headaches* 兰室秘藏. 头痛 that “All those who have headaches are treated with wind medicinals, and in general this is indeed the case. On the top and vertex is where only the wind can reach. The thin (not dense or strong) flavor, the yin in yang, can rise from the earth to the heaven.”

Li Zhongzi 李中梓 (1588-1655), further explained the mechanism of the use of wind medicinals for headaches: “Headaches may result from many different causes. But why ancient formulas mainly use wind medicinals (to treat headaches)? On the top and vertex is where only the wind can reach. The thin flavor, the yin in yang, can rise from the earth to the heaven. It is the proper treatment for headaches caused by wind, cold and dampness; while wind medicinals can be used as guiding medicinals for headaches caused by deficiency or heat.”

Wind-dispelling medicinals are fragrant in smell, tend to rise, and are good at dispersing pathogenic agents, smoothing free flow of qi and blood, unblocking the meridians and penetrating the collaterals. They can be used as guiding medicinals to guide the effect directly up to the affected part of the head so as to relieve headache or stop the attack of the migraine. Ancient Chinese medical doctors advocated the use of wind medicinals for headache, which provided theoretical guidance for future generations of doctors to use

wind medicinals to treat headaches in clinical practice. Through literature review, it is also found that the most frequently used medicinals by modern Chinese medical doctors for migraine, such as Chuan Xiong (Chuan Xiong Rhizoma 川芎), Bai Shao (Radix Paeoniae Alba 白芍), and Xi Xin (Asari Radix et Rhizoma 细辛), are all wind medicinals (Xie et al 2011: 52-53). Therefore, from the point of view of the use of herbs, migraine is closely related to the wind.

Generally speaking, when analysing headache, we find that presence and combination of two factors play an important role: Wind-damp as the leading cause and Blood stasis as the key to the onset of headache and possibly that's why the pattern "Wind-damp with Blood Stasis" is so frequently encountered in cases of headache. Wind medicinals can penetrate the collaterals, open orifices, dry dampness, transform phlegm, and dispel pathogens. For headaches no matter due to exogenous contractions or internal damages, wind-dispelling medicinals, like Qiang Huo (Notopterygii Rhizoma seu Radix 羌活), Xi Xin (Asari Radix et Rhizoma 细辛), Jing Jie (Schizonepetae Herba 荆芥), Fang Feng (Saposhnikoviae Radix 防风), Bai Zhi (Angelicae dahuricae Radix 白芷), Gao Ben (Ligustici Rhizoma 藜本), Ge Gen (Puerariae Radix 葛根), can be used to assist the effects; while wind-extinguishing medicinals, like Shui Niu Jiao (Bubali Cornu 水牛角), Jiang Can (Bombyx batryticatus 僵蚕), Sheng Long Gu (Raw Fossilia Osis Mastodi 生龙骨), Sheng Mu Li (Raw Ostreae Concha 生牡蛎), can be used for headaches due to hyperactivity of liver yang caused by liver and kidney yin deficiency.

When the headache becomes chronic with a prolonged course, blood stasis, pathogenic wind, phlegm & turbidity may reside deep inside collaterals, which are difficult to remove if insects are not used for these conditions. Lu Feng Fang (Vespa Nidus 虻), Quan Xie (Scorpio 蝎), Wu Gong (Scolopendra 蜈蚣), which are better grounded into powder than decocted into herbal tea for better curative effects and fewer side effects, can be used for these conditions. In addition, insect medicinals can also be used for external application. For example, grounded powder of Quan Xie (Scorpio 全蝎), Wu Gong (Scolopendra 蜈蚣), Can Sha (Bombycis Faeces 蚕沙) can be made into paste with vinegar or tea, which can be applied on the temple or the affected part of the head to relieve the pain.

### 3.3 Migraine and Blood Stasis

Migraine attacks repeatedly, and it is difficult to cure, so the long course of the disease may result in the formation of blood stasis. Chinese medicine thinks “The pathomechanism of the most of the chronic diseases can be attributed to blood stasis 久病多瘀;” “Blockage will result in pain 不通则痛.” Therefore blood stasis is a key pathomechanism of migraine.

Where does blood stasis originate from? Emotional frustrations may lead to liver qi depression, which further leads to qi stagnation and blood stasis; Pathological products like phlegm, turbidity, rheum, fluids may impede the flow of blood, then blood stasis may form accordingly; As for people in weak constitutions like some seniors and women, their qi is too deficient to promote the flow of blood, then blood stasis may form and cause migraine headache. Besides, environmental pollutions, bad living habits like lack of exercise or sedentary habits caused by excessive use of computers and other electronic devices, or inadequate or poor sleep, or staying up too late in the night, or being chronically ill for a long time, etc can all lead to formation of blood stasis. Therefore treating principles such as promoting blood flow, unblocking the network vessels, removing blood stasis, and relieving pain should be used accordingly to treat patients with migraine.

Western medicine understands migraine as a disease of intracranial vasomotor dysfunction, which is associated with biochemical changes of serotonin (Tajti et al 2014: 1509-1520) and prostaglandin (Antonova et al 2013: 269-275) in plasma, and is accompanied by increased platelet aggregation and increased blood viscosity, which accord with pathological features of blood stasis leading to pain, i.e. “Blockage will result in pain 不通则痛,” in Chinese medicine (Wang et al 2000: 506-508). Therefore accordingly the treating method should be “promoting the flow of blood, dredging the network vessels, removing blood stasis and relieving pain.”

Migraine patients may have repeated attack of headache, with severe throbbing or stabbing or distending pain which may last from a few hours to a few days, maybe accompanied by nausea, vomiting, dizziness, dark red or purplish tongue with ecchymosis, thin white coating, wiry pulse, which in Chinese medicine are manifestations of liver wind with blood stasis (Zheng 2002: 105-109).

Li Wanling (Southern Medical University, PhD Dissertation, 2012) investigated constitutions of migraine patients in Hong Kong based on the



constitution theory of Chinese medicine, and found that constitutions of Liver Qi Depression and Blood Stasis were constitution types with a higher risk for migraine, constitutions of yin-yang balance, yang deficiency and yin deficiency are protective constitutions for migraine; elucidated how migraine was related to family history of migraine and high blood pressure, gender, negative feeling, regular exercise, sleep quality, stress, overwork; and indicated that, besides of routine medications, psychological counselling and liver-soothing & depression-relieving medicinals should be used for migraine patients with liver qi depression.

Feng Xinghua understood migraine as a kind of Bi 痹 or Blockage syndrome. Bi syndrome can be treated from the liver since he understood liver qi stagnation as the pathomechanism of Bi. For example, qi stagnation in the head result in headache or migraine, while qi stagnation in the joints results in joint pain. Accordingly he used “depression-relieving and pain-stopping formula” for migraine. A prospective, single blind (evaluator), non-randomized clinical trial was done to evaluate the effectiveness of his herbal formula. 60 patients of Brain Disease Department of Guang’anmen Hospital (a hospital of Chinese medicine) were given depression-relieving and pain-stopping herbal formula, which was modified according to patient’s individualized condition (Treatment Group); 60 patients of Neurological Department of Xuanwu Hospital were given Zomitriptan (2.5 mg, once a day) for migraine attack, Duloxetine (30-60 mg, once a day) for intermission period. Both groups were treated for a month. Observation indicators: Headache-Visual Analog Scale (VAS), Migraine Disability Assessment Questionnaire (MIDAS), Migraine Specific Quality of Life Questionnaire (MSQ), symptoms and signs of Chinese medicine. Results: The degree of headache, number of attacks, quality of life, and symptoms and signs of Chinese medicine all significantly improved after the treatment (compared with those indicators before the treatment) in the Chinese medicine group. In the meanwhile, all indicators were significantly better than those of the control group (the Western Medicine treatment group). Conclusion: Jieyu Zhitong Decoction 解郁止痛汤 or depression-relieving and pain-stopping herbal formula is reliable in treating migraine. (Ma 2013: Abstract)

To sum up, migraine is mainly due to internal damage, with liver (gall-bladder) as the affected viscera, wind as the pathogenic agent, blood stasis as pathological products/cause, the liver wind with blood stasis as the basic pathomechanism, Qi depression/stagnation and blood stasis as the pathological changes. That is, the core pathomechanism of migraine is liver wind

with qi stagnation & blood stasis going upward to stir the clear orifice (head).

#### 4. Classical Chinese Understanding of Migraine: Clinical Application

Modern practitioners put forward treating migraine from liver (Fang et al 2013: 101-103; Shi et al 2008: 382-383), from wind (He et al 2000: 159), from blood stasis (Fu et al 2011: 114-116), from wind and blood stasis (Sun 2007: 1-2), from liver, wind, and blood stasis (Peng 2004) based on the above theoretical analysis and its satisfactory effectiveness from their own clinical experiences.

Disease diagnosis in combination with pattern identification should be observed in the concrete treatments of migraine. Soothing liver, dispelling wind, drying dampness, transforming phlegm, promoting blood flow and removing blood stasis to relieve pain can be used as general treating principles. But in the meanwhile, the spleen and stomach's function to transform and transport need to be taken into consideration.

##### 4.1 Acupuncture Treatment

Acupuncture can be given based on meridian identification and/or other pattern identification. Then how does Chinese medicine identify which meridian is involved in a certain case of migraine—*Shaoyang*, *Yangming*, *Taiyang* or *Jueyin*? Generally speaking, this is identified by the location of the pain in the head run through by a certain meridian: occipital headache—Taiyang, frontal headache—Yangming, temporal headache—Shaoyang, parietal headache—Taiyang. The point prescription for migraine of different meridians could be:

Occipital headache: Fengchi (GB20), Kunlun (BL60), Houxi (SI3);

Frontal headache: Touwei (ST8), Yintang (Extra), Shangxing (Du23), Hegu (LI4), Neiting (ST44);

Temporal headache: Taiyang (Extra), Shuaigu (GB8), Waiguan (SJ5), Zulinqi (GB41);

Parietal headache: Baihui (Du20), Houxi (SI3), Zhiyin (BL67), Taichong (LR3) (Cheng XN, 1987: 464).

Specific groups of point can be added for certain patterns of migraine:

Hyperactivity of Liver Yang: Xingjian (LR2), Taichong (LR3), Neiting (ST44), Xiangu (ST43), Qiuxu (GB40), Quchi (LI11);

Phlegm and Dampness: Zhongwan (Ren12), Zusanli (ST36), Fenglong (ST40);  
Blood Stasis: Sanyinjiao (SP6), Xuehai (SP10), Geshu (UB17);  
Triggered by external wind (Transition between seasons): Fengfu (Du16), Lieque (LU7), Waiguan (SJ5).

For prevention purpose, points like Zusanli (ST36), Shousanli (LI10), Zhongwan (Ren12), which are mainly used to harmonize and strengthen spleen and stomach and support the immunity, can be always added into the point prescription for preventing migraine attacks.

It is interesting to note that the gallbladder meridian run along the vagus nerve and the small hand held vagal stimulator that looks like a smart phone has been highly effective at relieving migraine at any stage.

## 4.2 Herbal Treatment

Most of the herbal prescriptions for migraines are individualized or empirical ones, and some Chinese patent medicine are also used to treat migraines.

### 4.2.1 Herbs and Formulas

*Chinese Internal Medicine* (Xiao 2010) understands the pathomechanism of migraine as hyperactivity of Liver Yang, wind and fire disturbing upward along the Liver Meridian since migraine can be triggered by emotional fluctuation, exhaustion, etc. In Chinese medicine, anger relates to liver; and Liver is the foundation of the fatigue. Accordingly, treatment principles could be soothing the liver, extinguishing wind, clearing heat, dredging the network vessels. Herbal formulas of Tianma Gouteng Yin 天麻钩藤饮, Lingjiao Gouteng Tang 羚角钩藤汤 are proposed for migraine.

Herbs proposed for migraine may include Ju Hua (Chrysanthemi Flos 菊花), Tianma (Gastrodiae Rhizoma 天麻), Huang Qin (Scutellariae Radix 黄芩), Bai Shao (Radix Paeoniae Alba 白芍), Chuan Xiong (Chuan Xiong Rhizoma 川芎), Bai Zhi (Angelicae dahuricae Radix 白芷), Sheng Shi Gao (Raw Gypsum Fibrosum 生石膏), Zhen Zhu Mu (Margaritiferae Concha Usta 珍珠母), Gao Ben (Ligustici Rhizoma 藜本), Man Jing Zi (Viticis Fructus 蔓荆子), Gou Teng (Uncariae Ramulus cum Uncis 钩藤), Quan Xie (Scorpio 全蝎), Di Long (Pheretima 地龙).

And guiding herbs which can guide the actions of the herbal formula to the affected area can be added according to the location of the migraine attacks: Qiang Huo (Notopterygii Rhizoma seu Radix 羌活), Man Jing Zi

(*Viticis Fructus* 蔓荆子), *Chuan Xiong* (*Chuan Xiong Rhizoma* 川芎) can be added for Taiyang (Occipital) headache; *Ge Gen* (*Puerariae Radix* 葛根), *Bai Zhi* (*Angelicae dahuricae Radix* 白芷), *Zhi Mu* (*Anemarrhenae Rhizoma* 知母) can be added for Yangming (Frontal) headache; *Chai Hu* (*Bupleuri Radix* 柴胡), *Huang Qin* (*Scutellariae Radix* 黄芩), *Chuanxiong* (*Chuan Xiong Rhizoma* 川芎) can be added for Taiyang (Temporal) headache; *Wu Zhu Yu* (*Evodiae Fructus* 吴茱萸) and *Gao ben* (*Ligustici Rhizoma* 藜本) can be added for Jueyin (Parietal) headache.

#### 4.2.1 Empirical Formulas

Prof. Wang Yongyan (王永炎, 1986: 15) advanced in the 1980s that most of the migraines can be identified as the pattern of the liver wind with phlegm and blood stasis disturbing upward to the clear orifice (i.e. the head), that the affected viscus was liver, that blood stasis was the static cause, pathogenic wind was the moving cause, blood stasis and wind explained the repeated occurrence of the migraines, that soothing the liver & extinguishing wind and resolving blood stasis & dredging the network vessels were used to address both the static and moving causes. He formulated the Chuanxiong Pain-Relieving Decoction for migraines, which is composed of *Chuan Xiong* (*Chuan Xiong Rhizoma* 川芎), *Gou Teng* (*Uncariae Ramulus cum Uncis* 钩藤), *Ju Hua* (*Chrysanthemi Flos* 菊花), *Bai Ji Li* (*Tribuli Fructus* 白蒺藜), *Sheng Yi Yi Ren* (*Raw Coicis Semen* 生薏苡仁), *Bai Dou Kou* (*Amomi Fructus rotundus* 白豆蔻), *Ban Xia* (*Pinellia ternata* 半夏), *Chi Shao* (*Paeoniae Radix rubra* 赤芍), *Chuan Niu Xi* (*Cyathulae Radix* 川牛膝), and achieved the rate of effectiveness of 86.4%. Clinical trials including RCTs demonstrate that the formula significantly reduced the frequency, lasting days, pain severity, and prevented its recurrence (Huang et al 1997: 293-295; Fu et al 2012: 1325); improved accompanying symptoms, life quality, and sleep quality (Liu et al 2014: 10-12; Shen et al 2013: 31-34; Zhang et al 2013: 904-910). This formula has been included into the guideline for migraine treatment and prevention, and applied widely for the migraine treatment in China (Ren et al 2013: 1122-1124).

Li Wentao attributed migraine mainly to the Liver, understood its pathological mechanism as wind fire in the liver meridian with blood stasis. The Liver-Clearing & Blood Stasis-Resolving Formula he formulated, which was composed of *Chuan Xiong* (*Chuan Xiong Rhizoma* 川芎), *Long Dan Cao* (*Gentianae Radix* 龙胆草), *Gou Teng* (*Uncariae Ramulus cum Uncis*

钩藤), Bai Shao (Radix Paeoniae Alba 白芍), Man Jing Zi (Viticis Fructus 蔓荆子), Xi Xin (Asari Radix et Rhizoma 细辛), Bai Zhi (Angelicae dahuricae Radix 白芷), could significantly reduce the severity and frequency of the migraine attack (Fang et al 2014: 96-97).

Dong Mengjiu attributed migraine mainly to hyperactivity of liver yang with the binding of phlegm and blood stasis, resulting in clear yang failing to rise, or turbid pathogen rising to invade the clear orifice (head). His empirical formula—modified Wind-Extinguishing & Collateral-Dredging Decoction, composed of Chuan Xiong (Chuan Xiong Rhizoma 川芎), Tian Ma (Gastrodiae Rhizoma 天麻), Gou Teng (Uncariae Ramulus cum Uncis 钩藤), Chai Hu (Bupleuri Radix 柴胡), Bai Shao (Radix Paeoniae Alba 白芍), Qiang Huo (Notopterygii Rhizoma seu Radix 羌活), Bai Zhi (Angelicae dahuricae Radix 白芷), Xi Xin (Asari Radix et Rhizoma 细辛), Bo He (Menthae haplocalycis Herba 薄荷), Zhi Gan Cao (Honey-fried Glycyrrhizae Radix 炙甘草), showed good effectiveness for migraines identified as liver wind with blood stasis (He et al 2012: 34-35).

Gao Minjun used Liver-Soothing & Pain-Relieving Decoction, composed of Chuan Xiong (Chuan Xiong Rhizoma 川芎), Chai Hu (Bupleuri Radix 柴胡), Tian Ma (Gastrodiae Rhizoma 天麻), Dang Gui (Angelicae sinensis Radix 当归), Bai Shao (Radix Paeoniae Alba 白芍), Gou Teng (Uncariae Ramulus cum Uncis 钩藤), Quan Xie (Scorpio 全蝎), Yu Jin (Cucumae Radix 郁金), Bai Zhi (Angelicae dahuricae Radix 白芷), Xi Xin (Asari Radix et Rhizoma 细辛), Man Jing Zi (Viticis Fructus 蔓荆子), Gan Cao (Glycyrrhizae Radix 甘草), showed a significant better effectiveness than Flunarizine (Gao 2013: 44-45).

Wu Dahua et al did a randomized controlled trial to compare the effectiveness of Liver-Soothing & Collateral-Dredging Decoction with Flunarizine. The decoction was composed of Bai Shao (Radix Paeoniae Alba 白芍), Tian Ma (Gastrodiae Rhizoma 天麻), Gou Teng (Uncariae Ramulus cum Uncis 钩藤), Ci Ji Li (Tribuli Fructus 刺蒺藜), Shi Jue Ming (Haliotidis Concha 石决明), Zhen Zhu Mu (Margaritiferae Concha usta 珍珠母), Dan Shen (Salviae miltiorrhizae Radix 丹参), Ge Gen (Puerariae Radix 葛根), Chuan Xiong (Chuan Xiong Rhizoma 川芎), Quan Xie (Scorpio 全蝎), Gan Cao (Glycyrrhizae Radix 甘草). The trial showed that the Chinese herbal formula was significantly more effective than Flunarizine (Wu et al 2015: 73-75).

### 4.3 Lifestyle Suggestions

Generally speaking, good rest and enough sleep, healthful diets, balanced mood and regular exercise are key points to preserve and cultivate health. Specifically speaking, the following points are extremely important for patients with migraine to reduce the frequency and severity of migraine attack:

**Soothing the liver:** manage stress, relieve anxiety, control anger to cultivate a balanced or happy mood and positive attitude for life. Stress, anxiety, emotional changes, which are mostly attributed to the liver, are common triggers of migraine attacks. Acupuncture and/or Chinese herbal formulas is excellent in relieving stress and anxiety and managing emotional changes. But the root cause for stress, anxiety, anger, or other sudden violent long-lasting emotional changes need to be managed accordingly based on individual's real life and work.

**Regulating and nourishing the liver:** Liver stores blood. If liver blood is deficient, you may have dry eyes, blurred vision, and poor sleep (insomnia). Lack of sleep is also a common trigger of migraine. For migraines with aura, eyes symptoms are common. Animal's liver, mutton, peanuts (with peels), blackberries, raspberries, Chinese jujubes, longan, carrots, wolfberries, Schisandra fruits, etc. are liver-nourishing foods in Chinese medicine.

**Avoiding external wind:** Weather changes could be a trigger for migraine too. So keep warm, wear in layers, is very important esp. in the transition period between two seasons.

**Avoiding food triggers:** Food triggers include food preservatives: Nitrates & nitrites, processed food like hot dogs, ham, sausage, bacon, lunch meats; Sulfite, Wine; Tyramine, a monoamine compound in aged and fermented foods like aged cheeses, cured meat; Monosodium glutamate, soy sauce, canned vegetables, soups, and processed meats; and Caffeine. Also avoid taking in excess carbohydrates, or staying in hunger.

Avoid other triggers like exposure to light (bright lights) or loud noises, or allergic reactions. A harmonious external environment is a prerequisite for the harmony of a being in himself/herself and with the surroundings.

### 5. Conclusion

Management of migraine esp. of those unresponsive to medication with Chinese medicine, including acupuncture, herbal remedies, and lifestyle suggestions, will be surely going on. Since the most powerful types of studies for inferring that a treatment ‘works’ are clinical trials, and the randomized controlled trials (RCTs) are currently considered the ‘gold standard’ for evaluating the effects of a medical intervention (Macpherson/Hammerschlag/Lewith et al 2008: 112), so how to conduct clinical trials (esp. RCTs) on Chinese medicine for migraine is extremely important.

It is well known that individualized treatment based on pattern identification and holism is the most distinguishing feature of Chinese medicine. So before clinical trials, questionnaires to investigate the constitutions (or patterns) of migraine patients of a specific culture based on theory of Chinese medicine can be conducted in order to work out a better fitting treatment protocol. Besides, many questions should be asked before the study:

How do researchers set up a sham control group? How does classical Chinese medicine understand the concept of “placebo,” which is based on testing of new pharmacological agents? Is the treatment in treatment group a kind of best possible treatment which can stand for acupuncture and/or herbal treatment for migraine? How do researchers evaluate the treatment outcomes? Besides of biomedically defined outcomes, should researchers also evaluate patient-centered outcomes and outcomes based on Chinese medicine explanatory model? And so and so forth.

Constructive Realism, a new philosophy of science which aims to understand different scientific systems developed from different cultures (Wallner 1994), should be introduced into the research of Chinese medicine for migraine, including theoretical interpretation, clinical application and clinical trials. Diverse medical systems provide different perspectives and so enrich our understanding of the manifoldness of the same being, and accordingly they offer different resolutions for the same problem. They may be incompatible, but all real and complementary to each other, and so benefit the wellbeing and health of the humankind in different aspects. As we have demonstrated before, Chinese medicine is another complete medical knowledge system with its specific ontology (Unity of Heaven and Humankind), methodology (Taking Image and Analogizing or *Qu Xiang Bi Lei* 取象比类 or metaphorizing), way of thinking (circular reasoning), and experiences (unity of subjectivity and objectivity, joint development of theory and prac-

tice), which is incompatible to Western medicine (Lan 2015). Since the concept of placebo never exists in classical Chinese medicine, the research on acupuncture and herbal remedies for migraine requires the formulation of new approaches besides of randomized controlled trials (RCTs).

### References

- Antonova, M./Wienecke, T./Olesen, J, et al. (2013): "Prostaglandins in migraine: update". *Curr Opin Neurol.* 26 (3), pp. 269-275.
- Brinkhaus B./Witt C.M./Jena S, et al. (2006): "Acupuncture in patients with chronic low back pain: a randomized controlled trial". *Archives of Internal Medicine.* 166, pp. 450-457.
- Cheng, X. (1987): *Chinese Acupuncture and Moxibustion*. Foreign Language Press: Beijing.
- Diener, H.C./Kronfeld, K./Boewing, G, et al. (2006): "Efficacy of acupuncture for the prophylaxis of migraine: a multicentre randomised controlled clinical trial". *Lancet Neurology.* 5, pp. 310-316.
- Fang, X./Li, W.T. (2013): "Research progress of treating migraine from the liver". *Modern Journal of Integrated Traditional Chinese and Western Medicine.* 22 (1), pp. 101-103. (Original publication is in Chinese.)
- (2014): "Successful cases of liver-clearing & blood stasis-resolving by Li Wentao for prevention and treatment of migraine". *Shan'xi Journal of Traditional Chinese Medicine.* 35 (1), pp 96-97. (Original publication is in Chinese.)
- Foroughipour, M./Golchian, A.R./Kalhor, M, et al. (2014): "A sham-controlled trial of acupuncture as an adjunct in migraine prophylaxis". *Acupunct Med.* 32, 12-16.
- Fu, C.H./Cao, K.G./Zhao, J.J, et al. (2014): "Placebo controlled clinical trials on Chinese herbal remedies for migraine based on pattern identification". *Chinese journal of traditional Chinese medicine.* 29 (5), pp. 1444-1447. (Original publication is in Chinese.)
- Fu, C.H./Yu, L.H./Zou, Y.H, et al. (2012): "Efficacy of chuanxiong Ding Tong herbal formula granule in the treatment and prophylactic of migraine patients: a randomized, Double-Blind, multicenter, Placebo-Controlled trial". *Evidence-Based Complementary and Alternative Medicine.* (6), p. 1325.



- Fu, Q.J./Yang, D.G./Xu, C.B. (2011): "Research progress in Chinese medicine for migraine from blood stasis". *Modern Journal of Integrated Traditional Chinese and Western Medicine*. 20 (1), pp. 114-116. (Original publication is in Chinese.)
- Gao, M.J. (2013): "Liver-Soothing & Pain-Relieving Decoction for migraine of liver wind with blood stasis: clinical observation of effectiveness of 30 cases". *Yunnan Journal of Traditional Chinese Medicine and Materia Medica*. 34 (10), pp. 44-45. (Original publication is in Chinese.)
- He, J./Gong, Y./Dong, M.J. (2012): "Clinical observation of Wind-Extinguishing & Collateral-Dredging Decoction for migraine of liver wind with blood stasis". *Hubei Journal of Traditional Chinese Medicine*. 34 (1), pp. 34-35. (Original publication is in Chinese.)
- He, Y.W./Chen, Y.M. (2000): "Treating migraine from wind". *Lishizhen Medicine and Materia Medica Research*. 11 (2), p. 159. (Original publication is in Chinese.)
- Hesse, J./Mogelvang, B./Simonsen, H. (1994): "Acupuncture versus metoprolol in migraine prophylaxis: a randomized trial of trigger point inactivation". *Journal of Internal Medicine*. 235(5), pp. 451-456.
- Huang, Y.X./Li, Q.Z./Tan, P.F, et al. (1997): "Clinical observation of Chuanxiong Dingtong Yin for head wind." *Medical theory and practice*. 10 (7), pp. 293-295. (Original publication is in Chinese.)
- Kaptchuk, T.J. (2002): "The placebo effect in alternative medicine: Can the performance of a healing ritual have clinical significance?". *Annals of Internal Medicine*. 126 (11), pp. 817-825.
- Lan, F.L. (2015): *Metaphor: The Weaver of Chinese Medicine*. Verlag Traugott Bautz GmbH.
- Liguori, A./Petti, F./Bangrazi, A, et al. (2000): "Comparison of pharmacological treatment versus acupuncture treatment for migraine without aura — analysis of socio-medical parameters". *Journal of Traditional Chinese Medicine*. 20, pp. 231-240.
- Li, W.L. (2012): *Study on Constitution Features of Migraine Patients*. Guangzhou: Southern Medical University. PhD Dissertation. (Original publication is in Chinese.)
- Linde, K./Allais, G./Brinkhaus, et al. (2016): "Acupuncture for the prevention of episodic migraine". Cochrane Systematic Review - Intervention Version published on 28 June 2016.

- Linde, K./Streng, A./Jurgens, S, et al. (2005): "Acupuncture for patients with migraine". *Journal of the American Medical Association* 293(17), pp. 2118-2125.
- Linde, K./Streng, A./Hoppe, A, et al. (2006): "Treatment in a randomized multicenter trial of acupuncture for migraine (ART migraine)". *Forschende Komplementarmedizin* 13, pp. 101-108.
- Liu, H.W./Zhang, Y./Fu, C.H, et al. (2014): "Influences of Chuanxiong pain-relieving decoction on accompanying symptoms of migraine of liver wind with blood stasis: randomized controlled trial". *Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease*. 12 (1), pp. 10-12. (Original publication is in Chinese.)
- Lu, Y.L./Ding, Y.Q. (2010): "Analysis on current status of Chinese medicine patterns, pathomechanisms, and treatment". *Henan Journal of Traditional Chinese Medicine*. 30 (1), pp. 101-103. (Original publication is in Chinese.)
- Ma, X.J. (2013): *Professor Feng Xinghua's Academic Thoughts on Bi Syndrome and Clinical Study on Treatment of Migraine from Liver Theory and Bi-Syndrome*. PhD Dissertation. China Academy of Chinese Medical Sciences: Beijing. (Original publication is in Chinese.)
- MacPherson, H./Hammerschlag, R./Lewith, G, et al. (2008): *Acupuncture research: strategies for establishing an evidence base*. Elsevier Churchill Living Stone, p. 112.
- Melchart, D./Streng, A./Hoppe, A, et al. (2005): "Acupuncture in patients with tension-type headache: randomised controlled trial". *British Medical Journal*. 331, pp. 376-382.
- Molsberger, A.F./Boewing, G./Diener, H.C, et al. (2006): "Designing an acupuncture study: the nationwide, randomized, controlled, German acupuncture trials on migraine and tension-type headache". *Journal of Alternative and Complementary Medicine* 12, pp. 237-245.
- Peng, W. 2004. *Treating migraine from liver wind with blood stasis: clinical trials and experimental study*. Master Thesis. Shandong University of Traditional Chinese Medicine: Jinan. (Original publication is in Chinese.)
- Ren, Y./Zhang, Y./Xie, C.R, et al. (2013): "Research on validation and promotion of standard of pattern Identification and treatment of migraine among primary doctors". *Jilin Journal of Traditional Chinese Medicine*. 33 (11), pp. 1122-1124. (Original publication is in Chinese.)

- Scharf, H.P./Mansmann, U./Streitberger, K, et al. (2006): "Acupuncture and knee osteoarthritis: a three-armed randomized trial". *Annals of Internal Medicine* 145, pp. 12-20.
- Shen, Z.Y./Fu, C.H./Liu, H.W, et al. (2013): "Influences of Chuanxiong pain-relieving decoction on quality of life of migraine patients of liver wind with blood stasis: randomized controlled trial". *Journal of Beijing University of Traditional Chinese Medicine* (Clinical Medicine). 20 (2), pp. 31-34. (Original publication is in Chinese.)
- Shi, H./Wang, L. (2008): "On Ning Tong Formula (Arresting Pain Formula): Treatment of migraine from the liver". *Tianjin Journal of Traditional Chinese Medicine*. 10 (25), pp. 382-383. (Original publication is in Chinese.)
- Streitberger, K./Witte, S./Mansmann, U, et al. (2004): "Efficacy and safety of acupuncture for chronic pain caused by gonarthrosis: a study protocol of an ongoing multi-centre randomised controlled clinical trial". *BM Complementary and Alternative Medicine* 4, p. 6.
- Sun, A.Y. (2007): "Treating migraine from wind and blood stasis". *Jilin Journal of Traditional Chinese Medicine*. 27 (1), pp. 1-2. (Original publication is in Chinese.)
- Tajti, J./Csáti, A./Vécsei, L. (2014): "Novel strategies for the treatment of migraine attacks via the CGRP, serotonin, dopamine, PAC1, and NMDA receptors". *Expert Opin Drug Metab Toxicol*. 10 (11), pp. 1509-1520.
- Wallner, F. (1994): *Constructive Realism: Aspects of a New Epistemological Movement*. Indiana: Purdue University Press.
- Wang, X.J./Guo, J.S./Yu, R, et al. (2000): Clinical Trials and Experimental Study on Tou Tong Ding Capsules for Migraine of Blood Stasis. *China Journal of Chinese Materia Medica*. 25 (8), pp. 506-508. (Original publication is in Chinese.)
- Wang, Y.Y. (1986): "Chuanxiong Dingtong Yin for migraine: preliminary clinical observation of 45 cases". *Journal of Beijing college of Chinese medicine*. 9 (4), p. 15. (Original publication is in Chinese.)
- Witt, C./Brinkhaus, B./Jena, S, et al. (2005): "Acupuncture in patients with osteoarthritis of the knee: a randomised trial". *Lancet*. 366, pp. 136-143.
- Witt, C.M./Jena, S./Brinkhaus, B, et al. (2006a): "Acupuncture for patients with chronic neck pain". *Pain*. 125, pp. 98-106.
- Witt, C.M./Jena, S./Selim, D, et al. (2006b): "Pragmatic randomized trial evaluating the clinical and economic effectiveness of acupuncture for chronic low back pain". *American Journal of Epidemiology* 164, pp. 487-496.

- Wu, D.H./Chen, Y./Liu, R, et al. (2015): "Clinical observation of Liver-Soothing & Collateral-Dredging Decoction for migraine". *Guiding Journal of Traditional Chinese Medicine and Pharmacy*. 21 (9), pp. 73-75. (Original publication is in Chinese.)
- Wu, J. (2012): *Neurology*. Beijing: People's Medical Publishing House. (Original publication is in Chinese.)
- Xiao, Z.H. (2010): *Chinese Internal Medicine*. Beijing: People's Medical Publishing House. (Original publication is in Chinese.)
- Xie, L.D./Li, H.T./Hu, Z.Q. (2011): "Analysis of rules of Chinese herbs for Migraine". *Hubei Journal of Traditional Chinese Medicine*. 33 (10), pp. 52-53. (Original publication is in Chinese.)
- Xie, W./Chen, B.T./Zhao, Y.Y. (1998): "Classification of patterns, etiology, and pathomechanism of chronic headache: analysis of 180 cases". *Journal of First Military Medical University*. 18 (4), p. 270. (Original publication is in Chinese.)
- Zheng, X.Y. (2002): *Guidelines for clinical trials on new Chinese herbal formulas*. Chinese medical science press: Beijing, pp. 105-109. (Original publication is in Chinese.)
- Zhang, Y./Fu, C.H./Liu, H.W, et al. (2013): "Influences of Chuanxiong pain relieving decoction on sleep quality of migraine patients of liver wind with blood stasis: randomized controlled trial". *Jilin Journal of Traditional Chinese Medicine*. 33 (9), pp. 904-910. (Original publication is in Chinese.)