

Original Article

A Review on the Clinical Use of the Eight Extra Meridians

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국문초록

기경팔맥의 임상활용에 대한 소논문

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목적 : 기경팔맥의 임상활용을 위하여 기경팔맥의 개요와 기경팔맥을 이용한 침 치료법의 장점과 기존의 침 치료와의 차이점을 알아보고자 하였다.

방법 : 기경팔맥의 기원과 학문적 이론의 체계를 알아보기 위하여 한국학술정보(주)를 통해 검색한 국내 논문 9편을 참고하고, 기경팔맥을 이용한 치료법에 관한 국내외 서적 2편을 수집하였다. 또한 MedLine에서 기경팔맥을 이용한 치험례와 임상연구에 대해 영어로 작성된 논문 2편을 소개하였다.

결론 : 기경팔맥을 이용하면 정경 치료와 달리, 통증 등의 실체가 있는 질환에 대해 즉각적인 효과를 보이는 치료를 소수의 혈자리 자침으로써 간편하게 행할 수 있다. 또한 병증과 경락 유주 사이의 공간적 불일치가 있거나, 복잡한 정황으로 인해 四診을 통한 변증이 어려운 경우에 팔맥교회혈 또는 영구팔법 등의 기경팔맥을 이용한 치료를 사용할 수 있다.

핵심단어 : 기경팔맥, 기경 치료법, 정경 치료법, Eight Extra Meridians, Twelve Main Meridians

I. Introduction

In Oriental medicine we see the human body as

a small universe. Man lives in and under great influence of nature. Just like a tree proliferating cells in the spring and growing in summer, halting growth in the fall to get ready for cold weather

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and then minimizing activity in the winter to save energy, human body follows a similar biological rhythm. A good example of the biological rhythm is the according pulse of four seasons. When the pulse does not feel according to the season it means that something has gone wrong in the body. For example if the pulse is not tight in spring it means the body is ill. The Twelve Main Meridians surround the whole body to mediate this kind of disharmony, and the Eight Extra Meridians system is another route like it. In fact, in the early stage of the formation of the Meridians system, there were only eleven Meridians of afferent direction, that resemble the Extra Meridians that we know today. Over time, the Main Meridians system assumed a more academic scheme of the organs system, and the more primitive, flow-related Extra Meridians adopted the name "Extra"¹⁾.

The difference between the Twelve Main Meridians and the Eight Extra Meridians is that although the Eight Extra Meridians are a unit under the same name, their eight circulation patterns are all independent. The Twelve Main Meridians have an Interior-Exterior relationship between the Eum and Yang Meridians that influences the physiology and pathology as well. The Eight Extra Meridians each have at most 28 acupoints that cure the disease of the Extra Meridian, most of which are related to the region the Extra Meridian controls, but with the exception of the Governor Vessel and the Conception Vessel, the acupoints of the Extra Meridians overlap those of the Main Meridians. This fact gives rise to the question of how the Extra Meridians can still have a route, when they do not have their own acupoints. The answer lies in the function of the Extra Meridians, which is controlling the acupoints of the Twelve Main Meridians. There is an independent flow of Qi that functions in each of the Eight Extra Meridians, that forms a route and encompasses some of the acupoints of the passing by Main Meridian¹⁾.

There are various explanations for the terminology of the Extra Meridians. The 'Classic of

Difficulties' says that 'extra' means they are not 'restrained' by the Main Meridian system. Li Shi Zhen says that they are 'extra' because they are not related to the Main Meridian system and do not have exterior-interior pairing system. In modern texts the meaning of 'extra' is defined as 'odd' or 'surplus'. It suggests that the Extra Meridians are separate and different from the Main Meridians. This definition implies that the Extra Meridians add something to the Main Meridian system, as to the earlier description of them just being different²⁾.

II. Main subject

1. The physiology of Eight Extra Meridians²⁻⁵⁾

Of the Eight Extra Meridians the Governor Vessel has the greatest Yang property. It influences the back area and the spine and is manifest in central nervous diseases or severe illnesses with symptoms all over the body. The Extra Meridian with the second largest Yang property is the Yang Heel Vessel. The Yang Heel Vessel's main areas are the outer aspect of lower limb, and eyes. It causes and cures relatively lighter, localized illnesses. The two vessels' combined area include the inner canthus, neck, scapula, spine, back, and brain. They pertain to diseases such as stiffness or weakness of spine, Yang Excess, or the dysfunction of closing eyes (Eyes open too much).

While the Yang Link Vessel influences the head, it does not have central nervous elements like the Governor Vessel and the Yang Heel Vessel, and is manifest in illnesses of superficial region. It can cause and/or acute pain on hand and foot, and symptoms along the Gall Bladder Meridian. The area influenced by the Belt Vessel, as one would well guess, is the waist. The combined area of these two vessels are ear, cheek, outer canthus, shoulder, neck and occiput, manifesting in diseases

such as Fullness of abdomen, 'sitting in water' symptoms, and the imbalance of heat and chills. The manifestation of the Belt Vessel is deeper and has more Eum property than the Yang Link Vessel and includes gynecological illnesses.

From the other four Extra Meridians that have relatively Eum property, the Conception Vessel is mainly involved in diseases of the lower abdomen. It courses through the chest-abdomen area, and therefore also contains many symptoms of the Lung Meridian, such as pulmonary diseases and skin lesions. The Eum Heel Vessel, which passes the inner aspect of leg and eyes, manifests in illnesses of the lower Triple Energizer. It contains many of the diseases of the Kidney and Stomach Meridians. It is used in most cases of low back pain. Problems in these two vessels result in Eum Excess, symptoms of which include hernia, abdominal masses, or dysfunction of opening eyes (Eyes close too much). Their combined areas are Lungs, throat, chest, diaphragm, and the abdomen.

The Thoroughfare Vessel, influencing abdomen and chest, and The Eum Link Vessel, influencing the abdomen and the sides of body have common areas of Heart, chest, stomach, abdomen, inner aspect of legs. Their problem precedes Rebellious Qi, internal urgency, heart pain. In <Classic of Difficulties> (the twenty-ninth difficulty) the symptom of Eum Link Vessel is described as "suffering from heartburn," which means various chest aches. It is also functionally linked to the Pericardium Meridian. The chest ache of Eum Link Vessel contains feeling of uneasiness, while as the chest ache of the Thoroughfare Vessel is more focused on pain. In the <Classic of Difficulties> the Thoroughfare Vessel is described as "shooting up to cause the insides tight," which means that the intestines are having a spasm. <The Essence of Acupuncture> quotes many severe pain in gynecological situations that is related to the Thoroughfare Vessel. It also contains many symptoms of the Spleen Meridian. (Table of the symptoms of the Eight Extra Meridians is appended.)

2. The functions of Extra Meridian and its clinical application^{2,6)}

The Channel system of the human body in Oriental Medicine reflects the irrigation system in nature. The Extra Meridians is said to act as 'reservoirs' of energy in relation to the Main Meridians, which are compared to rivers. In Maciocia's *The Channels of Acupuncture*, the author states, "*As Reservoirs of Qi the Extra Meridians absorb excess Qi from the Main Meridians.*" They are therefore used frequently in conditions of Fullness to absorb the Excesses of Yang or of Eum. For example, Excess of Yang in the head manifests with headaches, anxiety, mental restlessness, feelings of heat, thirst, and Red tongue. One can use the points of the Yang Heel Vessel (BL₆₂, SI₃) to absorb Excess of Yang from the head.

Other functions of the Extra Meridians organized by the author are listed below.

- *"The Extra Meridians are related to Kidneys and the Essence."*
- *"The Extra Meridians are related to Defensive Qi."*
- *"The Extra Meridians control life cycles."*
- *"The Extra Meridians integrate the Six Extra Yang Organs."*
- *"The Extra Meridians integrate the Four Seas."*
- *"The Extra Meridians control the orifices."*
- *"The Extra Meridians regulate, balance and integrate."*

The Extra Meridians can both absorb Qi from the Main Meridians and transfer Qi to them. As the Extra Meridians receive Qi from all the Main Meridians, they are especially useful when more than one Meridian is affected. In many cases, abdominal problems in women are both gynaecological and intestinal. By using the Thoroughfare Vessel, it will affect all the Meridians coursing

through the lower abdomen(Stomach, Liver, Spleen, Kidneys). In a similar context, the use of Extra Meridians is indicated whenever a pulse quality spans more than one position(The pulses of each Extra Meridian are further explained.).

The Qi in the reservoirs warms the organs internally and irrigates the space between skin and muscles externally. This in turn is related to the role of the Extra Meridians as protection against exterior pathogenic factors. The Extra Meridians circulate Defensive Qi in the abdomen, chest and back. Defensive Qi circulate between the skin and muscles where Extra Meridians irrigates the space with overflowing Qi from the Main Meridians. To tonify the Defensive Qi, one can treat GV₄ and CV₄ with direct moxa cones⁵⁾.

Deriving from the space between the Kidneys, the Extra Meridians also circulate Essence, and bring Essence into play in protecting the body from exterior pathogenic factors. The Governor, Conception and Thoroughfare Vessels are especially involved in so doing.

The Extra Meridians govern 7- and 8-year life cycles in women and men respectively. Life cycles are dependent on the Extra Meridians' storing of Essence. 'Cheongye'(roughly translates to 'Heaven timing') is a transformation of Kidney-Essence through the agency of the Extra Meridians. It is menstrual blood in women and sperm in men. The Extra Meridians can be used clinically to strengthen the Essence at crucial junctions in life. By treating CV₄ and KI₁₃, the Conception and Thoroughfare Vessels can be used to stabilize the Essence during puberty. The Conception Vessel can cure menopausal problems by using LU₇, KI₆, and CV₄⁵⁾.

The Extra Meridians are also said to integrate the Six Extra Yang Organs. They are the Brain, Uterus, Blood vessels, Gall Bladder, Marrow, and Bones. The Governor Vessel can be used to nourish Marrow and the Brain in cases of declining memory in the elderly and middle-aged(GV₄ and GV₂₀ are commonly used). The Thoroughfare and Conception Vessels are related to Uterus. No problem of the Uterus can be treated without using

one of these two vessels(CV₄ and KI₁₃). The Thoroughfare Vessel affects the circulation of Blood all over the body, especially in the legs and feet, and in the Uterus(SP₄ and PC₆). (To affect the Blood circulation of the legs specifically, add ST₃₇ and ST₃₉.) The Belt Vessel is used to harmonize Liver and Gall Bladder. The Governor Vessel and the Thoroughfare Vessel treat Marrow, while the Governor Vessel and Eum-Yang Heel Vessels treat Brain. Thoroughfare, Governor and Conception Vessels are involved in treating Bones. The Thoroughfare Vessel(BL₁₁ and KI₁₃), Governor Vessel(GV₁₄), and Conception Vessel(CV₄) can tonify the bones(Table 1).

Table 1. The Six Extra Yang Organs and Corresponding Extra Meridians

Brain	Governor Vessel, Eum-Yang Heel Vessels
Uterus	Thoroughfare and Conception Vessels
Blood vessels	Thoroughfare Vessel
Gall Bladder	Belt Vessel
Marrow	Thoroughfare and Governor Vessels
Bones	Thoroughfare, Governor and Conception Vessels

In a different way of sorting the composition of the body, there exists Four Seas of Blood, Marrow, Food and Qi. The Meridians are rivers which flow into the Four Seas. Therefore, it would appear that the Four Seas are somewhat similar in function to the Eight Extra Meridians as reservoirs of Qi, into which the Main Meridians flow. These reservoirs may be Full or Empty. The Sea of Blood is synonymous with the Thoroughfare Vessel. The Thoroughfare Vessel is used to treat gynecological problems that arise from disharmonies of Blood. The Sea of Marrow is synonymous with the Brain, thus the Governor Vessel and Eum-Yang Heel Vessels. The Seas of Food is synonymous with the Stomach. The Thoroughfare Vessel, besides controlling Blood, influences the Stomach and Intes-

Table 2. The Four Seas and Corresponding Extra Meridians

Sea of Blood	Thoroughfare Vessel
Sea of Qi	Conception Vessel
Sea of Marrow	Governor Vessel and Eum-Yang Heel Vessels
Sea of Food	Thoroughfare Vessel

tines and digestion. The Sea of Qi is related to the Lung and the Gathering Qi. Its deficiency symptom, 'a dislike of speaking', is a Lung-deficiency symptom. The Sea of Qi is related to the Conception Vessel (Table 2).

Pathology of the Extra Meridians often shows in the orifices, among which the Mind(神), the 'orifice' of the Heart, is included. E.g. the Eum Link Vessel nourishes Blood and the Heart thus has a strong influence on the Mind. The Governor Vessel stems from the Kidneys, flows through the Heart and enters the Brain, so it also strongly influences the Mind. The correspondences between orifices and Extra Meridians are listed in Table 3. The Governor Vessel influences the anus as it flows through it. However, it also flows in the front of the body and so, in addition, influences the urethra. Therefore, the Governor Vessel is used in urinary problems in men. The Thoroughfare Vessel influences both the urethra and the anus. The common acupoints of the Kidney Meridian and the Thoroughfare Vessel in the lower abdomen are strongly linked to the Kidneys, and the Kidneys control the two lower orifices. The anus is also connected to the Stomach and Large Intestine, two other organs of Meridians of shared pass ways with the Thoroughfare Vessel.

In general, the function of the Extra Meridians are regulation, balance and integration. The Extra Meridians regulate flow from the Main Meridians, and excess of Yang or of Eum. They link the Eum Meridians and the Yang Meridians. They balance Eum and Yang in trunk and head. They also balance Left-Right, Above-Below, Interior-Exterior and Back-Front. The Extra Meridians integrate

Table 3. The Extra Meridians and Their Influence on the Orifices

Eum-Yang Heel Vessels	bring Eum and Yang Qi to the eyes respectively
Governor Vessel	flows through the nose and keeps the nose orifice open (Yang energy)
Conception Vessel	flows around the mouth and influences gums, teeth and lips
Yang Link Vessel	influences the ears (connected to Lesser Yang: TE and GB Meridians)
Conception Vessel	flows through the urethra
Eum Link Vessel	nourishes Blood and the Heart (strong influence on the Mind)

various structures into the Meridian system and with the internal organs.

3. Twelve Main Meridians vs. Eight Extra Meridians^{1,7)}(Table 4)

The Extra Meridians do not have Exterior-Interior relationships, and each of them is not directly related to an Internal Organ in the way that the Main Meridians are. With the exception of the Governor and Conception Vessels, the Extra Meridians do not have their own points, as do the Main Meridians; rather, they flow through points of various Main Meridians. Therefore, each Extra Meridian influences more than one Main Meridian.

The Main Meridians and Extra Meridians differ in their influence on the body as well. Treating the Main Meridians is a complex process of examination, diagnosis, and treatment, but treating the Extra Meridians is relatively simple. However, it also has a shortcoming of rapid return to the original state after immediate effect. Treating the Main Meridians is a holistic approach that aims to strengthen vitality. Therefore to cure a disease any kind of systemic treatment, e.g. acupuncture on the basic acupoints of the whole body, moxibustion, or taichi, etc. is employed. On the other hand, when treating

Table 4. The Comparison of the Two Treatments

	Twelve Main Meridians	Eight Extra Meridians
Objective	Strengthening vitality	Subsiding symptom
Treated meridians	12 meridians	2-4 meridians
Immediate effect	Effect may take awhile	Effect is immediate
Lasting effect	Exists	Does not exist
Technique	Needs supplementing and/or sedating technique	Straightforward acupuncture is enough
Diagnosis	The four observation methods, taking pulse	Acupressure, site of illness, symptom
Treatment	Applies the principal of Five Elements on acupuncture by the use of supplementing and sedating technique, and calls for pulse taking ability.	Positive and negative needles are used.* Straightforward acupuncture with slight incision is enough.

* : Different metals, such as gold for supplementing and silver for sedating, are sometimes used.

Table 5. The Opening Points and the Coupled Points

	Opening point	Coupled point
Conception V	LU ₇	KI ₆
Eum Heel V	KI ₆	LU ₇
Governor V	SI ₃	BL ₆₂
Yang Heel V	BL ₆₂	SI ₃
Thoroughfare V	SP ₄	PC ₆
Eum Link V	PC ₆	SP ₄
Belt V	GB ₄₁	TE ₅
Yang Link V	TE ₅	GB ₄₁

the Extra Meridians the aim is limited to a specific site of illness, that can be dealt with simple acupuncture.

In Oriental medicine, physical examination is done by the four observation methods: seeing, listening, questioning, and touching. Close observation is done when treating the Main Meridians, but when treating the Extra Meridians such elaboration is not necessary.

Treating the Main Meridians needs supplementing and/or sedating technique. Treating the Extra Meridians does not require such techniques, and is applied with straightforward acupuncture. The difference comes from utilizing the natural healing power of the patient's own. Curing diseases according to natural healing powers is the ultimate treatment. Making use of nature could be the best technique of healing. It is important to use the

activity of the nature in fullness. To do so, it is necessary to understand each acupoint thoroughly.

Acupoint is a very effective means of treatment, to harvest great result with minimal invasion. Treating Extra Meridians brings that merit into fullness. It uses the Eight Opening Points and is divided into four groups(The four groups are shown in Table 5). Such concept of principal and subsidiary is unique in Oriental medicine. E.g. principally one would place needle on the Opening Point, await the effect while massaging the Meridian, and then put acupuncture on the subsidiary Coupled Point. This is called the sequential supplementing and sedating technique.

The Opening Point is needled first, and then the Coupled Point. One set of Opening and Coupled Points treats two Extra Meridians.

4. The uses of Extra Meridian^{2,3)}

The functions of the Extra Meridians are different from those of the Main Meridians, therefore the situations that call for the use of the Extra Meridians are unique. There are several cases the Extra Meridian can be used for treatment with very effective results.

The Extra Meridian can be used to treat problems of several Meridians simultaneously. If the pathology affects clearly only one Meridian, then one can use the Main Meridian. However, if the

problem affects more than one Meridian simultaneously, it indicates the use of an Extra Meridian because the Extra Meridians, as reservoirs and agents of regulation and integration, receive the inflow from many different Meridians.

Also, the Extra Meridian is used in complicated conditions, chronic cases characterized by multiple, confusing patterns and many different symptoms in different body systems.

The involvement of an internal organ with a Meridian of different organ is another indication for the use of Extra Meridian. E.g. Liver-Yang rising may produce headaches along the Bladder Meridian on the occiput. In such a situation, one can use the Yang Heel Vessel.

The Extra Meridian can be used for treating confusing situations of Heat-Cold and Deficiency-Excess, as well as some mental problems. The strong link between the Extra Meridians and Mind has been mentioned above. The Conception Vessel treats mania after labor. One of the major symptoms of the Thoroughfare Vessel is mental restlessness and anxiety associated with Rebellious Qi. The Governor Vessel affects three organs which have a profound influence on the mind: the Kidneys, the Heart and Brain. The Yang Heel Vessel is used to absorb excesses of Yang in the head when they cause mental agitation and restlessness. The Eum Link Vessel is used to nourish Blood, strengthen the Heart and calm the Mind. E.g. it is used frequently in patients suffering from depression and anxiety.

In some neurological problems, the Extra Meridian is used. The Governor Vessel and the Belt Vessel, e.g., can be used to stimulate the circulation of Qi in the legs and spine in neurological problems. Both the Yang and Eum Heel Vessels can be used for hemiplegia after stroke.

As mentioned earlier, the 'reservoir' rather than an individual Meridian is affected, therefore in this situation, two or more positions of the pulse corresponding to different Meridians and internal organs have the same quality and strength. When

the pulse has the same quality in several positions, Extra Meridian can be selected for treatment points (Further explanation of the pulses is in following sections).

5. Diagnosis & treatment

1) The pulse diagnosis of the Eight Extra Meridians^{2,8)}

- ① The pulse of the Conception Vessel is long, tight, fine on both Front positions, extending down to Middle position.
- ② The pulse of the Governor Vessel is floating in all three positions.
- ③ The pulse of the Thoroughfare Vessel is firm in all three positions; also hard on both Middle positions.
- ④ In pathology of the Yang Heel Vessel, both Front positions are shaped like a pellet, which means they are wiry.
- ⑤ The pulse of pathologic Belt Vessel is shaped like a pellet on both Middle positions.
- ⑥ The Eum Heel Vessel shows wiry pulse on both Rear positions.
- ⑦ The pulse of the Yang Link Vessel pulsates like a chord from the Rear-medial to the Front-lateral side of the pulse.
- ⑧ In Eum Link Vessel, the direction is vice versa (diagram shown in appendix).

2) Opening & coupled points⁵⁾

Each Extra Meridian has an 'opening' point and is associated with a 'coupled' point; each 'coupled' point is, in turn, the opening point of another Extra Meridian. When the points are coupled in this way, the Extra Meridians are grouped into four pairs (Table 5).

Each Extra Meridian influences a given area of the body when using its opening and coupled point as a pair.

Using the opening and coupled points reaches the area governed by that vessel. It brings into play the roles of Extra Meridians as reservoirs and

as agents of regulation, balance and integration.

3) Rules of point selection²⁾

- ① Only the opening point is used bilaterally.
- ② The opening point and the coupled point are used bilaterally. This method is suitable for a wide range of problems.
- ③ The opening point and the coupled point are used unilaterally and crossed over. This method is suitable for problems of the head and face and of the internal organs. It is especially suitable for children, old people, those weak in body condition, or those suffering anxiety.
- ④ The opening point and coupled point are used unilaterally on the same side. This method is suitable for unilateral problems: of back and limbs, backache, sprains. Painful Obstruction Syndrome, Wind-stroke sequelae. One needs only to needle the affected side.

Choosing sides))

-Using opening and coupled point unilaterally and crossed over according to sex: in men, opening point on the left and coupled point on the right; vice versa in women

-In pain syndromes: opening point on the side of the pain and the coupled point on the opposite side.

4) Needling techniques⁷⁾

- ① Always start with the opening point, and follow it with the coupled point
- ② Obtain deqi(the needling sensation) but do not apply any special technique, i.e. neither reinforcing nor reducing
- ③ If combining with other points, insert these after the insertion of the coupled point, usually starting from the top part of the body downwards.
- ④ Leave all these needles in for about 20 minutes.
- ⑤ Withdraw the other points first, then withdraw the coupled points and lastly the opening points.

5) The Eight Points of the Divine Turtle^{2,9-11)}

The Eight Points of the Divine Turtle is an acupuncture treatment based on the use of the eight opening points of the Extra Meridians according to the Chinese calendar. It is part of a broader method called 'Ja Oh Yuju' theory, which chooses the 66 Transporting(Shu) points according to the Chinese calendar. Both methods are based on the idea that Qi flows in the channels in a predictable order following the flow of Stems and Branches in time according to the Chinese calendar. According to this theory, in any particular day and time of day, a particular point(one of the 66 Transporting points in the Ja Oh Yuju theory, or one of the Eight Extra Meridians' opening points in The Eight Points of the Divine Turtle) is 'open' for treatment because Qi is flowing through it at that particular time.

The method of the Eight Points of the Divine Turtle is based on the legend of the mythical emperor Fu Xi discovering a turtle emerge from the water of the River Lo with markings on its shell that depicted the Eight Trigrams in the Later Heaven arrangements. There are two different arrangements of the Eight Trigrams, one called the Pre-Heaven and the other the Later-Heaven(or River Lo) arrangement. The Pre-Heaven arrangement shows the eight trigrams as diametrically opposed pairs with Heaven(three solid lines) in the South and Earth in the North; Fire in the East and Water in the West. The Pre-Heaven arrangement of the Eight Trigrams is like a static representation of all the possibilities of the trigrams; they represent ideas in the world of Ideas. The Later-Heaven arrangement, in which the Eight Points of the Divine Turtle is based on, represents a more cyclical movement of the Eight Trigrams in their realization in the world of Form.

The nine numbers on the turtle's shell form the so-called 'magic square'.(Fig. 1) The eight numbers on the edges correspond to the eight trigrams; the number 5 in the center is the term of reference.

4	9	2
3	5	7
8	1	6

Fig. 1. The 'magic square'

The nine numbers on the turtle's shell form the so-called 'magic square'. The eight numbers on the edges correspond to the eight trigrams; the number 5 in the center is the term of reference.

The nine numbers in the magic-square are arranged in a way that presents many mathematical peculiarities, such as the followings. The sums of the numbers facing each other on opposite ends, all add to 10. The sum of all even numbers equals that of all odd numbers both adding to 20 (number 5 is not counted with the odd number because 5 is in the centre as a term of reference). Three numbers add up to 15 whichever way one looks at the square, i.e. horizontally, vertically or diagonally. The numbers corresponding to the four directions, i.e. South at the top(9), North at the bottom(1), East on the left(3) and West on the right (7) are all odd numbers, which are Yang and pertain to Heaven. The numbers corresponding to the four corners, i.e. South-East at the top-left (4), South-West at the top-right(2), North-West at the bottom-right(6), and North-East at the bottom-left (8) are all even numbers, which are Eum and pertain to Earth.

The eight trigrams and directions on the turtle's back correspond to the opening points of the Eight Extra Meridians. On any particular year, month, day and time, one of the eight opening points of the Extra Meridians is 'open' for treatment because Qi is flowing through that point at that particular time.

The two methods of using acupuncture points according to the time and day of treatment are useful in clinical practice, particularly in the treatment of painful syndromes. There is another possible way of using the open points: rather than choosing the open point according to the time of

treatment, one can choose the time of treatment according to the desired open point. For example, in a situation to treat the Thoroughfare Vessel in a patient with a stubborn, chronic, painful condition, the practitioner can ask the patient to come on the suitable day and time when SP₄ is 'open' for treatment.

Although the principles of Ja Oh Yuju theory are found already in the Neijing, the popularity of this method reached its peak during the Song dynasty. Afterwards during the Ming and Qing dynasty, the ways of using the Extra Meridians became more various, and the Eight Points of the Divine Turtle theory came into light in connection with the chronological and spacial aspect of the Extra Meridians.

III. Case study¹²⁾

A 72 year old woman was seen for a 13 month history of post-herpetic neuralgia. Pain was located over the right T5-T9 dermatomes, radiating anteriorly. At the time of her first acupuncture visit, she described the pain level at 6/10 with daily episodes of 10/10 pain lasting for greater than an hour. Pain was described as stabbing and burning. She also complained of severe skin sensitivity. Prior treatments included analgesics, a methyl-prednisolone dose pack, gabapentin, and four nerve blocks, all with minimal effectiveness.

Atrial fibrillation was initially diagnosed 20 years prior to her initial acupuncture visit, and was associated with a 'fluttering' sensation in her chest and secondary anxiety as a result of this sensation. She was managed by a cardiologist with a combination of medication and, subsequently, with a pacemaker, which was implanted one year prior to the onset of herpes zoster and two years prior to her first acupuncture treatment. In addition to prescribed medication for the pain, she found that ice applied to the painful areas numbed the pain.

In addition to pain locations and levels as

described, additional symptoms/signs relevant to a TCM diagnosis included fatigue with low energy levels; erratic sleep due to the pain; depressed and anxious mood as a result of persistent pain and awareness of the atrial fibrillation; irregularly irregular, slightly wiry pulse, and pale purplish, swollen tongue, with a thin white coating and two purple spots, one on each side of the tongue, just posterior to the tip.

Based on her evaluation, the TCM diagnosis was Qi/Blood stagnation(ST, SP LR, GB BL channels) with secondary Qi deficiency. Consequently, the treatment principle was to primarily move the Qi/Blood in the right chest, costal, and posterior lateral mid-thoracic area and secondarily to tonify the Qi.

The acupuncture points chosen were (Rt. side) SP₄, PC₆, LR₃, GB₃₄, SP₁₀, ST₃₆, TE₆, LR₁₃, LR₁₄, BL₄₀, BL₁₅, BL₁₇, and BL₁₈ with very light plum blossom needling to cause local redness in the area of pain. Her standard medical treatment remained unchanged.

As recorded by her pacemaker, estimated weekly episodes of AF in the patient decreased significantly, and percentage time in AF decreased with borderline statistical significance, from the pretreatment estimates during the second series of treatments. The pain levels were also significantly reduced following the acupuncture treatment series by more than 67%.

The primary focus of the acupuncture was pain relief; however, the combination of points SP₄ and PC₆ were added because they are known as open and coupled points of the Thoroughfare Vessel, which are thought to affect chest/costal pain and regulate the heart rhythm.

IV. Clinical trial¹³⁾

A clinical trial testing the efficacy of acupuncture for patients with spinal cord injuries was done in Taiwan using acupoints belonging to the

Extra Meridians.

To examine whether electrical acupuncture therapy through adhesive surface electrodes and concomitant auricular acupuncture therapy could improve the neurologic or functional recovery in acute traumatic spinal cord injury patients, a total of 100 acute traumatic spinal cord injury patients were recruited. The patients satisfied the American Spinal Injury Association(ASIA) impairment grading of A and B, and were randomly divided into the acupuncture and control groups. In the acupuncture group, electrical acupuncture therapy via the adhesive surface electrodes were applied to the bilateral SI₃ and BL₆₂. The authors' reasons for using these acupoints is the connection between both acupoints and the Governing Meridian, which is related to the spinal cord as documented by traditional Chinese medicine. In auricular acupuncture, four acupoints related to the spinal cord were elected for stimulation at the antihelix, helix, and lower portion of the ear-back areas. Acupuncture therapy was initiated early in the emergency room setting or soon after spinal surgical intervention. Rehabilitation therapy was also provided to the patients during acupuncture therapy. In the control group, only rehabilitation therapy was provided to the patients. Neurologic and functional scores were assessed during the time of admission, hospital discharge, and 1-yr post injury follow-up.

There were significant improvements in neurologic(sensory and motor) and functional evaluation scales as well as the FIMTM score, developed by the Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc., in the acupuncture group compared with the initial admission period when assessed during the time of hospital discharge and the 1-yr postinjury follow-up. A greater percentage of patients in the acupuncture group recovered to a higher ASIA impairment grading.

These results mean the use of acupuncture can contribute to significant neurologic and functional recoveries when implemented early in acute spinal cord injury, and acupoints of the Governing

Meridian have meaningful therapeutic effect on diseases of the back spine.

V. References

1. Lee DH. Comparison Between the Eight Extra Meridians and the Early Meridians. *The Journal of Korean Acupuncture & Moxibustion Society*. 2006 ; 23(4) : 91-100.
2. Giovanni Maciocia. *The Channels of Acupuncture*. Philadelphia : Elsevier. 2006 : 371-648.
3. Pyeon SB, Kang JS. The Physiology, Region, and Pathology of the Eight Extra Meridians. *J of Academy of Oriental Med Daejeon Univ*. 1998 ; 7(1) : 411-34.
4. Ko KS. The Flow and Visceral Allocation of the Eight Extra Meridians(I). *The Journal of East-West Medicine*. 1985 ; 10(1) : 64-74.
5. Lee KS, Yun JH. The Eight Extra Meridians and the Eight Opening Points. *J of Medical Gi-gong*. 1998 ; 2(1) : 103-18.
6. Lee JB, Kim KH, Yun JH. The Relationship Between Acupuncture and Herbal Medicine in the Eight Extra Meridian System. *The Journal of Korean Acupuncture & Moxibustion Society*. 1998 ; 15(1) : 123-34.
7. Miyawaki Kazuto. *Easy Extra Meridian Treatment*. Seoul : Jisik-Sanup Publications. 2001 : 8, 12-35, 48-56.
8. Hwang JI, Lee JB, Hwang MS, Yun JH. The Pulse Taking Method of the Eight Extra Meridians. *The Journal of Korean Acupuncture & Moxibustion Society*. 2005 ; 22(4) : 165-78.
9. Kim KW, Park HK. Acupuncture Treatment According to the Elements Theory. *J of Korean Medical History Society*. 1998 ; 11(1) : 2-20.
10. So JJ, Lee YH, Choi YT. A Study on the Eight Extra Meridians(I). *The Journal of Korean Acupuncture & Moxibustion Society*. 1995 ; 12(1) : 49-72.
11. So JJ, Lee YH, Choi YT. A Study on the Eight Extra Meridians(II). *The Journal of Korean Acupuncture & Moxibustion Society*. 1994 ; 11(1) : 9-24.
12. Peter Valaskatgis, Eric A Macklin, Steven C Schachter, Peter M Wayne. Possible effects of acupuncture on atrial fibrillation and post-herpetic neuralgia - a case report. *Acupuncture in Medicine*. 2008 ; 26(1) : 51-6.
13. Wong AMK, Leong CP, Su TY, Yu SW, Tsai WC, Chen CPC. Clinical Trial of Acupuncture for Patients with Spinal Cord Injuries. *Am J Phys Med Rehabil*. 2003 ; 82 : 21-7.