

The Evidence-based Views on Liver Qi Stagnation

Tong-Zheng Hong*

As-You-Wish Healthcare Institute, Taiwan

***Corresponding Author:** Tong-Zheng Hong, As-You-Wish Healthcare Institute, Taiwan.

Received: December 10, 2018; **Published:** February 01, 2019

Abstract

Among the Liver related patterns, Liver qi stagnation is the most common in clinic and can affect the functions of the three vital components of Jing obtained from the parents and classified as the prenatal essence, Qi relating to energy supporting life, and Shen, the combination of both Jing and Qi. The scientific evidence for the Liver qi stagnation related symptoms can be interpreted with the biological changes of the auto nerve system that can result in issues of the digestion and depression, the improvement of interleukin-6, decreasing level of the prostaglandin F 1 α (PGF1 α) levels, increasing level of β -endorphin and the ratio of 6-keto- PGF1 α / thromboxane B 2 (TXB2). The pattern accurately interpreted can be the key to the integration of traditional Chinese medicine and the Western medicine in the future.

Keywords: Qi; Liver Qi Stagnation; Pattern

Introduction

Compared to the Western medicine that has developed for less than three centuries, Chinese medicine is the main system of healthcare in the Chinese communities and has developed for thousands of years. The philosophy Western medicine follows in the development is the hypothetical deduction while Chinese medicine uses the inductive reasoning, which makes it hard for these two medicines to talk to each other [1].

In the theory of the traditional Chinese medicine (TCM), the constitution of humans and patterns of the disharmony in the body are described in the eight major categories of Yin and Yang, External and Internal, Hot and Cold, and Excess and Deficiency collaborating with the fundamental materials, such as Qi, Blood, and body-fluid accompanied by Zang-Fu organs differentiation.

TCM sees the human body as a whole system and as a miniature of the universe in diagnosis and treatment for the harmony with Yin-Yang balance. On the other hand, the Ying-Yang theory indicates that the three treasures Jing, Qi, and Shen constitute the human life in the TCM.

From the aspect of Ying-Yang theory, Jing is viewed as Ying, referring to material. This concept seems to bear high similarities to genes recognized by the ancient TCM masters that is an important substance passed from parent to child and may cause serious issues with growth, reproduction, and development in some cases. Qi, the vital energy of the body, pertains to Yang that represents functions as the source of all the movements in the body, such as maintaining the normal temperature to warm the body, defending the body against external pathogens, holding organs in the proper positions, and transforming food into useful substances in the body. Both Jing and Qi collaborate with each other as shown in figure 1 to be the manifestation of Shen. Shen can serve as the tool for diagnosis with pattern identification derived from the Ying-Yang theory, which distinguishes TCM from the Western medicine and indicates that a disease refers to the loss of the balance of Yin-Yang [2].

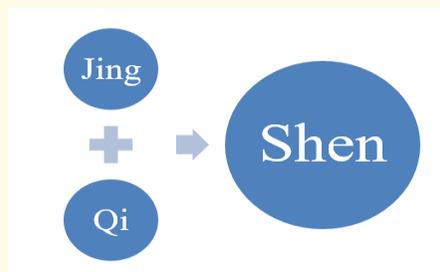


Figure 1: Relationship of Jing and Qi with Shen.

A disease is viewed as the loss of the balance of Yin-Yang [3]. The most important key to the successful outcomes is that an experienced TCM doctors and acupuncturists must only rely on the information gathered from the four skills used for diagnosis to identify the patterns and write up the prescriptions. In other words, patterns, which distinguish TCM from the Western medicine, should be the key concern for the TCM and acupuncture practitioners in making the decisions of treatments. Since a disease is the presentation of the imbalance between Yin and Yang as shown in figure 2, the positive and accurate consideration of patterns developed with Yin-Yang must be strictly followed for the expected effective outcomes [1,4].

<u>Yin</u>	<u>Yang</u>
Blood	Qi
Material	Function
Zang	Fu
Yin meridian	Yang meridian

Figure 2: Characteristics of Yin and Yang.

Symptoms of stagnated Liver qi

The Zang-Fu theory is also an important part of the TCM. This theory indicates there are five Ying Zang organs that collaborate with the six Fu Yang organs to connect all the body constituents through the meridian systems, in addition to Qi, Blood, fluids, and Essence as the material basis.

Liver, heart, spleen, lung, and kidney are classified as the five Ying Zang organs, while the six Yang Fu organs are gallbladder, small intestine, stomach, large intestine, bladder, and Sanjiao that is unique and the abstract concept never recognized and discussed in the Western medicine.

Among the Zang organs, the active nature of Liver in the TCM has two functions of ascent and dispersion that can affect the functions of body [5]. Liver stores Blood, which refers to regulating the blood volume throughout the body and serves to prevent blood outside the veins in conjunction with Spleen. On the other hand, Liver also governs the free flow of Qi in order to ensure the distribution of blood and fluids properly, the Spleen qi to ascend and the Stomach qi to descend, and finally regulate the emotions [4].

Liver qi stagnation is the extremely common TCM pattern in clinic. The emotions are closely associated with the function of Liver responsible for the free flow of Qi. The Five Elements theory explains that Liver is classified as Wood that can easily generate Fire resulted from such External pathogens as negative emotions like anger, resentment, fear, frustration, leading to stagnated Liver qi that can disrupt the smooth flow of Qi within the body [4].

TCM treatments are usually administered with the diagnosis of the individuals' pattern on the basis of Yin-Yang balance that can be explained with neurotransmitters and hormones in the physiological activities.

Scientific research shows that the target cells of substances biologically active can be mediated with intracellular cyclic nucleotides cAMP/cGMP. The antagonistic actions between these cyclic nucleotides fluctuate with the concentration of the cyclic nucleotides, which indicates that Yang deficiency can correspond to a decrease in cAMP while Yin deficiency indicates the number of cAMP increases [6].

The pathological change of Liver qi stagnation represents that Liver is depressed to impede the Qi to circulate, resulting in stagnation of Qi movement. When Liver qi stagnation occurs, it can finally cause emotional states over a certain period of time. The symptoms of liver qi stagnation include constant anger, depression, and resentment, frequent sigh, the discomfort in the chest or breasts in women, dull or stabbing pain in the hypochondriac and epigastric regions [7,8], which can be explained with the Liver meridian.

The Liver meridian classified as Foot Jueyin starts at the lateral side of the big toe, goes upwards along the inner side of the leg to meet with SP12 and SP13 and then encircles the pubic region to connect with the Conception Vessel at CV2, CV3, and CV4. This meridian finally connect with the Governing Vessel at the vertex of the head [9].

Scientific evidence of Liver qi stagnation

One of the functions of Liver is closely associated with the response to stress. Experimental and clinical investigations have demonstrated from the aspect of Western medicine that the dysregulation of neurotransmitter may result in depression. The biochemical explanation shows that Liver qi is involved in the blood circulation into the brain, which depends on the macronutrients processed into molecules from the synthesis of plasma proteins and the energy metabolism in the brain neurons. The failure in delivering sufficient fuel molecules to the brain disrupts with Liver qi stagnation the mitochondrial ATP production in neurons. Insufficient release and transportation of ATP resulted from the neurotransmitter and the neurotrophin can eventually lead to depression [8,10].

The response of the body to stress can affect the autonomic nervous system to malfunction in regulating and controlling granulocytes and lymphocytes, which can be viewed as Liver qi stagnation. Granulocytes and lymphocytes are controlled respectively by the sympathetic and parasympathetic nervous systems to determine the ratio of these cells that can be viewed as the balance of Yin and Yang [11]. On the other hand, the Natural Killer cells that can attack malignant cells are also controlled by the sympathetic nervous system while the parasympathetic nervous system is presumed to control the release of cytotoxic substances by the Natural Killer cells [12,13].

Discomforts in the chest or breast region and pain in the hypochondriac and epigastric regions may be caused by the stomach ulcer or Gastroesophageal reflux disease (GERD).

Both Spleen and Stomach are classified as Earth that can be overacted by Liver classified as Wood in the Five Elements theory, which is the most common pattern in clinic and includes irritable bowel syndrome and functional abdominal pain syndrome. The Stomach qi is regulated normally by the free flow of Liver qi to descend downwards; however, the abnormal sequence between these two Zang organs occurs with Liver qi stagnation [5,14]. In the patients with either functional abdominal pain or irritable bowels, it is stated that the polypeptide hormone Gastrin 17 (G17) binding to cholecystokinin receptor (CCKR) for the growth of gastrointestinal mucosa and biological exertion that stimulates the secretion of gastric acid is below the normal level [5,15].

The liver function of the patients with stagnated liver qi at the active stage of liver cirrhosis declines as hepatocytes are destroyed by the inflammatory response. The serum concentration of zinc which is one of the components of active enzymes to protects the liver cells and promote liver cells to regenerate decreased [16].

It is reported that interleukin-6, which is produced in response to tissue injuries and infections, in patients with acute pancreatitis of Liver qi stagnation pattern is improved with Chinese formula Daichahu decoction [17,18].

Women at reproductive age can be affected with endometriosis that is one the most common gynecologic disorders, suffering from the symptoms of pelvic inflammation. Blood stasis caused with stagnated Liver qi is the etiology of endometriosis in TCM, which can cause Fire leading to the accumulation of Damp-heat in Lower Jiao (lower part of the body). Uses of Chinese herbs like Semen persicae, Radix ec rhizoma rhei, etc. have been found to be effective in significantly decreasing the prostaglandin F 1 α (PGF1 α) levels and increasing the level of β -endorphin and the ratio of 6-keto- PGF1 α /thromboxane B 2 (TXB2) in treating this disease [19].

Discussion

The herbal protocols of TCM are usually established based on the system of pattern identification from the syndrome differentiation.

The TCM and acupuncture theories may be confusing and difficult to learn and understand, but they can be explained with scientific evidence with the trend of integration of TCM and the Western medicine. It cannot be ignored that the inductive logic thinking distinguishes TCM and acupuncture from the Western medicine based on the deductive logic thinking; therefore, it is beyond doubt that there is a long way for the conversations between TCM practitioners and the physicians of the Western medicine.

In this study it is shown that the Liver meridian ascends to Stomach and penetrates Liver to connect with Gallbladder and Lung at PC1 can explain discomforts in the chest or breast region and pain in the hypochondriac and epigastric regions and suggest that the symptoms can be understood by the routes of the meridians because each meridian can connect more organs as the broader system than the current systems presented and discussed in the Western medicine.

Inflammation in the theory of TCM refers to Fire, which can be generated by stagnated qi, indicates that the symptoms may be named differently in TCM and the Western medicine, but remain the identical meanings.

In the recent studies it is suggested that G17 can both promote the cell proliferation and inhibit apoptosis. Serum G17 provides the valuable clues for the function of gastric mucosa and the cause of gastric cancer, which may be taken into consideration as one of the signs to predict the risk of gastric cancer by the TCM practitioners and acupuncturists collaborating with the physicians.

The concepts of Qi, Jing, and Shen are valuable criteria for diagnosis and treatments since they are vital for human life to depend on in the TCM and acupuncture theories, even though they cannot be explained and recognized accurately and properly by the biomedicine.

Up to now, the pattern of Liver qi stagnation may be not convincing with the terminology differences to explain a single symptom of the systems discussed in the Western medicine; however, pattern identification can be the possible approach to explain the underlying causes of diseases for the talk in the future between TCM and the Western medicine.

Conclusion

Abstract concepts of TCM and acupuncture, to some extent, seem to be difficult and may hinder learners and those who are interested in TCM and acupuncture from learning and understanding; however, these concepts are giving the directions to get the whole picture of health.

Conversations between TCM and acupuncture and the Western medicine depend on the mutual understanding, which can be achieved with scientific evidence for explaining the differences and similarities. At present, the accurate interpretations of pattern seem to be the top priority for the future developments.

Bibliography

1. Hong TZ. "Exploring a New Extra Point for Sub-acute Cough: A Case Report". Scholar's Press, Germany (2017).
2. Hong TZ. "Challenges in Learning and Understanding Traditional Chinese Medicine and Acupuncture". *Open Access Journal of Complementary and Alternative Medicine* 1.1 (2018): 000103.
3. Hong TZ. "Reminders for Clinical Application of Extra Acupoints". *Current Trends in Biomedical Engineering and Biosciences* 16.3 (2018): 555939.

4. Maciocia G. "The foundations of Chinese Medicine". Library of Congress Cataloging in Publication Data. NY (1989).
5. Zhao L., *et al.* "Liver-stomach disharmony pattern: Theoretical basis, identification and treatment". *Journal of Traditional Chinese Medical Sciences* 5.1 (2018): 53-57.
6. Seki K., *et al.* "An attempt to integrate Western and Chinese medicine: rationale for applying Chinese medicine as chronotherapy against cancer". *Biomedicine and Pharmacotherapy* 59.1 (2005): S132-S140.
7. World Health Organization, WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region, World Health Organization, Western Pacific Region (2007).
8. Li J., *et al.* "Biological basis of "depression with liver-qi stagnation and spleen deficiency syndrome": A digital gene expression profiling study". *Journal of Traditional Chinese Medical Sciences* 2.3 (2016): 150-158.
9. Deadman P., *et al.* "A Manual of ACUPUNCTURE". England, Journal of Chinese Medicine Publications (2012).
10. So R., *et al.* "A Traditional Chinese Medicine Approach in Treating Depression by Promoting Liver Qi Circulation: A Western Medicine Perspective". *Chinese Medicine* 6.4 (2015): 187-195.
11. Abo T and Kawamura T. "Immunomodulation by the autonomic nervous system: therapeutic approach for cancer, collagen diseases, and inflammatory Bowel diseases". *Therapeutic Apheresis and Dialysis* 6.5 (2002): 348.
12. Kawamura T., *et al.* "Neonatal granulocytosis is a postpartum event which is seen in the liver as well as in the blood". *Hepatology* 26.6 (1997): 1567-1572.
13. Toyabe S., *et al.* "Identification of nicotinic acetylcholine receptors on lymphocytes in periphery as well as thymus in mice". *Immunology* 92.2 (1997): 201-205.
14. Zhong LLD, *et al.* "Evidence-based Chinese medicine clinical practice guideline for stomach pain in Hong Kong". *Chinese Journal of Integrative Medicine* 23.10 (2017): 793-800.
15. Loong Tan Han., *et al.* "Serum pepsinogen and gastrin-17 as potential biomarkers for pre-malignant lesions in the gastric corpus". *Biomedical Reports* 7.5 (2017): 460-468.
16. Teng L., *et al.* "Correlation between Traditional Chinese Medicine symptom patterns and serum concentration of zinc, iron, copper and magnesium in patients with hepatitis B and associated liver cirrhosis". *Journal of Traditional Chinese Medicine* 35.5 (2015): 546-550.
17. Tanaka T, *et al.* "IL-6 in inflammation, immunity, and disease". *Cold Spring Harbor Perspectives in Biology* 6.10 (2014): a016295.
18. Yang DX and Tao L. *Modern Journal of Integrated Chinese Traditional and Western Medicine* 27.7 (2018): 689-691.
19. Yu CQ., *et al.* "Study on therapeutic mechanism of Neiyifang in treating endometriosis". *Zhongguo Zhong Xi Yi Jie He Za Zhi* 9.2 (2003): 88-92.

Volume 3 Issue 2 February 2019

©All rights reserved by Tong-Zheng Hong.