

The Pi-Wei (spleen-stomach) theory in Chinese medicine and gastrointestinal psychosomatic conditions

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Abstract:

The Pi-Wei theory (spleen-stomach) in Chinese medicine is closely connected to gastrointestinal psychosomatic conditions in western medicine. We could foresee that Chinese medicine and Western medicine share some views in common based on the same foundation of “Xing-shen”(view in Chinese medicine) and “psychosomatic theory” (in Western medicine), for example, Gan-pi (liver-spleen) theory (in Chinese medicine) and brain-gut axis (in Western medicine); “Huanglong Tang” (in Chinese medicine) and fecal microbiota transplantation (in Western medicine); and “Treating Gan(liver)” theory (in Chinese Medicine) and psychosomatic theory (in Western medicine). Combining historical literature and clinical practice, we find that the biological foundation of Gan zhu Shuxie (liver is in charge of release, a Chinese Medicine theory) and Pi zhu yunhua (Spleen is in charge of transformation, a Chinese medicine theory) is related to brain gut axis, similar to the brain-gut malfunction of functional digestive diseases. “Huanglong Tang” is originally from Chinese medicine, similar to the fecal microbiota transplantation in modern medicine, however, it’s also very different in original materials, production method and clinical practice, which could be an inspiration for modern medicine. Chinese medicine, and its theory of treating liver, law of formulating medications, experiences of using anti anxiety/anti-depression medicine and consolation skills, could enrich the practice to treat and prevent gastrointestinal psychosomatic conditions, has significant clinical practice values.

Key words: Pi-wei theory; gastrointestinal psychosomatic; Gan-Pi (Liver-spleen)

connection, integration of Xing-shen; Huanglong Tang. be including psychological, social and environmental issues which are related to digestive system health^[1]. Although there is no term of “digestive psychosomatic diseases” in Chinese medicine, the influence of psychological factors on onset and process of digestive diseases being recognized in Chinese medicine for a long time. Huangdi Neijing and other Chinese medicine literatures set the foundation of psychosomatic theory.

Introduction

Psychosomatic diseases of digestive system refer to material pathological conditions and/or functional disorders of digestive diseases which are closely altered by psychological, social or environmental factors, during the process of onset, development, prevention, treatment and prognosis. The generalized medical science of digestive psychosomatic diseases should be including psychological, social and environmental issues which are related to digestive system health^[1]. Although there is no term of “digestive psychosomatic diseases” in Chinese

medicine, the influence of psychological factors on onset and process of digestive diseases being recognized in Chinese medicine for a long time.

Huangdi Neijing and other Chinese medicine literatures set the foundation of psychosomatic theory. There are plenty of clinical theories and practices being documented in some classic digestive Chinese medicine documents like Piwei Lun. Integrated practice of Chinese and Western medicine could be very helpful to enrich and complete the system of digestive psychosomatic theory.

“Xing-shen (Body-spirit)” in Chinese medicine and Psychosomatic in Western medicine

The concept of “Xing (body)” in Chinese medicine includes all the materials of human body such as organs, bones, skin, tendons, ligaments, energy, blood and fluid^[2]. “Shen (spirit)” in Chinese medicine could generally mean the external expression of life; or could specialized as spiritual, thinking and mental activities including emotional changes (happy, anger, worries, missing, sad, scary, surprise)^[3]. The psycho factors in western medicine include spirit, psychological activities, emotions and cognitions; somatic factors refer to human body and all of the organ systems. In view of the above,

Xing-shen in Chinese medicine is very similar with the psychosomatic concept in Western medicine, however, the internal mutual relationship is very different. The psychosomatic concept in Western medicine is from the Plato’s dualism in which the body and mind are separated, Descartes and Freuds inherit this theory and separate body and mind completely^[4]. So, the diseases are categorized into somatic conditions and psychological conditions which are completely separated from each other in modern medicine.

The Xing-shen in Chinese medicine is an united and integrated concept. First, Xing(body) and Shen(mind) are mutually relied and depended physiologically, in another word they are foundation for each other. Shen(spirit) relies on Xing(body), Shen can only be functional if Xing is healthy. Vice versa. So called, “Xing is the foundation for Shen, Shen is the master of Xing”^[5]. Secondly, Xing and shen are affecting each other pathologically, they both could be compromised if the other one is less optimal. They may loss of support to each other and being compromised pathologically together, so called “body illness will cause spirit illness, vice versa”. Chinese medicine clinicians believe external pathogeny usually causes damage in the body and the spirit. Reversely, internal emotions could hurt spirit and the body at the same time. This is documented in some of the Chinese medicine classic literatures. Linshu. Bribing shisheng documents “extreme emotions could hurt organs”. Qiqing, the seven emotions as the activities of spirit in Chinese medicine, if it happens too dramatic or lasts too long, could cause psychological symptoms such as irritation, insomnia, loss of focus and mood swing. It could also cause some somatic symptoms such as abdominal bloating, lack of appetite, diarrhea or constipation. Suwen. Yingyang impression, another classic Chinese medicine literature, documents “anger may hurt liver”, “excitement may hurt heart”, “concern may hurt spleen” and “scary may hurt kidney”. So, the emotional factors are very appreciated and recognized in playing an important role in the function of human body in

Chinese medicine, the clinicians believe the emotion changes closely related to somatic illness. Thirdly, the emphasis of psycho and somatic factors is different between Chinese medicine and Western medicine: Chinese medicine recognizes the importance of spirit. Spirit is in the dominant position and being recognized as the more important one in the body spirit entity. Shen(spirit), especially the Xin Shen(spirit of heart), is always in the dominant position. Jiebin Zhang, a famous Chinese medicine practitioner in ancient time, points “although spirit is from the body, it could dominate the body.” Wansu Liu, another famous Chinese medicine practitioner in ancient time, also believes “spirit is the master of body” in Suwen Quanji original etiology. Liuqi. In view of above, Chinese medicine believes spirit could dominate and control the body.

However, Western medicine emphasize somatic conditions and overlook psychological factors, the biological medical model emphasizes biological pathogen but overlooks psychological factors, which is a obvious medical deficit. Lastly, Chinese medical claims that the body and spirit should be treated together as a integrated entity in which the body function and psychological activities are believed as an entirety. Dr. Engel. GL, psychiatrist and internist from University of Rochester Medical Center in Rochester, New York, published “The need for a new medical model: a challenge for biomedicine” in Science in 1977, criticized the limitation of modern medical model (aka biomedicine). He brought out a new medical model called biopsychosocial model^[6]. So we can tell, compare to psychosomatic concept in Western medicine, the “Xing-shen” in Chinese medicine is more meaningful, Xing and Shen is connected more closely to each other and be more practical clinically.

Gan-Pi (Liver-spleen) connection and brain-gut interaction

In Chinese medicine, the digestive system is a comprehensive system centered in Pi-wei(spleen stomach) with other organs, including spleen, stomach, liver, gallbladder, intestine, etc. In this system, “spleen is in charge of transformation”; “stomach is in charge of accepting”, they work with each other to digest and absorb the nutrients from food; “spleen is in charge of raise”, “stomach is in charge of descending”, together they adjust energy distribution for the whole body and coordinate the function of digestive system.

In Chinese medicine, Pi-wei(spleen-stomach) function is very important to human body, being called “the foundation of development”, “the origin of energy and blood”. In Jin-yuan dynasty, Donghen Li, a Chinese medicine clinician, wrote Pi-wei lun (Spleen-Stomach), established Pi-wei(spleen-stomach) theory, brought out the view of “all diseases are from compromised Pi-wei system”. In additional, “Pi(spleen) is in charge of extremities and muscles”, the muscular function is also related to spleen; “Pi(spleen) is related to emotion of concern”, spleen is also closely connected to psychological factors.

According to the researches nowadays, “Pi(spleen) is in charge of transformation” could have a much more meaningful indication. A compromised Pi(spleen) function could be related to malfunction of intestine peristalsis and stomach electrical rhythm, the changes of gastrointestinal membrane and endocrine cells, abnormal secretion of gastrointestinal hormones like gastrin and motilin, changes of neurotransmitters like amicine and β -endorphin. So, in Chinese medicine, spleen (is not just a single organ) is a functional unit, based on digestive system but also including multiple systems and organs, which is also closely related to endocrine, immune and nerve systems^[7].

The psychosomatic conditions in digestive system usually is believed to be related to the Gan(liver) in Chinese medicine. In Chinese medicine, “Gan(Liver) is in charge of release”, liver could coordinate energy distribution and calm down the extreme emotions. Gan(Liver) is corresponding with emotion anger, Gan(liver) is prone to open and dredge, affected by suppression. Extreme anger could damage liver. Danxi Zhu pointed out “There will be no disease if qixue(energy and blood) is coordinated and balanced. Disease is being developed if there is stagnation or suppression, so people’s diseases are from stagnation or suppression.” which means people will be happy and the liver is functioning well. So some people think the liver in Chinese medicine is the key to adjust and coordinate psychological reactions^[8].

A research of liver essence reveals that liver has certain adjusting mechanism of “neuro-endocrine immune network”, the talk of “Gan(liver) is in charge of release” is related to hypothalamus-pituitary axis. The syndrome of Gan(liver) depression and energy stagnation in Chinese medicine is closely related to excitement or depression of cerebral cortex and autonomic nerve system(especially sympathetic nerve system).

In Chinese medicine, liver and spleen have different functions but they both rely, depend and affect each other. Physiologically, liver is in charge of release, spleen is in charge of transformation, liver stores blood, spleen controls blood. If liver is functioning well, it could help spleen and stomach to digest, absorb and distribute the nutrients. If spleen is functioning well, it could support the liver function as well. Those two organs could depend on and support each other.

In pathology, if the Gan(liver) is compromised by depression or extreme anger, it will not be functional well, the function of Pi(spleen) and Wei(stomach) will be damaged too. Some symptoms like abdominal bloating, constipation will be demonstrated, this is called “Wood affects soil(liver negatively influent spleen)” in Chinese medicine. Reversely, if the function of Pi(spleen) is damaged by inappropriate diet or extreme emotion depression, it may cause damage to Gan(liver) as well. Some symptoms of compromised Gan(liver) may appear like acid reflex, nausea and 25 Psychosomatic Gastroenterology, Vol 1, No 1 December 2018 ©Psychosomatic Gastroenterology. All rights reserved. congestion, this is called “wood congestion due to wood (liver insufficient symptoms because of damaged spleen)”. So, Gan(liver) and Pi(spleen) is very closely related and connected pathologically.

Recently, researchers are very interested in FGIDs Brain-gut axis, is the foundation of nerve anatomy and nerve physiology for systematic of biological social clinical practice^[9]. The abnormal brain-gut interaction usually appears in functional gastrointestinal diseases, and the malfunction of brain-gut axis is closely related to nerve immune and nerve endocrine malfunction^[10]. Based on brain-gut axis theory, the Gan-Pi(liver spleen) theory in Chinese medicine could be related to the function of nerve-endocrine-immune network^[11].

The function of Gan Zhu Shuxie(liver is in charge of release) in Chinese medicine, mainly related to the hypothalamus-pituitary axis, the function Pi Zhu Yunhua (spleen is in charge of transformation) in Chinese medicine is mainly related to gastrointestinal function. The gastrointestinal clinical functional conditions are usually due to the malfunction of brain gut axis, these kind of clinical conditions is believed to be related to malfunction of liver and spleen in Chinese medicine. Some researchers think the brain-gut axis is the biological

foundation of liver-spleen system in Chinese medicine^[12]. Western and Chinese medicine share the same view in this field.

“Huanglong Tang” and FMT(Fecal microbiota transplantation)

In Jin dynasty around 1700 years ago, clinician Hong Ge documented using “feces as medicine to treat people” in his book Zhouhou urgent document, he depicts using feces extraction to treat food poison, diarrhea, fever and even some patients in terminal stage. The feces extraction is called “Huanglong Tang”.

The earliest documented case study of using feces transplantation in western world was in 1958, Eiseman^[13] and other doctors used fecal enema to successfully treat 4 cases of pseudomembranous enterocolitis. The feces extraction, also called “jin zhi(golden fluid)” in Chinese, is produced in a very special method in Chinese medicine. It is very detailed documented in Bencao Gangmu ^[14]. It is usually produced in winter, feces from health boy is put in wood bucket with well water and red soil, stir thoroughly, filtering, put the extraction into a porcelain tank, bury the tank into dirt. After years of storage, the pure extraction is taken and stored as medicine, more pure the extraction is, the better the quality is. Nowadays, FMT has been being a hot researching point, it has being used to treat CDI, IBD, IBS and metabolic syndrome^[15].

In natural environment, bacterium like mushroom and lucid ganoderma need a damp environment to live and grow. The microbe in intestine is similar to the bacterium in natural environment, which is related to damp. The growth and balance of intestinal microbe could be damaged if the intestinal environment is too damp or too dry. In Chinese medicine, Pi(spleen) is relevant, “Pi(spleen) is in charge of humidity and could be damaged by extra humidity”. In clinical practice, the herbal formula used to improve Pi(spleen), like Siyunzi Tang, Shenlingbaizhu San, could not only improve the symptoms but also adjusting intestinal microbe and increase probiotics, which works as prebiotic. Some herbal medicine in these formula, like Huangqi, Dangshen and Fuling could promote the proliferation of bifidobacterium.

Some researches show that microbe in gastrointestinal tract could be connected to brain function and nerve conditions by brain-gut axis, this brought out a new concept of microbe-brain-gut axis^[16].

Compare to traditional researches of brain-gut axis which focus more on the influence of psychological status on gastrointestinal function, the brain-gutmicrobe axis focuses more on the mutual influence between microbe in gastrointestinal tract and brain-gut axis^[17]. Research shows hyper irritation could decrease the volume of probiotics in gastrointestinal tract^[17].

“Huanglong tang” is an original clinical practice in Chinese medicine, the theory is similar with FMT in modern medicine. However, they are also very different in original materials, production method and clinical practice. We should continue to improve it in clinical practice by combining these two techniques.

Cong gan Lunzhi (Treating liver first) and psychosomatic treatment.

The treating of digestive psychosomatic diseases in Chinese medicine is usually started from treating Gan(liver), called Cong gan lunzhi(treating liver first). This is also the most common and important treatment in treating digestive psychosomatic conditions.

The clinical treatment of Chinese medicine based on syndrome differentiation. One disease could have several different syndrome differentiations which need to treat differently.

For example, in treating Gan-Wei Buhe (Liver stomach conflict, a syndrome differentiation) of functional digestive malfunction, we treat liver and stomach in Chinese medicine, Chaihu shugan san is the most common formula, the key herbal medicines include Chaihu, Chenpi, Chuanxun, Baishao, Zhiqiao, Xiangfu, Gancao, etc. In treating Gan-Pi Buhe(Liver spleen conflict, a syndrome differentiation) of irritable bowel syndrome, we treat liver and spleen in Chinese medicine, Tongxie yaofang is the most common formula with key herbal medicines including Chaobaizhu, Chaobaishao, Chaochenpi, Fangfeng, etc. In treating Gan yun qi zhi(Liver and energy staggering, a syndrome differentiation) of functional gallbladder condition, we treat liver and gallbladder, key herbal medicines include Chaihu, Xiangfu, Chuanlianzi, Jinqiancao, Yincheng, etc.

It is highly recommended to treat both psychological and somatic symptoms at same time in modern medicine. This is similar to the concept of Cong gan lun zhi(Treating liver first) in Chinese medicine. In Roman IV diagnostic criteria, it has been pointed out that FGIDs may have severe symptoms, some patients have extreme tough symptoms. They usually demonstrate psychological and social symptoms too like anxiety, depression, personality disorder and continuous daily functional damage. Anti-depression medication is an option. Professor Shengliang Chen^[18] was giving out guideline in using anti-anxiety and anti-depression medication which is very valuable to the clinical practice.

Based on Chinese medicine theory, using anti anxiety and anti-depression medication due to different syndrome differentiations could improve the treatment results, for example, using Flupentixol and Melitracen Tablets for Xinshen buning(irritation of spirit of heart), using Mirtazapine for Xin-pi liangxu(heart-spleen fatigue), using Duloxetine and Venlafaxine for Qizhi xueyu(Energy and circulation stagnant)

In treating digestive psychosomatic conditions, psychological consolation is also mandatory. Sufficient doctor-patient communication could help patients to comply with doctors' direction and improve clinical results. It is documented in a Chinese medicine classic literature Linshu.Shipian that doctors should patiently explains to the patients about their conditions and treatment procedures, get patients' trust and eliminate patients' concern. Excellent doctor-patient communication could help patients to get out from their suffering.

So, it's necessary to have biological special treatment in treating digestive psychosomatic conditions. Additionally, appropriate using of anti-anxiety, anti depression medications and psychological consolation, combine both Chinese and Western medicine, could make the result much better.

Chinese medicine and Western medicine are different medical systems, they observe and recognize clinical conditions from different views. The Pi Wei(spleen-stomach) theory in Chinese medicine and gastrointestinal psychosomatic conditions in Western medicine are not identical. However, the combination of Chinese medicine, including its historical origin, philosophy, concept of syndrome differentiation and clinical experiences, and Western

medicine, including its basic theory and experimental method, could really extend the research of digestive psychosomatic disease and improve the treatment and prevention.

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