Thoughts on Coronavirus Disease 2019 Based on JingFang Medicine (Classical Chinese Formula) Solutions for COVID-19

Huang Huang
International JingFang Institute, Nanjing University of Chinese Medicine, Nanjing, China

Abstract

This article aims to provide some thoughts on the prevention and treatment of Coronavirus Disease 2019 (COVID-19) from the perspective of JingFang Medicine (Classical Chinese Formula). It is believed that the vague theoretical understanding of COVID-19 in Traditional Chinese Medicine does not hinder the precise treatment of the disease by following the rule of “With this Zheng, prescribe this Fang.” According to the principle of “Fang-Zheng Correlation” and the knowledge gained from the thousands of years of experience in treating febrile diseases, Xiao Chai Hu Decoction (小柴胡汤) and its modifications are recommended with the emphasis on individualized treatment. As another form of practicing “Fang-Zheng Correlation,” generalized group treatment should also be paid attention to. Giving considerations to the historical medical data, Jing Fang Bai Du Powder (荆防败毒散) and Shi Shen Decoction (十神汤) are recommended for group prevention treatment. Assisting the Zheng (Upright) Qi and using tonic formulas are two entirely different concepts. According to the principle of “Fang-Zheng Correlation,” tonics abuse should be avoided in the prevention of COVID-19, and the use of Huang Qi (黄芪 Radix Astragali seu Hedysari) should also be very carefully done.

Keywords: Classical formula, coronavirus disease 2019 (COVID-19), Fang-Zheng correlation, Huang Qi, Jing Fang Bai Du Powder, Radix Astragali seu Hedysari, Xiao Chai Hu Decoction

Jing Fang (经方), or classical Chinese herbal formulas, has been in use for thousands of years. Ancient doctors accumulated a great deal of clinical experience in treating febrile diseases that were similar to Coronavirus Disease 2019 (COVID-19). Written by Professor Huang Huang, Dean of the International JingFang Institute, Nanjing University of Chinese Medicine, the current article, “Thoughts on COVID-19 Based on JingFang Medicine” identifies JingFang solutions for the pandemic according to the principles of Fang-Zheng Correlation (方证相应 the correlation between formula and syndrome), and suggests that for specific treatment methods, we should tonify when it is appropriate to tonify, and attack when it is appropriate to attack.

A Vague Theoretical Understanding does not Hinder Precise Treatment

How do we, as JingFang practitioners, understand COVID-19? Terms such as cold, heat, dampness, and dryness represent theoretical concepts in Traditional Chinese Medicine (TCM), which have been used to explain the nature and status of diseases, and their meanings have been quite vague throughout the long history of TCM. However, the vagueness of these explanations does not hinder the precise prescription of herbs in JingFang Medicine, because the key to JingFang Medicine is the treatment, and its clinical guiding principle is known as Fang-Zheng (formula syndrome)— that is, “With this Zheng, prescribe this Fang.” Fang refers to the formula, and Zheng describes how the disease manifests in the body (i.e., the syndrome or presentation— a collection of symptoms, signs, and presently even the physical and chemical abnormalities that can be found through modern medical examinations). Fang-Zheng is precise, with very little ambiguity.\(^1\)
The pathogens behind many diseases are constantly changing— influenza viruses and coronaviruses are all results of virus mutation—and ancient Chinese doctors also discovered these characteristics. Therefore, instead of focusing on identifying the ever-changing pathogens, they shifted to focus on the human body, matching the manifestations of disease with specific medicines, thereby establishing a vast number of Fang-Zheng. This is how ancient doctors dealt with complex diseases; this model of dealing with the disease is known as Fang-Zheng Correlation. By following the principles of Fang-Zheng Correlation, we can precisely grasp the pathological status of many diseases such as COVID-19, and at the same time, we prescribe the formula and herbs that correspond to the Zheng to give the maximum assistance and support to the whole body, which counts the real advantage and specialty of TCM.

**Ancient Formulas can Treat Modern Diseases**

Although named by modern medicine as such, COVID-19 should be classified as a febrile disease in TCM according to its pathogenesis, as it is epidemic and infectious. Ancient Chinese doctors accumulated rich experience in the treatment of this type of disease. It is feasible to differentiate and treat COVID-19 by following the treatment principles for febrile diseases in TCM, especially if we apply the principles of Fang-Zheng Correlation.

First of all, Xiao Chai Hu Decoction (柴胡汤) serves as the basic formula. Xiao Chai Hu Decoction (柴胡汤) is composed of Chai Hu (柴胡 Radix Bupleuri), Huang Qin (黄芩 Radix Scutellariae), Ban Xia (半夏 Rhizoma Pinelliae), Ren Shen (人参 Radix Ginseng), Sheng Jiang (生姜 Rhizoma Alismatis), and Da Zao (大枣 Ziziphi Spinae). According to the original text of the *Shang Han Lun* (伤寒论 Treatise on Cold Damage Diseases), the formula presentation of Xiao Chai Hu Decoction (柴胡汤) includes: alternating chills and fever, fullness in the chest and hypochondriac area, vexation with or without nausea, possible thirst, possible abdominal pain, possible obstruction and rigidity in the hypochondriac area, possible pulsations in the upper abdomen, possible inhibited urination, possible mild generalized heat, and possible cough. Statistics show that among 1,099 COVID-19 cases confirmed in 552 first-class hospitals in 31 provinces and cities in China, the most common symptoms are fever (87.9%) and cough (67.7%), while diarrhea (3.7%) and vomiting (5.0%) are rare. According to information from the Internet, the fever that some COVID-19 patients exhibit tends to recur continually in waves, which is consistent with the “alternating chills and fever” of Xiao Chai Hu Decoction (柴胡汤) Zheng; and the chest stuffiness and cough are consistent with the “fullness in the chest and hypochondriac area” and “cough.” Xiao Chai Hu Decoction (柴胡汤) and its modifications are especially suitable for COVID-19 patients with symptoms such as low mood and loss of appetite.
cough or chest pain with underlying blood stasis after an onset of fever or prolonged illness; Chai Gui Decoction (柴归汤), the combination of Xiao Chai Hu Decoction (小柴胡汤) and Danggui Shaoyao Powder (当归芍药散), including Dang Gui (当归 Radix Angelicae Sinensis), Shao Yao (芍药 Paeonia lactiflora Pall), Chuan Xiong (川芎 Rhizoma Ligustici Chaunzhang), Bai Zhu (白术 Rhizoma Atractylodis Macrocephalae), Fu Ling (茯苓 Poria), and Ze Xie (泽泻 Rhizoma Alismatis), is used for scant menstrual flow, skin itchiness, aversion to cold and edema; Chaihu Jiegeng Decoction (柴胡桔梗汤), the combination of Xiao Chai Hu Decoction (小柴胡汤) and Jie Geng (桔梗 Radix Platyodonos), is used for cough and sore throat; the combination of Xiao Chai Hu Decoction (小柴胡汤) and Yin Qiao Powder (银翘散) including Jin Yin Hua (金银花 Flos Lonicerae), Hua Qiao (花翘 Fructus Forsythiae), Jie Geng (桔梗 Radix Platyodonos), Gan Cao (甘草 Radix Glycyrrhizae), Bo He (薄荷 Herba Menthae), Zhu Ye (竹叶 Folium Phylllostachis nigrae), Jing Jie (荆芥 Herba Schizonepetae), Niu Bang Zi (牛蒡子 Fructus Arctii), and Dan Dou Chi (淡豆豉 Semen Sojae Preparatum) is used for fever, cough, dry throat, and sweating that does not bring resolution of the fever; Chaihu Jia Ji Decoction (柴胡加胸药汤), Xiao Chai Hu Decoction (小柴胡汤) plus Mang Xiao (芒硝 Natrii Sulfas), is used for fever, nausea and vomiting, constipation and a thick tongue coating; the combination of Xiao Chai Hu Decoction (小柴胡汤) and Bai Hu Decoction (白虎汤) including Zhui Mu (知母 Radix Anemarrhenae), Sheng Shi Gao (生石膏 Rhizoma Calcareae), and Gan Cao (甘草 Radix Glycyrrhizae) and japonica rice is used for fever, excessive sweating, and a rapid, slippery pulse.

According to my own experience, a large dose of Chai Hu (柴胡 Radix Bupleuri) has a better antipyretic effect; when combined with Gan Cao (甘草 Radix Glycyrrhizae), Huang Qin (黄芩 Radix Scutellariae) and Lian Qiao (连翘 Fructus Forsythiae), it is especially effective for fevers associated with viral diseases. My experimental formula Tui Re Formula (退热方) is composed of Chai Hu (柴胡 Radix Bupleuri) 40 g, Huang Qin (黄芩 Radix Scutellariae) 15 g, Gan Cao (甘草 Radix Glycyrrhizae Recens) 10 g, and Lian Qiao (连翘 Fructus Forsythiae) 50 g—bring the herbs to a gentle boil with 1,100 ml of water, simmer until 500 ml of fluid is left, divide into 100–150 ml per dose, and take every 2–3 h; use half the dosage for children. Tui Re Formula (退热方) is pungent and cool and can induce sweating to relieve fever; it is suitable for viral colds with persistent fever, unsmooth sweating, and a red face with excessive body heat, possibly with a sore throat, cough or headache. You should stop taking Tui Re Formula (退热方) once the fever is relieved. If there is not enough sweating to reduce the fever after three doses of Tui Re Formula (退热方), the formula should be changed. The Chaihu-based formulas mentioned above can be considered for the treatment of mild, typical, or early-stage cases of COVID-19.

Fang-Zhen can be understood as to how the body’s reaction to the disease is reflected in the formula throughout the course of the disease’s development. In other words, although we are discussing Fang-Zhen, we are actually analyzing the state of the disease. Changes in Fang-Zhen reflect the progression and development of the disease in a specific individual. Therefore, it is very important to be familiar with each Fang-Zhen and its relationship to other associated Fang-Zhen. It is even necessary for every doctor to have a Fang-Zhen map in their mind, so they can understand the origin and outcome of the disease and intervene in a timely manner. The following is a Fang-Zhen map of Chaihu-based formulas, with Xiao Chai Hu Decoction (小柴胡汤) as the center, using the concepts of exterior and interior, cold and heat, deficiency, and excess.

Going to the exterior: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Gui Zhi Decoction (桂枝汤) or Cong Chi Decoction (葱豉汤); alternative formulas include Chai Ge Jie (柴葛解饥汤) and Shi Ge Decoction (石甘汤). Going to the interior: The disease will become complicated with many possible changes; prescribe according to the Zheng, for example, Da Chai Hu Decoction (大柴胡汤), Sheng Ma Bie Jia Decoction (升麻鳖甲汤), Ma Huang Sheng Ma Decoction (麻黄升麻汤), etc., Turning into heat: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Huang Qin Decoction (黄芩汤), Ma Xing Shi Gan Decoction (麻杏甘石汤), Xiao Xian Xiong Decoction (小陷胸汤), Ge Gen Qin Lian Decoction (葛根芩连汤), Huang Lian Jie Du Decoction (黄连解毒汤), Liang Ge Powder (凉膈散), Bai Hu Decoction (白虎汤), Xi Jiao Di Huang Tang (犀角地黄汤), etc., Turning into cold: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Li Zhong Decoction (理中汤), Si Ni Decoction (四逆汤), Zhen Wu Decoction (真武汤), etc.; alternate formulas include Ma Huang Fu Zi Gan Cao Decoction (麻黄附子甘草汤), Ma Huang Fu Zi Xi Xin Decoction (麻黄附子细辛汤), Xiao Qing Long Decoction (小青龙汤), etc., Turning into excess: Add Mang Xiao (芒硝 Natrii Sulfas) to Xiao Chai Hu Decoction (小柴胡汤), or combine with Cheng Qi Decoction (承气汤) or Tao He Cheng Qi Decoction (桃核承气汤); alternate formulas include Da Xian Xiong Decoction (大陷胸汤), Fang Feng Tong Sheng Power (防风通圣散), etc., Turning into deficiency: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Gui Zhi Decoction (桂枝汤), Xiao Jian Zhong Decoction (小建中汤), Si Jun Zi Decoction (四君子汤), Dang Gui Shao Yao Powder (当归芍药散), etc.; alternate formulas include Zhi Gan Cao Decoction (炙甘草汤), Bu Zhong Yi Qi Decoction (补中益气汤), Zhu Ye Shi Gao Decoction (竹叶石膏汤), San Jia Fu Mai Decoction (三甲复脉汤), Shu Yu Pill (薯蓣丸), etc., Combining with wind: Add Jing Jie (荆芥 Herba Schizonepetae), Fang Feng (防风 Radix Saposhnikoviae), etc., to Xiao Chai Hu Decoction (小柴胡汤); alternate formulas include Bing Fang Bai Du Powder (荆防败毒散), Ren Shen Bai Du Power (人参败毒散), etc., Combining with dampness: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Wu Ling Power (五苓散), Ma Xing Yi Gan Decoction (麻杏苡甘汤), San Ren...
Decoction (三神汤), Huo Po Xia Ling Decoction (霍朴夏凉汤), etc., Combining with dryness: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Xuan Mai Gan Jie Decoction (玄麦甘桔汤), San Xian Decoction (三仙汤), etc., Combining with phlegm: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Ban Xia Hou Po Decoction (半夏厚朴汤) or Wen Dan Decoction (温胆汤); alternative formulas include She Gan Ma Huang Decoction (射干麻黄汤). Combining with blood stasis: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Si Wu Decoction (四物汤) or Gui Zhi Fu Zi Xi Xin Decoction (桂枝茯苓丸); alternate formulas include Xue Fu Zhi Gan Jiang Decoction (血府逐瘀汤), etc., Combining with Qi stagnation or depression: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Si Ni Powder (四逆散); alternate formulas include Chai Hu Jia Long Gu Mu Li Decoction (柴胡加龙骨牡蛎汤). Combining with upward-rushing counterflow: Xiao Chai Hu Decoction (小柴胡汤) can be combined with Gui Zhi Gan Cao Long Gu Mu Li Decoction (桂枝甘草龙骨牡蛎汤), Ben Tun Decoction (奔豚汤), etc., [Figure 1].

Second, individualized treatment is very important. Because of differences in the constitution and the different body parts affected by the disease, many patients may not exhibit the Fang-Zheng of Xiao Chai Hu Decoction (小柴胡汤) or its associated formulas. Then in these cases, we should prescribe according to the specific Zheng. The organs that have been affected the most in COVID-19 patients are the lungs. Most patients have cough, chest stuffiness and dyspnea, and patients in severe cases may even have Acute Respiratory Distress Syndrome and so on. JingFang that relieves cough and wheezing may be considered, such as Ma Huang Decoction (麻黄汤), Ma Xing Shi Gan Decoction (麻杏石甘汤), She Gan Ma Huang Decoction (射干麻黄汤), Xiao Qing Long Decoction (小青龙汤) and Ze Qi Decoction (泽漆汤). Ban Xia Hou Po Decoction (半夏厚朴汤), Fu Ling Xing Ren Gan Cao Decoction (茯苓杏仁甘草汤), San Ren Decoction (三仁汤), Xuan Bi Decoction (宣痹汤), etc., can help to transform phlegm and regulate Qi. For patients with diarrhea and other gastrointestinal symptoms, Ge Gen Qin Lian Decoction (葛根芩连汤), Gan Cao Xie Xin Decoction (甘草泻心汤), Huang Qin Decoction (黄芩汤), Wu Ling Power (五苓散), etc., can stop diarrhea and harmonize the spleen and stomach. For patients with severe fatigue, prescribe Ma Huang Fu Zi Xi Xin Decoction (麻黄附子细辛汤), Fu Zi Li Zhong Decoction (附子理中汤), Zhen Wu Decoction (真武汤), etc., to warm the meridians and dispel cold. For patients with kidney damage and proteinuria, consider Huang Qin Decoction (黄芩汤), Huang Lian Jie Du Decoction (黄连解毒汤), Chai Ling Decoction (柴苓汤), etc., Since many patients with mild cases will also experience extreme fear, anxiety, and depression, consider intervening with Wen Dan Decoction (温胆汤), Chai Hu Gui Zhi Gan Jiang Decoction (柴胡桂枝干姜汤), Chai Hu Jia Long Gu Mu Li Decoction (柴胡加龙骨牡蛎汤), Ban Xia Hou Po Decoction (半夏厚朴汤), Ban Xia Xie Xin Decoction (半夏泻心汤), etc., In a nutshell, we must follow the principle “With this Zheng, prescribe this Fang” to choose the appropriate formula.

**INDIVIDUALIZED PRESCRIPTIONS VERSUS GENERALIZED PRESCRIPTIONS**

While we emphasize the importance of precise treatment with individualized prescriptions, we do not reject the use of generalized prescriptions for group treatment. If the disease characteristics are identical among all patients, using a generalized prescription for groups is also in accordance with Fang-Zheng Correlation.[5] In Chinese history, there are numerous examples of using generalized prescriptions during epidemics, taking a few well-known formulas used in group treatments as examples: Fang Feng Tong Sheng Power (防风通圣散), Jing Fang Bei Du Powder (荆防败毒散), Gan Lu Xiao Du Pill (甘露消毒丹), Shi Shen Decoction (十神汤), Feng Yin Decoction (风引汤), and Ren Shen Bai Du Powder (人参败毒散).[6][7] The National Health Commission of the People’s Republic of China together with the National Administration of TCM recommended “Qing Fei Pai Du Decoction (清肺排毒汤)” for the treatment of COVID-19. Qing Fei Pai Du Decoction (清肺排毒汤) consists of a combination of Xiao Chai Hu Decoction (小柴胡汤), Ma Xing Shi Gan Decoction (麻杏石甘汤), Wu Ling Powder (五...
Huang: Thoughts on COVID-19 based on JingFang medicine

### Tonify when it is Appropriate to Tonify, and Attack when it is Appropriate to Attack

In terms of preventing COVID-19 as well as assisting patients in the recovery phase, and based on the statement in the *Huang Di Nei Jing* (《黄帝内经》 Huangdi's Internal Classic) that “wherever pathogenic factors gather, the Qi must be deficient,” some doctors advocate using tonic herbs and formulas such as Yu Ping Feng Powder (玉屏风散), Sheng Mai Powder (生脉散) and so on. This might work for some patients, but not for all. Assisting the Zheng (Upright) Qi and using tonic formulas are two entirely different concepts. Dr. Xia Yijun commented: “When pathogenic factors gather in a place of deficiency, the disease must be excessive,” and emphasized that tonic herbs should not be used indiscriminately. Once the disease is contracted, the keys are to remove the etiology and to eliminate the pathological state, which means that we still need to follow the principle “With this Zheng, prescribe this Fang.”

What makes the formulas of the *Treatise on Cold Damage Diseases* effective? The essence lies not in tonification, but in regulation. Regulation means to adjust and regulate the body according to the Zheng and the development of the disease. For example, the *Treatise on Cold Damage Diseases* advocates “urgent purgation” in six places, three of which are in the Yangming chapter and the other three are in the Shaoyin chapter. When there is “heat knotting in Yangming,” it is easy to understand the use of Da Cheng Qi Decoction (大承气汤) to drain downward; but what about when there is Shaoyin syndrome with depleted Yin fluids, and dryness in the mouth and throat? The patient in this situation exhibits Da Cheng Qi Decoction (大承气汤) Fang-Zheng: “abdominal distention and lack of bowel movements,” “abdominal fullness and pain,” etc., The purpose of using Da Cheng Qi Decoction (大承气汤) in Shaoyin syndrome is to purge in order to preserve the Yin. Thus, we can see the importance of the principle “With this Zheng, prescribe this Fang” in the *Treatise on Cold Damage Diseases*.

Huang Qi (黄芪 Radix Astragali seu Hedysari) is an important Qi tonic, widely used in ancient times for treating XueBi (Blood Impediment) syndrome, excessive sweating, edema, sores, etc., Astragalus Polysaccharides can enhance immune function, promote the proliferation of lymphocytes and promote the secretion of interferon-gamma. However, based on TCM clinical experience, Huangqi formulas are rarely used in febrile diseases. There are no Huang Qi (黄芪 Radix Astragali seu Hedysari) formulas recorded in the *Treatise on Cold Damage Diseases*—all of Zhang Zhongjing’s Huangqi formulas are recorded in the *Jin Gui Yao Lue* (《金匮要略》 Synopsis of Prescriptions of the Golden Chamber). Therefore, it is not appropriate to use Huang Qi (黄芪 Radix Astragali seu Hedysari) for COVID-19 patients, especially in cases presenting fever, cough, and asthma. Misuse of Huang Qi (黄芪 Radix Astragali seu Hedysari) may aggravate the condition, especially in symptoms such as chest stuffiness and abdominal
distention. As for Yu Ping Feng Powder (玉屏风散), which could be used for prevention, we must be cautious— it should not be used too much except in people with thick adipose tissue, loose flesh and a Qi-deficient constitution. When taken by individuals who are muscular and lean, Huang Qi (黄芪 Radix Astragali seu Hedysari) can cause fullness in the chest.

In summary, although we still don’t have a thorough understanding of COVID-19, the manifestation of the pathogen in the body is consistent with febrile diseases, which are described in the Treatise on Cold Damage Diseases and Synopsis of Prescriptions of the Golden Chamber. At this critical point in time, rereading classical texts such as the Treatise on Cold Damage Diseases, Wen Yi Lun (《瘟疫论》Treatise on Pestilence) and Wen Re Jing Wei (《温热经纬》Warp and Weft of Warm Heat Disease) can provide us with ideas and inspiration. JingFang is a treasure that has been passed down to us for thousands of years. Fang-Zheng Correlation is the main principle for using JingFang, as well as an original mode of thinking created by the Chinese, which must be preserved and refined, especially when facing complex and constantly changing diseases such as COVID-19. TCM practitioners are encouraged to make the most of our strengths to contribute to the treatment of COVID-19.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

REFERENCES
1. Chen KJ. Yue Meizhong Medical Anthology. Beijing: China Traditional Chinese Medicine Press; 2000. p. 441.
2. Qian H. Tracing the Origin of Typhoid Fever. Beijing: Academy Press; 2009. p. 12.
3. Xu LT. Complete Works of Xu Dachun Medical Books. Beijing: People’s Health Press; 1988. p. 229.
4. Clouds CT. The Latest Research Results of a Thousand COVID-19 Cases by Academician Zhong Nanshan [EB/OL]. Available from: https://mp.weixin.qq.com/s/SzFloKdDxQ NG8fbLYqTThg. [Last accessed on 2020 Feb 15].
5. Huangdi Neijing Su Wen. Beijing: People’s Health Press; 1963. p. 581.
6. Yu JY. Yu Jiayan’s Three Books on Medicine. Nanchang: Jiangxi People’s Health Press; 1984. p. 827, 537.
7. Taiping Huimin Heji Bureau. Taiping Huimin Heji Bureau Formulas. Beijing: People’s Health Press; 1985. p. 80.
8. Tamba M. Su Wen Shao Shi. Beijing: People’s Health Press; 1955. p. 94.