

Herbal Prescription for COVID-19

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Abstract: The clinical studies from China have proved that the use of herbal medicine has played a significant role in the prevention and treatment of COVID-19. This article aims to introduce the six most effective herbal prescriptions in Traditional Chinese Medicine (TCM) for treating the coronavirus (COVID-19). Each formula has been described in detail including the name , source ,indication ,ingredients (Chinese Pinyin , English and Latin names),usage and discussion ,etc . The first chief formula introduced in this article is the most popular prescription published by The National Health Commission of People's Republic of China on 3/3 2020 for the treatment and prevention of coronavirus infection and pneumonia; and subsequent formulas are the modified classical herbal prescriptions and my experienced herbal formula I often use in the UK.

Introduction

The coronavirus (COVID-19) is highly contagious with a characteristic tendency to severely affect the respiratory tract and the lung in certain individuals .TCM classifies COVID-19 as an epidemic disease termed 'Wen Yi' and considers both external and internal factors contributing to pathogenesis and development of the disease. The external factor is that the pathogen (COVID-19) invasion of the body while the internal factor is that in same case the immunity system is too weak to fight the coronavirus infection hence the higher fatality rates amongst the medically vulnerable and elderly .The clinical studies in China have showed that some herbal medicines have a direct antiviral effect, while some herbs can improve the body's immune function.The clinical reports from Chinese hospitals have proved that traditional Chinese medicine has played a significant role in the prevention and treatment of coronavirus infection . The data released by the State Council Joint Prevention and Control Mechanism Press Conference held on February 17, 2020 showed that there were 60,107 confirmed cases of coronavirus pneumonia treated by Chinese herbal medicine in the country including mild ,moderate,severe, critical conditions . The most of the patients had good results. This article may provide a new idea to the British medical and pharmaceutical communities to understand the method of herbal formulas, and then they could carry on further laboratory research through modern pharmacological experimental studies to reveal the effective ingredient and mechanism of action , so that in the future herbal medicine will become a complementary therapy for the patients infected by COVID -19 in the UK. This is why I choose to write this article.

Key words: COVID-19, herbal formulas ,ingredients , indications,usage,discussion.

Methods : Here is a detailed information on the anti-coronavirus herbal formulas.The first chief formula introduced below is the most popular prescription published by The

National Health Commission of People's Republic of China on 3/3 2020 for the treatment and prevention of coronavirus infection and pneumonia; and other formulas are the modified classical herbal prescriptions and experienced formula I use in the UK. Now I will introduce the name ,source , indication ,ingredients (including Chinese Pinyin , English and Latin names),usage and discussion of each herbal formula as following:

1. The chief herbal prescription from China :

“ Qing Fei Pai Du Tang” (the Lung-clearing & Detox Decoction)

Indications : Applicable to patients with mild, moderate and severe coronavirus infection symptoms and pneumonia.

Source : [Diagnosis and Treatment Protocol for COVID](Trial Version 7),The National Health Commission of People Republic of China .①

The ingredients :9 grams of Mahuang (Ephedra / Herba Ephedra), 6 grams of Zhi Gancao (Prepared Licorice Root/Radix Glycyrrhizae Praeparata) 9 grams of Xingren (Better Apricot Kernel /Semen Armeniacae Amarum) , 15-30 grams of Sheng Shigao (Raw Gypsum/Gypsum Fibrosum) , to be boiled earlier than other herbs , 9 grams of Guizhi (Cinnamon Twigs/Ramulus Cinnamomi) , 9 grams of Zexie (Oriental Water Plantain Rhizome/Rhizoma Alismatis) , 9 grams of Zhuling (Umbrillate Pore-fungus/ Polyporus) , 9 grams of Baizhu (White Atractylodes Rhizome/Rhizoma Atractylodis Macrocephalae) , 15 grams of Fuling (Poria/Poria) , 16 grams of Chaihu (Bupleurum Root/Radix Bupleuri) , 6 grams of Huangqin (Scutellaria Root/Radix Scutellariae) , 9 grams of Jiang Banxia (Pinellia Tube prepared with ginger/Rhizoma Pinelliae) ,9 grams of Shengjiang (Fresh Ginger/ Rhizoma Zingiberis Recens), 9 grams of Zhiwan (Aster Root / Radix Asteris) , 9 grams of Kuandonghua (Coltsfoot Flower / Flos Farfarae) , 9 grams of Shegan (Belamcanda Rhizome / Rhizoma Belamcandae) , 6 grams of Xixin (Asarum Herb/ Herba Asari), 12 grams of Shanyao (Chinese Yam/ Rhizoma Dioscoreae) , 6 grams of Zhishi (Immature Bitter Orange /Fructus Aurantii Immaturus) , 6 grams of Chenpi (Tangerine Peel/Pericarpium Citri Reticulatae) , 9 grams of Huoxiang (Agastache / Herba Agastachis) .

Usage: In China, the decoction (herbal tea) is mostly acceptable : all the above herbs are to be boiled in water in a casserole about 20-30 minutes for oral use . In the UK, we mainly use concentrated granules. Each herb is 1 gram per day. Mix and dissolve all ingredients in the formula in a glass of boiling water. Take half a dose in the morning and half a dose in the evening.

For children aged 6 to12 years old, use half of the above adult dosage ; Children under 6 years, not recommended .

Usually, the symptoms are obviously relieved after taking the above formula for 3-5 days, and the symptoms disappear after two weeks. In some serious cases, it takes about 3 to 4 weeks of continuous herbal treatment to fully recover, but the formula will need to be modified according to the patient's condition at the time.

Discussion : This formula is actually a combination of four herbal formulas including “ **Ma Xing Shi Gan Tang** ” (Decoction of Ephedra, Apricot Kernel, Gypsum and Licorice) ②, “**Shegan Ma Huang Tang** ” (Belamcanda and Ephedra Decoction) ③, “ **Xiao Chai Hu Tang** ” (Minor Decoction of Bupleurum) ④and “ **Wuling San**

” (Powder of Five Ingredients including Poria) ⑤ from a famous Dr Zhang Zhongjing's book [On Febrile and Miscellaneous Diseases] in the Eastern Han dynasty. Clinical observations in 10 provinces of China confirm that the formula has demonstrated effective clinical result. However, the amount of Mahuang (Ephedra / Herba Ephedra) in this prescription is 9 grams, which exceeds the British Herbal Administration's regulations that the amount of Mahuang (Ephedra / Herba Ephedra) should not exceed 600 mg each time. According to my research, the Ephedrine contained in Mahuang (Ephedra / Herba Ephedra) stimulates the sympathetic nerves and cerebral cortex, which can cause faster heart rate, high blood pressure, irritability, and even insomnia. The amount should be controlled in 3-6 grams for raw herb or 0.3-0.5grams in concentrated herbal granules ; or replaced with other herbs, such as Suye (Perilla Leaf/ Folium Perillae) , Jingjie (Schizonepeta/Herba Schizonepetae), Qianghuo (Notopterygium/ Rhizoma seu Radix Notopterygii) , and so on.

My second concern is: the formula contains the ingredients of ‘**Wuling San** ’, including 9 grams of Guizhi (Cinnamon Twigs/ Ramulus Cinnamomi), 9 grams of Zexie(Oriental Water Plantain Rhizome / Rhizoma Alismatis), 9 grams of Zhuling (Umbrellate Pore-fungus/Polyporus), 9 grams of Baizhu (White Atractylodes Rhizome/ Rhizoma Atractylodis Macrocephalae) and 15 grams of Fuling (Poria/Poria) which are diuretic . If the patient has high fever and dehydration, these herbs are not suitable for use , we may consider using the yin-increasing herbal decoction (Rehydration herbal formula) instead of the ingredients of ‘ Wuling San’
In short, I believe that sticking to the above formula and using it without professional advice does not meet the therapeutic principles of traditional Chinese medicine.

2. The modified classical prescriptions and my experienced formula I use in the United Kingdom :

(1) Sang Ju Yin (Decoction of Mulberry Leaf and Chrysanthemum)

Indication : For the prevention and treatment of early symptoms in mild cases of coronavirus infection.

Source: See my book [Prescription of Traditional Chinese Medicine] ⑥ ; this formula was originally from the book [Wenbing Tiaobian /Treatise on Differentiation & Treatments of Epidemic Diseases]Volume 1, by Dr Wu Tang who lived in 1758-1836 AC in the Qing dynasty.

Ingredients : 10 grams of Sangye (Mulberry Leaves/Folium Mori) , 10 grams of Juhua (Chrysanthemums / Flos Chrysanthemi) , 10 grams of Xingren (Almonds / Semen Armeniacae Amarum) , 10 grams of Lianqiao (Forsythia /Fructus Forsythiae) , 10 grams of Bohe (Peppermint/Herba Menthae) , 10 grams of Jiegeng (Lisianthus/Radix Platycodi) , 10 grams of Gancao (Licorice Root /Radix Glycyrrhizae) , 10 grams of Weigen (Reed Root/Rhizoma Phragmitis) .

Usage : In China , the people are used to boiling herbs for oral use, namely producing a decoction (herbal tea); However, In the United Kingdom, we mainly use concentrated granules. Each herb is 1 gram per day. Mix and dissolve all ingredients in the formula in a glass of boiling water. Taking half a dose in the morning and half a dose in the evening, continue for 2 weeks.

For children aged 6 to 12 years old, use half of the above adult dosage ; Children under 6 years, not recommended .

Additionally, some anti-virus herbs such as Chenpi (Tangerine Peel/ Pericarpium Citri Reticulatae), Mahuang (Ephedra/Herba Ephedra), Daqingye (IsatisLeaf/ Folium Isatidis) and Longdancao(Gentian Root/Radix Gentianae) may be added.

Generally speaking , the symptoms are obviously relieved after taking the above formula for 3-5 days, and the symptoms disappear after two weeks.

Discussion: Previously the above formula has been prescribed for treatment of the early stage of common cold, influenza, and febrile disease with symptoms such as chills, slight fever , cough , and sore throat, thirst ,etc; today we are applying for prevention and treatment of mild cases with coronavirus infection.

(2) Baidu San (Detoxing Powder)

Indication: For prevention and treatment of moderate case of coronavirus infection marked by frail condition and weaker immune symptoms such as fatigue, shortness of breath, etc.

Source: See my book [Prescriptions of Traditional Chinese Medicine] ⑦ ; originally the formula was recorded in the book [Key to Therapeutics of Children's Diseases] by Dr Qian Yi in the Song Dynasty , he lived around in 1032~1113 Ac).

Ingredients : 10 grams of Chaihu (Bupleurum Root / Radix Bupleuri) , 10 grams of Qianhu (Hogfennel Root/Radix Peucedani) , 10 grams of Chuanxiong (Chuanxiong Rhizome/ Rhizoma Ligustici Chuanxiong) , 10 grams of Zhiqiao (Fruit of Citron/Fructus Aurantii) , 10 grams of Qianghuo (Notopterygium Root/Rhizoma seu Radix Notopterygii) , 10 grams of Duhuo (Pubescent Angelica Root/Radix Angelicae Pubscentis) , 6 grams of Fuling (Poria/Poria) , 10 grams of Jiegeng (Platycodon Root/Radix Platycodi) , 10 grams of Renshen (Ginseng/Radix Ginseng). 10 grams of Gancao (Licorice Root/Radix Glycyrrhizae) .

Usage : Traditionally , all the above herbs along with Shengjiang (Fresh Ginger) and Bohe (Peppermint) to be boiled for oral use .However, In the United Kingdom, we are mostly using concentrated granules, 1 gram per herb for daily use, mix all the ingredients in the formula and to be dissolved in boiling water in a cup, take half of it in the morning and another half in evening , continue for 2 weeks.

For children aged 6 to12 years old, use half of the above adult dosage ; Children under 6 years, not recommended .

Generally , the symptoms are obviously relieved after taking the above formula for 3-5 days, and the symptoms disappear after two weeks. In some serious cases, it takes about 3 to 6 weeks of continuous herbal treatment to fully recover, but the formula will need to be modified according to the patient's condition at the time.

Discussion : This formula is usually used to treat the common cold, influenza and febrile disease with ‘Qi Insufficiency’ , today we apply for coronavirus infection along with fatigue and physical weakness.

If patient has no sign of physical weakness only manifests chills, high fever , headache , body aches, cough with profuse whitish phlegm , chest tightness , we can remove Renshen (Ginseng/Radix Ginseng), Bohe (Peppermint/Herba Menthae) and Shengjiang (Fresh Ginger/Rhizoma Zingiberis Recens) from the above formula and add Jingjie (Schizonepeta/Herba Schizonepetae) and Fangfeng (Ledebouriella Root / Radix Ledebouriellae) to form another formula termed ‘ **Jing Fang Baidu San (Schizonepeta and Ledebouriella Detoxing Powder)**

(3) Shegan Mahuang Tang (Decoction of Belamcanda & Ephedra)

Indication: Apply for moderate and severe cases of coronavirus infection or pneumonia with severe cough , sticky and white phlegm , breathing difficulty and chest tightness.

Source: See Chapter 7 of the book [Jin Kui Yao Lue/Synopsis of the Golden Chamber]

© by Dr Zhang Zhongjing in the Eastern Han dynasty , he lived around 150-219 AC.

Ingredient : 9grams of Shegan (Belamcanda /Rhizoma Belamcandae) , 3-6grams of Mahuang (Ephedra/Herba Ephedrae), 12grams of Shengjiang (Fresh Ginger/Rhizoma Zingiberis Recens, 3grams of Xixin (Asarum /Herba Asari), 9grams of Ziwan (Tartarian Aster Root/ Rdx Asteris), 9 grams of Kuandonghua (Coltsfoot Flower/Flos Farfarae) , 12grams of Wuweizi (Schisandra Fruit/Fructus Schisandrae) , 7 of Dazao (Chinese Dates /Fructus ZiziphiJujubae) , 12grams of Banxia (Pinellia Tube/Rhizoma Pinelliae).

Usage: In China the decoction is widely used ; while in the United Kingdom, we mainly use concentrated granules . Each herb is 1 gram per day ; but the amount of Mahuang (Ephedra /Herba Ephedrae) and Xixin (Asarum /Herba Asri) should not exceed 0.3-0.5 grams. Mix and dissolve all ingredients in the formula in a glass of boiling water. Take half a dose in the morning and half a dose in the evening. Continue for 2 weeks.

For children aged 6 to 12 years old, use half of the above adult dosage ; Children under 6 years, not recommended .

Generally , the symptoms are obviously relieved after taking the above herbal medicines for 5-7 days, and the symptoms disappear after two weeks. In some serious cases, it takes about 3 to 5 weeks of continuous herbal treatment to fully recover, but the formula will need to be modified according to the patient's condition at the time.

Discussion : This formula originally was for bronchitis and asthma due to the phlegm stagnation in the throat , bronchi and the lungs manifesting as cough, breathing difficulty , wheeze or chest tightness, or spitting saliva, white or greasy fur of the tongue , tight pulse . In the UK, we may use Jiegeng (Plantycodon Root / Radix Platycody) instead of Xixin (Asarum /Herba Asari). Now I prescribe this formula for coronavirus infection and pneumonia marked by severe cough, breathing difficulty , sputum sticking to throat and bronchus, chills and fever.

(4) Zhuye Shigao Tang (Lophatherum & Gypsum Decoction)

Indications : For later stage and recovery period of coronavirus infection manifesting as feverish body or low fever , fatigue , lassitude , dry mouth , loss of smell and taste , nausea, poor appetite , insomnia.

Source : See my book [Shang Han Lun Study Guid/ Infectious Diseases and Herbal Formulas]⁹. Originally this formula derived from the book [Shang Han Lun / Treatise on Febrile Diseases] by Dr Zhang Zhongjing in the Eastern Han dynasty , he lived around 150-219 AC.

Ingredients : 9grams of Zhuye (Lophatherum/Herba Lophatheris) , 10 grams of Shigao (Gypsum/Gypsum Fibrosum) , 9grams of Banxia (Prepared Pinellia Tube/Rhizoma Pinelliae Praeparata), 18grams of Maimendong (Ophiopogon Root/Radix Ophiopogonis) , 6grams of Reshen (Ginseng/Radix Ginseng), 6grams of Zhi Gancao (Prepared Licorice Root/Radix Glycyrrhizae Praeparata), 9grams of Jingmi (Polished round-grained nonglutinous rice/Semen Oryzae Nonglutinosae).

Usage : The original usage involved boiling the ingredients except Jingmi (Polished round-grained nonglutinous rice/Semen Oryzae Nonglutinosae) in 2000 ml of water to a reduction of 1200 ml ; then remove the herbal dregs and add the rice into the decoction and continue boiling until the rice is well cooked. Finally get the decoction , take 200 ml each time , warm, 3 times a day. In the UK I prescribe concentrated herbal granules , all the above ingredients can be used in 1 gram per herb for daily use, to be dissolved in boiling water in a cup , taken orally , half of it in morning , and another half in evening . Continue for 2 weeks.

For children aged 6 to 12 years old, use half of the above adult dosage ; Children under 6 years, not recommended .

Generally , the symptoms are obviously relieved after taking the above formula for 5-7 days, and the symptoms disappear after two weeks. In some chronic cases, it takes about

3 to 5 weeks of continuous herbal treatment to fully recover, but the formula will need to be modified according to the patient's condition at the time.

Discussion: I have successfully applied this formula for treatment of fatigue syndrome for 20 years; today I use it for later stage and recovery period of coronary infection. It is very simple but really effective.

However, If the patient still presents with alternate spells of chills and fever, chest tightness, bitter taste in the mouth, low emotion, poor appetite and dry throat, add 9grams of Chaihu (Bupleurum Root/Radix Bupleuri), 9grams of Huangqin (Scutellaria Root/ Radix Scutellariae); if loss of smell, add 1 gram of Xinyi (Magnolia Flower /Flos Magnoliae) and 1 gram of Cangerzi (Xanthium / Fructus Xanthii); if loss of taste, add 1 gram of Chenpi (Tangerine Peel/ Pericarpium Citri Reticulatae), 1 gram of Wumei (Schisandra Fruit / Fructus Schisandrae), 1 gram of Sharen (Amomum Fruit/ Fructus Amomi) and 1 gram of Shanza (Hawthorn Fruit / Fructus Crataegi).

(5) Dr Enqin's Anti-Coronavirus Herbal Granule Mixture

Indications: Apply for most of conditions including mild, moderate and severe cases manifesting as cough or with white or yellowish phlegm, shortness of breath, or breathing difficulty, chest tightness, low or high fever, fatigue, the nucleic acid test positive, swollen tongue with white fur, and taught and rapid pulse.

Source: It is from my experiences. **Ingredients** (the dosages below are for concentrated herbal granules): 1gram of Shegan (Belamcanda /Rhizoma Belamcandae), 0.3-0.5 grams of Mahuang (Ephedra/Herba Ephedrae), 1gram of Ziwan (Tartarian Aster Root/ Radix Asteris), 1gram of Kuandonghua (Coltsfoot Flower/Flos Farfarae), 1gram of Gualou (Trichosanthes Fruit/ Fructus Trichosanthis), 1gram of Xiebai (Macrostem Onion /Bulbus Allii Macrostemi), 1gram of Chaihu (Bupleurum Root / Radix Bupleuri), 1gram of Huangqin (Scutellaria Root/Radix Scutellariae), 1gram of Qianghuo (Notopterygium Root/Rhizoma seu Radix Notopterygii), 1gram of Jingjie (Schizonepeta/Herba Schizonepetae), 1gram of Fangfeng (Ledebouriella Root / Radix Ledebouriellae), 1gram of Gancao (Licorice Root/Radix Glycyrrhizae), 1gram of Chenpi (Tangerine Peel/ Pericarpium Citri Reticulatae).

Usage: All the above ingredients are to be mixed and dissolved in boiling water in a cup, taken orally, half in morning, and half in evening. Continue for 2 weeks.

For children aged 6 to 12 years old, use half of the above adult dosage; Children under 6 years, not recommended.

In most cases, the symptoms are obviously relieved after taking the above herbal formula for 3-5 days, and the symptoms disappear after 10-14 days. In some serious cases, it takes about 3 to 5 weeks of continuous herbal treatment to fully recover.

Case study: Mr XXX, male, 50 years old, a businessman, visited me on 14/03/2020 through the WeChat, he said in recent 3 days, he had nasal discharge, dry cough, breathing difficulty, chest tightness, fever (38.5 degrees Celsius), fatigue, insomnia, the

nucleic acid test positive ; swollen tongue with white fur , taugth and rapid pulse. Diagnosis : coronavirous infection. Prescription : the above formula,'Dr Enqin's Anti-Coronavirus Herbal Granule Mixture'. Result: 3 days after taking the above formula ,cough , chest tightness , breathing difficulty and fever were relieved ; after 10 days ,the most of symptoms disappeared. Until now there is no any symptom at all. Furthermore, the nucleic acid test negative.

Conclusion : Clinical observation and experience show that herbal formulas introduced in this article can effectively treat the symptoms of coronavirus (COVID-19). Each herbal formula has different function and scope of application: 'Qing Fei Pai Du Tang (the Lung-clearing & Detox Decoction)' is for the patients presenting with mild, moderate and severe conditions ;'Sang Ju Yin(Decoction of Mulberry Leaf and Chrysanthemum)' is mainly for prevention and treatment of the early symptoms and mild case with coronavirus ; 'Baidu San (Detoxing Powder)' is used for mild , moderate and severe cases along with fatigue and physical weakness; 'Shegan Mahuang Tang (Decoction of Belamcanda & Ephedra)' is used for moderate or severe cases along with obvious lung symptoms such as severe cough , breathing difficulty and chest tightness; 'Zhuye Shigao Tang (Lophatherum & Gypsum Decoction)' is especially for later stage and recovery period of the disease . The last one is based on my own experience , called 'Dr Enqin's Anti-Coronavirus Herbal Granule Mixture', it can be widely used for various conditions including mild ,moderate and severe cases . Clinically we must choose a right formula that is suitable for individual clinical presentation of each patient. Sometimes it is necessary to select one as a basic formula, and then add additional herbs for complex case based on each patient's symptoms.If the herbal formula is selected correctly, in most cases the symptoms will be relieved after taking 3-5 days, and the symptoms will disappear after 1-2 weeks of herbal treatment. In my experience, in some serious cases, it takes about 3 to 5 weeks of continuous herbal treatment to fully recover, but the formula will need to be modified according to the patient's condition at the time

Additionally, what needs to be emphasized is : these herbal prescriptions require further laboratory research through modern pharmacological experimental studies to reveal their effective ingredient and mechanism of action, so that theses herbal formulas can be understood by British medical pharmaceutical communities and applied in NHS hospitals in the future.

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