

# Diagnosis and Treatment Protocol for COVID-19

## (Trial Version 7)

### Traditional Chinese medicine (TCM) treatment

The COVID-19 belongs to plague in TCM with the etiology of epidemic factor exposure. Different regions can refer to the following plans for syndrome differentiation and treatment, according to the disease, local climate characteristics and different constitutions. Prescriptions which exceed maximum dose according to pharmacopoeia should be used under the guidance of a physician.

#### (1) Medical observation period

1.1 Clinical manifestation: fatigue with gastrointestinal discomfort

Recommended Chinese patent medicine: Huoxiang Zhengqi Capsule (Pill, Liquid, Oral liquid)

1.2 Clinical manifestation: fatigue with fever

Recommended Chinese patent medicines: Jinhua Qinggan Granule, Lianhua Qingwen Capsule (Granule), Shufeng Jiedu Capsule (Granule)

#### (2) Clinical treatment period (confirmed cases)

##### 1) Qingfei Paidu Decoction

Scope of application: in accordance with the clinical observations of doctors in various locations, it is suitable for mild, moderate and severe cases, and can be used reasonably with the consideration of the actual conditions of critically ill patients.

The basic formula: Ma Huang (Ephedrae Herba) 9g, Zhi Gan Cao (Glycyrrhizae Radix) 6g, Xing Ren (Armeniacae Semen) 9g, Sheng Shi Gao (Gypsum fibrosum) (decocted first) 15-30g, Gui Zhi (Cinnamomi Ramulus) 9g, Ze Xie (Alismatis Rhizoma) 9g, Zhu Ling (Polyporus) 9g, Bai Zhu (Atractylodis macrocephalae Rhizoma) 9g, Fu Ling (Poria) 15g, Chai Hu (Bupleuri Radix) 16g, Huang Qin (Scutellariae Radix) 6g, Jiang Ban Xia (Pinellinae Rhizoma Praeparatum) 9g, Sheng Jiang (Zingiberis Rhizoma recens) 9g, Zi Wan (Asteris Radix) 9g, Kuan Dong Hua (Farfarae Flos) 9g, She Gan (Belamcandae Rhizoma) 9g, Xi Xin (Asari Radix et Rhizoma) 6g, Shan Yao (Dioscoreae Rhizoma) 12g, Zhi Shi (Aurantii Fructus immaturus)

6g, Chen Pi (*Citri reticulatae Pericarpium*) 6g, Huo Xiang (*Pogostemonis Herba*) 9g.

Administration: traditional Chinese herbal pieces in decoction. One package per day. Take warm twice (40 minutes after meal in the morning and evening). One course of treatment is for three packages.

If possible, half bowl of rice soup after taking the decoction is advised. For the patients with dry tongue due to fluid depletion, one bowl of rice soup is suggested. (Note: If no fever, the dosage of gypsum should be reduced. In case with fever or high fever, the amount of gypsum can be increased. If the symptoms improve but not totally recovered, continue the second course of treatment. If the patient has a special condition or other underlying diseases, the formula can be modified according to the actual situation in the second course. If the symptoms disappear, the drug should be discontinued.

Reference: The General Office of the National Health Commission of the people's Republic of China The Office of the National Administration of Traditional Chinese Medicine "Notice on Recommending the Use of Qingfei Paidu Decoction in Pneumonia Treated with Integrated Chinese and Western Medicine for the COVID-19 Infection" (National Administration of Traditional Chinese Medicine Office Medical Letter [2020] No.22)

## **2) Mild case**

### **① Cold-damp constraint in the lung pattern**

Clinical manifestation: fever, fatigue, generalized body aches, cough, expectoration, chest tightness and labored breathing, poor appetite, nausea, vomiting and sticky stool, pale enlarged tongue with tooth marks or light red tongue and coating which is white, thick, curd-like, and greasy or white and greasy, and soggy of slippery pulse.

Recommended formula: Sheng Ma Huang (*Ephedrae Herba*) 6g, Sheng Shi Gao (*Gypsum fibrosum*) 15g, Xing Ren (*Armeniaca Semen*) 9g, Qiang Huo (*Notopterygii Rhizoma seu Radix*) 15g, Ting Li Zi (*Lepidii/Descurainiae Semen*) 15g, Guan Zhong (*Cyrtomii Rhizoma*) 9g, Di Long (*Pheretima*) 15g, Xu Chang Qing (*Cynanchi paniculati Radix*) 15g, Huo Xiang (*Pogostemonis Herba*) 15g, Pei Lan (*Eupatorii Herba*) 9g, Cang Zhu (*Atractylodis Rhizoma*) 15g, Yun Ling (*Poria*) 45g, Sheng Bai Zhu (*Atractylodis macrocephalae Rhizoma*) 30g, Jiao San Xian (*Jiao Shan Zha* (*Crataegi Fructus*), Jiao Shen Qu (*Massa medicata fermentata*), and Jiao Mai

Ya (Hordei Fructus germinatus)) 9g each, Hou Po (Magnoliae officinalis Cortex) 15g, Jiao Bing Lang (Arecae Semen) 9g, Wei Cao Guo (Tsaoko Fructus) 9g, Sheng Jiang (Zingiberis Rhizoma recens) 15g.

Administration: one package daily, 600ml after decocting, divide into three times, equally in the morning, afternoon and evening, take before meal.

## ② Damp-heat accumulation in the lung pattern

Clinical manifestation: low-grade fever or absence of fever, slight aversion to cold, fatigue, heavy sensation in the head and body, muscle soreness, dry cough with little sputum, sore throat, thirst without desire to drink, or accompanied with chest tightness and epigastric fullness, absence of sweating or disturbed hidrosis, or vomiting with anorexia, loose stool or sticky stool. The tongue is light red and coating is white, thick and greasy or thin and yellow. The pulse is slippery and rapid or soggy.

Recommended formula: Bing Lang (Arecae Semen) 10g, Cao Guo (Tsaoko Fructus) 10g, Hou Po (Magnoliae officinalis Cortex) 10g, Zhi Mu (Anemarrhenae Rhizoma) 10g, Huang Qin (Scutellariae Radix) 10g, Chai Hu (Bupleuri Radix) 10g, Chi Shao (Paeoniae Radix rubra) 10g, Lian Qiao (Forsythiae Fructus) 15g, Qing Hao (Artemisiae annuae Herba) (added later) 10g, Cang Zhu (Atractylodis Rhizoma) 10g, Da Qing Ye (Isatidis Folium) 10g, Sheng Gan Cao (Glycyrrhizae Radix) 5g.

Administration: one pack daily, 400ml after decocting, divide into twice, and half in the morning and half in the evening.

## 3) Moderate case

### ① Damp-toxin constraint in the lung pattern

Clinical manifestation: fever, cough with little sputum or yellow sputum, chest tightness and shortness of breath, abdominal distension, and constipation with difficult defecation. The tongue body is dark-red, and tongue shape is enlarged. The coating is yellow greasy or yellow dry. The pulse is slippery and rapid or wiry and slippery.

Recommended formula: Sheng Ma Huang (Ephedrae Herba) 6g, Ku Xing Ren (Armeniaca Semen) 15g, Sheng Shi Gao (Gypsum fibrosum) 30g, Sheng Yi Yi Ren (Coicis Semen) 30g, Mao Cang Zhu (Atractylodis

Rhizoma) 10g, Guang Huo Xiang (*Pogostemonis Herba*) 15g, Qing Hao Cao (*Artemisiae annuae Herba*) 12g, Hu Zhang (*Polygoni cuspidati Rhizoma*) 20g, Ma Bian Cao (*Verbenae Herba*) 30g, Gan Lu Gen (*Phragmitis Rhizoma*) 30g, Ting Li Zi (*Lepidii/Descurainiae Semen*) 15g, Hua Ju Hong (*Citri grandis Exocarpium rubrum*) 15g, Sheng Gan Cao (*Glycyrrhizae Radix*) 10g.

Administration: one package daily, 400ml after decocting, and equally divide into twice, in the morning and evening.

## ② Cold-damp obstructing the lung pattern

Clinical manifestation: low-grade fever, unsurfaced fever or no fever, dry cough with little sputum, lassitude and fatigue, chest tightness, stomach discomfort, or nausea, and loose stool. The tongue is pale or light red and coating is white or white greasy. The pulse is soggy.

Recommended formula: Cang Zhu (*Atractylodis Rhizoma*) 15g, Chen Pi (*Citri reticulatae Pericarpium*) 10g, Hou Po (*Magnoliae officinalis Cortex*) 10g, Huo Xiang (*Pogostemonis Herba*) 10g, Cao Guo (*Tsaoko Fructus*) 6g, ShengMa Huang (*Ephedrae Herba*) 6g, Qiang Huo (*Notopterygii Rhizoma seu Radix*) 10g, Sheng Jiang (*Zingiberis Rhizoma recens*) 10g, Bing Lang (*Arecae Semen*) 10g.

Administration: one package daily, 400ml after decocting, and equally divide into twice, in the morning and evening.

## 4) Severe case

### ① Epidemic toxin blocking the lung pattern

Clinical manifestation: fever with red face, cough with little yellow and sticky sputum, or blood-stained sputum, chest tightness and short of breath, lassitude, dryness, bitterness and stickiness in the mouth, nausea and loss of appetite, difficult defecation, and scanty dark urine. The tongue is red with yellow greasy coating. The pulse is slippery and rapid.

Recommended formula: Huashi Baidu Formula

The basic formula: Sheng Ma Huang (*Ephedrae Herba*) 6g, Xing Ren (*Armeniaca Semen*) 9g, Sheng Shi Gao (*Gypsum fibrosum*) 15g, Gan Cao (*Glycyrrhizae Radix*) 3g, Huo Xiang (*Pogostemonis Herba*) (added later)

10g, Hou Po (*Magnoliae officinalis Cortex*) 10g, Cang Zhu (*Atractylodis Rhizoma*) 15g, Cao Guo (*Tsaoko Fructus*) 10g, Fa Ban Xia (*Pinellinae Rhizoma Praeparatum*) 9g, Fu Ling (*Poria*) 15g, Sheng Da Huang (*Rhei Radix et Rhizoma*) (added later) 5g, Sheng Huang Qi (*Astragali Radix*) 10g, Ting Li Zi (*Lepidii/Descurainiae Semen*) 10g, Chi Shao (*Paeoniae Radix rubra*) 10g.

Administration: 1-2 packages daily, decoction, 100-200ml each time, 2-4 times per day, oral administration or nasal feeding.

## ② Blazing of both qi and ying pattern

Clinical manifestation: high fever with polydipsia, tachypnoea and shortness of breath, delirium and unconsciousness, blurred vision or accompanied with macules and papules, or hematemesis, epistaxis or convulsion of the four limbs. The tongue is crimson with little or no coating. The pulse is deep, thready and rapid, or floating, large and rapid pulse.

Recommended formula: Sheng Shi Gao (*Gypsum fibrosum*) (decocted first) 30-60g, Zhi Mu (*Anemarrhenae Rhizoma*) 30g, Sheng Di (*Rehmanniae Radix*) 30-60g, Shui Niu Jiao (*Bubali Cornu*) (decocted first) 30g, Chi Shao (*Paeoniae Radix rubra*) 30g, Xuan Shen (*Scrophulariae Radix*) 30g, Lian Qiao (*Forsythiae Fructus*) 15g, Dan Pi (*Moutan Cortex*) 15g, Huang Lian (*Coptidis Rhizoma*) 6g, Zhu Ye (*Phyllostachys nigrae Folium*) 12g, Ting Li Zi (*Lepidii/Descurainiae Semen*) 15g, Sheng Gan Cao (*Glycyrrhizae Radix*) 6g.

Administration: one pack daily, decoction, Shi Gao and Shui Niu Jiao should be decocted first, 100-200 ml each time, 2-4 times per day, oral administration or nasal feeding.

Recommended Chinese patent medicines: Xiyanping injection, Xuebijing injection, Reduning injection, Tanreqing injection, and Xingnaojing injection. Drugs with similar effects can be selected according to individual conditions, or can be used in combination according to clinical symptoms. Traditional Chinese medicine injection can be used together with TCM decoction.

## 5) Critical case

### ① Internal blockage and external desertion pattern

Clinical manifestation: Dyspnea, panting on exertion or mechanical ventilation required, accompanied with unconsciousness and dysphoria, sweating, cold extremities. The tongue is dark and purple with thick greasy or dry coating. The pulse is floating and large without root.

Recommended formula: Take Su He Xiang Wan or Angong Niu Huang Wan with the following decoction composed of Ren Shen (Ginseng Radix) 15g, Hei Shun Pian (Aconiti Radix lateralis praeparata) (decocted first) 10g, Shan Zhu Yu (Corni Fructus) 15g.

If there is mechanical ventilation with abdominal distension, constipation or difficult defecation, 5-10g of Sheng Da Huang (Rhei Radix et Rhizoma) can be considered. If patient-ventilator asynchrony occurs, 5-10g of Sheng Da Huang and 5-10g of Mang Xiao (Natrii Sulfas) can be used together with sedation and muscle relaxant.

Recommended Chinese patent medicines: Xuebijing injection, Reduning injection, Tanreqing injection, Xingnaojing injection, Shenfu injection, Shengmai injection, and Shenmai injection. Drugs with similar effects can be selected according to individual conditions, or can be used in combination according to clinical symptoms. Traditional Chinese medicine injection can be used together with TCM decoction.

Note: Recommended usage of TCM injections for severe and critical cases

The use of TCM injections follows the principle of starting from a small dosage and modifying based on pattern identification in the instructions. The recommended usage is as follows:

Viral infection or combined with mild bacterial infection: 0.9% sodium chloride injection 250ml with Xiyanping injection 100mg (bid), or 0.9% sodium chloride injection 250ml with Reduning injection 20ml, or 0.9% sodium chloride injection 250ml with Tanreqing injection 40ml (bid).

High fever with disturbance of consciousness: 0.9% sodium chloride injection 250ml with Xingnaojing injection 20ml (bid).

Systemic inflammatory response syndrome (SIRS) or / and multiple organ failure (MOF): 0.9% sodium chloride injection 250ml with Xuebijing injection 100ml (bid).

Immunosuppression: glucose injection 250ml with Shenmai injection 100ml or Shengmai injection 20-60ml (bid).

## **6) Convalescence**

### **① Lung-spleen qi deficiency pattern**

Clinical manifestation: shortness of breath, lassitude and fatigue, poor appetite with nausea and vomiting, abdominal fullness, a sense of incomplete evacuation, and sticky loose stool. The tongue is pale and enlarged with white greasy coating.

Recommended formula: Fa Ban Xia (Pinellinae Rhizoma Praeparatum) 9g, Chen Pi (Citri reticulatae Pericarpium) 10g, Dang Shen (Codonopsis Radix) 15g, Zhi Huang Qi (Astragali Radix) 30g, Chao Bai Zhu (Atractylodis macrocephalae Rhizoma) 10g, Fu Ling (Poria) 15g, Huo Xiang (Pogostemonis Herba) 10g, Sha Ren (AmomiFructus) (added later) 6g, Gan Cao (Glycyrrhizae Radix) 6g.

Administration: one package daily, 400ml after decocting, and equally divide into twice in the morning and evening.

### **② Deficiency of both qi and yin pattern**

Clinical manifestation: fatigue, shortness of breath, dry mouth, thirst, heart palpitation, profuse sweating, poor appetite, low-grade fever or no fever, dry cough with little sputum. The tongue is dry tongue with scanty fluid. The pulse is thready or weak and forceless.

Recommended formula: Nan Sha Shen (Adenophorae Radix) 10g, Bei Sha Shen (Glehniae Radix) 10g, Mai Dong (Ophiopogonis Radix) 15g, Xi Yang Shen (Panacis quinquefolii Radix) 6g, Wu Wei Zi (Schisandrae Fructus) 6g, Sheng Shi Gao (Gypsum fibrosum) 15g, Dan Zhu Ye (Lophatheri Herba) 10g, Sang Ye (Mori Folium) 10g, Lu Gen (Phragmitis Rhizoma) 15g, Dan Shen (Salviae miltiorrhizae Radix) 15g, Sheng Gan Cao (Glycyrrhizae Radix) 6g.

Administration: one package daily, 400ml after decocting, and equally divide into twice in the morning and evening.