

Analysis and Treatment of Coronavirus COVID-19 by Dr. Hao Liu, clinical doctor of Chinese medicine February 20, 2020 [translated by Dr. Amy Chang, his former assistant; responses and additions in brackets]

On this epidemic of Coronavirus in China we referenced many materials. After deep thought and combining many years' [of very rich, high stakes & high volume clinical] experience, I submit the following analysis and treatment strategies, for slowing down the epidemic situation, some thoughts for reference only.*

Humans, as the most sophisticated biological organism in this world, have in our bodies a complete immune mechanism for responding to the invasion of all lower life forms. Of course, the prerequisite is the body must be functioning in normal working condition. Everyone knows that in response to viral infection, the body must generate large amounts of corresponding antibodies in order to eliminate this virus. For a known virus, the body usually needs seven to ten days to generate and replicate antibodies. For a completely new, unknown, never-before-contracted virus, the human body needs more time to differentiate and adapt to the virus; antibodies need two to four weeks, maybe even longer to develop. Therefore, after viral infection, the most important thing for the patient is to maintain the normal function and metabolism of the body, [thus] allowing it to have enough capability to generate corresponding antibodies as soon as possible. This is how the body will truly recover.

The city of *Wūhàn* 武漢 is in the northern region of the South of China. Wuhan winters are famous for being cold and damp. In this climate, people's dietary habits tend toward warmer, spicier, more aromatic foods. From October of last year to January this year, the weather of Wuhan was a bit unusual in that it switched off between cold and hot, i.e. cold for two days, hot for two days, then cold again for two days. This created what we call alternating cold and heat in the climate. When the human body can no longer adapt quickly enough to the frequent oscillation of temperature, the communication between the internal and the external breaks down. This results in the accumulated energy from consuming too many calories, unable to be smoothly expended or excreted, creating so-called "upfire" 上火 *shànguǒ* [a colloquial Chinese term describing symptoms of excessive internal heat]. When a person upfires, the natural tendency is to consume some relatively cooler [cold and cool? or cooling?] food and drink, e.g., drinking more water, eating more fruit, or eating foods that are cold in property [please reference Dr. Liu's Food Properties Chart, which we put together in 2008]. When we consume excess amounts of cooling foods, this harms the digestion and results in an overall reduction of the immune system. According to the 4th published version of China's treatment manual for Coronavirus, the early stage symptoms in patients with Coronavirus include: aversion to cold and expression of heat/ or no heat, dry cough, dry

throat, fatigue and weakness, chest oppression, bloating, or nausea, loose stools. Tongue is pale or pale red, coating white and greasy, pulse soggy [superficial and squishy with unclear borders and low force]. Every one of these symptoms is a sign of Spleen and Stomach Disharmony. Spleen and Stomach Disharmony does not happen overnight. This is only saying that people with dysfunction in their Spleen and Stomach are the most susceptible to this virus.

From the body's perspective, the battlefield against viruses is the immune system headed by the Lung. The Lung system has two exit pathways: 1) sweating out toxins through the pores, 2) through blood circulation, using the intestines as a passageway to ultimately excrete toxins out of the body. Sweating requires the cooperation of Heart and Lung to function smoothly. Excretion and urination depends on the digestive system, and the cooperation of Liver and Kidney. Thus, treatment cannot narrowly focus only on the Lung itself. The patient suffers because one or both of the Lung exit pathways are blocked, so that when the lungs are infected, all the pathological waste product stagnates in the Lung organ and cannot be cleared away, incessantly creating new inflammation, until large areas of the lungs end up scarred internally, also known as pulmonary fibrosis. Therefore the treatment principle emphasizes keeping the pathways of the Lung system unobstructed thoroughfares. To a patient's body, this is not just a local battle within the respiratory system, but a mass campaign mobilizing all the internal organs of the entire body.

Under the guidance of this thinking, we recommend using *Chái Gé Jiě Jī Tāng* 柴葛解肌湯 "Bupleurum Kudzu Relieve Muscle Decoction" as the base formula, with a few special modifications in application. First, *chái hú* 柴胡 "bupleurum root" is an essential ingredient for clearing Liver and dredging Gallbladder[;] the super high dose blocks the disease's progression, maintaining the flow of communication between the internal organs and the skin, and accelerating the release of toxins through the body's exterior. *Gé gēn* 葛根 "kudzu root" can improve the function of the entire digestive tract, guaranteeing both the absorption of nutrients from the food consumed by the patient and the provision of said nutrients to the Lung[. Ge gen] also curbs chai hu's tendency to rob Liver yin. Also, chai hu and ge gen both have the ability to raise clear yang. Patients in the early stage have the chance to swiftly recover their Spleen and Lung function by vomiting once or twice. Continuous fever damages the brain, and *shēng shí gāo* 生石膏 "raw gypsum" can dramatically reduce the [detrimental] effects of fever on the brain while also supporting diaphoresis [i.e. the opening of pores to promote sweating].

Qiāng huó 羌活 "notopterygium root", *dú huó* 獨活 "pubescent angelica root" are a powerful pair of herbs for dispelling dampness. [Qiang huo is in the classical formula Chai Ge Jie Ji Tang; du huo is a modification.] They work through diaphoresis to help the body get rid of

excess water content, and support sheng shi gao to accelerate the reduction of fever while balancing the cold qualities of shi gao; they also help chai hu keep the pathways between the organs and exterior unimpeded. *Huáng qín* 黃芩 "scutellaria root", *bàn xià* 半夏 "pinellia root", *bái sháo* 白芍 "white peony root" coordinate with chai hu to protect the Liver function so that toxins and pathogenic waste can be steadily passed into the intestines, until it is finally excreted through bowel movements or urination. [Huang qin and bai shao are in Chai Ge Jie Ji Tang; ban xia is a modification.] *Zhī ké* 枳殼 "bitter orange peel", *jié gěng* 桔梗 "balloon flower root" maintain the body's up and down qi movement [zhi ke descends qi; jie geng ascends qi] keeping the metabolic waste products from accumulating in any one organ to become edema. Huang qin [and] *bái zhǐ* "白芷 angelica dahurica root" clear the residual heat from tachycardia and maintaining the regularity of the heartbeat. [When the lungs are clogged with phlegm, the heart has to beat faster to supply oxygenated blood to the body. This is what makes the COVID-19 virus so lethal to older and less fit patients...their hearts give out with the effort before the lungs can be cleared.] *Táo rén* 桃仁 "peach kernel", *xìng rén* 杏仁 "apricot kernel" move blood to disperse stasis, transform phlegm and regulate qi. *Shēng jiāng* 生薑 "fresh ginger", *hóng zǎo* 紅棗 "red jujube", *cōng bái* 蔥白 "scallion white" [i.e. the stem/underground stalk portion of green onion] keep the opening and closing action of the pores flexible. [Tao ren, xing ren, and cong bai are modifications. Da zao and sheng jiang are in the original formula.] The reasoning behind this formula is very rigorous, targeted specifically at this new virus, and can be used without secondary formulas for preventing and arresting the progress in the early stages of Coronavirus.*

Listed below are the dosages for treating different phases of the virus [COVID-19] with Chai Ge Jie Ji Tang: [I hesitated several days to translate the actual formulas for fear of people copying and using these formulas in the wrong context, but I have come to believe that if all the Chinese-reading enthusiasts have access to this information, I can trust my students to conduct themselves as budding herbalists, not panicked laypeople. The dosing is genius.] Incubation period: (Please note, the incubation period is *not* wholly asymptomatic, a lot of people will feel mild upper respiratory discomfort, shoulder and upper back [and neck] stiffness, a decrease in temperature in the extremities, and body fatigue during this phase)

Herbs: [I've **highlighted** the original ingredients of Chai Ge Jie Ji Tang for comparative reference. This phase one formula has all the original herbs except shi gao, but very different dosages.]

chai hu 12g **ge gen** 30g **bai zhi** 10g **jie geng** 7g **qiang huo** 10g du huo 10g **huang qin** 7g **bai shao** 10g **gan cao** 5g zhi ke 10g **da zao** 10g **sheng jiang** 15g (add last) cong bai 5 stalks (add last)

Preparation: 5 cups cold water, add herbs, bring to boil and simmer on low heat for 40 minutes, add ginger and simmer 5 more minutes, turn off heat and add scallion white. Strain approximately 3 cups, take three times a day [TID], serve warm before meals. After taking herbs, dress warmly and sip warm porridge to help the body sweat appropriately. [This is a classical instruction for *Guì Zhī Tāng* 桂枝湯 "Cinnamon Twig Decoction"; you want the sweat to be 'steaming' but not 'dripping water rivulets'.]

Early Stage: This is a key moment to interrupting the disease progression.

1. For patients with high fever:

chai hu 45-90g **ge gen** 30-45g **bai zhi** 15g **jie geng** 10g **qiang huo** 15g
du huo 15g sheng **shi gao** 30g **huang qin** 10g **bai shao** 10g zhi **gan cao**
10g **da zao** 10g **sheng jiang** 10g zhi ke 15g jiang ban xia 20g tao ren 10g
bei xing ren 10g

2. For patients with no fever or low-grade fever:

chai hu 30g **ge gen** 30g **bai zhi** 10g **jie geng** 10g **qiang huo** 10g du
huo 10g **shi gao** 20g **huang qin** 7g **bai shao** 10g zhi **gan cao** 15g
huang qi 15g huo xiang 15g **da zao** 10g **sheng jiang** 10g zhi ke 10g

Preparation: Same for both formulas. 5.5 cups cold water, add herbs, bring to boil and simmer on low heat for 45 minutes until ~3 cups remain. [Ginger, when cooked this long, works more as a digestive aid than a diaphoretic.] Please note that patients with high fever can take this formula every 2-3 hours, i.e. they can use up to 2 bags per day. Low fever patients take this formula three times a day before meals. If after taking the formula the temperature goes up, please switch to taking the high fever formulation.

Severe Stage: This phase is at the edge of life [and death.] I can only recommend the use of large doses of *Shēn Fù Lóng Mǔ Tāng* 參附龍牡湯 "Ginseng, Aconite, Dragonbone, Oystershell Decoction" plus *Lái Fù Tāng* 來復湯 "Come Resurrection Decoction" in hopes that we can keep the greater infrastructure [of the body] from toppling. [Shen Fu Long Mu Tang consists of ren shen, fu zi, sheng jiang, da zao, long gu and mu li for rescuing yang collapse through controlling sweat and submerging yang. Lai Fu Tang, by contemporary

herbalist Zhāng Xíchún 張錫純, uses shan zhu yu, long gu, mu li, bai shao, ren shen and zhi gan cao to preserve yin by stopping sweating. Dr. Liu's formula leaves out the bai shao.]

hóng shēn 紅參 15g red ginseng *hēi fù zǐ* 黑附子 30g black aconite root *shēng jiāng* 生薑 30g fresh ginger *zhì gān cǎo* 炙甘草 30g honey-fried licorice root *shān zhū yú* 山茱萸 60g cornus fruit *gān jiāng* 乾薑 10g dried ginger *xì xīn* 細辛 3g asarum *wǔ wèi zǐ* 五味子 10g shisandra berry *shēng lóng gǔ* 生龍骨 30g raw dragonbone *shēng mǔ lì* 生牡蠣 30g raw oystershell

Preparation: 6 cups cold water, add herbs, bring to boil and simmer on low heat for 90 minutes until ~3 cups remain, slow feed continuously.

For patients with obvious signs of constipation and high fever, [I] recommend short durations of *Chéng Qì Tāng* 承氣湯 [laxative formula family with *dà huáng* 大黃 "rhubarb root" base] to preserve yin by urgent purging.

A few dietary recommendations for patients: You must strictly avoid all substances with caffeine content (coffee, tea, cola and chocolate), also raw or cold [food, both in temperature and property, like salad, sushi, melons, banana], spicy [foods like curry, salsa, pepper], greasy [foods like fried chicken, potato chips, pork], sour or astringing [foods like apples, vinegar, Vitamin C that are acidic], and foods high in sodium and potassium [potato chips again]. The top priority here is to preserve the function of your Stomach and Intestines. Five grain porridge plus lean meats, egg, and flash-steamed vegetables are very good.

May all patients recover swiftly, and my greatest respect to the healthcare workers standing on the front line!