TMR
doi: 10.53388/ghr2020-12-023

ARTICLE

Clinical Experience with Treatment of Patients who Retested Positive in the Recovery Period of COVID-19 Based on Traditional Chinese Medicine Syndrome Differentiation

Chun Zhang [1], Xiu-Hui Li [1]*, Li Li [1], Chun-Yan Gou [1], Xiao-Jun Wang [1]

[1]Center of Integrated Traditional Chinese and Western Medicine, Beijing YouAn Hospital, Capital Medical University, Beijing 100069.

***Corresponding to**: Xiu-Hui Li, Center of Integrated Traditional Chinese and Western Medicine, Beijing YouAn Hospital, Capital Medical University, Beijing 100069. E-mail: lixiuhui@sohu.com.

Abstract: To explore the characteristics of traditional Chinese medicine (TCM) and the efficacy of traditional Chinese materia medica in patients with positive results in virus retests in the recovery period of the Coronavirus Disease 2019 (COVID-19). The clinical symptoms, tongue features, and lung computed tomography (CT) findings before and after treatment were recorded in detail by case series observation. The clinical symptoms of three patients with moderate COVID-19 who retested positive improved after combined TCM and symptomatic treatment. Lung CT showed that the inflammation resolved or improved progressively. Two patients continuously showed negative results in severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) nucleic acid retests, and were in complete remission and discharged. There was a persistence of positive results in SARS-CoV-2 nucleic acid tests in one patient. Our experience is that the TCM treatment approaches of strengthening body resistance and eliminating pathogenic factors, cultivating earth, and generating metal, as well as eliminating dampness and resolving phlegm achieved good clinical effects in patients with COVID-19 who retested positive.

Key words: Coronavirus disease-2019, COVID-19, positive retested moderate COVID-19 cases, TCM

***Acknowledgments*:** Supported by the National Key Research and Development Project (2020YFC0841600); National Science and Technology Major Project (2017ZX10305501, 2020YFC0841500), Project of Beijing Administration of TCM(YJ2020-02). Thanks the editage for polishing the language of the manuscript.

***Abbreviations*:** TCM, traditional Chinese medicine; COVID-19, Coronavirus disease 2019; CT, computed tomography; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2; PHEIC, Public Health Emergency of International Concern.

***Authors' Contributions*:** All authors made substantial contribution before submission, and all authors have read and approved the final manuscript. Xiu-Hui Li proposed the original idea, Chun Zhang, Li Li and Xiao-Jun Wang took care of the patients, collected the patients' data and wrote the manuscript. Chun-Yan Gou helped to polish the manuscript.

***Competing interests*:** The authors declare that they have no conflict of interest.

***Citation*:** Zhang C, Li XH, Li L, Guo CY, Wang XJ. Clinical Experience with Treatment of Patients who Retested Positive in the Recovery Period of COVID-19 Based on Traditional Chinese Medicine Syndrome Differentiation. *Gastroenterol Hepatol Res*. 2020;2(4):104-111. doi: 10.12032/ghr2020-12-023.

***Executive Editor*:** Xin Cheng.

***Submitted*:** 12 October 2020, ***Accepted*:** 05 December 2020, ***Published*:** 12 December 2020

TMR
doi: 10.53388/ghr2020-12-023

Background

Coronavirus disease 2019 (COVID-19) is a newly emerging infectious disease and a global pandemic caused by a newly discovered coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The World Health Organization declared the pneumonia epidemic caused by infection with SARS-CoV-2 a Public Health Emergency of International Concern (PHEIC) on January 31, 2020, [1] and the novel coronavirus pneumonia was named coronavirus disease 2019 (COVID-19) on February 11, 2020 [2]. The National Health Commission of the People's Republic of China has continuously issued seven editions of the *Diagnosis and Treatment Protocol for COVID-19* and two editions of the *Diagnosis and Treatment Protocol for Severe and Critical Cases of COVID-19*, and has repeatedly stressed that it is necessary to maximize the advantages of integrated traditional Chinese and western medicine in preventing and treating COVID-19. At present, clinical treatment practice at the early stage has shown that TCM is effective in treating COVID-19 [3]. Through a case series, the authors observed the disease evolution process of COVID-19 cases with positive virus retests in the recovery period, and the treatment outcomes of TCM as well as integrated Chinese and western medicine, in the hope of mutual reference and communication with peers.

Typical cases

1. Case 1

The patient Li, a 63-year-old male, visited our hospital on February 10, 2020, presenting with fever and dry cough for six days. He was diagnosed with COVID-19 (moderate case) and hospitalized. He had a 3-year history of hypertension, with a maximum blood pressure of 140/90 mmHg, as well as a 3-year history of diabetes. After admission, the patient was treated with low-dose hormone, Jinhua Qinggan Granules, and other drugs. The symptoms resolved and the lung inflammation was alleviated. The SARS-CoV-2 nucleic acid test on pharyngeal secretion, which was done thrice, yielded negative results, and lung computed tomography (CT) showed that the inflammation was being progressively alleviated. He reached full recovery and was discharged on February 26, 2020.

He was retested positive for SARS-CoV-2 nucleic acid at two weeks after discharge, and was hospitalized again on March 13, 2020. At the time of admission, the patient had epigastric fullness, little sputum, and throat discomfort. He was treated with carrimycin, nebulized interferon, chloroquine phosphate, and other drugs. The nucleic acid test on pharyngeal secretion was positive on March 13 and suspected to be positive on March 14.

On March 15, a TCM consultation was performed. At that time, he presented with normal body temperature, epigastric fullness, little sputum, throat discomfort, fair appetite, no nausea or vomiting, formed stools discharged once or twice a day, irritability, headache, shortness of breath, chest tightness, dark red and enlarged tongue, as well as yellow and greasy coating on the base of the tongue. The TCM diagnosis was an epidemic disease (with residual pathogenic factors). The TCM treatment approaches were clearing heat and removing toxicity, eliminating dampness, as well as ventilating the lungs and expelling pathogenic factors. The prescription given was as follows: Plantago major 30 g, Scutellaria baicalensis 10 g, Forsythia suspensa 10 g, Rhizoma Atractylodis Preparata 9 g, Herba Artemisiae Scopariae 15 g, Lonicera japonica 10 g, Rhizoma Imperata Cylindrical 30 g, Semen Armeniacae Amarum Preparata 10 g, and Fritillaria thunbergii 9 g. A total of seven doses were prescribed, with one dose per day, to be taken after decocting with water, with 200 mL each in the morning and evening. On March 21, the patient's self-perceived symptoms were alleviated, with occasional cough and expectoration. The sputum was easy to cough out, and the color was white and slightly yellow. The patient defecated once a day. The stools were normal and soft. The greasiness of the tongue coating significantly resolved. The tongue was dark red and slightly enlarged. The tongue coating was thin and yellow. The pathogenic dampness was relieved, and the disease was alleviated. Another 7 doses of the above prescription were taken in the same manner. On March 30, the patient had a body temperature of 36.3 °C and occasional cough. During this period, SARS-CoV-2 nucleic acid was retested twice (with an interval of one day), and the results were positive. The patient's self-perceived symptoms improved significantly, with occasional cough, expectoration, ease of coughing out sputum, slightly yellow sputum, defecation once a day, normal soft stool, significantly resolved greasiness of tongue coating, dark red and slightly enlarged tongue, and thin yellow tongue coating. These reflected residual pathogenic factors in the body, deficiency of lung and spleen qi, as well as retention of phlegm-dampness. The treatment approaches were invigorating qi and removing toxicity, as well as strengthening the spleen and resolving phlegm. The prescription was as follows: Scutellaria baicalensis 12 g, Codonopsis pilosula 12 g, Forsythia suspensa 15 g, Ophiopogon japonicus 12 g, Rhizoma Atractylodis Preparata 10 g, Herba Artemisiae Scopariae 30 g, Lonicera japonica 12 g, Rhizoma Imperata Cylindrical 30 g, Semen Armeniacae Amarum Preparata 9 g, Fritillaria thunbergii 12 g, Radix Salviae Miltiorrhizae 20 g, Plantago major 15 g, and Cortex Moutan Radicis 12 g, to be taken in the same manner as above.

The SARS-CoV-2 nucleic acid tests on pharyngeal secretion after admission were as follows: positive on March 23, March 26, March 28, March 30, April 1, April 3, April 6, and April 8, and negative on March 16 and March 19. The SARS-CoV-2 nucleic acid test on sputum was as follows: positive on March 26, March 28, March 30, April 1, April 3, April 6, and April 8, and negative on March 23. Lung CT (March 12): 1. Reexamination showed that the pneumonia was alleviated; 2. The bilateral pleura were slightly thickened. Although the patient's SARS-CoV-2 nucleic acid test results remained positive, lung CT revealed significant improvement. See Figure 1 and Figure 2 for the tongue features and lung CT findings during the treatment period.

2. Case 2

The patient Li, a 40-year-old male, visited a hospital due to throat discomfort and intermittent fever for 6 days. He was diagnosed with COVID-19 (moderate case) and transferred to our hospital on February 11, 2020. He underwent a cholecystectomy 11 years ago. After admission, he was treated with TCM decoction combined with Lianhua Qingwen Granules, Jinhua Qinggan Granules, and other drugs. On February 18, 2020, the maximum body temperature was 37.6 °C, the cough was slightly relieved, the body temperature still did not return to normal, the tongue was light red, and

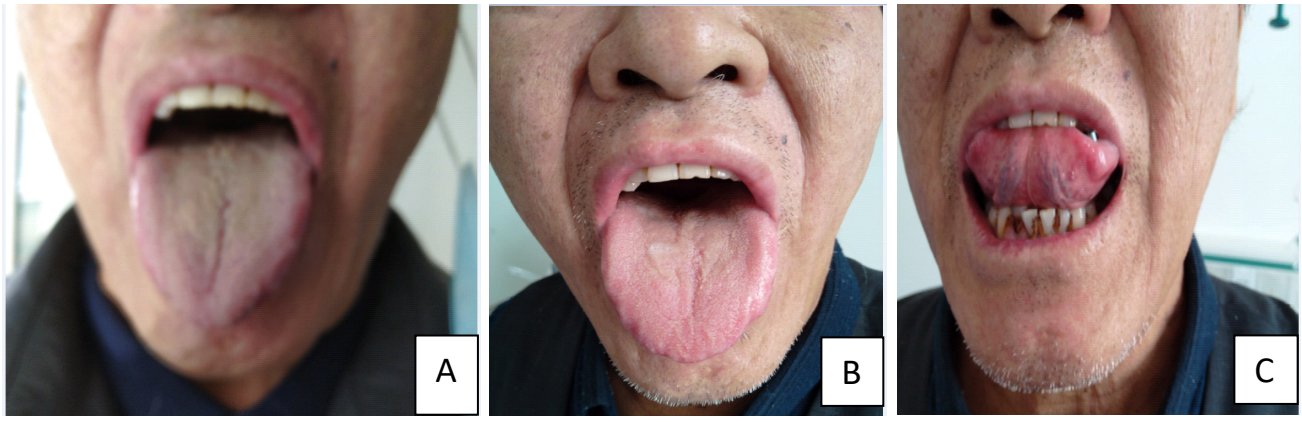

Figure 1. Tongue image changes at different times in case 1 covid-19 patient. Note: **A.** March 15 (before TCM treatment): the tongue was dark red and fat, and the tongue base was yellow and thick; **B.C.** March 21: the tongue coating was visibly effaced, the tongue was dark red, the tongue body was slightly fat, and the tongue coating was thin and yellow.

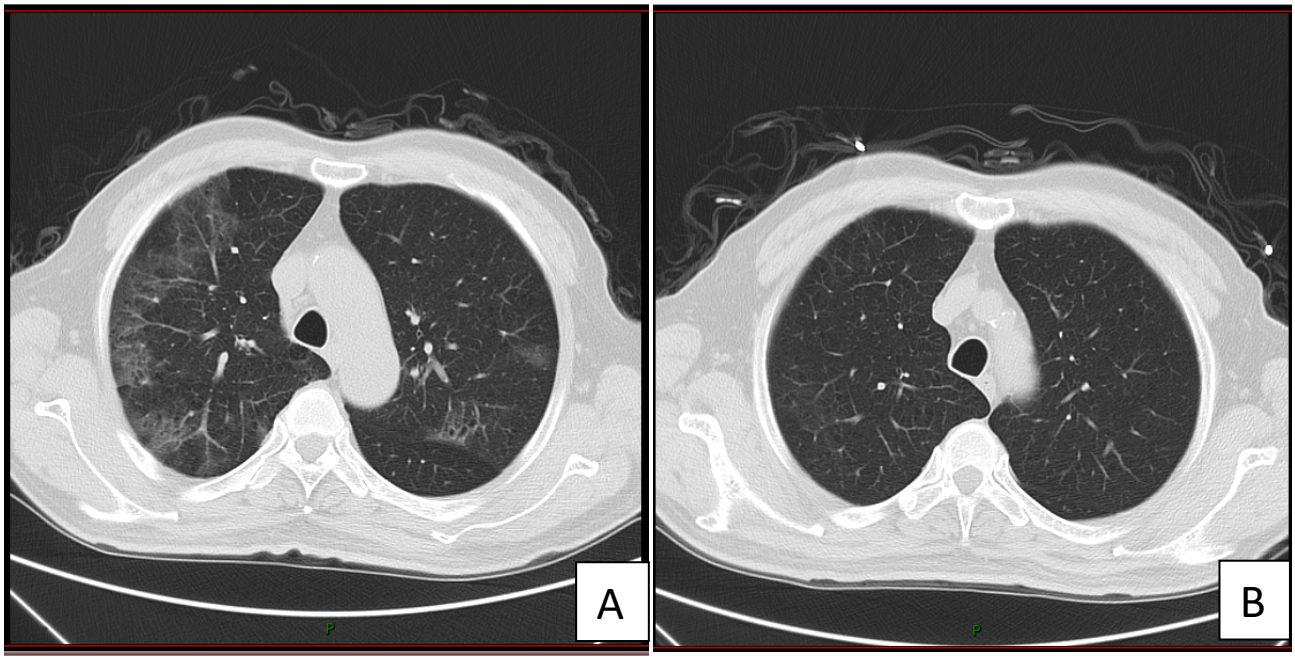

Figure 2. CT changes in the lung after treatment in case 1 patient with covid-19. A. On February 13, the first CT examination after hospitalization showed multiple patchy ground glass opacity; **B.** on April 6, after treatment, the scope of bilateral lung lesions was significantly reduced and the inflammation was absorbed.

TMR
doi: 10.53388/ghr2020-12-023

the tongue coating was thin and yellow, which were considered to be signs of epidemic pathogenic factors invading the lungs (moderate case). The treatment approach consisted of clearing the lungs and expelling pathogenic factors. The TCM prescription was five doses each of Scutellaria baicalensis 10 g, Forsythia suspensa 15 g, Semen Coix lacryma-jobi 30 g, Rhizoma Atractylodis Preparata 15 g, Bupleurum chinense 10 g, Lonicera japonica 15 g, Semen Armeniacae Amarum Preparata 10 g, and Fritillaria thunbergii 10 g. The symptoms resolved and the lung inflammation was alleviated. The SARS-CoV-2 nucleic acid test on pharyngeal secretion was negative three times. Lung CT showed that the inflammation was being progressively alleviated. The patient's condition improved, and he was discharged on February 29, 2020.

At four weeks after discharge, SARS-CoV-2 nucleic acid test on throat swab was positive, so the patient was hospitalized again on March 31, 2020. At the time of admission, the patient had no significant symptoms. He was treated with a TCM decoction. The nucleic acid test on pharyngeal secretion was negative on April 1 and April 3, that on sputum was suspected to be positive on April 1 and negative on April 3. Nucleic acid test on sputum: negative on April 1 and negative on April 3. Lung CT showed small nodules in both lungs, which were considered as benign changes, without significant changes compared with the previous examination (March 16, 2020).

During the TCM consultation on April 1, the patient's general condition was fair, with occasional chest and throat tightness, without cough, expectoration, or lack of strength, and with fair appetite, good sleep, and normal defecation. The tongue was dark red, with white and slightly greasy coating. The patient was judged to have residual pathogenic factors, deficiency of lung and spleen qi, and phlegm-dampness. The treatment approaches were invigorating qi and removing toxicity, as well as strengthening the spleen and resolving phlegm. The prescription was as follows: Radix Salviae Miltiorrhizae 20 g, Radix Glehniae Littoralis 15 g, Semen Pruni Persicae 9 g, bran-fried Semen Coix lacryma-jobi 30 g, Codonopsis pilosula 12 g, Hedyotis diffusa 30 g, Hordei Fructus Germinatus 15 g, Phyllanthus urinaria 30 g, Patrinia scabiosaefolia 30 g, Rhizoma Imperata Cylindrical 30 g, Trichosanthes kirilowii 20 g, and Rhizoma Phragmitis Communis 30 g. A total of five doses were prescribed, with one dose per day, to be taken after decocting with water, with 200 mL each in the morning and evening. On April 6, the patient's body temperature was 36.2 °C, pulse rate was 72 bpm, respiratory rate was 19 bpm, blood pressure was 121/62 mmHg, and oxygen saturation (SpO_2) was 98% (without oxygen inhalation). The patient's self-perceived chest and throat tightness were significantly alleviated. He had a dark red tongue, with white and slightly greasy coating. He took another three doses of the previous prescription in the same manner as above. On April 1 and April 3, the SARS-CoV-2 nucleic acid test was negative, and he achieved full recovery and was discharged. After treatment, the tongue features and lung CT findings tended to be normal (see Figure 3 and Figure 4).

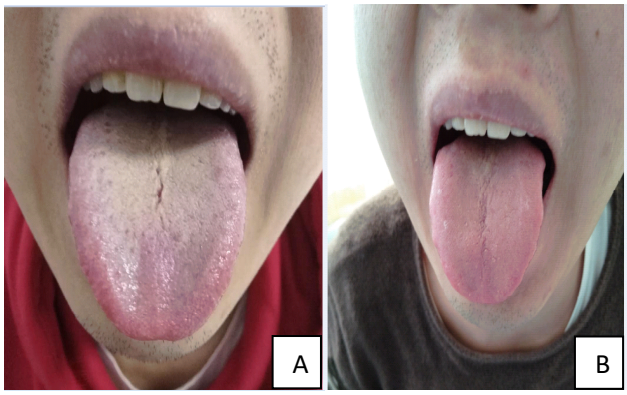

Figure 3. Tongue image changes at different times in case 2 covid-19 patient. A. April 1 (before TCM treatment): the tongue was reddish dark and slightly greasy; **B.** April 4: the tongue was reddish dark and slightly greasy.

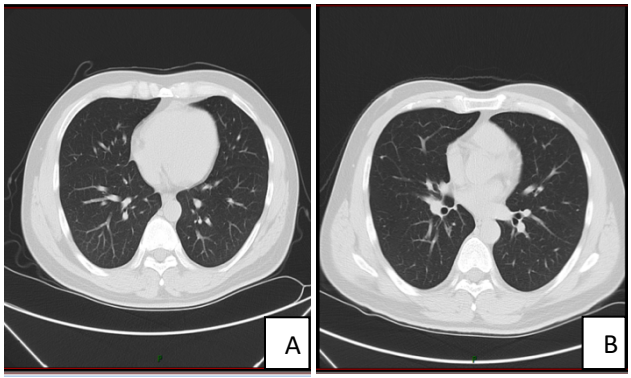

Figure 4. CT changes in the lung after treatment in case 2 patient with covid-19. A. On March 30th (pre admission CT examination at recurrence): multiple patchy ground glass density shadow in the lower lobes of both lungs; **B.** April 6th: multiple patchy ground glass density shadow density reduction, inflammation compared with pre absorption.

3. Case 3

The patient Ni, a 54-year-old female, presented to our hospital with fever for 6 days. She was diagnosed with COVID-19 (moderate case) and hospitalized on January 28, 2020. She underwent a cesarean section 26 years ago. After admission, she was treated with a TCM decoction, Jinhua Qinggan Granules, and other drugs, after which her symptoms resolved and her lung inflammation was alleviated. On February 28, 2020, her body temperature was normal, and she had occasional cough, light red tongue, and thin yellow tongue coating. Epidemic pathogenic factors invading

the lungs (moderate case) was considered. The treatment approach consisted of clearing the lungs and expelling pathogenic factors. The TCM prescription was three doses of Scutellaria baicalensis 10 g, Forsythia suspensa 15 g, Semen Coix lacryma-jobi 30 g, Rhizoma Atractylodis Preparata 15 g, Bupleurum chinense 10 g, Lonicera japonica 15 g, Semen Armeniacae Amarum Preparata 10 g, and Fritillaria thunbergii 10 g. The SARS-CoV-2 nucleic acid test on pharyngeal secretion yielded negative results three times. Lung CT showed that the inflammation was being progressively alleviated. The patient's condition was improved and she was discharged on February 18, 2020.

At three weeks after discharge, the retest on throat swab was positive, so she was hospitalized again on March 6, 2020. At the time of admission, the patient had no significant symptoms, and was treated with a TCM decoction. TCM consultation on March 12 found dry mouth, occasional cough, a small amount of yellow sputum which was easy to cough up, significant lack of strength after activities, no discomfort in the epigastric region, fair appetite, good sleep, and normal defecation. The tongue was dark red, with white and slightly greasy coating. The pathogenic factors remained in the patient's body, which consumed vital qi and caused lung obstruction by damp-heat. The pathogenic toxicity blocked the lungs and damaged multiple organs. The prescription consisted of Radix Salviae Miltiorrhizae 15 g, Radix Glehniae Littoralis 15 g, Scutellaria baicalensis 12 g, Semen Pruni Persicae Preparata 6 g, Codonopsis pilosula 15 g, Semen Coix lacryma-jobi 30 g, Hordei Fructus Germinatus 30 g, Herba Artemisiae Scopariae 20 g, Phyllanthus urinaria 30 g, Patrinia scabiosaefolia 30 g, Magnolia officinalis stir-baked with Zingiber officinale liquid extract 10 g, Trichosanthes kirilowii 20 g, and Rhizoma Phragmitis Communis 30 g. A total of seven doses were prescribed, with one dose per day, to be taken after decocting with water, with 200 mL each in the morning and evening. The TCM consultation on March 19 revealed that the patient's general condition was better than before, without dry mouth, with occasional cough, a small amount of white sputum which was easy to cough up, gradual recovery of physical strength and activity endurance, no epigastric discomfort, fair appetite, and good sleep and normal defecation. The tongue was dark red, with white and slightly greasy coating. After treatment, the tongue features and lung CT findings tended to be normal (see Figure 5 and Figure 6). The patient's main symptoms at the time were cough, as well as white and thin sputum, which reflected residual pathogenic factors, deficiency of the lung and spleen qi, and persisting phlegm-dampness. The treatment approaches were invigorating qi and removing toxicity, as well as strengthening the spleen and resolving phlegm. The prescription was Radix Salviae Miltiorrhizae 20 g, Radix Glehniae Littoralis 20 g, Semen Pruni Persicae 9 g, Radix Ophiopogon japonicus 15 g, Semen Coix lacryma-jobi 30 g, Hordei Fructus Germinatus 30 g, Patrinia scabiosaefolia 30 g, Magnolia officinalis stir-baked with Zingiber officinale liquid extract 10 g, Trichosanthes kirilowii 20 g, Rhizoma Phragmitis Communis 30 g, and Fritillaria thunbergii 12 g. A total of seven doses were prescribed, with one dose per day, to be taken after decocting with water, with 200 mL each in the morning and evening. On March 20, the patient's body temperature was 36.2 °C, pulse rate was 69 bpm, respiratory rate was 19 bpm, blood pressure was 127/69 mmHg, and SpO2 was 98% (without oxygen inhalation). The SARS-CoV-2 nucleic acid test on pharyngeal secretion was positive on March 5 and March 11, and negative on March 7, March 8, March 13, March 15, and March 16. The SARS-CoV-2 nucleic acid test on sputum was negative on March 19. Lung CT (March 5): 1. Reexamination showed that the pneumonia was significantly alleviated compared with the previous examination. On March 13 and 16, SARS-CoV-2 nucleic acid tests showed positive results. The patient fully recovered and was discharged.

Discussion

COVID-19 belongs to the category of epidemic diseases in TCM, and has the characteristics of "when the five epidemic diseases come, people infect each other and have similar symptoms whether they are young or old" as stated in *Su Wen·Ci Fa Lun (Plain Questions on Methods of Acupuncture)*. Based on the observation of these clinical cases, the tongue features of the three patients were dark red tongue and greasy coating. The dark redness was mostly caused by poor blood circulation in the body and obstruction of meridians. The greasy coating suggested accumulation of turbid pathogenic factors in the interior and suppressed yang qi, which mainly manifested as damp turbidity and phlegm-fluid retention. The authors believe that patients who retest positive mostly had lung and spleen deficiency, as well as intermingled phlegm and dampness, which are located in the lungs and spleen, and the main pathogenic factors are dampness and phlegm. The vigor or weakness of the spleen and stomach is key to the progression or subsidence of diseases. The spleen and stomach are the foundation of acquired body constitution as well as the origin of qi and blood generation and transformation. Whether the functions of the spleen and stomach are normal is directly related to the prognosis of diseases. *Huang Di Nei Jing (Yellow Emperor's Inner Canon)* already records that "one who has stomach qi can survive and one who does not will die." Zhang Zhongjing emphasized taking care of and protecting stomach qi throughout his book *Shang Han Lun (Treatise on Febrile Diseases Caused by Cold)*. Chen Xiuyuan, a distinguished expert in classic traditional

doi: 10.53388/ghr2020-12-023

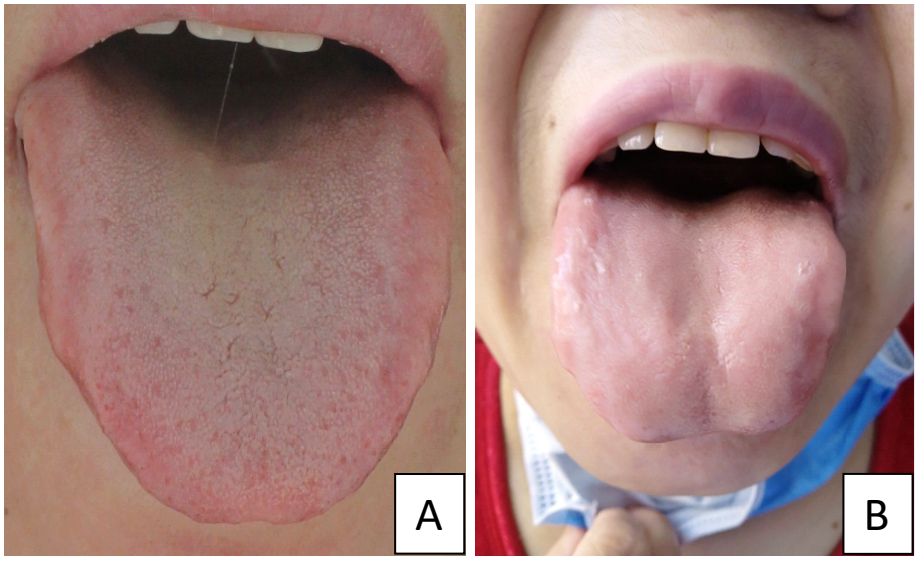

Figure 5. Tongue image changes at different times in case 3 covid-19 patient. A. Mar 12 (before TCM treatment): the tongue was reddish dark and slightly greasy; **B.** Mar 19: the tongue was reddish dark and slightly greasy.

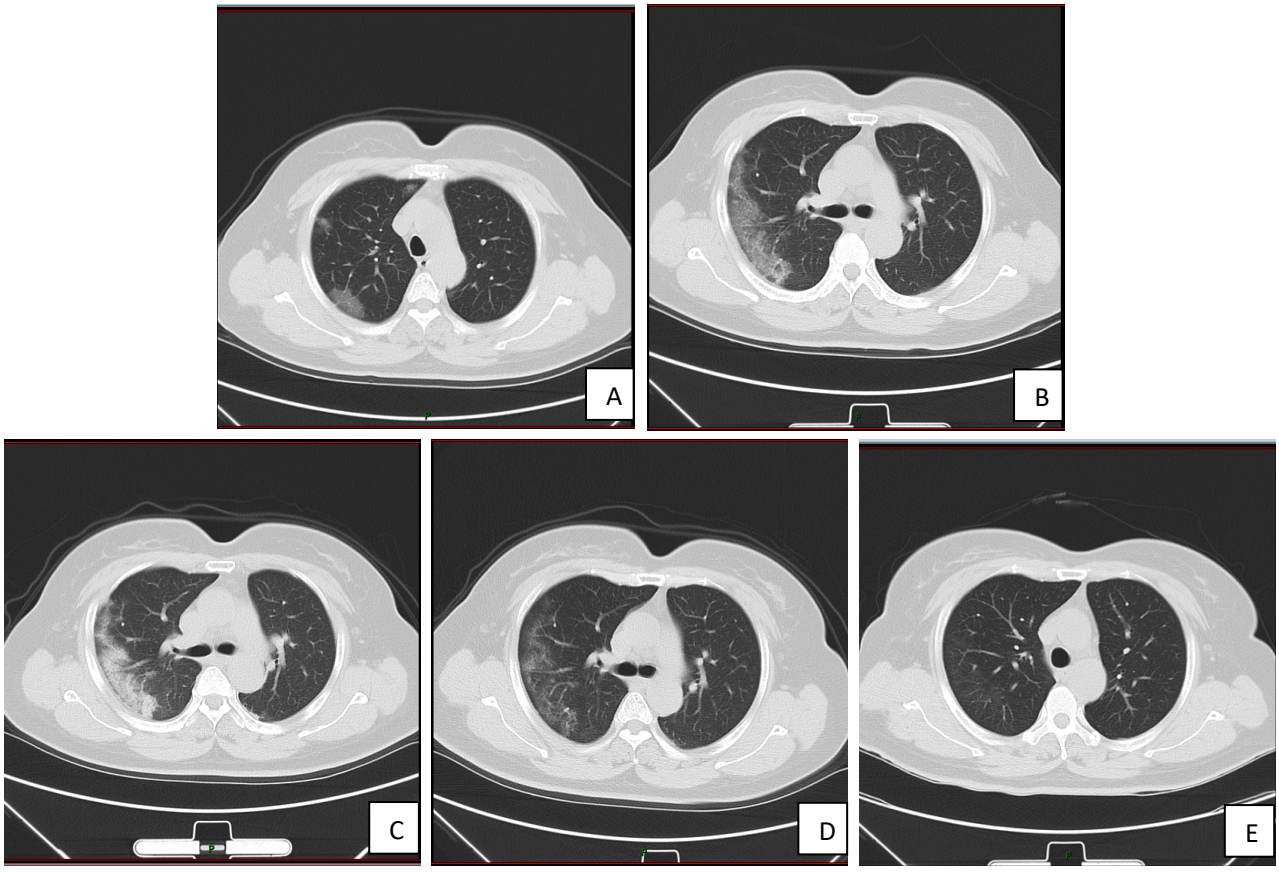

Figure 6. CT changes in the lung after treatment in case 3 patient with covid-19. A. January 31st (first CT examination after initial admission): multiple patchy ground glass density shadow; **B.** February 4th: double lung lesion range increased, lesion progression; **C.** February 7th: double lung lesion range continued to increase; **D.** February 15th: original lesions in both lungs narrowed more than before; **E.** March 19th: double lung lesion range significantly narrowed, inflammation has absorption.

Chinese medicine prescriptions in the Qing Dynasty, believed that the whole book of *Shang Han Lun (Treatise on Febrile Diseases Caused by Cold)* can be summarized by six words "protecting stomach qi, saving body fluid." In Huanglong Decoction and Shenfu Yangying Decoction proposed by *Wen Yi Lun (On Plagues)*, Panax ginseng was used for strengthening vital qi to treat people with both deficiency and excess syndromes, and with deficiency of the spleen and stomach. Therefore, regardless of typhoid or warm diseases, restoring the normal functions of the spleen and stomach is key to the treatment. Furthermore, the spleen corresponds to wet earth, the stomach corresponds to dry earth, the spleen and stomach are exterior and interior to each other, their ascending and descending are interdependent, and their ingestion and transformation functions are complementary. They are at the central hub of the human body. The spleen is responsible for transforming water and essence from grains into body fluid. Spleen deficiency results in weakness in the transformation, and retention of water-dampness in the body. When water-dampness is accumulated for a long time, dampness-heat and turbid phlegm intensify. The stomach intakes and digests food. Spleen deficiency causes weakness in transformation by the middle warmer qi, resulting in fluid retention in the body, as well as food indigestion and qi stagnation. Deficiency of the spleen and stomach causes retention of water, body fluid, and damp phlegm. "The spleen is the origin of phlegm production, and the lungs are the containers to store phlegm." Phlegm-dampness accumulates in the lungs, and cold-damp epidemic pathogenic factors in nature combine with phlegm-dampness in the lungs, thus inducing diseases. Therefore, both the spleen and stomach should be attended to during treatment.

In the process of treating patients with COVID-19, western medicine supplements water, electrolytes, the three major nutrients, etc., intravenously. At present, it has been found that excessive rehydration can aggravate pulmonary interstitium exudation, which leads to exacerbation of dyspnea [4]. From the perspective of TCM, the liquid entering the human body needs to be warmed up and transpired by yang qi to be transformed to qi. Yang deficiency results in weakness in warming up, causing liquid to become retained fluid and phlegm-dampness, which in turn become pathological products and accelerate the progression of diseases. Wang Gang [5] believed that coldness, dampness, and epidemic pathogenic factors are the three aspects of TCM etiologies and pathogenesis of COVID-19, and damp pathogenic factors are also involved in the progression and evolvement of the disease as a pathological product, so damp pathogenic factors are the most important core of disease development and progression, which is consistent with expert opinions [6,7]. Professor Hong Guangxiang pointed out that deficiency of pectoral qi is a significant internal cause of the development and progression of chronic obstructive pulmonary disease, which can be treated by tonifying pectoral qi in the whole disease course [8]. Professor He Fengling et al. believed that for patients with acute exacerbation of chronic obstructive pulmonary disease, invigorating qi, promoting blood circulation and dispersing blood stasis can effectively alleviate the clinical symptoms of patients and improve the treatment outcome [9]. The clinical manifestations of severe COVID-19 cases are consistent with those of chronic obstructive pulmonary disease. Therefore, the authors believe that deficiency of pectoral qi as well as intermingled phlegm and dampness are the important factors leading to COVID-19.

Professor Li Xiuhui believed that the combination of disease, syndrome, and symptoms is the TCM method for treating COVID-19 [10]; tonification should not be delayed, and the concept of strengthening body resistance and eliminating pathogenic factors should be implemented throughout the treatment process. Patients who retest positive mostly have mild conditions. Due to the recurrence of disease, the whole disease course is relatively long, so the patients suffer from severe damage to vital qi, and most have deficiency of lung and spleen qi, as well as intermingled phlegm and dampness. In the treatment process, we learned from Li Xiuhui's thoughts in treating COVID-19, and the treatment ideas of invigorating qi and removing toxicity, as well as invigorating the spleen and eliminating phlegm were implemented in the treatment process of the above patients. In addition, drugs for strengthening the spleen, invigorating qi, and promoting blood circulation were also applied.

According to the experience that tongue diagnosis should be emphasized for warm diseases, the authors took the changes in tongue features as one of the indicators to judge the efficacy. Case 1 involved an elderly patient with multiple chronic diseases, and was a moderate COVID-19 case with few clinical symptoms. The prominent features were yellow greasy tongue coating and tooth marks on the edge of the tongue. The patient defecated once or twice a day. He belonged to lung stagnation caused by damp pathogenic factors, and dampness mixed with heat. Therefore, Rhizoma Atractylodis, which is bitter and warm, was given for eliminating dampness, Plantago major for draining dampness, Scutellaria baicalensis for draining dampness and resolving turbidity to expel the pathogenic factors, Semen Armeniacae Amarum for unblocking lung qi, Fritillaria thunbergii for resolving phlegm, and especially Codonopsis pilosula for tonifying qi and regulating the spleen. The whole prescription can ventilate the upper warmer, unblock the middle warmer, and promote water drainage through the lower warmer, thereby achieving dispersion of pathogenic factors through separated

TMR
doi: 10.53388/ghr2020-12-023

routes. After taking the prescription for several days, the patient's tongue coating turned thin and white, suggesting that the dampness was eliminated. Although the patient's virus nucleic acid had not turned negative, the lung CT findings had improved, and the clinical symptoms had been alleviated, which also demonstrated that combined treatment with TCM had achieved certain effects.

Cases 2 and 3 were moderate COVID-19 cases showing residual pathogenic factors, deficiency of lung and spleen qi, and persisting phlegm-dampness. The treatment approaches were invigorating qi and removing toxicity, as well as strengthening the spleen and resolving phlegm. The prescription included Radix Glehniae Littoralis, Hedyotis diffusa, Phyllanthus urinaria, Rhizoma Imperata Cylindrical, and Codonopsis pilosula for nourishing yin and invigorating qi to strengthen body resistance, Semen Coix lacryma-jobi for draining dampness and resolving turbidity to expel the pathogenic factors, as well as bran-fried Semen Coix lacryma-jobi and Hordei Fructus Germinatus for reducing body fluid excretion from the lungs. After taking the prescription for several days, their conditions improved. For deficiency of lung and spleen qi, Codonopsis pilosula, Radix Glehniae Littoralis, and Hordei Fructus Germinatus were given for strengthening the spleen, invigorating qi, and nourishing yin. Concomitantly, Patrinia scabiosaefolia, Rhizoma Phragmitis Communis, Magnolia officinalis stir-baked with Zingiber officinale liquid extract, Semen Coix lacryma-jobi, and Trichosanthes kirilowii were given for clearing the lungs, dredging the chest, regulating qi, and resolving phlegm, and Radix Salviae Miltiorrhizae, and Semen Pruni Persicae were given for promoting blood circulation and dredging collaterals. According to the clinical experience, patients with COVID-19 who retest positive need to be treated with combined TCM. Adding drugs promoting blood circulation and resolving phlegm to those invigorating qi and astringing yin can improve the symptoms, alleviate lung inflammation, prevent the condition of inner blocking causing collapse, and promote disease recovery.

References

1. WHO. Rolling updates on coronavirus disease (COVID-19). (2020-01-30) [2020-02-20]. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen.
2. WHO. Rolling updates on coronavirus disease (COVID-19). (2020-02-11) [2020-02-20]. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen.
3. Xia WG, An LQ, Zheng CJ, et al. Clinical study on 34 cases of novel coronavirus treated with integrated traditional Chinese and western medicine. [Published online February 12, 2020]. *J Tradit Chin Med*. 2020. 1-7. http://kns.cnki.net/kcms/dctai/11.2166.R.20200217.1502.004.html.
4. Ma JJ, Chen M, Wang YG. Summary of TCM syndrome differentiation and treatment of 2019-nCoV. [Published online February 07, 2020]. *Beijing Tradit Chin Med*. 2020. http：//Kns.cnki.net/kcms/detail/11.5635.R.20200207.1616.002.html.
5. Wang G, Jin JS. A preliminary study of TCM knowledge in novel coronavirus. *Tianjin J Tradit Chin Med*. 2020; 37(3): 247-250.
6. Miao Q, Cong XD, Wang B, et al. Traditional Chinese medicine recognition and thinking of COVID-19. [Published online February 08, 2020]. *J Tradit Chin Med*. 2020. http://kns.cnki.net/kcms/detail/11.20.
7. Fan FY, Fan XR, Wang XZ, et al. On traditional Chinese medicine characteristics as well as prevention and treatment of COVID-19 in Hunan Province from "damp pathogenic factors mixed with dryness". [Published online February 06, 2020]. *J Tradit Chin Med*. 2020. http://kns.cnki.net/kcms/detail/11.2166.r.20200206.1256.004.html.
8. Hong GX. Some thoughts on treating chronic obstructive pulmonary disease with traditional Chinese medicine. *Chin J Tradit Chin Med Pharm*. 2005;20(1):16-19.
9. He FL, Zhu GX. Clinical research on Yiqi Huoxue Huayu Decoction in treating acute exacerbation of chronic obstructive pulmonary disease. *Clinical J Chin Med*. 2019;11(1):7l-72.
10. Li XH, Li L, Wang XJ, et al. Clinical cases of coronavirus disease 2019 treated by traditional Chinese medicine syndrome differentiation. *Chin J Tradit Chin Med Pharm*. 2020;(4):1-7.