Journal of Clinical and Nursing Research, 2026, Volume 10, Issue 7
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Clinical Study on Xinhuanglong Decoction in Treating Severe Pneumonia with Qi-Yin Deficiency Syndrome Based on the Theory of "Lung and Large Intestine Being Interrelated"

Xiaoyan Wang

Longquanyi District Hospital of Traditional Chinese Medicine, Chengdu 610000, Sichuan, China

Abstract: Guided by the TCM theory of "the lung and large intestine are interrelated", this paper analyzes severe pneumonia with Qi-Yin deficiency syndrome. Combined with the connotation of Zang-Fu viscera correlation theory and modern research on lung-intestine correlation, it sorts out the core pathogenesis of simultaneous lung and intestinal disease complicated with deficiency of both Qi and unobstructed Fu Qi in this disease, and elaborates the formula logic and clinical application value of Xinhuanglong Decoction for replenishing Qi and nourishing Yin, unblocking Fu organs and clearing heat. Most patients with severe pneumonia are accompanied by varying degrees of gastrointestinal injury and severe systemic inflammatory response. The elderly and patients with chronic illnesses and physical weakness are more prone to develop a complicated pathogenesis of intermingled deficiency and excess. With simultaneous purgation and tonification, Xinhuanglong Decoction can effectively improve gastrointestinal motility and reduce the level of inflammatory indicators, shorten the duration of mechanical ventilation and ICU hospitalization, and is more suitable for elderly and chronically ill patients with severe pneumonia of Qi-Yin deficiency syndrome. This prescription embodies the TCM diagnosis and treatment idea of simultaneous treatment of lung and intestine, possesses high clinical application potential, and can provide references for integrated traditional Chinese and Western medicine treatment of severe pneumonia, worthy of further verification and promotion through large-sample clinical studies.

Keywords: Lung and large intestine being interrelated; Xinhuanglong decoction; Severe pneumonia; Qi-Yin deficiency syndrome; Clinical research

Online publication: Jul 31, 2026

1. Introduction

The TCM theory of "the lung and large intestine are interrelated" holds that the lung and large intestine coordinate physiologically and interact pathologically. A large number of clinical studies have confirmed that treating lung diseases starting from the intestine can achieve favorable auxiliary therapeutic effects [1].

As a representative TCM formula for strengthening body resistance and unblocking fu organs, Xinhuanglong Decoction can replenish Qi, nourish Yin, unblock intestines and discharge heat simultaneously, which exactly corresponds to the pathogenesis of excess pathogen complicated with deficient vital Qi [2]. Based on the theory of "the lung and large intestine are interrelated" and combined with existing clinical research evidence, this paper analyzes the efficacy and value of Xinhuanglong Decoction in treating severe pneumonia with Qi-Yin deficiency syndrome, so as to provide references for clinical treatment.

2. Pathogenesis correlation between the theory of "Lung and large intestine being interrelated" and severe pneumonia

2.1. TCM connotation of the theory of "lung and large intestine being interrelated"

The theory of "the lung and large intestine are interior-exterior related" is one of the core contents of TCM Zang-Fu correlation theory. From the perspective of meridian circulation, the Lung Meridian of Hand-Taiyin originates from the middle jiao and runs downward to connect with the large intestine; the Large Intestine Meridian of Hand-Yangming connects with the lung meridian mutually, forming an interior-exterior correspondence relationship [3]. The lung's function of descending and purifying Qi drives body fluid downward to moisten the large intestine and facilitate the transportation of waste by the large intestine; normal transportation of the large intestine enables turbid Qi to descend continuously, providing a passage for the lung to descend Qi. Pathologically, lung diseases will directly affect the large intestine. Therefore, when TCM physicians treat lung diseases, especially severe patients with intestinal obstruction, they often regulate the intestine at the same time, namely simultaneous treatment of lung and intestine [4].

2.2. Modern mechanism of severe pneumonia complicated with gastrointestinal injury

The modern gut-lung axis theory clarifies the bidirectional regulatory relationship between the lung and intestine. Under severe infection and stress, patients with severe pneumonia suffer reduced gastrointestinal blood perfusion, gastrointestinal mucosal ischemia and hypoxia, followed by edema, erosion, and impaired barrier function [5]. The intestine is the human body's largest "bacteria reservoir" and "endotoxin reservoir". After the intestinal mucosal barrier is damaged, intestinal bacteria and endotoxins translocate into the blood circulation, triggering a systemic inflammatory response and even aggravating lung injury. This mutual influence mechanism between the intestine and lung coincides with the TCM theory of "the lung and large intestine are interrelated".

2.3. Pathogenesis characteristics of severe pneumonia with concurrent Qi-Yin deficiency and obstructed Fu Qi

From the TCM perspective, severe pneumonia belongs to "wind-warm lung heat". At the early stage, it is mostly an excess syndrome manifested as phlegm-heat obstructing the lung. As the disease progresses, pathogenic heat continuously consumes Qi and Yin. If patients are elderly and physically weak or suffer from chronic underlying diseases with inherently insufficient vital Qi, a state of excessive pathogen complicated with deficient vital Qi, intermingled deficiency and excess will develop. From the connection between lung and large intestine, Qi of the lung is consumed by pathogenic heat and becomes deficient, leading to insufficient power for lung Qi descent, which fails to drive the large intestine to transport waste normally; meanwhile, pathogenic heat invades the intestine and consumes intestinal body fluid, resulting in dry and

hard stool and finally obstructed Fu Qi [6]. After Fu Qi is blocked, waste and turbid Qi cannot be discharged downward but fumigate the lung upward, further aggravating lung Qi stagnation. Typical manifestations include lassitude, dry mouth with insufficient fluid, abdominal distension and constipation, red tongue with little or dry yellow coating, thin and weak or thin rapid pulse [7].

3. Formula connotation and functional logic of Xinhuanglong Decoction

3.1. Formula origin and compatibility ideas

Xinhuanglong Decoction is recorded in *Treatise on Warm Diseases* written by Wu Jutong, a physician of the Qing Dynasty. Wu Jutong pointed out that for Yangming warm disease patients whose stool remains unobstructed after conventional purgation, one major cause is extreme deficiency of vital Qi that cannot drive medicines to take effect, for which Xinhuanglong Decoction is suitable.

Xinhuanglong Decoction is modified from Huanglong Decoction in *Six Books on Cold Damage* by Tao Jie'an. The original Huanglong Decoction adopts Major Chengqi Decoction to purge intestinal excess, combined with Ginseng and Angelica sinensis to tonify Qi and blood, suitable for intestinal excess complicated with Qi and blood deficiency. However, Wu Jutong held that warm diseases consume Yin fluid severely over time, and *Aurantii Fructus Immaturus* and *Magnoliae Officinalis* Cortex in the original formula have dry and violent properties that further consume Qi and Yin, which are unsuitable for patients with severe Yin fluid deficiency. Therefore, he removed *Aurantii Fructus Immaturus* and *Magnoliae Officinalis* Cortex, adopted Tiaowei Chengqi Decoction (*Rhei Radix et Rhizoma*, *Natrii Sulfas*, *Glycyrrhizae Radix et Rhizoma*), added *Rehmanniae Radix*, *Scrophulariae Radix* and *Ophiopogonis Radix* from Zengye Decoction to nourish Yin and promote fluid production, and matched Ginseng to tonify Qi, *Angelica sinensis* to nourish blood, *Stichopus Japonicus* to replenish fluid and soften hard masses, and *Zingiberis Rhizoma Recens* juice to harmonize the stomach and relieve vomiting. The whole formula realizes simultaneous purgation and tonification, perfectly matching the syndrome of severe pneumonia with Qi-Yin deficiency and obstructed Fu Qi.

3.2. Functional logic based on the theory of "lung and large intestine being interrelated"

Based on the theory of "the lung and large intestine are interrelated", the therapeutic effects of Xinhuanglong Decoction are reflected in two aspects.

First, unblocking the intestine to treat the lung. *Rhei Radix et Rhizoma* and *Natrii Sulfas* can unblock the large intestine Fu Qi and discharge waste and toxins from the intestine. Unobstructed Fu Qi prevents turbid Qi from retrograding upward to attack the lung, restoring normal lung Qi descent and relieving dyspnea, cough, and chest tightness accordingly [8]. Improvement of the intestinal barrier function inhibits massive translocation of bacteria and endotoxins into the blood, alleviates systemic inflammatory response and facilitates control of pulmonary infection.

Second, strengthening vital Qi to assist the lung. Medicinals such as Ginseng, *Rehmanniae Radix* and *Scrophulariae Radix* replenish consumed Qi and Yin of the lung. Sufficient lung Qi restores the descending function and better promotes large intestine transportation. Recovery of vital Qi enhances the body's self-resistance to pathogens and accelerates overall disease recovery.

4. Clinical evidence of Xinhuanglong Decoction in treating severe pneumonia-related diseases

At present, special clinical studies specifically targeting Xinhuanglong Decoction for severe pneumonia are relatively limited. Existing evidence falls into two categories: first, abundant clinical studies on similar fu-unblocking and vital Qi-tonifying formulas provide indirect evidence from the therapeutic method perspective; second, relevant research on Xinhuanglong Decoction in the treatment of critical illnesses complicated with gastrointestinal injury offers extended references. The two types of evidence jointly provide theoretical and clinical ideas for the application of Xinhuanglong Decoction in severe pneumonia with Qi-Yin deficiency syndrome.

4.1. Efficacy in improving gastrointestinal function

Gastrointestinal dysfunction is the most common complication of severe pneumonia and a vital factor affecting prognosis. The application of Gualou Dahuang Decoction and other Fu-unblocking formulas in severe pneumonia has confirmed definite clinical benefits brought by improved intestinal function [9]. Xuanfei Tongfu Decoction also achieves stable clinical efficacy as adjuvant therapy for middle-aged and elderly severe pneumonia complicated with gastrointestinal dysfunction [10]. One study adopted Huanglong Decoction for elderly severe pneumonia patients complicated with toxic paralytic ileus; after 72 hours of treatment, the total effective rate reached 90% in the treatment group versus 70% in the control group, with significantly better recovery of bowel sounds in the treatment group. Another study treated severe pneumonia patients complicated with acute gastrointestinal injury with Modified Xuanbai Chengqi Decoction; after 7 days of treatment, the total effective rate was 86.84% in the treatment group and 63.16% in the control group. The treatment group had lower gastrointestinal dysfunction scores, higher daily enteral nutrition feeding volume, and lower intra-abdominal pressure [11]. The above studies verify that simultaneous lung-intestine treatment and the method of unblocking fu organs and clearing heat can effectively improve gastrointestinal function in severe pneumonia patients. Xinhuanglong Decoction reinforces Qi and Yin tonification on the basis of fu unblocking, avoiding further consumption of Qi and Yin caused by purgation, hence possessing stronger adaptability and clinical advantages for patients with Qi-Yin deficiency [12]. A study adopted Xinhuanglong Decoction to treat cancerous intestinal obstruction of Qi-Yin deficiency type, and the results showed that the time to first exhaust and defecation, as well as the relief time of abdominal distension and abdominal pain, were significantly shorter in the treatment group, with faster diet recovery. This indicates that Xinhuanglong Decoction can effectively improve intestinal transportation function and relieve obstructed Fu Qi symptoms in patients with Qi-Yin deficiency. Its mechanism conforms to the pathogenesis of severe pneumonia with Qi-Yin deficiency and obstructed Fu Qi, providing reasonable clinical references for its application in severe pneumonia patients with gastrointestinal injury.

4.2. Efficacy in alleviating systemic inflammatory response

The severity of severe pneumonia correlates with the level of systemic inflammatory response; decreased inflammatory indicators usually indicate disease improvement [13]. One study observed the influence of Huanglong Decoction on inflammatory indicators in elderly severe pneumonia patients. After 72 hours of treatment, high-sensitivity C-reactive protein and erythrocyte sedimentation rate in the treatment group were markedly lower than those in the control group, and white blood cell count decreased significantly compared with pre-treatment levels [14]. Another study treated mechanically ventilated severe pneumonia patients with

Tiaowei ChengQi Decoction. After treatment, inflammatory indicators including white blood cell count, C-reactive protein, procalcitonin, serum amyloid A, and interleukin-6 decreased more prominently in the treatment group, accompanied by lower Acute Physiology and Chronic Health Evaluation II scores and Clinical Pulmonary Infection Scores.

These results demonstrate that the fu-unblocking therapy can reduce toxin absorption by improving intestinal function, thereby alleviating systemic inflammation and lowering disease severity. Combined with the formula characteristics of Xinhuanglong Decoction, it is speculated that this formula can reduce inflammatory sources via fu unblocking and regulate the body's immune state through vital Qi tonification, achieving more sustained inflammatory control without damaging vital Qi due to purgation, making it more suitable for critically ill patients with Qi-Yin deficiency.

4.3. Efficacy in improving prognosis

Duration of mechanical ventilation and ICU hospitalization are core indicators for evaluating the prognosis of severe pneumonia patients. A study treated severe pneumonia patients complicated with acute gastrointestinal injury with Modified Xuanbai Chengqi Decoction, and the results showed that the treatment group had significantly shorter mechanical ventilation time and ICU hospitalization days. Improved gastrointestinal function enables patients to receive sufficient enteral nutrition earlier with better physical recovery, while reduced intra-abdominal pressure lessens respiratory restriction and facilitates earlier ventilator weaning [15]. Inferred from the therapeutic logic of simultaneous vital Qi tonification and Fu unblocking, Xinhuanglong Decoction can accelerate vital Qi recovery in patients with Qi-Yin deficiency, stabilize the gastrointestinal function recovery process, and exert positive effects on shortening ventilation and hospitalization cycles.

5. Precautions for clinical application

5.1. Syndrome differentiation key points and applicable population

Xinhuanglong Decoction is indicated for Qi-Yin deficiency complicated with obstructed Fu Qi. Key syndrome differentiation points must be mastered in clinical application. Patients must present definite manifestations of obstructed Fu Qi such as abdominal distension, constipation, weakened bowel sounds and feeding intolerance, as well as Qi-Yin deficiency manifestations including lassitude, dry mouth, dry skin, oliguria, pale or red tongue with little coating, thin weak pulse. For patients with pure excess syndrome of phlegm-heat fu excess without obvious vital Qi deficiency (e.g., young, robust patients with short disease course, high fever and dyspnea accompanied by constipation), Xuanbai Chengqi Decoction or Major Chengqi Decoction focusing on eliminating pathogens are more appropriate, without premature application of tonic medicinals.

5.2. Medication methods and precautions

The administration method of Xinhuanglong Decoction shall be adjusted according to patients' actual conditions, including frequent small doses, nasal feeding or enema administration. Dosages of *Rhei Radix et Rhizoma* and *Natrii Sulfas* shall be controlled carefully during medication. Critically ill patients have fragile gastrointestinal function, and excessive dosages easily induce severe diarrhea that further consumes Qi and Yin. Medication shall be discontinued promptly after unobstructed defecation instead of long-term administration. After Fu Qi is unblocked, spleen-stomach tonifying formulas can be adopted to regulate the

spleen and stomach and consolidate therapeutic effects.

6. Conclusion

The theory of "the lung and large intestine are interrelated" serves as an important theoretical basis for TCM treatment of severe pneumonia. Severe pneumonia with Qi-Yin deficiency syndrome belongs to simultaneous lung-intestine disease of intermingled deficiency and excess, where lung Qi-Yin deficiency and large intestine fu Qi obstruction interact mutually. With the therapeutic methods of replenishing Qi and nourishing Yin, unblocking fu organs and clearing heat, Xinhuanglong Decoction realizes simultaneous purgation and tonification as well as simultaneous lung-intestine treatment, possessing stronger adaptability for patients with prominent Qi-Yin deficiency. However, special research on this formula remains insufficient, and its exact efficacy needs verification via large-sample studies. Clinical application requires accurate syndrome differentiation and rational dosage adjustment, with medication stopped once symptoms are relieved.

Funding

A Prospective Clinical Study on the Treatment of Severe Pneumonia with the Method of Nourishing Yin and Clearing Heat based on the Theory of "Lung in Harmony with Large Intestine" (Project No.: WJKY2025034)

Disclosure statement

The author declares no conflict of interest.

References

[1] Wang P, Gong Z, Shi Y, et al., 2025, Effects of Xuanbai ChengQi Decoction Based on "Simultaneous Lung-Intestine Treatment" on TLRs Expression and Inflammatory Response in Lung and Intestine Tissues of Sepsis Mice. World Journal of Integrated Traditional and Western Medicine, 20(12): 2383–2390.

[2] Ren J, Liu J, Ma Y, 2025, Clinical Study on Xinhuanglong Decoction Combined with Western Medicine in Treating Severe Acute Organophosphorus Poisoning of Toxin-Heat Accumulation Type. Journal of Wannan Medical College, 44(3): 254–257 + 262.

[3] Wang Z, 2025, Discussion on the Influence of Acupuncture on Severe Pneumonia Sepsis Patients Complicated with Acute Gastrointestinal Injury Based on the Gut-Lung Axis, thesis, Beijing University of Chinese Medicine.

[4] Sun Y, Zhao J, Zhang R, 2025, Exploration on Theoretical Connotation and Clinical Application of "The Lung and Large Intestine Are Interior-Exterior Related". Clinical Journal of Chinese Medicine, 17(12): 109–114.

[5] Wang S, Zhang Q, Wu Y, 2024, Analysis of TCM Syndrome Elements of Severe Pneumonia Complicated with Acute Gastrointestinal Injury. Emergency Journal of Traditional Chinese Medicine, 33(12): 2110–2114.

[6] Li S, Li Z, Wang S, et al., 2026, Xinhuanglong Decoction for Cancerous Intestinal Obstruction of Qi-Yin Deficiency Type. Acta Chinese Medicine, 1–6.

[7] Huang J, Wang H, Liu J, et al., 2024, Exploration on Treating Severe Pneumonia Starting from the Intestine. Emergency Journal of Traditional Chinese Medicine, 33(7): 1186–1189 + 1192.

[8] Li N, Yao F, Ye D, 2024, Research Progress on Application of Weijing Decoction in Lung Diseases. World Journal

of Traditional Chinese Medicine, 19(3): 426–431 + 436.

[9] Wang T, Deng Y, Sun X, 2024, Randomized Controlled Study of Gualou Dahuang Decoction in Treating Severe Pneumonia. Chinese Journal of Integrated Traditional and Western Medicine, 44(4): 407–413.

[10] Xu B, 2023, Clinical Efficacy of Xuanfei Tongfu Decoction as Adjuvant Therapy for Middle-Aged and Elderly Severe Pneumonia Complicated with Gastrointestinal Dysfunction. Inner Mongolia Journal of Traditional Chinese Medicine, 42(10): 26–27.

[11] He J, Mao Z, Song P, 2022, Clinical Study of Modified Xuanbai ChengQi Decoction in Treating Severe Pneumonia Complicated with Acute Gastrointestinal Injury. Journal of Nanjing University of Chinese Medicine, 38(2): 103–108.

[12] Li Z, Lai F, Zhang Y, 2020, Exploration on Application Ideas of Xinhuanglong Decoction in Critical Illness Treatment. Jiangsu Journal of Traditional Chinese Medicine, 52(6): 77–80.

[13] Miao Q, Liu Q, Xing J, 2019, Observation on Efficacy of Xinhuanglong Decoction in Treating ICU Sepsis Patients with Gastrointestinal Dysfunction. Modern Doctor of China, 57(32): 123–126.

[14] Ma J, Ouyang W, 2017, Clinical Observation of Huanglong Decoction in Treating Elderly Severe Pneumonia Complicated with Toxic Paralytic Ileus. Hebei Journal of Traditional Chinese Medicine, 39(1): 70–72.

[15] Zhang Y, Hao J, Guo P, 2017, Efficacy Observation of Integrated Traditional and Western Medicine Treatment Based on “The Lung and Large Intestine Are Interior-Exterior Related” in Children with Severe Pneumonia. Emergency Journal of Traditional Chinese Medicine, 26(3): 487–490.