

Clinical Report

Protection Strategy and TCM Diagnosis and Treatment Plan for Patients with New Coronavirus Pneumonia

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Abstract

AIM: To explore the etiology, transmission route and risk factors of new coronavirus pneumonia (Corona Virus Disease-2019, COVID-19), and put forward the corresponding protective strategies and the Traditional Chinese Medicine (TCM) diagnosis and treatment plan.

Methods: Class B infectious diseases, which COVID-19 included in the Law of the People's Republic of China on Prevention and Control of Infectious Diseases, were managed according to Class A infectious diseases and the epidemic prevention and control work was carried out in an all-round way. Based on the basic theory and traditional methods of strengthening Qi and dispelling evil in TCM, we have carried out scientific analysis and research on the new coronary virus interpersonal transmission pathway, pathogenic factors, pathological mechanism and clinical manifestations, and put forward the TCM diagnosis and treatment plan, which is popularized and applied in the treatment of new coronary virus pneumonia.

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Results: According to the severity of COVID-19 and different clinical manifestations, differentiation and treatment for syndrome was carried out. And make practical and practical, the practice proved that the clinical effect of TCM diagnosis and treatment program is better.

Conclusion: In accordance with the general requirements of scientific prevention and control and precise measures, the protection strategy is formulated scientifically and accurately, and the diagnosis and treatment plan of new coronavirus pneumonia treated by traditional Chinese medicine is popularized actively.

Keywords: COVID-19; Protection strategy; Scientific precision; TCM diagnosis and treatment plan

Introduction

The new coronavirus pneumonia (COVID-19), has now spread in all world, a number of countries around the world have appeared the new crown pneumonia cases. COVID-19 is an acute respiratory infectious disease, has been included in the "People's Republic of China Infectious Disease Prevention and Control Law" class B infectious disease, according to class-A infectious disease management. With the strengthening of national prevention and control, the further understanding of diseases and the accumulation of experience in diagnosis and treatment, the mortality rate of patients has become lower and lower, so as to avoid nosocomial infection to the greatest extent. In order to further standardize and strengthen the clinical management of COVID-19 and control effectively the symptoms of patients, combined with the experience of diagnosis and treatment for new crown pneumonia, this diagnosis and treatment plan was formulated [1-7].

Etiology and epidemiology

Etiology

The new coronavirus is a single-stranded positive chain RNA virus, which belongs to the β family. It is a kind of pathogen that mainly causes respiratory and intestinal diseases. The capsule, often pleomorphic, has a diameter of 60~140 nm the present study shows more than 85% homology with bat SARS like coronavirus (bat-SL-CoVZC45). The understanding of the physical and chemical properties of coronavirus comes from the study of SARSCoV and MERS-CoV. The virus is sensitive to UV and heat, 56°C 30 min ether, 75% ethanol, chlorine disinfectant, peracetic acid and chloroform and other lipid solvents can effectively inactivate the virus.

Epidemiology

- Source of infection: The main source of infection is the new coronavirus infection patients, asymptomatic infection may become the source of infection.
- Means of transmission: The main means of transmission is through

the respiratory tract fly and close contact transmission. Aerosol and digestive tract transmission routes may also occur.

- Susceptible population: The population is generally susceptible.

Clinical features

Clinical manifestations

The incubation period of this disease is generally 1~14 d, mostly 3~7, very few can reach 24 days. The main manifestations are fever, fatigue, dry cough. Some patients were accompanied by nasal congestion, runny nose, sore throat, myalgia and diarrhea. This disease is mainly divided into light, common, severe and critical, among which light patients only show low fever, slight fatigue and no pneumonia. The general imaging examination showed pneumonia. Severe patients often develop respiratory distress or hypoxemia after one week of onset, and severe patients can quickly progress to acute respiratory distress syndrome, septic shock, difficult to correct metabolic acidosis and the appearance of coagulation dysfunction and multiple organ failure. The course of severe and critical patients may be moderate or low fever, or even no obvious fever. The prognosis of most patients is good, and a few patients are critically ill.

Laboratory tests

- **General examination:** The total number of white blood cells in early peripheral blood was normal or decreased, the lymphocyte count was reduced, some patients could have increased liver enzyme, lactate dehydrogenase, muscle enzyme and myoglobin, and some critically ill patients could see increased troponin. Most patients C elevated reactive protein and erythrocyte sedimentation rate, procalcitonin was normal. Dimer D-increased and peripheral blood lymphocytes decreased progressively in severe cases.

- **Etiology and serological examination**

Pathological examination: The new coronavirus nucleic acid can be detected in nasopharyngeal swabs, sputum, lower respiratory tract secretions, blood, feces, etc. Detection of lower respiratory tract specimens (sputum or airway extracts) is more accurate.

Serological examination: The new coronavirus specific IgM antibody appeared positive after 3~5 d and the titer of IgG antibody increased 4 times or more in the recovery period.

Chest imaging

In the early stage, there were multiple small patch and interstitial changes, which were obvious in the outer lung zone. And then developed into double lung multiple grinding glass shadow, infiltration shadow, severe can appear lung consolidation, pleural effusion is rare.

Diagnosis and differential diagnosis

Diagnosis

With epidemiological history and clinical manifestations, one of the following etiological or serological evidence is available:

- Real-time fluorescence RT-PCR to detect new coronavirus nucleic acid positive;
- Virus gene sequencing, highly homologous to known new coronavirus;
- Serum new coronavirus specific IgM antibody and IgG antibody

positive; serum new coronavirus specific IgG antibody from negative to positive or recovered;

- Times higher than acute phase.

Differential diagnosis

- Differentiate from upper respiratory tract infections caused by other viruses;
- Differentiate from influenza virus, adenovirus, respiratory syncytial virus and other known viral pneumonia and mycoplasma pneumoniae infections. Also differentiate from non-infectious diseases such as vasculitis, dermatomyositis and organic pneumonia.

Treatment

General treatment

- Bed rest, strengthen support treatment; pay attention to water, electrolyte balance; closely monitor vital signs, finger oxygen saturation, etc.
- Close detection of vital signs. Timely delivery of effective oxygen therapy, including nasal catheter, mask oxygen and transnasal high flow oxygen therapy.

Antiviral therapy

α -interferon, lopinavir/litonavir, ribavirin, chloroquine phosphate, and abidol can be tested. Pay attention to the problems of adverse reactions, contraindications and interaction with other drugs mentioned above.

Treatment of antimicrobial agents

Avoid blind or inappropriate use of antimicrobials, especially combined use of broad-spectrum antimicrobials.

Treatment of severe and critical cases

Treatment principles

On the basis of symptomatic treatment, we should actively prevent and cure complications, treat basic diseases, prevent secondary infections, and carry out organ function support in time.

Respiratory support therapy

- **Oxygen therapy:** nasal catheter or mask oxygen inhalation and timely assessment of respiratory distress or hypoxemia relief.
- High flow nasal catheter oxygen therapy or non-invasive mechanical ventilation.
- Invasive mechanical ventilation.
- **Rescue treatment:** for severe patients, lung retention is recommended.

Loop support

On the basis of adequate fluid resuscitation, improve microcirculation, use vasoactive drugs, closely monitor changes in patient blood pressure, heart rate, and urine volume, as well as lactate and alkali residues in arterial blood gas analysis, and conduct noninvasive or invasive hemodynamic monitoring if necessary.

Renal failure and renal replacement therapy

Renal function injury in critically ill patients should actively seek

the causes of renal function injury. For the treatment of patients with renal failure, attention should be paid to humoral balance, acid-base balance and electrolyte balance. In nutritional support therapy, attention should be paid to nitrogen balance, calorie and trace element supplementation. Severe patients can choose continuous renal replacement therapy.

Rehabilitation plasma treatment

It is suitable for patients with rapid progression, severe and critical disease.

Blood purification therapy

The blood purification system includes plasma exchange, adsorption, perfusion, plasma filtration and so on, reducing the inflammatory response to the body damage.

Immunotherapy

For patients with extensive lung lesions and severe patients, and laboratory detection of elevated levels of IL-6, the trial of torzumab treatment.

Treatment with pain

Analgesic treatment

For patients with definite diagnosis, fever with headache and systemic soreness, ibuprofen sustained-release capsule can be used to relieve heat and relieve pain; for the pain after tracheotomy in rescue, ibuprofen sustained-release capsule is preferred, if not, tramadol can be used, and opioid analgesics if necessary. Antidepressants can be used for pain associated with anxiety caused by isolation in convalescent patients; if anxiety is severe, use duloxetine.

Physical therapy

Exercise therapy, physical factor therapy and manipulation therapy, etc.

Traditional Chinese Medicine Treatment

Jinhua Qinggan granule, Lianhua Qingwen capsule (granule), Shufeng detoxification capsule (granule), the basic prescription is mainly Qingfei detoxification decoction, combined with the clinical symptoms of patients, dialectical treatment.

Acupuncture treatment

Guidance on acupuncture and moxibustion intervention of new coronavirus pneumonia of Chinese acupuncture and moxibustion society (2nd edition)

- Hegu, taichong, tiandu, ulnar, kongsu, zusanli, Sanyinjiao;
- Jiao, fengmen, feshu, xinshu, geshe;
- Zhongfu, shanzhong, qihai, guanyuan, zhongwan; light and ordinary type selected 2-3 points each time in 1 and 2 groups of main points; severe patients selected 2-3 points in 3 groups of main points. At the same time combined with the pain site of the patient, local points were taken.

Preventive treatment

Chinese herbal medicine + chlorine dioxide compound anti-epidemic sachet, anti-viral stick and the preparations of new male yellow traditional Chinese medicine are recommended to using.

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