

Problems of Ensuring Population Safety From Infectious Diseases, How to Solve the Problems of the Fight Against Covid-19

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Abstract: In December 2019, several cases of pneumonia with an unusual clinical presentation were reported in the People's Republic of China. For a long time, doctors were unable to establish a definitive diagnosis. The clinical presentation was similar to that of atypical pneumonia, a disease that emerged in 2002 in the Chinese province of Guangdong and spread to several countries in Southeast Asia in 2002-2003.

Keywords: pneumonia, epidemiology, pathogenesis, clinical manifestations, COVID-19, SARS-CoV-2, incubation period, coronavirus.

Multiple studies have revealed that this disease is caused by a new strain of coronavirus, SARS-CoV-2, which is the causative agent of the acute infectious disease Coronavirus disease 2019 (COVID-19). In a short period of time, the epidemic of a new infection escalated into a pandemic, covering almost the entire world. Treatment strategies for this disease were unknown, leading to thousands of deaths. Medical professionals around the world are, through tremendous effort, learning to treat COVID-19. Using certain medications and oxygen, doctors have achieved significant success in treating the coronavirus infection. Several different types of coronavirus vaccines have been developed in Russia, China, and the UK. However, despite this, a specific treatment method has yet to be developed.

This article includes up-to-date data on the etiology, epidemiology, pathogenesis, clinical manifestations, diagnostic principles, and treatment of the novel coronavirus infection, and also reflects on the impact of COVID-19 on the respiratory, cardiovascular, and other human systems.

Introduction. The spread of coronavirus infection is a global disaster, the cause of a global crisis. The pandemic, having struck humanity, has disrupted our plans, hitting the economy, disrupting international relations, and locking nations into national "apartments."

We shouldn't expect it to end anytime soon. It's already in full swing. According to the World Health Organization, as of April 20, 2021, the number of coronavirus infections worldwide exceeded 142,731,909, with over 3,043,940 deaths. This is a terrifying picture. Each country is implementing its own policy to contain the spread of the coronavirus infection. We need to learn from the experience of countries where the number of infections and deaths is low. China's experience can be used in this regard. Thailand is a case in point. On January 13, 2020, Thailand became the first country to register a case of the disease outside of China. Experience fighting SARS (severe acute respiratory syndrome) and H5N1 (bird flu), coupled with robust public health and surveillance systems, allowed Thailand to develop the "muscle memory" to respond quickly to COVID-19. This is commendable. This is evident from the statistics at <http://www.worldometers.info/coronavirus>.

Our doctors have gained significant experience in preventing and treating patients with coronavirus infection. During the COVID-19 pandemic, timely isolation and restrictive measures to prevent the spread of the virus in Uzbekistan helped prevent an increase in morbidity and mortality from coronavirus. A clear understanding of the measures taken by our country's leadership and healthcare system, as well as the discipline and diligence of our population, played a significant role in this matter.

But the virus hasn't gone away. It has entered our world for good. Relaxing quarantine measures will lead to an increase in the number of cases and deaths. And although some regions managed to avoid an explosive and uncontrolled increase in cases at the beginning of the pandemic, the current situation suggests that complacency is unavoidable. Relaxing quarantine measures and failure to wear masks during the fall, winter, and spring, when it is much easier to catch the virus, are contributing to the increase in cases. We know that the fewer people who become ill at the same time, the easier it will be to fight any epidemic.

What needs to be done to achieve this? We must continue the fight against the coronavirus. But how can this fight be made effective? To do this, it's best to know the enemy—the coronavirus. Below, we will briefly discuss the etiopathogenesis, clinical presentation, course, and treatment of patients with coronavirus infection, as well as prevention.

Coronavirus infection is an acute infectious disease primarily transmitted by airborne transmission, caused by an RNA-containing coronavirus. Coronavirus primarily affects cells of the respiratory tract, and less commonly, the gastrointestinal tract and other organs and systems. The incubation period ranges from 2 to 14 days. Clinically, the infection manifests as a moderate fever up to 38°C.

At the height of the disease, the temperature can rise to 39°C or more. The disease progresses with symptoms of intoxication. Later, the following symptoms appear:

1. dry cough;
2. fatigue;
3. difficulty breathing;
4. Some infected individuals may also experience:
5. various pains;
6. sore throat;
7. diarrhea;
8. conjunctivitis;
9. headache;
10. loss of smell and taste;
11. skin rash or depigmentation of fingernails and toenails.

Diagnosis of the pathological process involves the detection of the virus and antibodies to the pathogen in the blood serum. Treatment is comprehensive, including etiotropic antiviral medications and symptomatic therapy (antipyretics, expectorants, local vasoconstrictors, and others). Etiology of Coronavirus Infection: The causative agent of the disease is RNA-containing coronaviruses. Three groups of infectious agents are distinguished: human coronavirus 229E, human virus OC-43, and human enteric coronaviruses. The emergence of a new type of virus, the causative agent of severe acute respiratory syndrome (SARS), is believed to be caused by spontaneous mutation. The source of the infectious agent is a sick person (or carrier), and transmission is by airborne droplets and, less commonly, by direct contact. The infection is transmitted through various household items and children's toys contaminated with the coronavirus. Risk factors include old age and childhood, low immunity, prolonged exposure to closed, unventilated rooms with large crowds of people, and hypothermia. The pathogen is unstable in the environment and dies when exposed to standard doses of disinfectants, ultraviolet light, and high temperatures. Those at risk for coronavirus pneumonia include HIV-infected individuals, the elderly, and patients with severe chronic illnesses (lung damage, diabetes, cancer), residents of communal apartments, dormitories, barracks, and barracks, as well as medical personnel and service workers. The causes of the disease after the virus enters the body

include weakened immunity, colds, hypothermia, chronic respiratory and other diseases, and physical and mental stress.

Symptoms of coronavirus infection. The incubation period is 2-14 days. The disease begins acutely with mild symptoms of intoxication (weakness, headache, unexplained fatigue). Body temperature most often does not exceed 38°C, but sometimes reaches high levels, over 39°C. The main manifestation of coronavirus infection is profuse, watery, clear nasal discharge, followed by mucous rhinorrhea. Difficulty breathing through the nose and a decreased sense of smell are characteristic. Children and weakened individuals experience a sore throat and a rough, dry cough without sputum. Cervical lymph nodes become enlarged. Coronaviruses can only cause isolated damage to the digestive system, accompanied by nausea, vomiting, abdominal pain (primarily in the epigastrium), and loose, watery stools. Gastroenteritis usually occurs without the development of dehydration, although if coronavirus affects the digestive system of infants, it can rapidly progress to exsiccosis (dehydration).

Complications of Coronavirus Infection: With prompt medical attention and early treatment, coronavirus infection has a benign course. The most common complication is secondary bacterial inflammation, leading to sinusitis, tonsillitis, otitis, bronchitis, and pneumonia. However, some believe that it is precisely after an exacerbation of chronic pharyngitis, laryngitis, sinusitis, and tonsillitis due to hypothermia that these inflamed areas become a breeding ground for the development of coronavirus.

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