

About New Coronavirus Infection (COVID-19)

Murakami Clinic

Coronavirus infection is one of the respiratory diseases such as common cold and is the main cause of common cold virus infection. The so-called cold virus includes adenovirus, rhinovirus, RS virus, echovirus, coxsackie virus, and influenza virus in addition to coronavirus. SARS-CoV-2, which is said to be a new type of coronavirus, has become an issue, but MERS-CoV (Middle East respiratory syndrome) and SARS-CoV (severe acute respiratory syndrome) have disappeared. Most virus infections that have been diagnosed as colds are coronaviruses (10-15%), including HCoV-229E, HCoV-OC43, HCoV-NL63, and HCoV-HKU1. Therefore, seven types of coronaviruses are involved in human infection. In fact, five types of coronavirus including new corona virus (SARS-CoV-2) are related to human infection.

Transmission route of the new coronavirus

(1) Spray infection

The infected person coughs and sneezes, and the virus attaches to the droplets and attaches to other people's mucous membranes (the oral cavity, nasal cavity, conjunctiva, etc.) and becomes infected. Alternatively, the droplets adhere to the person.

The virus lives long if it is particles with moderate moisture such as sputum. It adheres to various things. On the other hand, in the outside air, the envelope is weak and fragile and loses its infectivity.

(2) Contact infection

When the infected person covered his mouth and coughed or touched various things that virus had adhered to the object (handrails, doorknobs, train / bus railings, personal computers / switches, etc.), and touched them. Infection spreads to humans. Unintentionally touching own mouth and nose, and recently oen eyes due to hay fever, can lead to infection through mucous membranes.

(3) Airborne infection

This is a route where a virus comes out into the air like a measles and is transmitted from person to person. Usually, coronavirus airborne infection in the city doesn't occur. Therefore, they are not infected by passing each other. Even if you pass each other without a mask, it is considered that the infectiousness is small outside (because of the reason mentioned-above and airflow <wind>).

Close contact is said to have a high chance of infection, and refers to humans who talk

for a long time at a distance within 1 to 2 m, sneeze or cough directly, or caregivers and family members who live together with the patients for a long time .

The virus attaches to human mucosal cells through a process called a protein spike (the process from which the name of the coronavirus is derived), breaks down the cell membrane, invades it, and copies RNA by the action of human cells to proliferate. Drugs for Influenza inhibit the RNA or mechanism at this time, and are actually effective. However, there is no specific medicine for the new coronavirus, and influenza drugs and drugs for HIV infection are being tested for clinical efficacy.

Symptoms of a novel coronavirus infection

After an incubation period of 1-14 days (average 12.5 days, 21 days in the longest) after infection, so-called common cold symptoms such as fever, cough, sore throat, and general malaise are seen. Some have a sudden onset of fever, such as the flu, and others have a severe cold.

Diagnosis of COVID-19 virus infection

So far, diagnosis by PCR of SARS-CoV-2 from the pharynx is a highly reliable diagnostic method. For the exclusion diagnosis, tests for influenza and adenovirus, differential virus and bacterial infections (including mixed infections), white blood cell counts, and inflammatory response (CRP) are also performed. If you look closely at a general chest x-ray, you may see a ground-glass shadow characteristic of viral pneumonia, but CT is a diagnostic test with higher diagnostic ability. I don't take chest x-rays suddenly, but usually I do influenza test and blood tests and watch the progress for 3-4 days. If the breathing sound is not normal at the consultation, a chest x-ray will be taken immediately. During that time, do not go to work or school as well as influenza infections, even if you do not have a coronavirus infection. Basically, it is natural to take care of sleep and adequate meals (nutrition) .

It is said that the underlying disease (severe respiratory disease such as emphysema and bronchial asthma, heart disease such as hypertension and ischemic heart disease, diabetes, and humans taking immunosuppressive drugs, etc.) may become severe. Also, a paper that smokers become more serious has been published. Until now, mainly the elderly were infected, but over time, infections of young people and teens have been seen. The close contact persons such as a family are worried as persons with high risk. Some people have become more severe with this new coronavirus infection. Until now,

many persons died by this new infection especially in China, and in the past many people died by pandemic flu called a Spanish cold, Hong Kong cold, etc.

It is important that you do not go out and that you wash your hands or stay at home when you feel unwell to prevent the spread of infection.

Prevention against novel coronavirus infection

It is important not to spread the infection. Therefore, you should avoid going out as much as possible. Even if you have a cold, you need to wait and recuperate at home for 3-4 days. The Ministry of Health, Labor and Welfare (Japan) says that if the fever of 37.5 ° C or more lasts for more than 4 days, the cold symptoms do not go away or worsen, influenza can be denied, pneumonia can be seen, and if some conditions are not met, a health center will provide a hospital for infectious diseases. It is not possible to take a PCR test personally (until the end of February). Therefore, if you think you have a cold, you need to wait and recuperate at home. However, a PCR test will be applied for medical insurance from March. That said, COVID-19 is usually a common cold symptom in the early days, and mostly improves. Therefore, first you should perform medical treatment at home, and if you are worried about any symptoms, contact a medical institution (clinic, your home doctor) and have some medical examination. If there is no improvement or exacerbation of symptoms due to the above underlying diseases, PCR should be performed when the cause is suspected to be a new type of coronavirus infection. The risk of collapsing the medical system (medical institutions, staff, medical expenses budget, etc.) comes when the number of patients who want PCR testing increases because of just worry. Japan has a world-class medical system.

For prevention, hand washing is the most effective for the above reasons. The new coronavirus is an enveloped virus such as influenza virus, herpes, and rubella virus, so it can be inactivated by alcoholic disinfection, and can also be inactivated by washing thoroughly with medicinal soap. Sodium hypochlorite is also effective for disinfection. Norovirus, on the other hand, is a virus with no envelope and is less likely to be inactivated than coronaviruses.

Wearing a mask is also effective in the sense of cough etiquette if worn by a suspected person, in fact, those who have a cold symptom, but a healthy person (I don't know if it's really infected). However, masks are not effective in terms of prevention, unless the infected person can directly cough or sneeze. During this period, there were activities such as buying up masks and reselling at unusually high prices, making it impossible for people who really need it, such as hay fever, to be available. I don't think we will put on a mask nervously. People who cough can prevent splashing by putting their mouth on

the elbow part of their clothes and coughing. The same goes for sneezing. Rather, touching the splashed part when removing the mask will rather spread the infection. You need goggles if you care about prevention.

Due to the nature of coronavirus, the virus alone has not been active for a long time in normal air. This is because the envelope is fragile. On the other hand, in a closed space, coughs and viruses attached to things last longer and are more likely to spread. Ventilation is effective because it is difficult to keep activity in a normal outside space. Coronaviruses, including new ones this time, are the same viruses as influenza and are easily affected by temperature and humidity. In my opinion, the inside of the cruise ship was a closed space (circulation type ventilation), and there were infected people before they arrived in Yokohama, and considering the fact that they had a party or meal in the closed space, the initial response was probably poor. Moreover, since passengers and staff had been kept in a closed space for 14 days, it is my opinion that the possibility of infection had increased, but I think so.

If you have a cold symptom ;

If you have a cold-like symptom (fever, cough, sore throat, nasal discharge, general malaise, etc.), you should look at the situation and then see your doctor first. There are tests (not PCR) and early symptomatic treatment. As described above, first, the exclusion diagnosis of influenza and the like is performed, then the white blood cell count and inflammatory reaction (CRP) are checked. Depending on this value, antibiotics are also administered, and the progress is checked with these drugs. A chest x-ray will be performed for symptoms a few days later. If pneumonia is not suspected, the patient is treated at home until symptoms are obtained, and if there are any findings (there is also a need to be hospitalized by the public health center until the end of February), PCR is performed through a health center and the patient is hospitalized. It is a government announcement that medical insurance will allow PCR testing at the doctor's discretion after March.

For more information about the new coronavirus infection in Fukuoka Prefecture:

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