

An Up-to-Date Summary of the Covid-19 Coronavirus Pandemic

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An emerging disease is a new or unknown infectious disease, or in a new context, like SARS - severe acute respiratory syndrome also originating in China in 2002 and also caused by a coronavirus or respiratory syndrome. from the Middle East discovered in 2012 and originating in Saudi Arabia. The name COVID-19 comes from the English language of Corona Virus Disease - the year 2019, when it was discovered.

Historical

This virus was discovered in November 2019 in the city of Wuhan, in the Chinese province of Hubei, a city of 11 million inhabitants. Although Chinese doctors raised the alarm in December, Chinese Communist authorities prevented them from making the information public. As of December 20, there were 20 confirmed cases and as of December 31, 266 cases. It was not until January 20 that China recognized (so as not to disrupt the Chinese New Year festivities), and only on January 23, Wuhan was quarantined.

Two months of censorship during which the epidemic has become uncontrollable. It has also been found in some animals, such as bats and pangolins. Its origin, as in the case of influenza, is animal. Discovered in 1960 in animals, there are around forty species of coronaviruses, seven of which are pathogenic for humans.

Description

They are called coronaviruses from the protrusions on their spherical surface, called spikes, which cling to human cells and are made up of glycoproteins, which look like crowns. The coronavirus family is known because it causes gout every winter, sometimes confused with the flu.

The virus is coated with a protein capsule and contains a ribonucleic acid - RNA, being a ribovirus, as well as the flu virus. Thus, on contact with any substance capable of denaturing (coagulating) proteins, the virus is inactivated (alcohol, formalin, organic solvents, detergents, acetone, phenol, acids, bases, etc.) or in heat at temperatures above 40 degrees C, or acid pH such as vinegar - acetic acid with a pH of 2.4 or basic pH.

Survival

Between 2 and 3 hours on dry surfaces and in the air, and up to 6 days in humid environments.

In general, microbes (viruses and bacteria) survive longer at lower temperatures and humidity, which is why respiratory viruses, but also digestive viruses, are more common in winter than in summer. In addition, in summer, the UV rays of the sun are able to destroy

them. Viruses are obligate parasites and cannot survive only inside living cells: animal, plant or bacterial, which explains their short lifespan on surfaces and in the environment.

Transmission

The virus has been isolated from the nose, throat and stool. There can be 100 million viruses in one milliliter of saliva. This is why an infected person who coughs, sneezes, talks, spits and does not wear a mask, will eliminate large amounts of virus which will infect people around. However, transmission can also occur through people who have used the toilet and not wash and sanitize their hands well, given the presence of viruses in feces.

Incubation and symptoms

The incubation period of the infection at the first symptoms is between 2 and 14 days, its speed depending on the infectious dose or the viral load. This explains the 14-day quarantine request. Symptoms are: fever above 38 degrees C, dry cough, difficult and accelerated breathing, and bilateral pneumonia, which can progress to death. To this can be added fatigue, pain in the neck and muscles, a lack of appetite, a decrease in white blood cells and thrombocytes in the blood.

Severity

The highest mortality rate occurs among people over 70 (about 20%) and people with pre-existing lung problems and low immunity, which are called people at risk. Severe cases represent 5% of the total. The average mortality of people between 10 and 70 years old is between 1 and 2%. 80% of cases do not require hospitalization. The serious factors of this virus: its rapid spread, the fact that it is an unknown new virus, many countries were ill prepared and organized for such an epidemiological disaster, a lack of general medical culture and hygiene for a large part of the population, which suggests that this kind of education should be reinforced in schools.

Prophylaxis and hygiene

Frequent washing with hot water and soap, hand asepsis with antiseptic substances containing alcohol in the form of gel or liquid (in case of shortage of alcohol, perfume or cologne containing 60% alcohol can be used), wear a mask in built-up areas (public transport, schools, day cares, hospitals), disinfection of surfaces, offices, sinks, bathrooms, toilets, clean, disinfected and dry surfaces, minimum distance of 6 feet or 2 meters between people - (according to American experts from CDC), avoid touching suspicious people, disposable handkerchiefs, etc.

Effective disinfectants

Alcohol, sodium hypochlorite (bleach), hydrogen peroxide, iodine, acetic acid (vinegar) and peracetic acid, phenols, quaternary ammonium, etc. Pharmacists can suggest disinfectants that can destroy viruses. However, the action of disinfectants is influenced by several factors: concentration, contact time, pH, temperature, etc.

A vaccine

Vaccines are currently being researched and tested in China, the United States (Cambridge-Boston Modern Company), France, Canada and Germany - CureVac in Tübingen. The duration of manufacture of a safe vaccine is between 6 months (flu) and 3 years, so it is necessary to count in the immediate future more on an effective drug than on a vaccine.

On March 2, 2020, German company president Daniel Menichella was invited to the White House by Donald Trump, who offered to stay and work in the United States, and a week later, Menichella resigned without explanation. German newspaper Welt am Sonntag reported that US President Donald Trump has given CureVac about \$ 1 billion to obtain the American vaccine. The European Union is investing € 10,000,000 for 136 research teams in hopes of get the vaccine in one year.

Treatment

There is no confirmed effective treatment. There are publications on certain tests with certain drugs such as: quercetol or quercetin a flavonoid, natural health product of plant origin in Canada, Plaquelin (the trade name) or chloroquine and hydroxychloroquine in France, (a malaria medication, which has an acceptable price but is toxic in high doses), Remdesivir manufactured by Gilead Sciences in the United States, Favipiravir, a Japanese antiviral effective also against the Ebola virus, certain anti-retrovirals effective against HIV, which seems to work even better if infected patients do not have a high viral load. The problem with synthetic anti-retrovirals is their high price, between \$ 30 and \$ 50 per tablet.

The future of viruses

There will be other unknown viruses to be discovered in the future. The proof is the discovery of HIV in 1980, the discovery of 2 other coronaviruses which cause fatal pneumonia in humans: SARS in 2002, the Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012. Experts believe that only 1% of microbes living on Earth have been discovered.



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