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Corona Virus

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ABSTRACT

According to World health Organization, Corona viruses make up a large family of viruses that can infect birds and mammals, including humans, these viruses have been responsible for several outbreaks around the world, including the severe acute respiratory syndrome (SARS) pandemic of 2002-2003 and the Middle East respiratory syndrome (MERS) South Korea in 2015. Most recently, a novel corona virus (2019-nCoV) triggered an outbreak in China in December 2019, sparking international concern. While some corona viruses have caused devastating epidemics, others cause mild to moderate respiratory infections, like the common cold.

All corona viruses sport spiky projections on their outer surfaces that resemble the points of a crown, or "corona" in Latin, according to the Centers for Disease Control and Prevention (CDC). Seven known corona viruses can infect humans, including the novel corona virus identified in 2019.

Key words: corona Virus, novel corona Virus, Etiology, SARS, MERS, Pneumonia, CDC.

Etiology /Causes

Several corona viruses utilize animals as their primary hosts and have evolved to infect humans, too. Precursors to both SARS and MERS corona viruses appear in bats. The SARS virus jumped from bats to civets (small, nocturnal mammals) on its way into people, while MERS infected camels before spreading to humans. Evidence suggests that the novel corona virus also jumped from bats to humans after passing through an intermediate carrier, although scientists have not yet identified the infectious middleman creature.

The four most common human corona viruses named 229E, NL63, OC43 and HKU1 did not jump from animals to humans but rather utilize humans as their natural hosts, according to the CDC. These human-borne corona viruses "have presumably evolved to maximize spread amongst the population rather than pathogenicity," meaning the viruses may opt to maximize their spread rather than harm their human host. Corona viruses can be transmitted between humans through respiratory droplets that infected people expel when they breathe, cough or sneeze.

Symptoms

In humans, corona viruses typically cause a respiratory infection with mild to severe flu-like symptoms, but the exact symptoms vary depending on the type of corona virus. The four common human corona viruses can cause people to develop a runny nose, headache, cough, sore throat and fever, according to the CDC. In a subset of individuals, including those with cardiopulmonary disease or a weakened immune system, the viral infection can progress to a more severe lower-respiratory infection such as pneumonia or bronchitis.

The novel corona virus causes symptoms similar to those of other corona viruses, triggering fever, kidney failure, cough and difficulty breathing in most patients and even Death.

Rarer symptoms include dizziness, nausea, vomiting and a runny nose. As of February 2020, scientists estimate the 2019-nCoV mortality rate at 2%, although that figure may be somewhat skewed by the severity of the cases studied so far. As more mild cases of the infection are accounted for, the estimated mortality rate may fall.

Diagnosis

Corona virus infections are tested by analyzing respiratory specimens and serum isolated from patient's blood, there are no available treatments for any human corona virus, according to the CDC. Those who catch a common corona virus usually recover on their own and can ease the process by taking pain and fever medications, using a humidifier, taking hot showers, drinking plenty of fluids and staying home to rest. Similar regimens are used to relieve the symptoms of more severe corona virus infections.

Treatment

The viruses generally cannot survive for more than a few hours on surfaces outside a human host,

but people can pick up a coronavirus from a contaminated surface for a short window of time. Scientists don't yet know how long the novel coronavirus can survive outside a host.

There is currently no vaccine to prevent 2019-nCoV infection. The best way to prevent infection is to avoid being exposed to this virus.

Prevention

Some preventive measures can greatly lower the risk of infection.

- Avoid close contact with people who are sick.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.
- Follow CDC's recommendations for using facemask. Facemask should be used by people who show symptoms of 2019 novel corona virus, in order to protect others from the risk of getting infected. The use of facemasks is also crucial for health workers and people who are taking care of someone in close settings (at home or in a health care facility).
- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing.
- If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol. Always wash hands with soap and water if hands are visibly dirty.