Review Article

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Brief review on corona virus

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Abstract

Corona virus is the disease which is virtually shaking the world now; all has to know about the corona virus symptoms, causes and precautions to be taken to avoid the virus. This article consists of recent research doing to prevent corona virus by developing so many drugs and vaccines from various pharmaceutical companies and institutes. During the initial phase of the Covid-19 outbreak, the diagnosis of the disease was complicated by the diversity in symptoms and imaging findings and in the severity of disease at the time of presentation. More Than 1, 00,000 people have been infected with the new corona virus and 3,460 have died. About 80% of cases and deaths are in china. Genallry, the death rate seems to decrease as more people are tested and cases are confirmed. Standard recommendations to prevent infections spread include regular hand washing. Covering mouth and nose when coughing and sneezing, thoroughly cooking meat and eggs. Avoid close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing.

Keywords: Corona virus, Coughing, Sneezing, Respiratory illness.

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Introduction

Corona virus (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe disease such as Middle East respiratory syndrome (MERS-CoV) and severe acute respiratory syndrome (SARS-CoV). A novel corona virus (nCoV) is a new strain. They are transmitted between animals and people; investigation says that SARS-CoV was transmitted from civet cats to humans and MERS-CoV from dromedary camels to humans. Several known corona viruses are circulating in animals that have not yet infected humans. Common signs include respiratory symptoms, fever, cough, shortness of breath, and breathing difficulty. In severe cases infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even leads to death [1].

HISTORY AND EVOLUTION

The most recent common ancestor of all corona virus has been placed around 8000BCE. The alphacorona virus, betacorona virus, gammacorona virus, and deltacorona virus lines have been placed at about 2400 BCE, 3300 BCE, 2800 BCE, and 3000 BCE. It appears that bats and birds, as warm blooded flying vertebrates, are ideal hosts for the corona virus gene source to fuel corona virus evolution and dissemination. Bovine corona virus and canine respiratory corona virus diverged from a common ancestor in 1951. Bovine corona virus and human corona virus OC43 diverged around the 1890s. Bovine corona virus diverged from the equine corona virus species at the end of 18th century. The MRCA of human corona virus OC43 has been dated to the 1950s. MERS-CoV, although related to the bat corona virus species, appears to have diverged from these several centuries shared an MRCA 563-822 years ago. The most closely related bat corona virus and SARS-CoV diverged in 1986. A path of evolution of the SARS virus and keen relationship with bats have been proposed. The authors suggest that the corona virus

have been coevolved with bats for a long time and ancestors of SARS-CoV first infected the species of the genus hipposideridae, subsequently spread to species of the Rhinolophidae and then to civets, and finally to humans. Alpaca corona virus and human corona virus 229E diverged before 1960 [2].

PATHOGENESIS

Corona viruses and arteriviruses infect multiple species of mammals, including humans, causing diseases that range from encephalitis to enteritis. Several of these viruses infect domestic animals and cause significant morbidity and mortality, leading to major economic losses. In this category are included such pathogens as transmissible gastroenteritis virus, porcine respiratory and reproductive virus and infectious bronchitis virus. The feline corona viruses (FECV) generally do not cause infections with high morbidity but in a small percentage of cases, the virus mutates to become more virulent. This virus, feline infectious peritonitis virus (FIPV), causes severe disease in young cats. This disease is in large part immunopathological and understanding it is a major goal of Corona virus research.

THERAPY

Convalescent plasma, and then intravenous immunoglobulin (IVIG), could provide our first line defence for people with Covid-19, those who are older and at much higher risk for complication. A monoclonal antibody drug could reach a greater number of patients. We also need antiviral drugs, such as remedy sivir, being tested by gilead sciences. A vaccine could do the most to slow or stop transmission [6, 7].

DIAGNOSIS

As the corona virus affects the respiratory tract, common presenting symptoms include fever and dry cough, with some patients presenting with respiratory symptoms or even struggling for breath. In severe cases, the virus can cause pneumonia, severe acute respiratory syndrome, kidney failure and death. Diagnosis is suspected in patients with signs and symptoms of pneumonia who have reported travel to an affected location, or have contact with a person with confirmed or suspected SARS-CoV. A diagnostic test has been developed, and countries are quarantining and testing suspected cases [5].

SIGNS AND SYMPTOMS

Symptoms include cold or flu like symptoms usually set in from 2-4 days after a corona virus infection and are typically mild. However, symptoms vary from person to person, and some forms of the virus can be fatal. It includes sneezing, runny nose, fatigue, cough, fever in rare cases, sore throat, exacerbated asthma.

CAUSES

It's unclear exactly how contagious the new corona virus is. It appears to be spreading from person to person among those in close contact. It may be spread by respiratory droplets released when someone with the virus coughs or sneezes. Risks factors for COVID-19 appears to include; recent travel from or residence in an area with ongoing spread of COVID-19 as determined by CDC or WHO, close contact with someone who has COVID-19 such as when a family member or health care worker takes care of an infected person.

RESEARCH

Corona virus treatment vaccines/drugs in the pipeline for Covid-19. Favilavir, the first approved corona virus drug in china, the national medical products administration of china has approved the use of favilavir, an antiviral drug, as a treatment for corona virus. The drug has reportedly shown efficacy in treating the disease with minimal side effects in a clinical trial involving 70 patients. Pharmaceutical companies involved in developing corona virus drugs or vaccines. Novel corona virus vaccines are the vaccines in various stages of development, across the world, Altimmune's intranasal corona virus vaccine, INO-4800 by inovio pharmaceuticals, APN01 by university of british columbia and APEIRON biologics, mRNA-1273 vaccines by moderna and vaccine research center. Avian corona virus infectious bronchitis virus(IBV) vaccine by MIGAL research institute, TNX-1800 by tonix pharmaceuticals, Brilacidin by innovation pharmaceuticals, recombinant subunit vaccine by clover biopharmaceuticals, Vaxart's corona virus vaccine, CytoDyn is examining leronlimab (PRO 140), a CCR5 antagonist, as a potential corona virus drug. Linear DNA vaccine by applied DNA sciences and takis biotech, BXT-25 by BIOXYTRAN to treat late-stage acute respiratory distress syndrome (ARDS). Research organisations such as the national institutes of health (NIH), US are also developing a vaccine for the corona virus [4].

Corona virus drugs such as

- Remdesivir (GS-5734) by Gilead Sciences.

- Actemra by Roche to treat corona virus.
- Biocryst pharma's Galidesivir, a potential antiviral for corona virus.
- Regeneron's REGN 3048-3051.

Their some other companies developing corona virus vaccines/drugs they are Takeda pharmaceutical company, heat biologics, Pfizer, Mateon therapeutics, Hong Kong university of sciences and technology, Vaccines by Generex, corona virus drugs by columbia university, vaccines by tulane university, corona virus vaccine by immuno Precise antibodies, serum institute of india, southwest research institute, Zydus Cadila, Nano Viricides, Vir Biotechnology. These are some of the companies and institutes which are developing and developed the drugs/vaccines for corona virus.

METHODS TO CONTROL

This makes it difficult to measure the impact of the corona virus on national economies and public health. There is no cure, so the methods include self care and OTC medication, resting and avoiding overexertion, drinking enough water, avoiding smoking and smoky areas, taking acetaminophen, ibuprofen, or naproxen for pain and fever. Every day prevention To protect yourself, wash your hands often with soap and water for at least 20seconds. If soap and water aren't available, use an alcohol based hand sanitizer with at least 60% alcohol. Although there is no vaccine available to prevent infection with the new corona virus, you can take steps to reduce your risk of infection. WHO and CDC recommended following the standard precautions for avoiding respiratory viruses; wash your hands often with soap and water, or use an alcohol based hand sanitizer, cover your mouth and nose with your elbow or tissue when you cough or sneeze, avoid touching your eyes, nose and mouth if your hands aren't clean, avoid close contact with anyone who is sick, avoid sharing dishes, glasses, bedding, and other household items if you're sick, clean and disinfect surface you often touch, stay home from work, school, and public areas if you're sick. WHO also recommended that, avoid eating raw or undercooked meat or animal organs, avoid contact with live animals and surfaces they may have touched if you're visiting the live market in areas that have recently had new corona virus cases [3].

DISCUSSION

During the initial phase of the Covid-19 outbreak, the diagnosis of the disease was complicated by the diversity in symptoms and imaging findings and in the severity of disease at the time of presentation. More Than 1,00,000 people have been infected with the new corona virus and 3,460 have died. About 80% of cases and deaths are in china. Generally, the death rate seems to decrease as more people are tested and cases are confirmed6.

CONCLUSION

I would like to conclude that corona virus is the disease which is virtually shaking the world now, all has to know about the corona virus symptoms, causes and precautions to be taken to avoid the virus. This article consists of recent research doing to prevent corona virus by developing so many drugs and vaccines from various pharmaceutical companies and institutes.

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