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Updated Review on Corona Virus (COVID-19)

Shivani Shinde, Amruta Bagal, Supriya Pawar, Tanvi Bhosale, Mubina Mujawar

ABSTRACT:

A class of enclosed viruses with non-segmented, single-stranded, and positive-sense RNA genomes are known as coronaviruses. Corona viruses, which are members of the "Coronaviruse family," are responsible for a number of illnesses, including SARS, MERS, and the common cold. In March 2020, the World Health Organization declared the SARS-Cov-2 virus to be a global pandemic. Public health around the world is in danger due to the emergence and spread of the 2019 novel corona virus (2019-nCoV) and the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). In December 2019, the virus, which started in bats, infected humans in Wuhan, Hubei province, China, through an as-yet-unknown intermediary species. As of today, May 3, 2020, there have been around 96,000 COVID-19 cases and 3300 recorded deaths. Inhaling or coming into contact with contaminated droplets is how the illness is spread. andt heincubation period ranges from 2to14 d.

 $Keywords:-\ COVID-19, Symptoms, Epidemiology, Clinical\ features, Clinical\ manifestations, Diagnosis,\ Treatment, Prevention.$



Fig.no -1 Corona Virus

INTRODUCTION:

Viral illnesses are still a major public health concern, according to the World Health Organization (WHO). The H1N1 influenza in 2009 and the severe acute respiratory syndrome corona virus (SARS-CoV) in 2002–2003 are only two of the many viral outbreaks that have been reported in the last 20 years. Saudi Arabia most recently announced the identification of the Middle East respiratory syndrome corona virus (MERS-CoV) in 2012 [1]. The new coronavirus called SARS-CoV-2 is the cause of COVID-19. Following reports of a cluster of "viral pneumonia" cases in the People's Republic of China's Wuhan, the WHO initially learned about this novel virus on December 31, 2019.

[2]. Corona viruses are encapsulated positive sense RNA viruses that have spike-like projections on their surface and range in diameter from 60 to 140 nm. Under an electron microscope, they resemble crowns, hence the name [3]. A new corona virus disease has been quickly spreading throughout China

since December 2019, triggering a global outbreak and raising serious public health concerns" On January 30, 2020, the COVID-19 outbreak was deemed a global public health emergency by the World Health Organization (WHO).

On January 27, 2020, the Kerala district in India reported the country's first COVID-19 case. Since then, case reporting has varied greatly around the nation.Rapid Antigen Test (RAT) or Real-Time Reverse Transcription Polymerase Chain Reaction (RT-qPCR) SARS-CoV-2 antigen testing is the basis for case reporting [4]. The coronavirus (CoV) is a member of the viral family that infects birds and mammals. The World Health Organization (WHO) in Geneva, Switzerland, designated a pandemic novel corona virus as "Corona Virus Disease 2019" (2019-nCoV).The 2019 coronavirus is now known as SARSCoV-2 pandemic because of its more SARS-like RNA pattern. Within the family Coronaviridae, order Nidovirales, and realm Riboviria, it is a member of the subfamily Orthocoronavirunae [4]. Under transmission electron microscopy, a two-dimensional image of Corona shows a distinctive appearance of "paying homage to a crown" surrounding the virions. As a result, the virus was named Corona, which translates to "crown" or "halo" in Latin.This is a deadly third-generation virus that belongs to the Corona family. Prior to it, 30% of infected patients died from Middle East Respiratory Syndrome (MERS) in 2012, and nearly 10% of all patients (8429) died from Severe Acute Respiratory Syndrome (SARS) in 2003 in 29 different countries [5].

HISTORY:

Corona viruses are enclosed positive sense RNA viruses that have spike-like projections on their surface that give them a crown-like appearance under an electron microscope. They range in diameter from 60 to 140 nm [3]. In humans, four coronaviruses—HKU1, NL63, 229E, and OC43—are in circulation and typically cause mild respiratory illnesses. In the last 20 years, there have been two instances where human-to-animal beta coronavirus transmission has caused serious illness.

Initially, in 2002–2003, a novel coronavirus belonging to the β genera and BFF, happy birthday! To another year of making memories with each other, cheers. to people in China's Guangdong area through the intermediate host of palm civet cats. Known as the severe acute respiratory syndrome corona virus, it primarily infected 8422 people in China and Hong Kong and, prior to its containment, killed 916 people (mortality rate: 11%). In 2012, nearly ten years later, the Middle East respiratory syndrome corona virus (MERS-CoV), which is similarly bat-borne, surfaced in Saudi Arabia using dromedary camels as the intermediate host. It infected 2494 people and caused 858 fatalities (34 percent fatality rate) [6].

SYMPTOMS:

Patients with COVID-19 have a wide variety of symptoms, from mild/moderate to severe, fulminant, and quickly progressing illness. The appearance of COVID-19 can vary from asymptomatic to severe pneumonia, and its symptoms are non-specific. The prevalence of asymptomatic individuals varies between 1.6% and 51.7%, and they do not exhibit any obvious abnormalities on lung computed tomography or usual clinical symptoms or signs. The most usual symptoms of COVID-19 are sputum, headache, hemoptysis, vomiting, and diarrhea. The most prevalent symptoms are fever, cough, myalgia, or exhaustion. A few days before to the onset of fever, some individuals may appear with headache, disorientation, rhinorrhea, and sore throat, suggesting that fever is a critical symptom but not the first sign of infection.

Additionally, certain patients notice a decrease in Now regarded as early warning signs and indicators for self-isolation include smell (hyposmia) and taste (hypogeusia) [7]. Fever is one of COVID-19's most common symptoms. Weariness and dry coughing More infrequent symptoms that could have an impact An epidemiological investigation The condition can affect people of any age.

The reason for this is that the disease is spread by the huge droplets that sick people cough and sneeze. Asymptomatic people may contract the virus in certain cases, and symptoms may appear before they do. According to the WHO, as of March 2020, there are approximately 87,317 COVID-19 instances worldwide, and 2,977 cases of the virus have been confirmed.

. Given that only 3.42 percent of people have died from the virus, this suggests that the disease's symptoms are mild. China has been designated as the country with the highest number of cases and fatalities. The reason for this is that Asia, primarily China, has documented 92% of all incidences. Crucially, the confirmed cases are both laboratory-confirmed and clinically recognized. The number of cases and deaths outside of Asia is further influenced by the disease's continuing nature, population density, testing and reporting standards, and the timing of reduction strategies.

The characteristics of COVID-19 are divided into three categories: the virus's host, route of transmission, and incubation time. First of all, humans are the terminal hosts, while the Chinese horseshoe bat is the natural host. Additionally, aerosol droplets are the means of transmission from person to person. Finally, there are two to fourteen days that the incubation period can last. The cumulative incidence of COVID-19 varies by nation and has been confirmed in nearly every continent [7]. • Sore throat. Headache. • Joint or muscle ache. • A variety of skin rashes. Vomiting or feeling queasy. Diarrhea. • dizziness. One of the symptoms of severe COVID-19 illness is dyspnea. • A reduction in appetite. • Confusion. The three categories of COVID-19 features are the host, the mode of transmission, and the duration of incubation.

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EPIDEMIOLOGY:

The sickness can strike anyone of any age. This is due to the fact that the disease is spread by huge droplets that are produced when sick people cough and sneeze. Infections can occasionally occur in symptomatic persons as well as before symptoms appear. According to WHO data as of March 2020, there are around 87,317 COVID-19 cases worldwide, with 2,977 confirmed deaths. Given that only 3.42 percent of people have died from the virus, this suggests that the disease's symptoms are mild.

At the same time, China has been shown to have a significant number of cases and fatalities. Ninety-two percent of all incidents have been documented in Asia, primarily China. Crucially, the confirmed cases are both laboratory-confirmed and clinically recognized. The number of cases and deaths outside of Asia is further influenced by the disease's continuing nature, population density, testing and reporting standards, and the timing of reduction strategies. The characteristics of COVID-19 are divided into three categories: the virus's host, route of transmission, and incubation time. First of all, humans are the terminal hosts, while the Chinese horseshoe bat is the natural host.

Additionally, the transmission occurs through aerosol particles from person to person. Finally, the duration of incubation ranges from two to fourteen days. As a result, COVID-19 cumulative incidence varies by nation, with cases confirmed on nearly every continent [8].

GEOGRPHICAL DISTRIBUTION:

After China's initial report, the illness spread swiftly, and the number of cases increased dramatically. Following the first case reported in Thailand, outside of mainland China, on January 11, the disease quickly spread to every continent with the exception of Antarctica. India announced the country's first COVID-19 case on January 30, 2020. As of February 3, 2020, there are now three cases. In February 2020, there were no new cases reported. However, by mid-March, the number of infected cases started to increase, with multiple instances reported from across India. India recorded its first COVID-19-related fatality on March 12, 2020.

The illness has spread to every Indian state but Sikkim by the second week of April. There were 15, 712 cases and 507 deaths in India at the time this document was written, and 2, 170, 265 cases and 135, 163 deaths worldwide [9].

TRANSMISSION:

Initially, it appeared that zoonotic transmission was likely because the majority of early patients had a history of contact with wet markets [10]. However, by the end of January 2020, more people had become unwell without being exposed to the market or another person who was displaying respiratory symptoms. The disease's proliferation among non-Wuhan visitors and medical personnel pointed to a person-to-person transmission of the virus [11,12]. This virus's precise route of transmission is unknown. However, the most common mode of transmission, like with other respiratory viruses, is most likely droplet-borne infection, either directly or indirectly, through fomites.

As of right now, there is no proof that the virus can spread by air. 1213 Despite the fact that virus particles have been found in feces samples from individuals who are ill as well as those who are recovering, it is unknown how likely eco-oral transmission is [13].

Period of Infectivity:

It's unclear how long a COVID-19 patient may spread the virus. Early in the disease's symptomatic phase, the oropharyngeal secretions have the highest viral load [14]. Even after the symptoms have subsided, the patient may still be shedding the virus. A Chinese study found that the median duration of viral shedding among survivors was 20 days (interquartile range [IQR]17.0–24.0) [15]. According to a research of viral dynamics in moderate and severe cases, moderate cases tend to clear the viruses early, while severe cases have prolonged viral shedding [16].

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DIAGNOSIS:

When is it important to get a COVID-19 diagnostic test? Diagnostic tests are performed to ascertain whether an individual is infected with the SARS-CoV-2 virus, which produces COVID-19 infection. • If you develop signs of COVID-19, such as fever, cough, dyspnea, and excessive fatigue, your doctor may suggest that you follow suit.

•You suffer from chronic illnesses like heart disease, asthma, etc., and your symptoms suddenly get worse. •A person you recently interacted with tested positive for COVID-19. You are employed as a healthcare professional in a hospital setting, and you need to be admitted for the treatment or surgery of pre-existing medical issues. Which laboratory tests are available to diagnose COVID-19? Molecular or PCR testing and antigen or fast testing are the two main test methods used to diagnose COVID-19. Because it is less costly and produces results more quickly, the antigen test is frequently employed as a point-of-care test results

With in minutes. However, the Voluntary quarantine (self-quarantine) an unprecedented speed [20].

PREVENTION:

The current approach to preventing the spread of instances is prevention. To stop the spread, early detection, diagnosis, isolation, and treatment are essential. The main goals of preventive strategies are patient isolation and meticulous infection control, which includes taking the right precautions while diagnosing an infected patient clinically [26].

CONCLUSION:

Since COVID-19 currently has no viable cure, it is imperative that its proliferation in society be stopped. This is known to all people worldwide. Interestingly, COVID-19 is an RNA virus that can be harmful to people's health. As of right now, the illness has killed and infected thousands of people. Quarantine, social isolation, and hand hygiene are the main tactics for halting the spread in society.

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