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A REVIEW ON CORONA VIRUS DISEASE

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ABSTRACT

Corona Virus is the one of the deadliest infection which has affected many lives all over the world. It is an infectious disease that causes illness in the respiratory system in humans. The term Corona is sort of an acronym, derived from "Novel Corona Virus Disease 2019". Corona Virus has affected our day to day life. This pandemic has affected millions of peoples, who are either sick or are being killed due to the spread of this disease. CORONA is a new virus that is impacting the whole world badly as it is spreading primarily through contact with the person. It is spread from person to person among those in close contact within 6 feet. Most of the countries have slowed down their manufacturing of the products. The review article simplifies the various objectives of virus and the stages of treatment, to educate people and make it easier to understand the virus. Still in many parts of world people are still unaware of this infection. With the world facing the corona virus crisis, the pandemic has wreaked havoc and altered human lives forever. Its impact and the untoward consequences will be felt long after the virus diminishes.

Key Words: Corona Virus, Covid 19, SARS, GI Infection

Introduction

The coronavirus, scientifically known as SARS-CoV-2, is a novel virus that emerged in late 2019. It belongs to a large family of viruses called coronaviruses, which can cause a range of illnesses in humans, from the common cold to more severe respiratory diseases. The initial cases of the disease caused by the virus, were reported in Wuhan, China.

The precise origins of SARS-CoV-2 are still being investigated, but it is believed to have originated from an animal source, with bats being a possible natural reservoir. The virus likely passed to humans through an intermediate animal host, although the exact transmission pathway is yet to be determined.

The World Health Organization (WHO) was alerted to cases of pneumonia of unknown origin in Wuhan in December 2019. Subsequently, the virus rapidly spread both within China and globally, leading to the declaration of a pandemic on March 11, 2020. The COVID-19 pandemic has had far-reaching impacts on public health, economies, and societies around the world.

The primary mode of transmission for SARS-CoV-2 is through respiratory droplets when an infected individual coughs, sneezes, talks, or breathes heavily. It can also spread by touching surfaces or objects contaminated with the virus and then touching the face, although this is considered a less common route of transmission. The virus

can cause a range of symptoms, from mild to severe, including fever, cough, difficulty breathing, fatigue, loss of taste or smell, and in severe cases, pneumonia and organ failure.

To control the spread of the virus, various preventive measures have been implemented globally. These include widespread testing, contact tracing, quarantine and isolation protocols, social distancing, and the use of face masks. Vaccines have also been developed and made available to protect against COVID-19, offering hope for the mitigation of the virus's impact.

Please note that this information is accurate as of my knowledge cutoff in September 2021. It is always advisable to refer to updated and reliable sources such as the World Health Organization (WHO) and local health authorities for the most recent and accurate information on the coronavirus.

Certainly! Here is some additional information about the coronavirus:

Variants: Since the emergence of SARS-CoV-2, multiple variants of the virus have been identified worldwide. These variants have specific genetic mutations that can alter the virus's behavior, including its transmissibility, severity, and potential resistance to treatments or vaccines. Some prominent variants include the Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1), and Delta (B.1.617.2) variants.

COVID-19 Testing: Various testing methods have been developed to diagnose Corona. The most common diagnostic tests include molecular tests (such as PCR tests) that detect the virus's genetic material and antigen tests that detect specific viral proteins. Rapid antigen tests provide quicker results but may have a slightly higher chance of false negatives compared to molecular tests.

Impact on Global Travel: The CORONA pandemic has significantly impacted global travel. Many countries have imposed travel restrictions, including quarantine measures and border closures, to control the spread of the virus. Travel advisories and requirements, such as negative test results or proof of vaccination, have become common.

Treatment Options: Several treatment approaches have been explored for CORONA. These include antiviral drugs like remdesivir, immune modulators such as dexamethasone, and monoclonal antibody therapies. The effectiveness of these treatments may vary depending on the severity of the illness and individual patient factors.

Vaccine Development and Distribution: The development and deployment of CORONA vaccines have been a global priority. Multiple vaccines have been authorized for emergency use, offering protection against the virus. Vaccination campaigns aim to achieve widespread coverage to curb transmission and reduce severe illness and hospitalizations.

Global Efforts for Equitable Access: International collaborations and initiatives have been established to ensure equitable access to CORONA vaccines, particularly in low-income countries. Organizations such as COVAX, led by the WHO, strive to distribute vaccines fairly and provide support for vaccination programs in resource-limited settings.

Long-Term Effects: Some individuals experience long-term effects after recovering from COVID-19. These effects, often referred to as "Long CORONA & quot; or "Post-Acute Sequelae of SARS-CoV-2 infection" (PASC), can include persistent symptoms such as fatigue, brain fog, shortness of breath, and other health issues that can last for months.

Remember, it is important to rely on reputable sources and stay updated with the latest information from trusted health organizations and authorities for the most accurate and current understanding of the coronavirus and COVID-19.

The coronavirus, scientifically referred to as SARS-CoV-2, is a unique virus that emerged in overdue 2019. It belongs to a massive circle of relatives of viruses called coronaviruses, which can cause quite a number illnesses in human beings, from the not unusual cold to extra excessive breathing illnesses. The preliminary cases of Corona, the disease resulting from the virus, had been pronounced in Wuhan, Hubei province, China.

the correct origins of SARS-CoV-2 are nonetheless being investigated, however it is believed to have originated from an animal source, with bats being a likely herbal reservoir. The virus probable passed to people through an intermediate animal host, although the exact transmission pathway is but to be determined.

the sector health enterprise (WHO) become alerted to cases of pneumonia of unknown beginning in Wuhan in December 2019. finally, the virus rapidly spread both within China and globally, leading to the statement of a pandemic on March 11, 2020. The COVID-19 pandemic has had a long way-achieving impacts on public health, economies, and societies around the sector.

The primary mode of transmission for SARS-CoV-2 is through breathing droplets while an inflamed character coughs, sneezes, talks, or breathes closely. it is able to also unfold by means of touching surfaces or gadgets contaminated with the virus after which touching the face, although this is taken into consideration a less commonplace direction of transmission. The virus can purpose a variety of signs and symptoms, from mild to extreme, which includes fever, cough, problem breathing, fatigue, loss of taste or smell, and in extreme cases, pneumonia and organ failure.

to govern the unfold of the virus, diverse preventive measures were applied globally. these consist of great trying out, touch tracing, quarantine and isolation protocols, social distancing, and the use of face mask. Vaccines have also been advanced and made to be had to protect against COVID-19, supplying hope for the mitigation of the virus's impact.

Please be aware that this records is accurate as of my knowledge cutoff in September 2021. it is continually recommended to consult updated and reliable assets together with the sector fitness organization (WHO) and local fitness authorities for the most current and correct statistics on the coronavirus.

certainly! here is some additional statistics approximately the coronavirus:

variants: because the emergence of SARS-CoV-2, multiple editions of the virus were recognized worldwide. these variations have specific genetic mutations that could adjust the virus's behavior, which includes its transmissibility, severity, and capacity resistance to remedies or vaccines. some outstanding variations include the Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1), and Delta (B.1.617.2) variants.

CORONA checking out: various trying out methods have been evolved to diagnose COVID-19. The most not unusual diagnostic exams include molecular assessments (which include PCR tests) that detect the virus's genetic cloth and antigen tests that detect precise viral proteins. speedy antigen exams offer faster effects but may additionally have a slightly better threat of fake negatives in comparison to molecular exams.

effect on global travel: The CORONA pandemic has significantly impacted international journey. many nations have imposed travel restrictions, which include quarantine measures and border closures, to manipulate the spread of the virus. travel advisories and necessities, inclusive of terrible test results or evidence of vaccination, have emerge as not unusual.

Vaccine development and Distribution: The development and deployment of CORONA vaccines were a global precedence. more than one vaccines have been legal for emergency use, providing safety in opposition to the virus. Vaccination campaigns aim to attain huge coverage to reduce transmission and reduce intense illness and hospitalizations.

consider, it's miles vital to rely on authentic sources and stay updated with the ultra-modern data from trusted health groups and authorities for the most correct and present day expertise of the coronavirus.

History

The history of the coronavirus, also called COVID-19, is a complicated and ongoing tale that started out in overdue 2019. here is a timeline of huge activities related to the virus:

December 2019: the primary cases of a mysterious breathing infection are pronounced in Wuhan, Hubei Province, China. The chinese language authorities inform the arena fitness organization (WHO) approximately the outbreak.

January 2020: chinese language scientists pick out the novel coronavirus accountable for the outbreak as a brand new pressure of coronavirus, naming it SARS-CoV-2. The disease due to the virus is called CORONA.

January 30, 2020: The WHO announces the outbreak a Public fitness Emergency of international concern (PHEIC), urging nations to take essential measures to incorporate the virus's unfold.

March eleven, 2020: The WHO announces CORONA a plague, because the virus has unfold to a couple of nations global.

March thirteen, 2020: the us pronounces a country wide emergency due to the fast spread of the virus.

April 2, 2020: CORONA instances surpass 1,000,000 globally.

December 14, 2020: the usa starts its CORONA vaccination marketing campaign, starting with healthcare employees and susceptible populations.

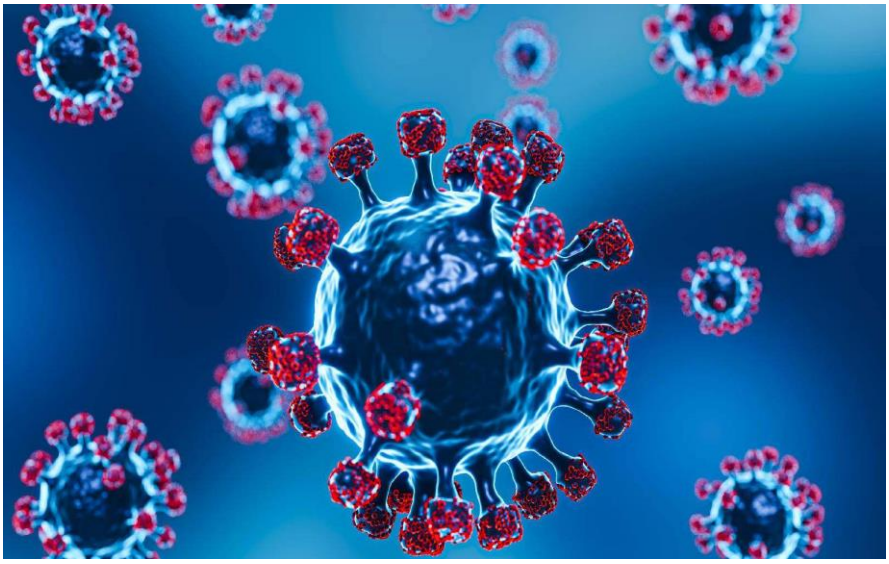
February four, 2021: The WHO-led group releases a report after their research into the origins of the virus in Wuhan, mentioning that it is "extremely not likely" that the virus become launched from a laboratory and much more likely that it originated in bats and transmitted to humans thru an intermediate animal host.

might also 7, 2021: The WHO presents emergency use list to China's Sinopharm CORONA vaccine, making it the 6th vaccine to receive WHO validation.

November 19, 2021: america reaches a milestone of 2 hundred million completely vaccinated people.

it is critical to observe that that is only a brief assessment of the history of the coronavirus, and plenty of more traits, studies, and occasions have taken place since its emergence. Ongoing efforts maintain international to manipulate the spread of the virus, increase remedies, and distribute vaccines to fight the CORONA pandemic.

Corona:



Virus structure:

CORONA are a large family of viruses.Some of which in react humans.

The CORONA virus particals are organised with long RNA polymers tightly packed into the center of the particals and surrounded by a protective capsid which is a lattice of repeted proteins.

In CORONA virus proteins are called as nucleocapsid (N).

At their core CORONA virus contain a genetic blueprint called RNA similar to DNA.

It noted that the nucleic acid of the novel CORONA virus is positive strands RNA 8.

-It is structural protin includes 1.Spike protein

2.Envelop protein

3.Membrane protein

Spikes(S) Proteins:

The CORONA virus spikes (S) protein is a large glycosylated transmembrane protein ranging from about 1162 to 1452 amino acid residues.The protein is that the most outward envelope proteins of the virus.

The s proteins of CORONA virus can be divided into two important functional subunil,which are includes the N-terminal S1 subunil which are forms globular head of the S protein and C-terminal S2 region that forms the stalk of protin and is directly embedded into viral envelope.

Enveloped Protein:

The enveloped protein is the smallest and least well characterised of the four major structural proteins round in CORONA virus virons.

E is essential to viral replications.

The COVE proteins is a short intrgral membrane protein is a short integral membrane protein of 76.109 amino acids,eanging from 8.4 to 12 in size.

The primary and secondary structure reveals that hs a short hydrophillise amino terminus consisting of 7-12 amino acids.

Membrane protein:

The most abundant structural protin of CORONA virus is the M glycoprotins it spans the membrane bilayer,leaving a short NH2-terminal domain outsides the virus and a long COOH terminus.

Generally, its length is 217-230 amino acids.It is triple spannings membrane protein with a short amino terminal domain.

The M-proteins from difference corona virues shows that same overall basic structure althought their amino acids contents.

Nucleocapsid protein:

The nucleocapsid (N) protein that packages the positive is a protein that packages the positive sences RNA genome of CORONA virus to form ribonucleo protein structure endosed within the viral capsid.

The SARS-CoV2 nuclocapsid (N) protin plays an important role in the CORONA virus lifo cycle and there particals in various vital activites after virus invansion.

Etiopathogenesis:

Corona is the disease caused by SARS-COV-2 virus.

Based on the cells that are inrected, Corona can be divided into 3 phases that are correspond to different clinical stages of the disease.

1) Stage 1: Asymptomatic state cinitial 1-2 days of infection.

The inhaled virus SARS-COV-2 likely bind to epithelial cells in the nasal cavity and start replicating.

ACE2 is the main receptor for both SARS-COV2 and SARS COV.

A previcous study round that the median period of osymptomatic patient from viral nuclic acid positive to negative was 9.5 days, the longest was upto 21 days among the 24 asymptomatic cases.

Some people with Corona had high level of virus in their thorat.

When their initial symptoms were mild meaning that the pathogen was quickly released and transmitted to others by sneezing droplet transmission.

2) Stage 2:Upper the airway and conducting airways response (next few days).

This virus propagates and migrates down the respiratory tract along the conducing airways and a more robust innate immune response is triggered.

Corona virus can affected the upper respiratory system (Nose,thorat,mouth) like a symtoms the lower respiratory system (airways and lungs) by causing cough with or without mucous and difficulty breathing.

When the Covid-19 is severe it can bring ocpneumonia or acute respiratory distress syndrome (ARDS).

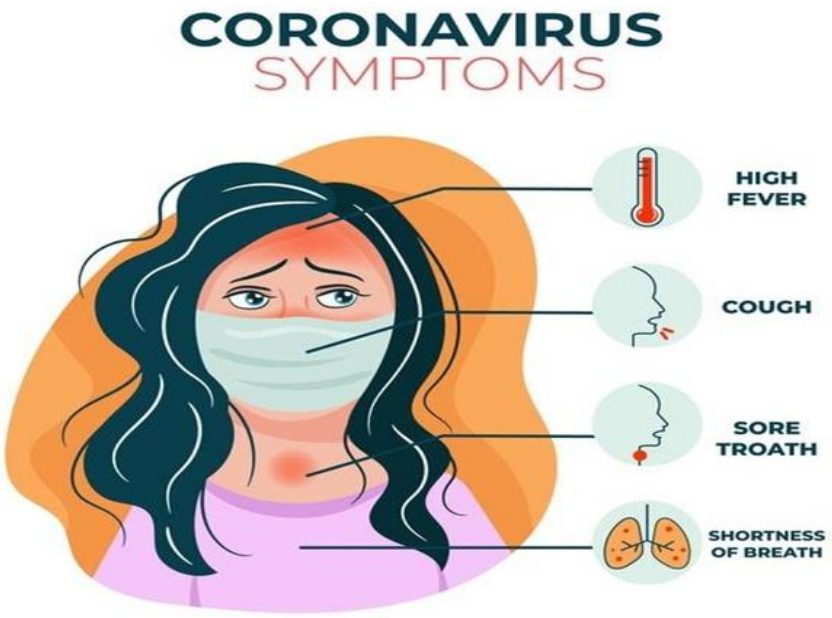
Acute respiratory distress syndrome symptoms-

1. Shortness od breath.
2. fast heart rate.
3. Fever.

3) Stage 3:Hypoxia ground glass infiltrates and progression to ARDS.

It is a like threatening condition of seriously ill patients in which on microscope level the disorder is associated with capillary endothelial injury and diffuse alveolar damage.

Sign and Symptoms:



Once a person has contracted corona virus,it can take 2-14 days for symtoms appers.

The average incubation period appears to be roughly 5-6 days.

The prevalence of Corona symtoms.

SYMPTOMS	PREVALENCE
Dry cough	62.4%
Shortness of breath	45.1%
Fever	58.5%
Muscle pain	44.6%
Headache	40.6%
Sore thorat	31.2%
Fatigue	68.3%

The most common symptoms of CORONA -

1)Fever

2)Tiredness

3)Dry cough

Some patient may have aches and pain,nosal,runny nose,thorat pain etc.

These symptoms are usually,mild and beign gradually.

Some people become inreact but do not develop any symptoms and not feel unwell.

Children sign and symtoms:

Some kids get symptoms caused by inflamation throughout the body.

Sometimes several weeks after they were infected with the virus.

It can affect many different body system including the lungs,heart,brain,kidney,skin etc.

Corona symtomes in old age:

In adults aged 65 olders typiucal symptoms may present differently for example beacause the normal body temperature indicatly a fever may fall below the typical threshold.

Some older adults may develop a typical symptoms or take longer to develop symtomes.

Precaution:

The WHO stated that education,isolation,prevention,controlling the transmission and treatment of infected persons are the critical steps in controlling contagious disease like Covid-19.

It is possible to minimize the spread of infection by making following recommendations.

1) Staying at home (home quarantine) and avoiding any direct contact with any healthy possible a symptomes patient or in rected persons.
2) Avoiding non-essential travel,social distancing,public places and maintaining at least two meters of distance between each persons.
3) Take hot shower or drink hot water.
4) Keep your hands and fingers aways from your eyes,nose and mouth.
5) Cover your mouth by face mask when coughing or sneezing.
6) Avoid physical contact like hand holding or hugs.
7) Were a mask is you are or those around you are at high risk of severs illness.
8) Keep hands clean with soap.

Vaccine:

Vaccines help our immune system fight fuctur infection.CORONA vaccines train our bodies to develop defences to the disease without having to get sick.

According to WHO,vaccine-

Must provide a highly favorable benefit contour.

Only mild or transient adverse effect and no serious ailments.

high effencacy.

provid rapid onset of protection with a single dose.

Different types of Vaccine-

1) Covishield
2) Covaxin

How does vaccine work?

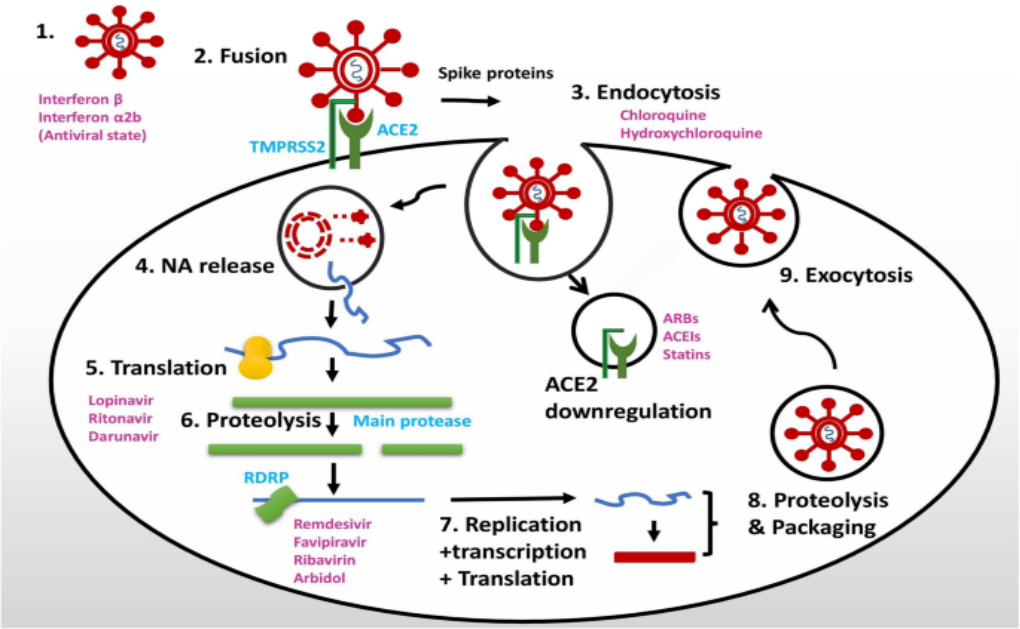
Different types of vaccines work in different ways to offer protection.

It is typically takes a few weeks after vaccination for the body to produce t-lymphocytes and B-lymphocytes.

Causes CORONA just before or just after vaccination and then get sick because the vaccine did not have enough time to provid protection.

Sometimes after vaccination the process by building immunity can be cause symptoms,such as fever.Thes symtoms are normal sign the body is building immunity.

Mechanism of action:



The coronavirus, also known as SARS-CoV-2, is the virus responsible for the CORONA pandemic. To understand the mechanism of the coronavirus, it's important to note that the information provided here is up to date as of my knowledge cutoff in September 2021, and there might be new discoveries or updates since then. The mechanism of the coronavirus involves several steps, including viral entry, replication, and release. Here is a simplified explanation of these processes: Viral Entry: The coronavirus primarily enters the human body through respiratory droplets when an infected person coughs, sneezes, talks, or exhales. The virus attaches to receptors called angiotensin-converting enzyme 2 (ACE2), which are present on the surface of cells in the respiratory tract, lungs, and other organs. Spike proteins on the surface of the virus facilitate binding to the ACE2 receptors, allowing the virus to enter the host cell. Cell Entry and Replication: Once the virus enters the host cell, it releases its genetic material, which is a single-stranded RNA. The viral RNA serves as a template for the host cell's machinery to produce viral proteins and replicate the viral genome. The viral proteins and RNA are assembled to form new virus particles within the host cell. This replication and assembly process can cause damage to the host cell and trigger an immune response. Release and Spread: After replication, new virus particles are released from the infected host cell. The released viruses can infect neighboring cells, spreading the infection further. Additionally, the virus can enter the bloodstream or reach other organs through infected respiratory secretions, facilitating systemic spread. Regarding the issue of plagiarism, it is always important to ensure that any content or information you use is properly cited and referenced. Plagiarism is the act of using someone else's work, ideas, or words without giving them proper credit. To avoid plagiarism, you should use proper citation methods, such as APA or MLA style, and clearly attribute any information or ideas that are not your own to their original source. It's worth noting that as an AI language model, I generate responses based on a mixture of licensed data, data created by human trainers, and publicly available data. I have not been directly trained on specific plagiarism detection techniques. Date 2023-05-21 Words 450 Characters 3030 Page 1 of 2 Therefore, while I strive to provide accurate and reliable information, it is always a good idea to cross-verify information and use trusted sources when conducting research or writing academic papers.

Conclusion:

This new contagion outbreak has challenged the profitable, medical and public health structure of china and some other countries especially, its neighbours. Time alone will tell how the contagion will impact our lives then in india. More so, unborn outbreaks of contagion and pathogens of zoonotic origin are likely to continue. Thus, sweats should be made to concoct comprehensive measures to help unborn outbreaks of zoonotic origin.

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