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RESEARCH ARTICLE

SYSTEMATIC REVIEW OF THE LITERATURE BASED ON SARS-COV-2(COVID-19)

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ABSTRACT

The Severe Acute Respiratory Syndrome Corona -2 (SARS-COV-2) is a highly contagious and contagious Corona virus, creating a respiratory epidemic called Corona virus disease 2019 (Covid-19) that threatens human health and public safety. On January 30.2020 the World Health Organization declared the outbreak as a global public health emergency. In these reviews we describe the basic virology of SARS-COV-2, including diagnosis, treatment. We summarize current knowledge of clinical epidemiology and clinical features of COVID-19 and immune response, disease management, control and prevention strategies, advances in the SARS COV-2 vaccine. Highlights - Critical respiratory disease, Corona virus -19, disease, diseases, public health, prevention strategies.

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INTRODUCTION

In December 2019 in Wuhan, China, one of the corona strains was found in many parts of China. The virus is spread by thousands of people to anyone easily in the city. For someone who could not say they were most affected by the blood corona virus was found. Coronaviruses mostly cause gastrointestinal and respiratory tract infections and are inherently categorized into four major types: Gammacoronavirus, Deltacoronavirus, Betacoronavirus and Alphacoronavirus. The first two types mainly infect birds, while the last two mostly infect mammals. Six types of human CoVs have been formally recognized. These comprise HCoV HKU1, HCoV-OC43, Middle East Respiratory Syndrome coronavirus (MERS-CoV), Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) which is the type of the Betacoronavirus, HCoV229E and HCoV-NL63, which are the member of the Alphacoronavirus. Coronaviruses did not draw global concern until the 2003 SARS pandemic, preceded by the 2012 MERS and most

bats to palm civets or dromedary camels and eventually to humans. Therapeutic programs or clinical vaccine against COVID-19 mainly stimulates the substance of the drug. An infected family group that causes mammals in the corona virus is included below. diagnostic tools are important for detecting SARS-COV-2 viruses. The genus betacordna virus shares sequence ~ 96% homology with bat corona virus RaTGI3 genome ~ 80% with server acute respiratory syndrome virus (SARS - COV) & ~ 50%. The epithelial cells and the alveolar type II call the pneumocytes to be responsible for the acceptance of the progression of the adverse effects of the disease once the virus has reached the alveoli and affects us. angiotensin system [RAS] requires hospitalization and treatment with glucocorticoids that can lead to the occurrence or outbreak of a secondary infection that continues to pose a health risk to these patients (SARS-COV-2) cardiovascular injury damaging the administration of highly potent COVID-19. can be prevented from their recently developed study on COVID-19.

Pathogeny: Infection leads to infections that are a viral process. Replication in that area then spreads and multiplies within areas where diseases or viruses in the environment occur pathogenic mechanisms including the introduction of the virus into the body area.

- Pathogenesis in cell
- Infections may result from direct cell damage and death from virus.
- shut off of the cell macromolecules synthesis.
- Diversion of the cells energy.
- Competition of viral m RAN for cellular ribosome.
- RAN polymerase and inhibition of the interferon defense mechanisms competition of viral promoters and transcriptional enhancers for cellular transcriptional factors. Indirect cell damage can result from integration of the viral genome induction of mutations in host genome response.
- Pathogenesis in SARS

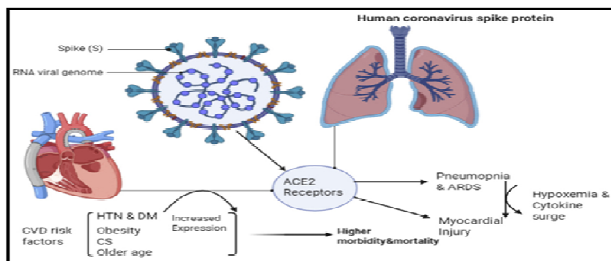


Fig.1. Pathophysiology of SARS-CoV2 cardiovascular involvement

SARS-COV infection remains unknown the mechanism of injury caused. A SARS disease model was proposed consisting of three phases. And pulmonary destruction are viral replication immune hyperactivity. Epithelial cell proliferation and an increase of macrophages SARS pathology of the lung has been associated with diffuse alveolar damage. Multiplication giant-cell infiltrates of macrophages or epithelial origin have been associated with putative syncytium formation that is characteristic of many corona virus infections.

Epidemiology: Geographical distribution: - It is widespread throughout the world. From the Chinese city (Wuhan). The geographical distribution of COVID-19 cases in Iran is shown in Figure 1 March 31, 2020. To date, according to WHO, there have been 841,173 cases of COVID-19 cases worldwide, of which 180 271 were USA and 660,902 in other countries.

Case count

- About 3.22 cr cases of covid-19
- Deaths about 4.31 lakhs
- Moreover, it's count too much in India and america widely spreads
- **In maharashtra:-** 69.9 lakh cases, deaths 1.35 lakhs
- **Also in Kerala:-** 36.7 lakh cases, deaths 18.499

Route of transmission of SARS COV-2 Virus

- Oral
- Nose
- hands

- Infected parts touch
- Eyes Skin Symptoms

Normal Symptoms

- Symptoms begin 2 to 14 days after you come across to virus.
- Sneezing, cold.
- Confusion or severe drowsiness
- A blue tint to your lips or face
- Throat will be dried soon (quickly)
- Hardness to swallowing food
- Coughing
- Fever
- Severe Symptoms
- Some people have recovered more infection in 2 weeks and if it is severe then it can take week's approx.
- Troubling breathing
- Pain or pressure in your chest

Short term symptoms

- Fever
- Dizziness
- Vomiting
- Diarrhoea
- Change in taste, smell

Long term symptoms

Memory problems

- Sleep problems
- Cough
- Fatigue
- Chest Pan
- Muscle pain

Diagnosis for detection of COVID-19: Molecular testing or PCR testing is performed to detect the genetic mutations of the COVID-19 virus using a lab process called polymerase chain reaction (PCR) in this test a water sample taken from the nasal passages or throat, or producing your own sample may spit a tube. The results of these tests can be obtained in minutes if they are analyzed by trial or in a few days or more in an area where there is a delay in testing - if the test sample is sent to the external board.

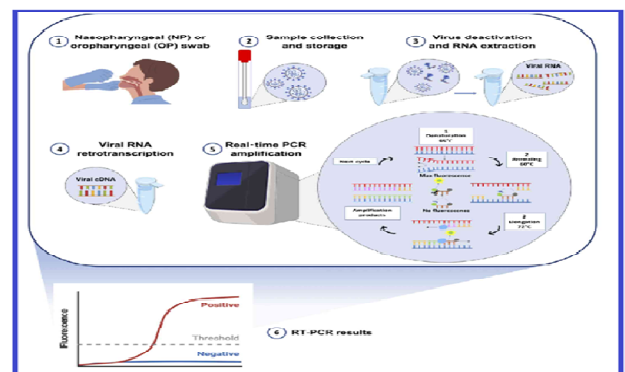


Fig. 2. Current and innovative methods for the diagnosis of COVID-19 infection

Antigen testing: This is another test for the detection of COVID-19 virus. This test detects a specific protein in the virus using a nasal swab fluid sample. These results of antigen testing in minutes. This can be sent to the board for analysis. When an antigen test is HIV positive it is more accurate when the instructions are handled carefully. But it is more likely that the results of a false test mean that it is possible for a person to be infected with the virus but have negative results, but the doctor strongly recommends PCR testing to confirm the results of the antigen test. The FDA has issued an emergency COVID-19 test kit for the home you have used. You can collect your sample by collecting nasal secretions or saliva at home to get this test. A doctor's prescription is required. The accuracy of this test may vary so a negative test does not necessarily mean that you have COVID-19. Only home tests are approved by the FDA and approved by your local health department. The VereCoV identification package is focused on VereChip technology, a Lab-on-Chip device that incorporates two important molecular biological systems, Polymerase Chain Reaction (PCR) and a microarray, which will be able to classify and distinguish within 2 h MERS-CoV, SARS-CoV and COVID-19 with high precision and responsiveness.

Importance of Prevention measure: Protect yourself and others around you by knowing the facts and by carefully following the advice given by your local health authority. It includes

- Clean your hands often.
- Use soap and water or an alcohol based hand rub.
- Maintain a safe distance from anyone who is coughing or sneezing.
- Wear a mask when physical distancing is not possible.
- Don't touch your eyes, nose or mouth.
- Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.
- Stay home if you feel unwell.
- If you have a fever, cough and difficulty breathing, seek medical attention.

Treatment of covid -19

After a identification of SARS-COV-2:

- Build in avoidance and isolation are considered as the most technique to stop the rapid spreading of the virus. Because the not effective vaccine, drugs or antiviral to prohibit and to handle this disease. Contumacy the great efforts. Develop vaccine and treatment of covid -19.
- Ambulatory plasma can be used to help people repair vigorous infection without the manifestation of severe adverse conflicting events.
- Lopinavir (protease inhibitor used to treat HIV) Or Lopinavir /Ritonavir demonstrate a minimization of viral loads and it was founding.
- It is able to upgrade the virus symptoms during a analysis period.
- No, study has demonstrated the potency of, oseltamivir the diagnosis of SARS-COV-2. However, given the Real events issues of surveillance safely and competence. It is necessary to make some time to develop the vaccine and antiviral drugs.

- Vaccination in the country has been initiated from 16 January 2021. Using the Covishield and covaxin vaccines. Vaccination on going in the country.
- The first vaccination Covaxin is about after 6 to 8 weeks and second covishield after 12 to 16 weeks. Want to take a second dose.

Drug Development Research

Aside from identifying and stopping the transmission of pathogens, the need to develop vaccinations on a scale is also needed. One of the crucial things to make that possible is to consider the origin and essence of the virus. Google's DeepMind, with their expertise in protein folding research, has rendered a jump in identifying the protein structure of the virus and making it open-source. BenevolentAI uses AI technologies to develop medicines that will combat the most dangerous diseases in the world and is also working to promote attempts to cure coronavirus, the first time the organization has based its product on infectious diseases. Within weeks of the epidemic, it used its analytical capability to recommend new medicines that might be beneficial.

CONCLUSION

This chapter provides an introduction to the coronavirus outbreak (COVID-19). A brief history of this virus along with the symptoms are reported in this chapter. We studied current knowledge of clinical epidemiology and pathological features of COVID-19 as well as immune response, management of disease, control and prevention strategies, progress in vaccination for SARS COV-2.

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REFERENCES

- Bahl P, Doolan C, de Silva C, et al. Airborne or droplet precautions for health workers treating COVID-19? *J. Infect. Dis.* (2020).
- Bourouiba L. Turbulent Gas Clouds and Respiratory Pathogen Emissions: Potential Implications for Reducing Transmission of COVID-19. *JAMA* 2020; 323:1837.
- Stadnytskyi V, Bax CE, Bax A, Anfinrud P. The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission. *Proc Natl AcadSci USA* 2020; 117:11875.
- Ong SWX, Tan YK, Chia PY, et al. Air, Surface Environmental, and Personal Protective Equipment Contamination by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS CoV-2) From a Symptomatic Patient.

- Calistri P, Amato L, Puglia I, et al. Infection sustained by lineage B.1.1.7 of SARS-CoV-2 is characterised by longer persistence and higher viral RNA loads in nasopharyngeal swabs. *Int J Infect Dis* 2021; 105:753.
- Gu H, Chen Q, Yang G, et al. Adaptation of SARS-CoV-2 in BALB/c mice for testing vaccine efficacy. *Science* 2020; 369:1603.
- Challen R, Brooks-Pollock E, Read JM, et al. Risk of mortality in patients infected with SARS-CoV-2 variant of concern 202012/1: matched cohort study. *BMJ* 2021; 372:n579.
- Davies NG, Jarvis CI, CMMID COVID-19 Working Group, et al. Increased mortality in community-tested cases of SARS-CoV-2 lineage B.1.1.7. *Nature* 2021; 593:270.
- Muik A, Wallisch AK, Sanger B, et al. Neutralization of SARS-CoV-2 lineage B.1.1.7 pseudovirus by BNT162b2 vaccine-elicited human sera. *Science* 2021; 371:1152.
- Wu K, Werner AP, Moliva JI, et al. mRNA-1273 vaccine induces neutralizing antibodies against spike mutants from global SARS-CoV-2 variants. UNPUBLISHED. <https://www.biorxiv.org/content/10.1101/2021.0.2021>.
- Woo PC, et al. Discovery of seven novel Mammalian and avian coronaviruses in the genus deltacoronavirus supports bat coronaviruses as the gene source of alphacoronavirus and betacoronavirus and avian coronaviruses as the gene source of gammacoronavirus and deltacoronavirus. *J Virol*. 2012;86(7):3995–4008.
- Fong S J, Li G, Dey N, Crespo RG, Herrera-Viedma E (2020) Finding an accurate early forecasting model from small dataset: a case of 2019-ncov novel coronavirus outbreak. arXiv preprint arXiv:2003.10776
- Ge XY, et al. Detection of alpha-and betacoronaviruses in rodents from Yunnan China. *Virology* 2017;14(1):98. doi: 10.1186/s12985-017-0766-9.
- Can We Learn Anything from the SARS Outbreak to Fight COVID- 19? <https://www.healthline.com/health-news/has-anything-changed-since-the-2003-sars-outbreak>
- Huang Y (2004) The SARS epidemic and its aftermath in China: a political perspective. *Learning from SARS: Preparing for the next disease outbreak*, 116–36.
- Hung LS. The SARS epidemic in Hong Kong: what lessons have we learned? *J R Soc Med*. 2003; 96(8):374–378.
- Rajinikanth V, Dey N, Raj ANJ, Hassanien AE, Santosh KC, Raja N (2020) Harmony- search and Otsu based system for coronavirus disease (COVID-19) detection using Lung CT scan images. arXiv preprint arXiv:2004.03431
- Kim KH, Tandil TE, Choi JW, Moon JM, Kim MS. Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak in South Korea, 2015: epidemiology, characteristics and public health implications. *J Hosp Infect*. 2017;95(2):207–213.
- Sikkema RS, Farag EABA, Islam M, Atta M, Reusken CBEM, Al-Hajri MM, Koopmans MPG (2019) Global status of Middle East respiratory syndrome coronavirus in dromedary camels: a systematic review. *Epidemiol Infect* 147.
