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## RESEARCH ARTICLE

### COVID 19: REVIEW AND UPDATE

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#### ABSTRACT

Corona virus are well known group of enveloped viruses. They are known as single stranded RNA genomes. Human Corona virus chiefly cause respiratory disease. As the Covid disease rolled out across all over the world, we must prepare for the threat which is directly related to this pandemic. Rapid diagnosis and isolation is considered as very important in case of Covid diseases. In this review, we are trying to give the basic information about the Corona virus.

#### INTRODUCTION

Novel coronavirus, which is the main etiological agent of Covid-19 (corona virus diseases 2019), appeared in Wuhan, China. Novel coronavirus is officially recognized as SARS-CoV-2 (severe acute respiratory syndrome corona virus 2) (WHO, 2020). Novel coronavirus was diagnosed from patient's throatswab sample on January 7. WHO (World Health Organization) named the diseases as coronavirus disease 2019 (Covid-19) (Hui, 2020; Gorbalenya Aea, 2020). Covid-19 was declared as a universal health emergency on 30<sup>th</sup> January 2020 by WHO (World Health Organization). Subsequently, it is declared as a pandemic by WHO (World Health Organization) on 11<sup>th</sup> March (Gallegos, 2020; Ramzy, 2020).

**Virus origin and classification:** Coronavirus is known as a large family of RNA (single-stranded) viruses, which belongs to Nidovirales order. This order includes arteriviridae, roniviridae and coronaviridae families. Coronaviridae family can be subdivided into coronavirinae subfamilies and torovirinae subfamilies.

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Further, coronaviriae is subclassified to 4 types i.e. Alpha, Beta, Gamma, Delta coronavirus (Burrell et al., 2016; Kramer, 2006). Alpha coronavirus consists of human coronavirus-229e (HCoV-229 e) and human coronavirus-NL63E. Beta coronavirus consists of humancorona virus-OC43, SARS-HCoV (Severe Acute Respiratory Syndrome Human Coronavirus), Human Coronavirus-HKU1, and MERS-CoV (Middle Eastern Respiratory Syndrome Coronavirus). Gamma coronavirus consists of viruses of birds as well as whales. Delta Coronavirus consists of viruses which is confined from birds as well as pigs. These classification is based on the phylogenetic clustering. Range of their viral RNA genome is from 26-32 kilobases in length (Fehr, 2015; Lu, 2019). People's from all ages are sensitive. Coronavirus infection is spreaded through large droplets which is bring out by symptomatic patients during sneezing and coughing. These infected droplets may spread upto 1 to 2 m and can deposit on the surfaces. The virus may be destroyed by using various disinfectants like hydrogen peroxide and sodium hypochlorite. The Corona virus infection bring in by inhalation of the infected droplets or by touching the contaminated surface and then touching the mouth, nose and eyes. The incubation period of the Coronavirus is from 2 days to 14 days. It has been observed that Angiotensin receptor 2 is the receptor by which the virus invades the respiratory mucosa (Cheng, 2019).

**Clinical features:** The clinical features of Covid 19 are diversified, which ranges from asymptomatic environment to ARDS (Acute Respiratory Distress Syndrome) and multi organ dysfunction. The most frequent clinical features are cough, headache, sore throat, myalgia, fatigue and breathlessness. As the first week end, the diseases can advanced to respiratory failure, pneumonia and even death can occur. This advancement is related with intense rise in inflammatory cytokines which consist of IL2,IL7, IL10, TNF- $\alpha$ ,MCP1,MIP1a (Chen, 2020). Along with respiratory illness, some gastrointestinal symptoms features are also seen. These includes nausea, abdominal pain and diarrhoea. These gastrointestinal symptoms thought to occur because of binding of virus glycoprotein to intestinal ACE 2 (Angiotensin Converting Enzyme) receptors (Wany, 2020). It has been seen that considerable number of death occurs in age group of 60 years or in those patients who had already suffering from comorbid conditions like cardiovascular diseases, hypertension and diabetes (The novel coronavirus pneumonia emergency response epidemiology Team, 2019).

**Diagnosis:** Various diagnostic test are there to confirm if the patient is suffering from Coronavirus or not. Those patients who are applicable for SARS-CoV- 2 examination, the sample must be collect from upper respiratory tract (i.e nasopharyngeal swab and oropharyngeal swab) and if possible, sample can also be collected from lower respiratory tract (i.e sputum, bronchoalveolar lavage and tracheal aspirate.)<sup>15</sup>.The virus can also be present in stool, and in blood also if case is severe, The chest X-ray mainly shows presence of bilateral infiltrates. CT imaging can also be done. CT imaging typically shows presence of ground glass opacities, infiltrates, and sub segmental consolidation (Huang et al., 2020). Presently, for confirming the cases, RRT-PCR (Real Time Reverse Transcription). For fast detection, an advanced kit is made for detection of serum immunoglobulin which provides results in 15 minutes in suspected cases (The novel coronavirus pneumonia emergency response epidemiology Team, 2019).

**Laboratory findings:** Various other laboratory investigations are routinely non-specific. The white blood cell count is generally either normal or low. The platelet count is generally normal or mild low. The ESR and CRP are mostly elevated. the prothrombin time, CPK, ALT/AST, LDH level is seen to be elevated (Huang, 2020; Wang et al., 2020). Some patients shows increased level of Creatine Kinase, C-reactive-protein, Elevated Aspartate Aminotransferase and Creatinine (Bai et al., 2020).

**Treatment:** Patients needs vital organ support. Antibiotics could be started if it is suspected that there is secondary bacterial infection, after dispatching sample for culturing (World health organization, 2019). Medicines like Chloroquine and Remdesivir are seen to be effective in vitro. Advanced therapies like Leronlimab, Brilacidin are being tested in conjunction with some distinct Antivirals like Lopinavir, Ritonavir and Oseltamivir. Recently, plasma from the recovered patients is used for treatment of patients (Wang, 2020; Chen, 2020).

**Preventive measures:** It is seen that the best way to paused the spread of infection is prevention the hand hygiene comprises the use of alcohol-based hand rubs before as well as after contact with each and every patient. It is also suggested that to follow hand hygiene before as well as after food

preparation, before eating, even after removing the face masks as well as hand gloves. The health care workers are suggest to always wear personal protective equipment. Also, always use n95 masks and eye shields during taking of respiratory samples (World health organization, 2020).

## REFERENCES

- Bai Y, Yao L, Wei T, Tian F, Jin DY, Chen L et al. Presumed asymptomatic carrier transmission of covid-19. *Jama* 2020;323(14):1406-7
- Burrell C, Howard C, Murphy F. Fenner and White's medical virology. 5th Ed.united states: academic press; 2016.
- Chen L, Xiong J, Bao L, Shi Y. Convalescent plasma as a potential Therapy for covid-19. *Lancet infect dis.* 2020 Apr;20(4):398-400
- Chen N,Zhou M, Dong X . Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, china: A descriptive study. *Lancet.* 2020;395:507–13
- Cheng ZJ, Shan J. 2019 novel coronavirus: where we are and what we know. *Infection.* 2020:1–9
- Fehr AR, Perlman S: Coronaviruses: an overview of their replication and pathogenesis . *Methods Mol Biol.* 2015, 1282:1-23.
- Gallegos A. Who declares public health emergency for novel coronavirus. *Medscape medical news.* 2020, [cited 2020 feb 23]. Available from: <https://www.medscape.com/viewarticle/924596>. Ramzy A, Mcneil DG. W.H.O. declares global emergency as wuhan coronavirus spreads. *The new york times.* 2020, [cited 2020 feb 23]. Available From: <https://nyti.ms/2rer70m>.
- Gorbalenya Aea. Severe acute respiratory syndrome-related coronavirus: the species and its viruses – a statement of the Coronavirus study group. *Biorxiv2020*.Available from <https://www.biorxiv.org/content/10.1101/2020.02.07.937862v1>
- Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020;395:497-506
- Huang P, Liu T, Huang L,Liu H, Lei M, Xu W et al. Use of chest CT in combination with negative RT-PCR assay for the 2019 novel coronavirus but high Clinical suspicion. *Radiology.* 2020 Apr;295(1):22-23
- Hui DS, E IA, Madani TA, Ntoumi F, Kock R, Dar O, Et al. The continuing 2019-ncov epidemic threat of novel coronaviruses to global health – the latest 2019 novel coronavirus outbreak in wuhan, china. *Int J Infect Dis* 2020;91:264–6
- Kampf G, Todt D, Pfaender S, Steinmann E. Persistence of coronaviruses on inanimate surfaces and its inactivation with biocidal agents. *J Hosp Infect.* 2020 feb 6. Pii: s0195–6701(20)30046–3.
- Kramer A, Schwebke I, Kampf G. How long do nosocomial pathogens persist on inanimate surfaces? A systematic review. *Bmc Infect Dis* 2006;6:130.
- Lu R, Zhao X, Li J : Genomic characterisation and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding. *Lancet.* 2020, 395:565-74.
- Patel A, Jernigan DB. Initial public health response and interim clinical guid-ance for the 2019 novel coronavirus outbreak—united states, December 31,2019–February 4, 2020. *Mmwr Morb Mortal Wkly Rep* 2020;69(5):140-6

- The novel coronavirus pneumonia emergency response epidemiology Team. The epidemiological characteristics of an outbreak of 2019 Novel coronavirus diseases (covid-19) - china, 2020. *China CDC Wkly.* 2020;41(2):145–51.
- Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *Jama* 2020;323(11): 1061-9
- Wang M, Cao R, Zhang L, Yang X, Liu J, Xu M et al. Remdesivir and chloroquine effectively inhibit the recently emerged novel Coronavirus (2019-ncov) in vitro. *Cell res.* 2020;30(3):269–71
- Wany, Shang J, Grahamr, Baric RS, Li F. Receptor recognition by novel Coronavirus from Wuhan: an analysis based on decade-long structural Studies of sars. *J Virol.* 2020: 94(7):e00127-20
- WHO director-general’s opening remarks at the media briefing on covid-19 - 11 march 2020. <https://www.who.int/dg/speeches/detail/who-directorgeneral-S-opening-remarks-atthe-media-briefing-on-covid-19—11-march-2020>.
- World health organization. Clinical management of severe acute Respiratory infection when novel coronavirus (2019-ncov) infection is Suspected-interim guidance. 2020, [cited 2020 feb 18]. Available from: [https://www.who.int/publications-detail/clinical-managementof-Severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-managementof-Severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected).

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