

# Editorial Note on Pathogenesis of Emerging COVID-19

Patrick Yang\*

*Influenza Division, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, GA, USA*

COVID has become the major health problem. Coronavirus disease 2019 (COVID-19) or SARS-CoV-2 is a contagious respiratory infection caused by a virus CORONAVIRUS. COVID spreads mostly through physical contact. When an individual infected with the virus may spread the disease when breathes, coughs, sneezes, or talk.

The first identification of disease was in Wuhan, China in December 2019. Later it has become a globe health issue and to date it is continuing as a major health issue. More than 350000 cases has been confirmed or tested positive for corona virus globally. According to studies info Coronavirus spread from bat which attacks respiratory system. It also effects other organs also.

Symptoms of COVID include shortness of breath, fever, and cough. It is also asymptomatic.

Diagnosis can be done through Swab Test (Nasopharyngeal) or RT-PCR (Real Time-Polymerase Chain Reaction).

Severity of disease is from Mild to severe.

Medicine or Vaccine is not yet fully developed. Majority of the countries vaccine are in trials phase. Russia released first vaccine (Gam-COVID-Vac) which registered on 11 Aug, 2021. This vaccine initially faced troubles in its safety and efficacy.

Medication using for COVID includes hydroxychloroquine or chloroquine, remdesivir. Later studies have proven that Malaria drug hydroxychloroquine is

not effective in treating COVID by FDA (Food and Drug Administration).

Precautions or prevention of COVID-19 is maintain social distance, frequent hand wash or sanitization, wearing mask or cloth which closes mouth and nose helps in preventing the disease.

Recent studies, Pan-India COVID-19 genome studies confirmed that COVID genes are stable and find any major mutations.

**Pathogenesis of Virus:** The SARS-CoV-2 is a positive-stranded RNA virus belongs to the genus Beta coronavirus with a crown because of its spike glycoproteins on the envelope. Other than SARS-CoV-2, there are six types of humans coronaviruses have been identified, namely, HCoV-229E, HCoV-OC43, SARS-CoV, HCoV-NL63, HCoV-HKU1, and MERS-CoV. Phylogenetic analysis revealed that SARS-CoV-2 is closely related (88-89%) similarity with bat-derived severe acute respiratory syndrome- (SARS-) like coronaviruses. The SARS-CoV-2 has an envelope; its particles are round or elliptic and often polymorphic form, and a diameter of 60 nm to 140 nm. Additional studies based on the genetic sequence identity and the phylogenetic reports confirmed that COVID-19 is different from SARS-CoV, and it can thus be considered as a new  $\beta$ coronavirus that infects humans.

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**\*Address for Correspondence:** Yang PG, Influenza Division, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, GA, USA, Tel: +404-639-2832; E-mail: gyang@cdc.gov

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