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COVID-19: DIAGNOSIS, TREATMENT AND IMPACT ON PHARMA INDUSTRIES AND MARKET

Navneet Kumar Verma*¹, Asheesh Kumar Singh¹, Karunakar Prasad Dwivedi¹, Akash Kumar Gupta¹,
Satendra Kumar²

¹Faculty of Pharmacy, Buddha Institute of Pharmacy, GIDA, Gorakhpur, Uttar Pradesh, India.

²L.N. Pharmacy College, Govindpur, Baitalpur, Deoria, Uttar Pradesh, India.

ABSTRACT

Coronaviruses attain a distinctive morphology, the name being derived from the outer fringe, or “corona” of embedded envelope protein. Coronaviruses cause a broad spectrum of animal and human diseases. Uniquely, replication of the RNA genome proceeds from getting all the way correctly downward to end the assembly of a nested set of viral mRNA molecules. This changed dramatically in 2003 with the zoonotic SARS-CoV and thus the newer emergence of MERS-CoV has confirmed the coronaviruses as significant causes of severe disease. Efforts to recognize the animal reservoir of SARS coronavirus led to the invention of diverse bat coronaviruses in both group 1 and a small amount of of that are closely related phylogenetically to different mammalian coronaviruses.

KEYWORDS

Coronaviruses, COVID-19, RNA Virus and SARS.

Author for Correspondence:

Navneet Kumar Verma,
Faculty of Pharmacy, Buddha Institute of Pharmacy,
GIDA, Gorakhpur, Uttar Pradesh, India.

Email: navneet_its04@rediffmail.com

INTRODUCTION

Coronavirus disease spreads when an individual touches a surface or object that has the virus thereon, then touches their eyes, nose, or mouth. A novel coronavirus, designated as 2019-nCoV, emerged in Wuhan, China, at the top of 2019. As of January 24, 2020, a minimum of 830 cases had been diagnosed in nine countries: China, Thailand, Japan, South Korea, Singapore, Vietnam, Taiwan, Nepal, and therefore the us. Twenty six death occurred, mainly in patients who had serious underlying illness. Many details of this virus such

as its origin and its ability to spread among humans remain unknown, an increasing number of cases appear to possess resulted from human-to-human transmission. Given the severe acute respiratory syndrome coronavirus (SARSCoV) outbreak in 2002 and therefore the Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak in 2012, 2019-nCoV is that the third coronavirus to emerge within the human population within the past 20 years - an emergence that has put global public health institutions on high alert. Several countries within the region also because the us are screening travelers from Wuhan for fever, getting to detect 2019-nCoV cases before the virus spreads further. Updates from China, Thailand, Korea, and Japan indicate that the disease related to 2019-nCoV appears to be relatively mild as compared with SARS and MERS. Coronaviruses structure an outsized family of viruses which will infect birds and mammals, including humans, consistent with world health organisation (WHO). These viruses are liable for several outbreaks round in the world, including the severe acute respiratory syndrome (SARS) pandemic of 2002-2003 and therefore the Middle East respiratory syndrome (MERS) outbreak in South Korea in 2015. Now latest, a completely unique coronavirus (SARS-CoV-2, also referred to as COVID-19) triggered an epidemic in China in December 2019, sparking international concern. A period of time some coronaviruses have caused devastating epidemics, others cause mild to moderate respiratory infections, just like the cold¹⁻¹³.

Diagnosis of Corona Virus

In the us, the Canter for Disease Control and Prevention (CDC) recommends a set of specimens to check for SARS-CoV-2 from the upper tract (nasopharyngeal and oropharyngeal swab) and, if possible, the lower tract (sputum, tracheal aspirate, or bronchoalveolar lavage). The induction of sputum isn't indicated. Stool and urine also can be collected. Respiratory specimen collection should be performed under airborne precautions. SARS-CoV-2 RNA is detected by polymerase chain reaction (PCR) technique; within the us, testing is

performed by the CDC or a CDC-qualified lab. Negative reverse-transcription polymerase chain reaction (RT-PCR) tests on oropharyngeal swabs despite CT findings implicational viral infection are reported in some patients who ultimately tested positive for SARS-CoV-2¹⁴.

Treatment of Corona Virus

There is currently no specific vaccine or treatment recommended for COVID-19 infection and for severe cases current treatment includes care to support vitals function. Several therapeutic options including ribavirin, interferon alfa, and lopinavir/ritonavir are given together. Interferons with ribavirin showed a limited effect on coronavirus infection. Within the other way therapies with plasma and antibody obtain from the convalescent patient has proposed as a treatment. Identifying and control the source of infection, early diagnosis, reporting, isolation, supportive treatments is that the best thanks to affect severe infections of CoVs and timely publishing epidemic information to avoid unnecessary panic. For people, good personal hygiene fitted masks, ventilation and avoiding crowded places will help to stop CoVs infection¹⁵. According to president trump referred especially to 2 potential treatment that has been identified by medical researchers and clinicians that have undergone various degrees of investigation and testing within the ongoing war against COVID-19. France has examined the effectiveness of anti-malarial drug chloroquine and hydroxychloroquine the study showed the positive effect of hydroxychloroquine in reducing both the duration and symptoms of COVID-19 if it's given within the combination with azithromycin.

Spreading of corona in worldwide

The global death rate for COVID-19 is 3.4%, WHO said on 5 March. This virus causes more severe illness than flu-like pneumonia, a severe respiratory condition, shortness of breath. Here's a glance at the amount of cases in hotspot outside China, consistent with WHO on 14 March 2020.

Transmission of Coronavirus

The new coronavirus spreads moistly through person to person contact within about 6 feet (1.8

meters) radius consistent with the Centre for Disease Control and Prevention (CDC). It'd even be spread by touching a surface where the virus has recently landed then touching one's mouth, eyes or nose. People with COVID-19 which may be a disease caused by the coronavirus spread viral particles through coughing and sneezing. The particles can land within the mouth or nose of these nearby.

Practice good hygiene and health habits

Wash your hands often and thoroughly with soap/hand wash and water for a minimum of 20 seconds or use an alcohol-based hand sanitizers (with a minimum of 60% to 95% alcohol). Avoid touching your eyes, nose or mouth as you'll pick viruses that way. Avoid unprotected contact with pets (Dog or) Cat and wild animals. Cover your coughs and sneezes with an elbow sleeve or tissue. Keep the space while talking within the group of peoples. Wash the garments with predicament and disinfectant like Dettol regularly. Clean frequently touched surfaces and objects sort of a doorknob and countertops. Push the doors with elbow. Clean the ground surface with a disinfectant containing 62% to 71% ethanol, 0.5% peroxide or bleach can efficiently inactivate coronavirus within a moment.

Impact of corona on world economy

Afraid of coronavirus outbreak means some people are choosing to avoid activities which may expose them to the danger of infection, like going out shopping. Conference of the World" like factories pauses their work and reduces the activities trying to stop the spreading of COVID-19. Only those workers and employees are allowed who is healthy and remaining are allowed to figure from home. Businessmen and investors are worried thanks to the large impact on the market due to coronavirus spread outside of China. Big hit to the stock exchange where shares in companies are bought and sold also can affect the investment of individual savings. The last week of Feb 2020 showed the worst performance for the main stock market since the 2008 financial crisis.

IMPACT ON PHARMA INDUSTRIES AND MARKETS

WHO calls on Pharma industries and governments to increase manufacturing by 40 percent to meet rising global demand

According to the Dinesh Dua chairman of Pharmexil (Pharmaceutical Export Promotion Council) which function under the Ministry of Commerce and Industry said the costs of APIs get increases now each day because most APIs are imported from China and thanks to coronavirus spread in whole china the trades between India and China are stopped. We try to import an outsized number of APIs from other countries which cause a rise in prices of drugs within the upcoming months. According to the information available with the Pharmexil, a value of paracetamol has gone up from Rs.250-300kg to 400-450kg. And similarly, montelukast sodium' (an anti-asthma drug) is trading between Rs.52,000 and Rs.58,000 per kg, compared with Rs 33,000-38,000 per kg a couple of months ago. Similarly, the costs of vitamins and penicillin have increased by 40-50%. Top drug makers in India like Zydus, Dr. Reddy's, Lupin, Glenmark, Mylan, Pfizer, and Biocon held a gathering on 19 Feb. 2020 to beat such sort of problem.

Impact on hospitals and health care centers

The World Health Organization has notified that severe and setting disturbance to the worldwide supply of private protective equipment (PPE) caused by increasing the demand, panic buying, hoarding, and misuse is putting the lives in danger of newly introduce coronavirus and another communicable disease. Thanks to limited supplies of gloves, medical mask, respirator, and goggles gown and apron the shortage of doctors and nurses increasing day by day to worry for COVID-19 patients. WHO and ministry of health recall the doctor who is retired and inactive for providing service for infected patients in an isolated ward^{10,15-41}.

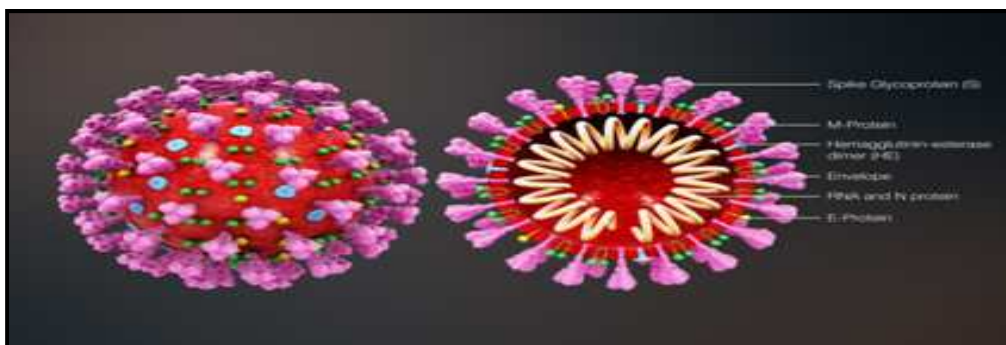


Figure No.1: Corona Virus (Taken from google.co.in)

CONCLUSION

Coronaviruses are present more positive-strand RNA 5'-terminal two-thirds of the genome contain two open reading frames (ORFs), 1a and 1b, that together structure the viral replicate gene and encode two large polyproteins into 15-16 nonstructural proteins, most of them being involved in viral RNA synthesis. First, understood that the propensity of those viruses to leap between species, to determine infection during a new host, and to spot significant reservoirs of coronaviruses will dramatically aid. As bats seem to be a big reservoir for these viruses, it will be interesting to work out how they appear to avoid clinically evident disease and become persistently infected. Second, many of the non-structural and accessory proteins encoded by these viruses remain uncharacterized with no known function, and it will be important to spot mechanisms of action for these proteins also as defining their role in viral replication and pathogenesis. These studies should cause an outsized increase within the number of suitable therapeutic targets to combat infections. Third, gaining an entire picture of the intricacies of the RTC will provide a framework for understanding the unique RNA replication process employed by these viruses.

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CONFLICT OF INTEREST

There is no conflict of interest.

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