



The Review of COVID-19 Pandemic Disease

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ABSTRACT

The Novel corona virus is the pandemic disease which transmit from animal to man. It firstly found in Wuhan in china. The virus is also named as SARS-cov2. It affects the respiratory system of the man and it transmitted through the inhalation droplets of infected person or contact with infected person without proper safety. The period of incubation is from 2 to 14 days. The symptoms found in mild, moderate, severe. high grade fever, sore throat, dry cough, fatigue, breathlessness and diarrhoea. In adverse it leads to the ARDS and death. Some cases found mild symptoms and asymptomatic but these are the carriers. Comorbid patient has high risk of the infection and need the ICU management. cases are diagnosed with the throat swab, Chest X ray, CT of chest and blood investigation, prothrombin time, total leucocyte count, ESR count. The patient is diagnosed with the RT-PCR method. treatment measure includes antiviral therapy like chloroquine, Lopinavir/Ritonavir, immune modulators some Ayurvedic management, isolation, with social and psychological support. Proper sanitation, hand hygiene, mask can prevent from infection. The Virus spread throughout the world very rapidly, this virus badly disturbed the world and death of the people as well as the health workers. The care and active management are necessary for cease the transmission.



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INTRODUCTION

The covid is highly pandemic disease which first found in wuhan in china. This disease is contagious and spread through droplet infection. The mean incubation period of the covid is the 5-6 days and from 7, 11 days the patient become contagious. Reports present incubation periods with a mean of

5-6 days 7,11, during which the patients are contagious (Mizrahi, 2020).

Some individuals are asymptomatic which infect but doesn't show any symptoms but they show the viral loads as like the symptomatic patient. Here the testing of individuals should be compulsion who have the travelled history (Rabi *et al.*, 2020).

Age

Middle aged adults are more effect COVID-19-19 - SARS. Most of the people are the men than women. Large sample size can define the exact ratio. As the age increases the elder patient infected with COVID-19 more suffer from the bacterial infection. Proportion of lymphocytes decreased and it is higher in the younger patient, it is due to the lung anatomy of the patient and muscle, defence barrier function is lowered. The of C-reactive protein level is higher in elder than young (Liu *et al.*, 2020).

Children's also infect from the COVID-19 health

workers are found to be infected due to the hospitalised infected SARS patients. The 20% of cases had any diseases and comorbid cases leads to severe cases (Lai *et al.*, 2020).

SYMPTOMS

The symptoms like cold flu, breathlessness, fever and cough is the main indication of Covid. The symptoms are in common, relatively rare, occasional, (Park, 2020), shown in Table 1.

Mild Disease

In which above symptoms with the absence of serious symptoms like dyspnoea. Majority cases (81%) land in to the serious radiograph of such patient is absent.

Moderate Disease- it shows the respiratory involvement like breathlessness, cough.

Severe Disease- ARDS, sepsis, shock. radiograph can clear the picture. Lung infiltration seen within 24 to 48 hrs (Hassan *et al.*, 2020).

If the patient ignores the symptoms and unmedicated then the breathlessness and pulmonary pneumonia it will be aggravated. The symptom found in the COVID-19 is involvement of GIT which is not get in the SARS and MERS. fecal sample show the presence of the viral RNA. Here the transmission possibly by faecal oral route. (Dhama *et al.*, 2020).

Co morbidity

Diabetes mellitus is a comorbid condition for COVID-19. the patient with same shows the high worse prognosis. Patient with COVID-19 shows the coagulopathy, organ dysfunction, clotting disorder (Sardu *et al.*, 2020). The older age with the diabetes, obesity with BMI above 40kg/m², hypertension increases the chances of Covid-19 infection with the risk of mortality and morbidity (Muniyappa and Gubbi, 2020).

Pathogenesis

The SARS pathogenesis is remained unknown- it has 3 phases. In which the first is the viral replication then it comes immune hyperactivity and finally the pulmonary destruction. The SARS pathology concerned with the lung in which the alveoli are damaged with the epithelial proliferation occurred. In the lung's lymphopenia, hem phagocytosis observed (Weiss and Navas-Martin, 2005).

SARS is entered in the cell via the angiotensin converting enzyme 2 (ACE2) receptor. The SARS-Covid entered in the lower respiratory tract by damaging epithelial cells and cytokinin formed in the abundant form it activates the immune system which

form the inflammation (Jiang *et al.*, 2020).

The ACE2 -2 is on the surface of pneumocytes, small intestine, PCT in kidney, it is mainly present in the endothelial cells of arteries and vein. Vasculitis is seen in the patient. If the epithelium of nasopharynx is undamaged then there is no support SARS-CoV replication (Peiris *et al.*, 2020). Upper respiratory track symptoms of COVID-19 are seen rare as compared to the lower respiratory tract infection but, it seen in the oral and nasal mucosa. the expression of the ACE2 is on the lower respiratory. Upper respiratory tract symptoms with SARS might be susceptible to the secondary infection (Hamming *et al.*, 2004).

Investigation

Leucocyte count shows the elevated or below level of normal. Liver findings is elevated. C reactive protein, blood urea, and serum creatinine levels may elevate (Nicola *et al.*, 2020).

Depletion of CD4 and CD8 count. Prolonged prothrombin time, ESR level raised (Wang *et al.*, 2020). The patients of suspect infection suggested for the RT-PCR to detect the positive for COVID-19 in the sputum, throat swab, and secretions of lower respiratory tract samples (Adhikari *et al.*, 2020).

TREATMENT

Immunotherapy with antiviral drugs are suggested to be useful. In the immunotherapy IgG antibodies can be utilised intravenously. It inactive the virus. In early stage the Interferon can helpful for decreasing the infection of COVID-19 disease. IFN- α nebulization can be used to high risk patient or suspected for upper airway management. The interleukin antagonists as an Anakinra, it blocks the interleukin-1, it found during inflammation due to cytokines (Özdemir, 2020).

The vaccine can act on the spike protein which effective in the prevention of disease. Large amount of ACE2 receptors neutralise the virus and regulate the Renin angiotensin activity (Taherizadeh *et al.*, 2020).

In the clinical trial registry, the different candidates prepared vaccines like in the pipeline, nucleic acids are being tried. The INO-4800 is the candidates who developed by Inovio Pharmaceuticals and Beijing Ad vaccine Biotechnology based on a DNA plasmid vaccine Electroporation (Chatterjee *et al.*, 2020).

The antiviral therapies like Lopinavir/Ritonavir and Other Antiretrovirals are found to be effective in some cases. Ribavirin is an antiviral inhabits viral RNA-dependent RNA polymerase. Its activity is found beneficial against COVID-19 (Sanders *et al.*,

Table 1: Symptoms of COVID-19

Types of Symptoms	Symptoms
Common symptoms	In 3-7 days fever, dry cough, and fatigue
Relatively rare	Rhinorrhoea, Nasal congestion, sore throat, myalgia, Exacerbated asthma
Occasional	Nonrespiratory symptoms, palpitation, diarrhoea, headache

2020).

Corticosteroids were the most commonly used in chronic disease like chronic obstructive lung disease and osteoarthritis but, here in low to moderate amount corticosteroid is used. One of the forms of treatment the plasma therapy practiced in china (Tobaiqy *et al.*, 2020).

Chloroquine and Hydrochloroquin

The chloroquine and hydrochloroquine is used as an antimalarial, also use in the SLE, rheumatic arthritis. but in the RCT found both are experimented in the COVID-19. Further studies were enrolled for the prophylaxis use of hydrochloroquine in the health workers and post exposure and high-risk exposures (Sanders *et al.*, 2020).

Ayurvedic perspective

In this period of Covid the Ayurveda can be alternate therapy for Covid. In Ayurveda there is several anti-viral drugs. The drugs act on the disease or enhance the resistance against disease. Few drugs which can be useful in the COVID-19 patient. Glycyrrhiza glabra, Ocimum sanctum, Alium sativum, Cocos nucifera, Zingiber officinale, Tinosporacordifolia, Mentha piperita, Azadirachta indica, Trachyspermum ammi, Aegle marmelos, Terminalia chebula, Andrographis paniculata, Phyllanthus emblica (Arora *et al.*, 2011).

Nasya

Oil administration in the nostrils called the Nasya. It helps to prevent allergens to enter in the nostrils. The airway epithelium act as a barrier to pollutant and microorganism. It is the first line of defence against the inhaled pathogens (Vareille *et al.*, 2011). Specially pimpalyadi tail nasya can use in the patients as well as preventive. The tail has immunomodulator property and antiinflammator (Bhakti *et al.*, 2009).

Precautions

The health care people should maintain the travel history of the patient with the respiratory illness and the international history past 2 wks. The contact with the people who have a symptom. The peo-

ple of symptom should examine and ask to wear the mask. And practice the hygiene (Singhal, 2020).

Prevention of corona virus infection separate the patient who have symptoms, avoid contact from sick people. Avoid meetings and gathering, household animals. Practice hand washing frequently (Kumar *et al.*, 2020; Adhikari *et al.*, 2020).

CONCLUSION

The COVID-19 is a pandemic disease which affect the physical, mental and economical loss. In this disease the patient come with the flu like symptoms and it worsen in many cases especially comorbid patient. The incubation period of COVID is about 2-5 days. The pathogenesis of this virus from ACE2 inhibitors and then alveoli get inflamed and breathlessness symptom occurred. RT-PCR is the diagnostic method used for COVID-19. The perfect treatment is not available till date but some immune therapy, antiviral therapy, steroids, ventilation should be effective against it. Some Ayurvedic antiviral drugs have potential to kill the virus and the Nasya therapy can be used as a precaution against them. Hand hygiene, sanitation, social distancing play effective role for avoiding the COVID-19. As Ayush working on it so further more researches are important to check this infection.

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Conflict of Interest

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