

21st Century, Rise of the Virus

MUHAMMAD NAEEM AKHTAR¹, MUNAZA JAVED²

¹Consultant Pulmonologist, Lahore General Hospital, Lahore., Email, dmaeemqaisrani@yahoo.com

²Associate Professor Medicine, Azra Naheed Medical College, Lahore. Email, munaza_mji@yahoo.com

COVID-19 outbreak emerged from Wuhan city, Hubei province of China in the end of December 2019 and by 11th March 2020 was declared as global pandemic by WHO. COVID-19 belongs to a large family of Corona viruses which cause diseases like SARS and MERS 2. COVID-19 is closely related to the SARS corona virus and is now named as SARS-CoV-2¹. Till date this pandemic has affected 6,409,589 people worldwide and 76,398 people in Pakistan with a daily increase in numbers.

COVID -19 affects people of all ages. No age group is immune to this virus. It is a highly contagious virus, which spreads by respiratory droplets and contact routes ². It has an incubation period of 1 to 14 days, most of the people start experiencing symptoms on the 5th day after exposure to the virus.

COVID-19 RNA detection by reverse-transcription polymerase chain reaction on body secretions like nasopharyngeal swabs, oropharyngeal swabs or broncho-alveolar lavage is the diagnostic investigation for confirmation of COVID-19 infection. Recently COVID-19 rapid test kits are available in Pakistan which detect the IgG and IgM antibodies in blood. Certain studies have described the role of CT scan chest as one of the diagnostic investigation in symptomatic patients with a negative PCR which shows bilateral lower lobes ground glass opacification and consolidation ³. CT chest is also used to monitor the disease progression and development of complications. Supportive evidence of infection is provided by lymphopenia, raised serum LDH and ferritin levels. Whereas the severity of disease is directly proportional to the levels of CRP, D -dimers and troponins.

The clinical spectrum of COVID-19 ranges from asymptomatic infection to mild symptoms like myalgias, anosmia, headache, rhinorrhea, sore throat, fever, dry cough to severe symptoms like pneumonia, acute respiratory distress syndrome, Septic shock, Disseminated intravascular Coagulation and Multiorgan failure. About 80% of the affected individuals are either asymptomatic or experience mild symptoms. About 15% of patients experience moderate symptoms and need hospital admissions. The remaining 5% of the patients experience severe symptoms which are managed in HDU/ICU. Most of the patients with severe symptoms are elderly with multiple comorbidities, highest mortality has been reported in this age group ⁴.

Currently world is facing a pandemic by an abysmal virus which is highly contagious with no available vaccine to provide protection nor any documented treatment regimen for its management. Clinicians are trying their best to find out effective treatment to battle this contagion. Most of the drugs being used in the management of COVID- 19 are being investigated under various clinical trials. Approximately 351 active clinical trials are specified on internet for COVID-19 or

SARS-CoV-2 until April 2, 2020⁵. Individuals who are infected with COVID- 19, are asymptomatic or have minimal symptoms require strict home isolation for a minimum of 14 days. These patients are provided symptomatic relief only. Droplet and contact precautions are advised to them. Patients with Moderate symptoms are managed in hospitals, Oxygen saturation is monitored and supplemental Oxygen is provided to maintain a saturation above 92%.

The severe and critically ill COVID-19 patients are managed in HDU/ICU with the aim to keep Oxygen saturation above 92% using high flow nasal cannula/ NIPPV/mechanical ventilation. Various clinical trials endorse the use of Azithromycin as an antibiotic for co- infections, Remdesivir as antiviral therapy, anticoagulant drugs like Enoxaparin for venous thrombosis and IL-6 inhibitor Tocilizumab in patients with cytokine storm⁶. In short there is no definitive treatment of COVID 19 infection nor one size fits all approach available for the management of COVID 19 infection. Treatment has to be individualized in every case, that to is mostly supportive with the aim to buy time till the body starts healing itself. Convalescent plasma is also being used as a last possibility to treat COVID-19 infection in various clinical trials.

In conclusion, there is no effective treatment for COVID 19 infection, the saying” Prevention is better than cure” still stands tall and has stood the tests of time. Thus prevention is the only way by which we can protect and save ourselves against this deadly contagious virus.

REFERENCES

1. COVID-19 (Novel Coronavirus 2019) Recent Trends, S Kannan, P Shaik Syed Ali, A Sheeza, K Hemalatha, Eur Rev Med Pharmacol Sci2020 Feb;24(4):2006-2011)
2. The Origin, Transmission and Clinical Therapies on Coronavirus Disease 2019 (COVID-19) Outbreak - An Update on the Status- Yan-Rong Guo, Qing-Dong Cao, Zhong-Si Hong, Yuan-Yang Tan, Shou-Deng Chen, Hong-Jun Jin, Kai-Sen Tan, De-Yun Wang, Yan Yan, Mil Med Res 2020 Mar 13;7(1):11
3. Sensitivity of Chest CT for COVID-19: Comparison to RT-PCR Yicheng Fang, Huangqi Zhang, Jicheng Xie, Minjie Lin, Lingjun Ying, Peipei Pang, Wenbin Ji, Radiology2020 Feb 19;200432
4. Epidemiology, virology, and clinical features of severe acute respiratory syndrome -coronavirus-2 (SARS-CoV-2; Coronavirus Disease-19)Su Eun Park,Clin Exp Pediatr. 2020 Apr; 63(4): 119–124
5. Pharmacologic treatments for coronavirus disease 2019 (COVID-19): a review.Sanders JM, Monogue ML, Jodlowski TZ, Cutrell JB, Jama. 2020 May 12;323(18):1824-36
6. Tocilizumab Treatment in COVID-19: A Single Center ExperiencePan Luo, Yi Liu, Lin Qiu, Xiulan Liu, Dong Liu, Juan LiJ Med Virol. 2020 Apr 6; 10