IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

THE NOVEL CORONA VIRUS INFECTION (COVID-19)

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Abstract :

COVID-19 (coronavirus disease 2019) is a respiratory tract infection with a newly recognized coronavirus thought to have originated as a zoonotic virus that has mutated or otherwise adapted in ways that allow human pathogenicity .Disease was provisionally called 2019-nCoV infection at start of outbreak (2019 novel corona virus infection) Outbreak began in China but has since spread to many other countries; it was officially declared by WHO to be a pandemic[1] on March 11, 2020

Key Words : Corona Virus , Diagnosis ,Physical Examination, Treatment

I. INTRODUCTION :

The 2019 novel corona virus or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) as it is called, is rapidly spreading from its origin in Wuhan City of China to the rest of the world. SARS-CoV-2 is a positive-sense, single-stranded RNA virus. The SARS-CoV-2 virion is about 50-200 nm in diameter and consists of four main structural proteins; spike (S), envelope (E), membrane (M), and nucleocapsid (N) [03]. The S protein allows the virus to bind to the host's cell membrane. The angiotensin-converting enzyme 2 (ACE2) receptors on host cells have been found to be the target of S proteins. It then undergoes structural changes to fuse with the host , this eventually allows viral genes to enter the host cell[123] coronavirus disease , [3] similar to the SARS (severe acute respiratory syndrome) and MERS (Middle East respiratory syndrome) Designated as SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2); earlier provisional name was 2019- nCoV [5, 4]

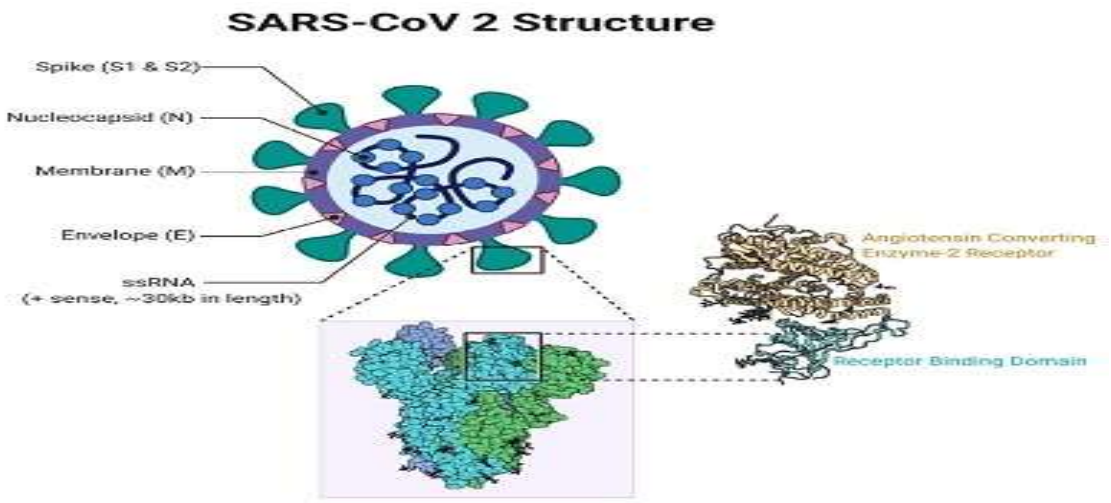

Figure : 1.1 SARS-CoV-2

II Diagnosis :

In symptomatic patients, illness may evolve over the course of a week or longer, beginning with mild symptoms that progress (in some cases) to the point of respiratory distress [4].Most common complaints are fever (almost universal) and cough, which may or may not be productive [4].Myalgia and fatigue are common [4].Patients with moderate to severe disease complain of dyspnea [4].Hemoptysis has been reported in a small percentage of patients [4].Upper respiratory tract symptoms (eg, rhinorrhea, sneezing, sore throat) are unusual [4].Headache and gastrointestinal symptoms (eg, nausea, vomiting, diarrhea) are uncommon but may occur [4].Reported case series have not detailed physical findings, but clinicians should be particularly attuned to pulmonary and hemodynamic indicators of severe disease. Patients with severe disease may appear quite ill, with tachypnea and labored respirations.Fever is usual..Hypotension, tachycardia, and cool/clammy extremities suggest shock

III Preventative :

1. Stay quarantine if you feel sick[5]
2. Don't touch your eyes, nose or mouth
3. Wash your hands often or upto 20 sec.
4. Maintain a safe distance from anyone who is coughing or sneezing.
5. Cover your nose and mouth with your bent elbow or a tissue when you sneeze[5]

IV.Physical examination

- In symptomatic patients, illness may evolve respiratory distress and shock [6]
- Most common are fever and cough[6]
- Myalgia and fatigue are common [6]
- Patients with modrate dyspnea [6]
- Hemoptysis has been reported in a small percentage of patients [6]
- Pleuritic chest pain [8]
- Upper respiratory tract symptoms [6]
- Headache and gastrointestinal symptoms [6]
- Patients with severe disease may appear quite ill, with tachypnea and labored respirations
- Fever is usual, often exceeding 39 °C. Patients in the extremes of age or with immunodeficiency may not develop fever [6]
- Hypotension, tachycardia In children [11]
  - Altered mental status
  - Tachycardia (heart rate more than 160 beats per minute in infants or 150 in older children) or bradycardia (heart rate less than 90 in infants or 70 in older children)
  - Tachypnea
  - Mottled skin, petechiae, or purpura
  - Oliguria
  - Hyperthermia or hypothermia

V.TREATMENT OPTIONS :

5.1 Several existing antiviral agents are being used under clinical trial

Lopinavir-ritonavir is FDA-approved for treatment of HIV infection. It has been used for other coronavirus infections; it was used empirically for SARS [6] and is being studied in the treatment of MERS [7] In China this combination is used in conjunction with interferon alfa for treatment of some patients with COVID-19 A trial in 199 patients with COVID-19 comparing lopinavir-ritonavir with standard care did not show a significant difference in time to improvement or in mortality at 28 days, nor were there differences in duration of viral RNA in oropharyngeal specimens [8] Chloroquine and derivatives have also been used in China and South Korea, reportedly with favorable results [9] Azithromycin has been used in combination with hydroxychloroquine in some protocols; however, the risk of cardiac arrhythmias must be considered [10] Remdesivir is an experimental antiviral agent with significant in vitro activity against coronaviruses [11]and some evidence of efficacy in an animal model of MERS Immunomodulators such as tocilizumab (monoclonal antibody against interleukin-6 receptor) are also being investigated.

Conclusion :

This article provides detail information about corona virus and still we are taking very easy so it helps us aware those things so we can live happily and safely.

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