

COVID -19

Introduction:

- COVID -19 is Corona Virus Disease 2019 caused by a Novel Corona virus.
- It causes respiratory illness from common cold to Severe Acute Respiratory Syndrome (SARS) which can spread from person to person.
- The virus that causes the disease is SARS CoV-2, which was named by the International Committee on Taxonomy of Viruses.

Origin

- ❖ The novel coronavirus originated from the Hunan seafood market at Wuhan, China.
- ❖ The first human cases of COVID-19, was reported from Wuhan City, China, in December 2019.
- ❖ The genomic analysis revealed that it is phylogenetically related to bat virus. The intermediate source of origin and transfer to humans is not known.

History

- Corona Virus causing Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS) were detected for the first time in 2003 and 2012 respectively.
- SARS -CoV infected civet cats and infected humans in 2002 and MERS-CoV was found in dromedary camels and infected humans in 2012.

Modes of Transmission

- ◆ COVID-19 primarily transmits through droplets of saliva or discharge from nose when an infected person coughs or sneezes and touching an infected area or the objects of an infected person.



Pathogenesis

- ◆ The Corona virus S protein with envelope spike glycoprotein enters into the cells by endocytosis and membrane fusion. ACE-2 is the host cell receptor responsible for mediating infection.
- ◆ The infection reaches the respiratory tree, causes inflammation and irritates nerves in the lining of air way.
- ◆ The lungs filled with inflammatory materials are unable to get enough oxygen to blood stream, reducing the body ability to take on oxygen and get rid of carbon dioxide and this usually leads to death.

- ◆ Antigen presentation stimulates body's humoral and cellular immunity leading to the production of IgM and IgG antibodies.
- ◆ ARDS (Acute Respiratory Distress Syndrome) is the main death cause of Covid -19, caused by the uncontrolled systemic inflammatory response from the release of large amounts of pro-inflammatory cytokines and chemokines, which ultimately trigger a violent attack by the immune system and cause ARDS, multiple organ failure and death.

Symptoms

- ❖ Patients of COVID-19 had mild to severe respiratory illness.
 - **Fever**
 - **Cold**
 - **Dry cough**
 - **Shortness in breath**
 - **Sore throat**

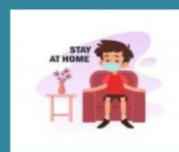


Treatment

- ◆ There is currently no treatment specifically approved to prevent for COVID-19, and no cure for an infection, although treatment and vaccines are currently under study.
- ◆ Steroids are used to reduce lung swelling, breathing support, such as mechanical ventilation is the major treatment for the patients with severe infection.

Prevention

- ✓ **Washing hands**
Wash your hands often with soap and water for at least 20 seconds. Use alcohol based sanitizer if soap and water are not available.
- ✓ **Social Distancing**
Maintaining at least 1 meter distance from person to person can avoid entry of virus.
- ✓ **Stay home** When you are sick. If you have fever, cough, and difficulty in breathing seek medical attention immediately.



Practicing Respiratory Hygiene

Cover your cough or sneeze with a tissue, then throw the tissue in the trash.

- ✓ **Avoid touching eyes, nose and mouth**
Hands can touch contaminated objects and carry viruses when you touch eyes, nose or mouth without cleaning.

Wearing Masks

We are advised to wear masks in public to protect from the suspected people.

