Journal of Clinical and Experimental Pathology

Craig J, J Clin Exp Pathol 2020, 10:7

Editorial Open Access

Clinical Pathology of Covid19

Johnson Craig*

Department of Pathology, University of Wisconsin-Madison, Madison, WI, United States

***Corresponding author:** John Craig , Department of Pathology, University of Wisconsin-Madison, Madison, WI, United States, E-mail: johnacrn@umich.edu

Received date: July 02, 2020; **Accepted date:** July 17, 2020; **Published date:** July 24, 2020

Role of Clinical Pathology of Covid 19

A virus is a submicroscopic, infectious agent which replicates only inside the living organism. Viruses infect all types of life forms such as microorganisms, bacteria, archaea, plants and animals. Coronaviruses are a group of viruses belonging to RNA viruses that cause diseases in mammals and birds. Coronavirus disease also known as Covid-19 is a new virus which is identified in the year 2020. Covid19 causes common cold, Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). Covid19 is one of the seven various types of virus [1]. This virus is called as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and the disease is called as Coronavirus disease (Covid-19).

The symptoms of Covid19 includes dry cough, fever, chills, cold, body ache, muscle ache, headache, loss of taste, loss of smell, tiredness, sore throat, diarrhoea, nausea or vomiting, conjunctivitis, discoloration of fingers or toes, difficulty in breathing or shortness of breath, blue lips or face, excessive drowsiness, chest pain and loss of speech or movement [2]. These symptoms vary from person to person based in their levels of immunity. The severity of Corona virus is more in old age people with other disease conditions than in younger ones with no diseases. If the symptoms persist for more than 3 days then the person must consult a doctor immediately [3]. People with other health conditions such as cancer, chronic kidney disease, constructive obstructive pulmonary disease (COPD), immunocompromised state from solid organ transplant, obesity, heart failure, coronary artery disease, cardiomyopathies, sickle cell disease, asthma, cerebrovascular disease, cystic fibrosis, hypertension, dementia, liver diseases, pulmonary fibrosis, thalassemia, pregnancy, smoking and type 1 and type 2 diabetes might be at an increased for severe illness from Covid-19.

The most common method used for the identification of virus is swab test. A swab is inserted into the back of the nose and throat to collect the sample. This sample is tested whether it contains virus in the upper respiratory tract. The presence of virus results in positive and the absence of virus results in negative. Preventive measures such as washing hands with soap or alcohol bases sanitizer, practicing social distancing, using face masks to cover mouth and nose, avoiding touching your face, cleaning and disinfecting surfaces. The treatment of covid19 includes mostly hydroxychloroquine and chloroquine which are used to treat malaria and other antiviral drugs also used for the treatment [4]. Recent developments identified that the plasma of covid recovered patients also can be used to treat the virus. This method of collecting plasma is called as Convalescent plasma. It is the plasma which contains antibodies against corona virus. It may help in developing antibodies in the new patient's body. The person who have tested negative after 14 days of recovery can donate plasma.

The spike surface glycoprotein of the virus binds to the host via receptor binding domains of the angiotensin converting enzyme 2 (ACE2), which is plenteous in type 2 alveolar cells. SARS-CoV-2 attaches to the target cell and the virion releases RNA into the cell initiating replication of the virus which further distributes to infect more cells. SARS-CoV-2 produces various influence factors that promote shedding of new virions.

This virus mainly spreads from person to person when in closed contact within 6 feet distance, through droplets produced when an infected person coughs, sneezes or talks [6]. Recent studies also said that this virus may also spread by a person who does not show any symptoms. To prevent the spreading of disease safety measures such as washing hands with an alcohol-based sanitizer which contains at least 60% of alcohol, avoid touching your face especially nose, mouth and eyes, wear a mask which covers nose and mouth and disinfect the surfaces.

Because of the rapid spread of the Covid-19 pandemic, affected countries have taken a heterogeneous and evolving approach to diagnosis of infection in patients and continue to have different and in some cases evolving strategies to determine what segments of the population should be tested.

The molecular diagnosis of Covid-19 infection has been the subject of numerous scientific publications, many of which are beyond the scope of this review. Briefly, two major diagnostic approaches have been implemented in a majority of countries, both using RT-PCR.

Conclusion

In summary, the Covid-19 pandemic has significantly challenged the international laboratory hematology community. More than ever, the professionalism and collegiality that characterizes hematology laboratorians is critical to the success of the mission to effectively combat this risk. This review has emphasized the importance of laboratory information in the management of Covid-19, the importance of safe laboratory practices to minimize risk to laboratory personnel, and the efforts by professional societies to continue their vital educational mission in this challenging environment.

References

1. Dell'Osso L, Carmassi C, Rucci P, Ciapparelli A, Paggini R (2009) Lifetime subthreshold mania is related to suicidality in posttraumatic stress disorder. CNS Spectr 14: 262-266.
2. Erol A, Winham SJ, Mcelroy SL, Frye (2005) Sex differences in the risk of rapid cycling and other indicators of adverse MA, Prieto ML, illness course in patients with bipolar I and II disorder. Bipolar Disord 17: 670-676.
3. Benazzi F, Akiskal HS (2003) Refining the evaluation of bipolar II: Beyond the strict SCID-CV guidelines for hypomania. J Affect Disord 73: 33-38.
4. Steiner M, Dunn E, Born L (2003) Hormones and mood: From menarche to menopause and beyond. J Affect Disord 4: 67-83.

5. Lu H, Stratton CW, Tang YW (2020) Outbreak of pneumonia of unknown etiology in Wuhan, China: the mystery and the miracle. J Med Virol 92: 401-402.

6. Zhu N, Zhang D, Wang W (2020) A novel coronavirus from patients with pneumonia in China, 2019. N Engl J Med 382: 727-733.