Clinics in Oncology

Short Communication
Published: 11 Feb, 2022

The Impact of Coronavirus and COVID-19 on Oncology Patients

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The COVID-19, a disease caused by the new Coronavirus (2019-nCov), was originally identified in December 2019 in the Chinese city named Wuhan. Coronavirus can cause minor illnesses such as the common cold up to major illnesses such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). The new coronavirus has been identified as SARS-CoV-2 due to its relation to the SARS-associated coronavirus. Although still unclear, the origin of SARS-CoV-2 has been related to bats.

The high human-to-human transmissibility of SARS-CoV-2 through small droplets expelled from the nose or mouth during sneezing or coughing has been supported by several studies. Droplets expelled during breathing can also remain on some surfaces and infect people that touch them with eyes, nose, or mouth. In addition to close contact, airborne transmission has been considered a significant contamination pathway by several studies. For instance, in a closed ambiance, viral particles can remain on air for hours and infect people at more than a two-meter distance.

Moderate to severe COVID-19 symptoms may appear within 2 and 14 days after virus exposure and include fever, cough, difficulty breathing, chills, headache, sore throat, and loss of taste/smell. Other symptoms such as pain, fatigue, nasal congestion, runny nose, and diarrhea may also be reported. The disease can eventually cause severe pneumonia or heart disease that can lead to death. However, some infected people may not report any symptoms.

COVID-19 symptoms in children are milder than in adults. Children affected by COVID-19 may develop multisystem inflammatory syndrome, which is characterized by rash, fever, abdominal pain, vomiting, and diarrhea. Initial reports indicated that children and young adults were less affected by COVID-19; however, people of all ages can die from this disease. Furthermore, the number of deaths seems disproportionate among diverse populations such as black and Hispanic.

An analysis of 928 individuals with COVID-19 presented during the American Society of Clinical Oncology 2020 Virtual Scientific Program (https://www.cancer.net/blog/2020-05/asco20-virtual-scientific-program-global-impact-covid-19-people-with-cancer) demonstrated patients with active and progressive cancer have 5 times more chance of dying within 30 days in comparison to patients with cancer remission.

Despite the lack of information on the safety of COVID-19 vaccines for cancer patients, several vaccines such as pneumococcal pneumonia and flu are recommended. Certain types of vaccines with specific production technologies can be used during oncologic treatment under monitoring; however, other vaccines such as those with the live virus must not be administered since the immune system is weakened. Most importantly, the COVID-19 vaccine doses not involve a live virus. Medical experts recommend COVID-19 vaccination for people with cancer, cancer survivors, and oncology patients under chemotherapy and/or immunotherapy; however, people with risk of harmful reaction (such as anaphylaxis) to a specific vaccine component must not be vaccinated (https://www.asco.org).

It is known that regular cancer diagnosis is important; however, screening tests such as mammograms or colonoscopies and other tests such as bone densitometry were postponed at the beginning of the COVID-19 pandemic to avoid virus exposure (https://www.preventcancer.org/education/back-on-the-books/).

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Received Date: *08 Jan 2022*
Accepted Date: *28 Jan 2022*
Published Date: *11 Feb 2022*

Citation:
Charone S, Fernandes L, Lima RR, Buzalaf MAR. The Impact of Coronavirus and COVID-19 on Oncology Patients. Clin Oncol. 2022; 7: 1899.

ISSN: 2474-1663

Collection for COVID-19 testing involves the insertion of a 15-cm long swab into the nasal cavity for at least 15 seconds. Then, the swab is placed into a special container and sent for lab analysis. Saliva collection is also available in some regions. Several FDA-approved COVID-19 at-home self-collection kits are available and usually include a medical screening questionnaire, advance payment, and sample shipping for lab testing. Recently, the FDA also provided the emergency use authorization for the first over-the-counter COVID-19 diagnostic test characterized by at-home self-collection with a nasal swab and 20-min result.

Serology tests have been developed and can detect previous COVID-19 infections through the identification of blood antibodies, which are specific proteins produced in response to an infection. However, some COVID-19-infected people may not produce antibodies or present very low antibody levels. Moreover, false-positive results can also occur through the detection of coronavirus antibodies albeit not related to COVID-19.

In the case of a COVID-19-infected cancer patient, the best treatment and the impact of this contagion on the oncology treatment must be considered. Some oncology centers may require a negative COVID-19 test result before restarting chemotherapy or other treatment. However, some patients remain positive for COVID-19 even after symptoms recovery. Therefore, the healthcare team may take into account the risks and benefits of cancer treatment restart despite the positive COVID-19 test result. Some treatments that do not harm the immune system can be continued, especially for those patients without or with only mild symptoms.

The ASCO20 Virtual Scientific Program presented a special session that examined the impact of the COVID-19 on people with cancer. Two important studies demonstrated the pro-activity of the oncology community to deeply understand how this disease affects oncology patients. Preliminary data have shown that cancer progression is associated with an increased risk of death for people with cancer and infected by COVID-19. In addition, chemotherapy has been associated with an increased risk of death for thoracic cancer patients infected by COVID-19.

In 2020, the COVID-19 and Cancer Consortium (CCC19) suggested more studies on the impact of COVID-19 pandemic on people with cancer. It is important to emphasize that the CCC19 retrieves data from several oncology centers and labs worldwide, such as Canada, the European Union, the United States of America (USA), and the United Kingdom.

The Thoracic Cancers International COVID-19 Collaboration (TERAVOLT) registry gathers data from more than 400 patients with chest cancer and COVID-19 from 26 countries, such as China, France, Italy, Spain, and the USA. It was launched in March 2020 by chest cancer researchers and physicians to better understand the impact of COVID-19 on this specific group of patients, which are usually older and often have a variety of health problems, previous lung damage, and other risk factors for COVID-19. The researchers reported that patients submitted to chemotherapy in the past 3 months had a 64% higher risk of dying from COVID-19 in comparison to those not submitted to chemotherapy. Among 144 patients, 112 (79.4%) and 15 (10.6%) died from COVID-19 and cancer, respectively. Moreover, 66 patients (46.8%) were been submitted to chemotherapy, 18 (12.9%) were receiving a targeted therapy called tyrosine kinase inhibitors, and 22 (31.0%) were been submitted to immunotherapy with or without combined chemotherapy. The increased risk of chemotherapy remained regardless of its combination with other therapies.

Patients with thoracic cancer are especially vulnerable to COVID-19 due to several factors, such as previous lung injury, smoking, advanced age, and other comorbidities. There are still many questions and few answers.