EDITORIAL

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Turkish Society of Medical Oncology COVID-19 Pandemic Advisory Board Updated Recommendations for Medical Oncologists: Included Vaccination

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COVID-19, which hit the world toward the end of 2019, continues to affect all aspects of people's lives.[1] More than 100 million people have been infected in the past year, while more than 2 million people have died because of COVID-19.[2] For Turkey more than 31 million COVID-19 polimerase chain reaction (PCR) test performed, 2.6 million cases diagnosed and more than 27000 deaths seen at the end of 2020 Turkey has started vaccination at 14th of January 2021 and more than 4 million people vaccinated during first month and it is ongoing.[3] People have slowly and steadily learned how to prevent this virus infection through lifestyle changes like social distancing and good hygiene during the past year. Moreover, we have learned more about effective treatment approach during active infection. Importantly, new advancement has included the development of vaccines and we know that vaccination is the most potent medical tool for protecting humans against COVID-19. As Turkish Medical Oncologists, we are aware that cancer patients require continuous treatment; therefore, we actively followed-up and continued treatment uninterruptedly in the past year in the light of guidelines and recommendations of the TTOD COVID-19 Advisory Board.[4-6] As the Turkish Medical Oncology Society, we would like to update our patient management and develop recommendations for vaccinations against coronavirus, which seems to persist globally, at least for a while now.

RECOMMENDATIONS FOR OUTPATIENT CHEMOTHERAPY UNITS

1. Oncology patients with possible COVID-19 symptoms should first make an appointment with rele-

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vant units of the hospital for proper evaluation before visiting the outpatient chemotherapy units or the department of oncology. If found to carry a low risk or negative for COVID-19, it would be appropriate to make an appointment with the oncology department.

2. Outpatient oncology clinics where oncology patients receive treatments should be far away from non-oncology outpatient units to reduce the risk for such patients encountering people who might harbor coronavirus. If necessary, architectural arrangements (structural modifications) should be made in the oncology units to minimize the risk of COVID-19. Isolated entrance and exit doors should be provided, particularly for patients receiving chemotherapy.

3. Chemotherapy units should be adequately equipped with hand sanitizers, face masks, medical gowns, eye protection, N95 respirator masks, and medical suppliers for use in case of emergency interventions such as anaphylaxis or arrhythmia in chemotherapy units.

MEDICAL ONCOLOGY OUTPATIENT CLINIC

1. Cancer patients and their attendants who come to outpatient clinics should be thoroughly questioned for possible signs and symptoms of COVID-19 infection. Besides, measurement of body temperature is recommended before they are admitted to the outpatient clinic.

2. Health workers, patients, and their attendants must wear facemasks in outpatient clinics and chemotherapy units.

3. Patients and their attendants should be strongly advised to use hand sanitizers provided by the hospital before admission to the outpatient clinics for examination or treatment. Patient face masks should be checked for appropriateness.

4. Maintenance of social distance is recommended while seated in a waiting room or queue before entering the outpatient clinics. Furthermore, patients and their attendants should be allowed to enter outpatient clinics in turns if necessary.

5. Patients with no requirement for physical support should come alone. In case patients are accompanied by family members, only one attendant should be allowed to enter outpatient clinics. Other accompanying persons should be directed to wait in a well-ventilated room or open area, observing social distance to minimize the risk of contamination.

6. It should be mandatory for patients to keep a two-meter distance from the outpatient clinicsecretariat during registration. Likewise, hand sanitizers should be used before contact with the secretariat. Health workers should be provided with a face shield, face masks, and visors for self-protection. patients should be seated in the waiting room in a way that maintains a social distance of 2 meters.

7. The use of masks, goggles, and protective clothing is recommended in laboratory and chemotherapy units. Maximum attention should be paid to achieve excellent ventilation of these areas.

8. Telemedicine and teleconferencing is a safe and effective method to provide consultancy services in situations that do not require hospital visits. To offer telemedicine services to patients in state hospitals, technical, medical, legal, and financial infrastructure issues should be implemented. This service should be defined, and corresponding legislation should be prepared.

MEDICAL ONCOLOGY INPATIENT SERVICES

1. In clinics where testing is available, COVID PCR testing is recommended before hospitalization for all elective patient admissions. If the COVID test result could not be checked, it would be appropriate to decide considering the urgency of the patient's hospitalization indication and take action according to the possibility of COVID infection.

2. Gloves, masks, goggles, bonnet, and gown/dress are recommended to be changed at each examination during inpatient wards visit. Patient visits should be limited to visiting faculty member, the doctor presenting the patient, and the nurse caring for the patient to observe social distancing.

3. It is recommended that healthcare personnel always wear masks during the healthcare service and use other necessary personal protective equipment depending on the intervention's nature.

CHEMOTHERAPY PLANNING RECOMMENDATIONS FOR CANCER PATIENTS

1. It is recommended that patients with chemotherapy indication should be evaluated and recorded for possible symptoms and history of contact with a person infected with COVID-19 during the routine evaluation phase.

2. Cancer patients and their relatives are at an increased risk for COVID-19 disease. Death from COVID-19 infection is 3.6 times higher in cancer patients compared to the average patient group. Therefore, it is appropriate to delay/interrupt chemotherapy in patients with COVID infection.

3. In patients without suspected COVID-19 infection, initiation and continuation of cancer treatment is recommended. In newly diagnosed patients, the decision to initiate treatment, treatment goals, patient's general condition, and treatment compliance should be individually tailored.

4. Patients diagnosed with early-stage cancer who have completed adjuvant therapy are recommended to go for routine visits.

5. In patients with early-stage or metastatic cancer, oral regimens or treatment schemes that necessitates hospital visit with the least frequency is recommended.

6. Radiological imaging and/or laboratory tests should not be prescribed to patients receiving palliative treatment or supportive treatment unless clearly indicated. It is recommended to rearrange the treatment protocols of patients receiving active treatment to bring the patient to the hospital with the least frequency.

7. Broadening prophylactic G-CSF and antiemetic use is recommended in patients receiving systemic chemotherapy to minimize the risk of potential COVID-19 complications.

8. It is recommended to pay attention to supportive treatments such as pain and nutrition management to reduce the frequency of hospitalization in cancer patients who receive palliative treatment.

9. Since the blood count would decrease during the chemotherapy process and put the patients in the risk group, it will be right for cancer patients to stay at home and contact as few people as possible. However, they need to benefit from open and clean air within the framework of the rules.

10. It is recommended that blood tests such as hemogram and biochemistry be obtained within the chemotherapy unit, if possible, and transported to the laboratory by the personnel. The test results must be returned quickly, and after treatment, the patient should leave the hospital as early as possible.

11. To reduce the number of entries and exits of the patients and attendants from the clinic, it is appropriate to supply all chemotherapy drugs and other medications required by the patients within the hospital.

RECOMMENDATIONS FOR FOLLOW-UP OF PATIENTS

1. In this period, radiological/imaging examinations (especially tomography, MRI, PET-CT, ultrasonography with a high risk of coronavirus transmission due to contact) should be re-evaluated in terms of indication.

POINTS THAT PATIENTS AND THEIR RELATIVES SHOULD PAY ATTENTION TO

1. Inpatient visits should be restricted to only the patient caretaker who accompanies the patient for treatment and examination.

2. The administrative or sick leave directive of the Ministry of Health is valid for oncology patients.

3. Patients are recommended not to use public transport while coming to the hospital, and if necessary, they should try to maintain a distance of 2 meters from every other person. Cancer patients must especially stay away from people who cough and sneeze.

POINTS THAT HEALTH CARE PERSONNEL, INCLUDING NURSES AND DOCTORS, SHOULD PAY ATTENTION TO

1. Health workers should be screened every week for routine COVID-19 antibodies (rapid test). PCR testing should be performed in symptomatic and suspicious cases.

2. Personnel with COVID-19 infection should be followed up by infectious disease specialists and appointed to serve oncology patients only after approval from the infectious disease specialists.

3. Glasses and a mask are a must during the examination. If possible, disposable gloves should be used and should be disposed of after each examination.

4. Hospital and social clothing should be separated.

5. Simple clothes should be worn during this period in the hospital, and if possible, jewelry, watch, ring, keyring, mobile phone, purse, and wallet should not be carried to the hospital due to the high risk of contamination. Efforts should be made to keep the mobile phone free from contamination. It is necessary to wear a bonnet for long hair and avoid long nails and beards to minimize contamination risk.

6. Travel to foreign countries should be avoided; everyone should maintain a social distance of 2 meters. Any meetings and tumor board meetings that violate this by creating crowds should be restricted. It is recommended that meetings be held primarily in the form of video teleconferences.

7.In Turkey, even in the first days of the COVID-19 epidemic when elective examinations and surgeries were stopped completely, cancer patients' care and treatment continued, and health services are still provided in oncology services to full capacity. Occupancy rates in oncology wards are still very high, and the diagnosis and treatment processes of outpatient clinics and treatment practices in chemotherapy units continue in the same way.

Since these patients receive chemotherapy, their immune systems are compromised. They have a high mortality risk in case of COVID-19 transmission. The physicians, nurses, and other health workers serving in these clinics should work in a different directive to save these patients from the pandemic while also providing care for cancer.

Considering this, the Ministry of Health sent a letter to all health institutions stating that it is not appropriate for physicians who provide care and treatment to cancer patients to be assigned in the COVID-19 services in their hospitals as routine or overtime shifts. However, in some hospitals, it is seen that the rotation of healthcare personnel working in Oncology departments in COVID services continues. This puts cancer patients at risk for contamination and disrupts the functioning of the oncology clinic where the relevant healthcare personnel work and interrupt patient care. The number of patients who die due to cancer every year in Turkey is much higher than the number of patients who have died due to the pandemic. It is known that the disruption of the diagnosis and treatment processes of these patients increases the mortality rates even more. For this reason, it is necessary to inform and warn again on this issue and to draw attention to the point of not assigning health personnel working in oncology departments to COVID services and filming teams, if necessary, by including this issue in the "COVID-19 Working Guide in Health Institutions". In this regard, the Ministry's support is essential to ensure that both patients and healthcare personnel do not become victims of the COVID infection.

VACCINATION RECOMMENDATIONS FOR CANCER PATIENTS

1. All cancer patients should be evaluated for the administration of vaccines according to adult vaccination schemes.

2. If possible, vaccines should be administered two weeks before the start or three months after the completion of chemotherapy to maximize effectiveness. If anti-B cell antibodies (such as Rituximab) are given, this period should be six months.

Live or attenuated vaccines should not be administered within less than four weeks to the start of chemotherapy due to the infection risk. All cancer patients who are followed up in remission can be given all vaccines in the adult vaccination scheme.

3. Patients receiving active cancer chemotherapy, patients receiving steroids at a dose of 20 mg/day or more, and anti-B cell antibody treatment for more than 14 days are defined as high level immunosuppressed. Live or attenuated vaccines should not be administered to these patients.

Although there is no harm in administering inactivated vaccines, they should be administered two weeks before the start or three months after the com-

pletion of chemotherapy (six months for anti-B cell antibodies) to maximize effectiveness.

4. If the patient is currently receiving chemotherapy, which is expected to last for a long time, and if it is thought that it will be risky for the patient to wait until the chemotherapy is completed (flu season, pandemic period), flu and pneumococcal vaccines can be administered between the chemotherapy courses.

It should be kept in mind that if the patient is vaccinated while receiving chemotherapy, the level of protection might be lower than expected. Therefore, antiviral prophylaxis with oseltamivir can be applied in patients with a high risk of influenza.

5. If the patient is vaccinated during the period of immunosuppression, it cannot be considered to be protective unless the presence of protective antibodies is proven. The vaccines recommended for healthy adults or those indicated for other diseases and age groups should be repeated in the period when the patient's immunity is restored.

Since the flu vaccine has this status, it is administered when the season comes. There is no need for a pneumococcal vaccine if the patient is not over 65 years of age or has no other disease.

6. Patients appointed for a flu vaccine are administered the vaccine of that year to be repeated once a year. Patients identified for a pneumococcal vaccine are first vaccinated with a conjugate vaccine (PCV13) and a 21-valent polysaccharide vaccine (PPSV23) eight weeks later.

Those who have previously been administered PPSV23 should be injected at least one year after PCV13. Repeat PPSV23 should be done at least five years after the last vaccination.

COVID-19 VACCINATION RECOMMENDATIONS FOR CANCER PATIENTS

1. Classical inactivated COVID virus vaccine and mRNA vaccines which are produced with different technologies, are not live virus vaccines. They both can be safely used in cancer patients.

Previous COVID vaccine studies did not include cancer patients, and it is known that the efficacy may be low, especially in patients receiving active chemotherapy.

However, considering that any of these vaccines will reduce the risk of COVID infection in cancer patients, it is recommended for patients to have one of the COVID vaccines approved by the Ministry of Health.

In patients receiving active cancer chemotherapy, the administration of COVID-19 vaccines may have no additional harm compared with healthy individuals, but the expected protective immunity level of the vaccine may be lower.

For this reason, COVID vaccination should be done two weeks before the start or three months after the completion of treatment, if possible, to achieve ideal responses to the vaccine. However, during the pandemic period, if the patient is required to start chemotherapy without delay or is already receiving chemotherapy, COVID-19 vaccines can be administered just before the therapy begins or in between the chemotherapy courses. The ideal time for patients who are planned to be vaccinated during this period is the day when the maximum myelosuppressive effect of cytotoxic therapy (the nadir period of neutrophil values) has passed/is the farthest. It should be kept in mind that when the patient is vaccinated while receiving chemotherapy, the expected benefit from the vaccine will be low.

2. COVID-19 vaccine can be administered to patients receiving treatment with targeted agents in the group of monoclonal antibodies or tyrosine kinase inhibitors for solid tumors.

Although there is insufficient experience in patients treated with immune checkpoint inhibitors, COVID-19 vaccines may be recommended based on influenza vaccination experience. The riskiest period for the vaccine's systemic side effects is the first 2-3 days after vaccination. It would be appropriate not to apply immunotherapy on these days.

3. In patients receiving steroids at a dose of 20 mg/day or more for more than 14 days, and/or anti-B cell antibody (e.g., Rituximab), immunosuppression may be even higher, and vaccine response may be lower. However, considering the pandemic condi-

tions, vaccination is recommended also for these patients.

4. In patients with autologous stem cell transplantation, vaccination should be delayed for three months to achieve maximum efficiency.

5. In patients scheduled for major surgery for solid tumors, it is recommended to have a few days between vaccination and surgery to avoid confounding its side-effects with the post-surgical complications.

GENERAL RECOMMENDATIONS

1. Due to difficulty in procuring blood and blood products, it is recommended to pay attention to blood products' careful use to prevent extended hospital stay for patients.

2. Visitor ban, staff vacations and holiday cancellations, the status of interns, council and in-hospital meetings should be planned in accordance with the legislation to be published by the Ministry and government agencies such as Yüksek Öğretim Kurulu (YÖK).

3. Preparing information brochures (based on WHO, CDC, ACS) for oncologists, patients, and healthcare personnel are recommended, in addition to preparing a page on the website for the general public and oncologists.

4. It will be necessary to make new and appropriate arrangements for cancer screening tests and examinations in healthy individuals during this period. The diagnostic assessments and treatments of patients with symptoms and suspected cancer should not be delayed.

5. COVID-19 (pandemic) advisory Board should be formed to conduct studies, collect data and develop a database on COVID-19 infection in cancer patients, and possible treatment adjustments made due to these infections.

6. Travel documents should be prepared for the patients and their relatives to allow for ease of movement during travel restriction to prevent interrupting the follow-up and treatment of cancer patients.

*** These recommendations were made per national and international guidelines, taking into account the current conditions. The suggestions are planned to be renewed according to the changing needs.

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