

COVID-19 PANDEMIC

THE LEBANESE SOCIETY OF MEDICAL ONCOLOGY (LSMO) RECOMMENDATIONS AND PERSPECTIVES ON ONCOLOGY CARE DURING COVID-19 PANDEMIC

[http://www.lebanesemedicaljournal.org/articles/68\(1-2\)/pandemic10.pdf](http://www.lebanesemedicaljournal.org/articles/68(1-2)/pandemic10.pdf)

Nizar BITAR¹, Joseph KATTAN², Hampig Raphael KOURIE², Deborah MUKHERJI³
Nagi S. El SAGHIR³, Hamad HASSAN⁴

Bitar N, Kattan J, Kourie HR, Mukherji D, El Saghir NS, Hassan H. The Lebanese Society of Medical Oncology (LSMO) recommendations and perspectives on oncology care during COVID-19 pandemic. *J Med Liban* 2020; 68 (1-2): 72-75.

INTRODUCTION

COVID-19 is a viral disease caused by SARS-CoV-2 of the coronavirus family. It is very contagious and highly transmissible via coughing and sneezing droplets, contaminated surfaces and aerosols. Although airborne transmission is debatable, the Centers for Disease Control and World Health Organization in all countries recommend wearing face masks, in addition to physical distancing in order to reduce the spread of SARS-CoV2 coronavirus.

Cancer patients are known to be more susceptible and vulnerable to infections including viruses. Compared to the general population, the risk of mortality is 10 times higher, and the risk of hospitalization is 4 times higher in cancer patients. This is mainly in patients that have hematologic malignancy, or receiving numerous lines of chemotherapy, or patients that are presenting neutropenia and lymphopenia (Bitterman et al, Cochrane Database Syst Rev, 2018).

As stated in recent Chinese data, cancer patients had higher risks of COVID-19 infection, in addition to a higher incidence of severe events due to increased hospitalization risks for cancer patients with respect to the general population (1% vs. 0.29%). Furthermore, in cancer patients infected with COVID-19, the risk of developing respiratory complications that require intensive care was higher with respect to non-cancer patients (39% vs. 8%, $p = 0.003$). It was also reported that among cancer patients, age was the most important prognostic factor; but the study involved observation of only 18 patients out of a total of 1580 patients (Liang et al., *Lancet*, 2020).

In another Chinese study, 53% developed adverse events and 28.6% died among a 28 cancer patients cohort. An increased risk of severe events was reported

in patients who had their last anti-neoplastic treatment within 14 days prior to COVID-19 diagnosis. Another Chinese study reported a higher rate of adverse events (53.6 %) and mortality (28.6%) among a 28 cancer patients cohort, with a higher risk of severe events in patients who had their last anti-tumor treatment within 14 days prior to diagnosis of COVID-19 (Zhang et al., *Annals of Oncology*, 2020).

A more recent study from New York reported that out of 5700 COVID-19 patients, the three most frequent comorbidities with COVID-19 were hypertension (56%), obesity (41%) and diabetes (33%). Only 6% (320 patients) had cancer. Authors did not report on prognostic related issues, except for age which was an indicator of more invasive mechanical ventilation for patients < 65 vs. patients > 65 years of age (Richardson et al, *JAMA*, 2020). Obesity was also reported in 35.8% of patients in another study from New York and may represent a risk factor for increased use of invasive mechanical ventilation (Goyal et al, *NEJM*, 2020).

COVID-19 IN LEBANON

By the 10th of June 2020, more than seven million of confirmed cases of COVID-19 were diagnosed worldwide with more than 400,000 deaths. In Lebanon, 1400 confirmed cases of COVID-19 were diagnosed with 31 deaths.

Huge efforts were implemented by the Lebanese Ministry of Public Health (MOH), from day one of the diagnosis of the first case of COVID-19 (21st of February 2020) to limit the spread of the virus in Lebanon:

1. Media campaigns for spreading awareness on the precautions to limit transmission of COVID-19, especially physical distancing, social distancing, hand washing, wearing facemasks, and school and university closures.
2. A national state of emergency called progressive national lockdown, in line with governmental measures and coordination with other ministries.
3. Immediate establishment of an operational and sep-

¹President of the Lebanese Society of Medical Oncology (LSMO), Sahel General Hospital, Beirut, Lebanon.

²Hôtel-Dieu de France University Hospital, Saint Joseph University, Beirut.

³American University of Beirut Medical Center (AUBMC), Beirut.

⁴Lebanese Minister of Public Health.

*Corresponding author: *Nizar Bitar, MD.* e-mail: nbitar@inco.com.lb

arate well equipped coronavirus section at Rafik Hariri University Hospital (RHUH) for screening, testing, isolation, regular hospitalization and intensive care of COVID-19 patients.

4. Support for the establishment of Coronavirus centers at various University Hospitals in Beirut and other parts of the country.
5. Enhancement of the capacity of Lebanese governmental hospitals in distant cities in the country.
6. Increase in the number of PCR testing per day.
7. Providing safety precautionary measures, testing, and quarantine for Lebanese students and expatriates who wished to return home, isolating those who test positive for SARS-CoV2, and confining those who test negative for 14 days.

COVID-19 PANDEMIC AND ITS EFFECTS ON THE CARE OF CANCER PATIENTS IN LEBANON

A single institution experience was published from Hôtel-Dieu de France (HDF), Beirut, evaluating the impact of COVID-19 pandemic on the flow of cancer patients' treatment at the one-day clinic. The results showed that the number of patients at the one-day clinic for the month of March was almost equivalent to the number of February and that of January.

As a matter of fact, data collected from HDF records showed the admission of 743 patients during the month of January 2020, 696 patients during the month of February 2020 and 710 patients during the pandemic month of March 2020. Many patients seemed resistant to abide by these precautionary directions as seen by the one-day hospital records of admissions (C. Kattan et al, 2020, *Future Oncology*). However, the number of patients visiting the oncologist' clinics for consultations was tremendously decreased during the COVID-19 pandemic.

From the beginning of the pandemic in Lebanon, the Naef K. Basile Cancer Institute at the American University of Beirut Medical Center (AUBMC) in coordination with the AUBMC Infection Control Committee and the newly established COVID-19 Task Force, started a comprehensive set of recommendations that included an initial triage of patients by the secretaries and nurses for symptoms, travel history and contacts, application of protective and distancing measures in clinics and chemotherapy units, postponement of elective appointments and routine screening.

The number of clinic visits dropped significantly in the initial phases. AUBMC instituted telemedicine to offer patients virtual clinic appointments. This was rapidly implemented using the videoconferencing facility linking the hospital electronic medical record system

(Epic) and its built-in "MyChart" application accessible to patients. This has been welcomed by patients and staff, particularly for routine follow-up visits for patients, many of whom preferred it out of concern about coming out of home confinement and travelling to the hospital facility. Hospital admissions and numbers of new patients on ambulatory chemotherapy infusion dropped initially...

In general, due to stringent protective measures, cancer-related services for patients were maintained while minimizing risk of exposure and transmission within this vulnerable patient population and health care workers. Multidisciplinary Tumor Boards were continued either in-person with a smaller number of essential attendees, or virtually via WebEx.

The experiences in other oncology departments in Lebanon are concordant with those seen reported at HDF and AUBMC. Many oncologists and hospital departments adopted the national guidelines related to the management of cancer patients during the COVID-19 pandemic.

It is expected that the incidence of new cases of cancer in Lebanon will probably drop during April and May 2020 because of the decreased number of routine clinic visits, imaging, biopsies, screening tests and elective surgeries, with a concern that advanced stage cases may resurface. This is expected to have a transient impact and decrease of the activity in oncology departments over the next few months.

The current maintained activity in these departments is mainly based on patients diagnosed before COVID-19 pandemic who are receiving adjuvant treatment or chronic metastatic patients on various palliative treatments.

THE LSMO GUIDELINES

In view of the spread of COVID-19 in the country and the National Lockdown (Called State of Mobilization in Lebanon) imposed by Health Authorities and Government, and based on worldwide experience, LSMO issued its first guidelines to help oncologists, oncology staff, patients and their relatives to cope and deliver the most optimal care while reducing the chances of contracting, and propagating the SARS-CoV-2 during the present outbreak.

With the rapid evolution of this pandemic and the tsunami of international recommendations, it was necessary to update this statement of LSMO on the care of patients with cancer during the COVID-19 pandemic. The LSMO team has disseminated guidelines via their website, as a rapidly published editorial and during regular online webinar meetings.

THE FIVE RECOMMENDATIONS FOR DAILY PRACTICE (Bitar et al., Future Oncology, 2020)

1. Prevention of contamination: Screening of patients and visitors for travel history and symptoms. COVID-19 positive patients and suspected cases should not be admitted to oncology outpatient departments or oncology hospital floors. Suspected and infected cases should be referred to COVID-19 specialized departments and services for management.
2. Prioritization of patients by favoring curative therapies versus palliative, application of therapy pause when justified, and withholding chemotherapy and immunotherapy for patients with poor prognosis.
3. Avoid overcrowding of clinics by deferring regular routine follow-up with over-the-phone consultations, and of chemotherapy units by decreasing the number of patients receiving weekly chemotherapy versus more spaced regimens, consider switch to oral chemotherapy when possible versus intravenous treatment.
4. “Sanctuarization” of oncology department: Withhold any immunosuppressive treatment of patients diagnosed to have COVID-19 until full recovery. Admission of COVID-19 positive should be done in specialized departments.
5. Manage patients in need of supportive care and palliation by phone calls and [by] keeping them safe at home.

PREVENTION ADVICE FOR PATIENTS

- Avoid crowded places.
- Wash hands thoroughly according to WHO guidelines.
- Wear masks properly, use sanitizers and gloves when necessary and when going to a clinic/hospital.
- Do not have contact with family/friends with COVID-19 symptoms/possible exposure.
- Practice physical distancing and social distancing with all people to protect yourself and others.
- Keep in contact with medical team and report new symptoms by telephone first (particularly fever/cough/shortness of breath).

PRECAUTIONS FOR ONCOLOGY STAFF

- Wash hands and use sanitizers between examinations of patients.
- Maintain physical distancing of 1 meter (6 to 8 feet) apart even in waiting and examination rooms.
- Use masks, and gloves when examining patients.

- Disinfect commonly touched items.
- Reduce the number of daily clinic appointments and space them out.
- Reduce patient waiting time to a minimum.
- Limit the number of accompanying persons or visitors.
- Use online meeting tools for tumor boards, grand rounds and classes for medical students.
- Suspend travel for oncology staff during the pandemic.

MANAGEMENT OF PATIENTS IN OUTPATIENT SETTING

- Screening questions before admission to unit (Fever/cough/chest pain/travel history/contact travel history/exposure to patient with COVID-19 infection).
- For patients with symptoms: make sure surgical mask is worn by patient and companions; staff wearing masks and gloves direct patient to the nearest screening center if stable, escort to emergency department (ED) if unstable, informing ED team prior to arrival.
- Patients with travel/contact history and asymptomatic: request to self-quarantine for 14 days and reschedule appointment if possible. If not possible, patient to be isolated, patient and medical team to wear facemask, gloves. Full PPE (personal protective equipment) including apron and arm covers are reserved for health care workers (HCW) caring for COVID-19 patients.

SUGGESTED STRATEGY IN DIFFERENT SETTINGS FOR CANCER PATIENTS

(Bitar et al., Future Oncology, 2020)

Patients on follow-up or endocrine/oral targeted therapies

- Prevention.
- Delay visits and follow-up appointments in absence of active disease/new symptoms requiring review.
- Delay routine restaging imaging if no new symptoms.
- Lab tests can be performed locally if required and reviewed by telephone/sending picture of results.
- Telephone contact/telemedicine in place of clinic visits.

Patients with early-stage cancer/curative setting:

- Prevention.
- Close monitoring for potential toxicity and for COVID-19 clinical symptoms.
- Consider increased use of G-CSF to limit neutropenia.
- Discussion of risks vs. benefits of adjuvant ther-

apies with patients.

- Consider limiting duration of adjuvant therapy where appropriate (3 vs. 6 months adjuvant chemotherapy for “good risk” stage 3 colon cancer for example).
- Choose three weekly regimens instead of weekly regimen.

Patients with metastatic disease

- Prevention.
- Close monitoring for potential toxicity and for COVID-19 clinical symptoms.
- Consider delay in treatment or therapeutic break if not compromising disease control.
- Consider oral therapy options and telemedicine for toxicity management.
- Discuss risks vs benefits with patients.

EXPECTED CHALLENGES IN ONCOLOGY AFTER COVID-19 PANDEMIC

This pandemic will represent a continuous challenge for the medical community before a SARS-CoV-2 vaccine and curative treatment are available. As additional waves of new cases are expected in Lebanon and across the world, continuous adoption of preventive measures during the care of cancer patients in clinics, in chemotherapy units and during hospitalization seems mandatory.

Oncology departments should maintain the same vigilance regarding the implemented surveillance and protective measures for both patients and medical and hospital staff, as long as required to limit coronavirus spread. Increased testing capabilities, tracing contacts, as well as confinement and isolation as needed, adequate protective equipment, and hospital/intensive care readiness are in progress in Lebanon for facing any upcoming wave of the COVID-19 in Lebanon.

Reopening of oncology and hematology care, as well as general medical and surgical care after lockdown will have to be carefully planned and implemented, along with increasing capacity for diagnostic PCR testing of suspected cases, and immunity rapid antibody testing, particularly for medical staff, nurses and hospital staff, as well as essential services workers in the country.

CONCLUSION

COVID-19 pandemic presents a historical cancer care challenge for the Lebanese oncology community, as it is for the medical community worldwide. LSMO published its first recommendations at the beginning of the COVID-19 pandemic in the country and adopted a strategy of periodically communicating new data to ensure the

best possible care for cancer patients.. Many webinars are being organized with the oncologists nationwide to increase awareness about these guidelines and to apply them in the various oncology clinics, departments and centers. Preventive measures by the oncology staff, clinics, departments and patients themselves were rapidly adopted based on our national recommendations.

BIBLIOGRAPHY

- Curigliano G. The treatment of patients with cancer and containment of COVID-19: Experiences from Italy. <https://dailynews.ascopubs.org/doi/10.1200/ADN.20.200068/full/>
- <https://www.asco.org/asco-coronavirus-information>
- Willan J, King AJ, Hayes S, Collins GP, Peniket A. Care of hematology patients in a COVID-19 epidemic. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/bjh.16620>
- <https://www.ebmt.org/ebmt/news/coronavirus-disease-covid-19-ebmt-recommendations-update-march-16-2020>
- Liang W, Guan W, Chen R et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. *Lancet Oncol.* 2020; 21(3): 335-337.
- Bitterman R, Eliakim-Raz N, Vinograd I et al. Influenza vaccines in immunosuppressed adults with cancer. *Cochrane Database Syst Rev.* 2018: CD008983.
- El Saghir NS. Oncology care and education during the coronavirus (COVID-19) pandemic: ASCO Connection, March 19, 2020. <https://connection.asco.org/blogs/oncology-care-and-education-during-coronavirus-covid-19-pandemic>.
- <https://www.asco.org/asco-coronavirus-information/care-individuals-cancer-during-covid-19>
- <https://www.asco.org/asco-coronavirus-information/provider-practice-preparedness-covid-19>
- Kattan C , Badreddine H, El Rassy E, Kourie HR, Kattan J. The impact of the coronavirus pandemic on the management of cancer patients in Lebanon: a single institutional experience? DOI: 10.2217/fon-2020-0313 C, 2020 *Future Medicine, Future Oncology.*
- Bitar N, Kattan J, Kourie HR, Mukherji D, El Saghir NS. The Lebanese Society of Medical Oncology (LSMO) statement on the care of patients with cancer during the COVID-19 pandemic. *Future Oncol.* 2020 Apr 8. doi: 10.2217/fon-2020-0252. [Epub ahead of print]
- Richardson S, Hirsch JS, Narasimhan M et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with COVID-19 in the New York City Area. *JAMA.* 2020 Apr 22. doi: 10.1001/jama.2020.6775. Online ahead of print.
- Goyal P, Choi J, Pinheiro L et al. Clinical characteristics of Covid-19 in New York City. *N Engl J Med* 2020 Apr 17; *NEJMc2010419.* doi: 10.1056/NEJMc2010419. Online ahead of print.