Commentary

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Cancer and COVID-19: A war on multiple fronts

The factual concerns of emotional distress, fear of the known and the unknown, thoughts of impending doom and declining immunity in cancer patients have been further augmented by the invasive corona virus disease (COVID-19) pandemic globally. Re-adjustment in daily routine life so as to prevent themselves from corona infection in this 'new normal' world is another added challenge for these immunocompromised patients. The ever evolving guidelines and emergence of newer advisories during this pandemic by the health organisations and respective governments have put the cancer patients in a very tricky situation during this lock down. Same holds true for oncologists, onco-surgeons and onco-anaesthesiologists who all have committed themselves for providing the best care to these patients. Onco-surgeons and onco-anaesthesiologists are striving hard during this COVID era in upgrading and uplifting the standards of care for these patients who are struggling with so many battles daily with their disease, their own health and now with COVID-19 labyrinth.

The major problems faced by cancer patients include a weakened immune system making them vulnerable to develop more severe symptoms of COVID-19, increased mortality due to COVID-19, stoppage of certain types of cancer treatment by hospitals, and travel/contact restrictions leading to reduced access to hospitals during this lock down. Many hospitals are either sealed off or converted to dedicated COVID-19 hospitals. Several hospitals are postponing or cancelling clinic visits to protect cancer patients from COVID-19, but it is a known fact that the oncological outcome in cancer patients is based on the type and timing of treatment.[1] What should be the plan for treatment during restricted socialising? Would it be right to continue or start chemotherapy/radiotherapy/targeted therapy/hormonal therapy during these COVID times? Can one proceed with surgery or should it be postponed? What type of surgery can be done during the COVID-19 pandemic in cancer patients? Should the 'wait and watch' strategy be adopted? What would be the optimal time for surgery? Will blood be freely available for the planned onco-surgery? Many such questions are currently posing challenges and forcing the clinicians to formulate early and appropriate approaches so as to give timely treatment to the cancer patients.

The recently published Indian Society of Anaesthesiologists (ISA) position statements on COVID-19 say that urgent and time-sensitive surgeries like cancer should be discussed amongst a multi-disciplinary team and a decision regarding proceeding with surgery should be based on the patient's clinical condition and the available resources.[2,3] The Society of Surgical Oncology recommends that decisions must be made on an individual case basis considering the biology of each cancer, alternative treatment options and waiting time for each rescheduled surgery.[4] Cancer hospitals in India have already started prioritising patients requiring cancer therapy. The patients who would substantially benefit from treatment are heavily prioritised, whereas care for patients in whom interventions are expected to have marginal benefit is being deferred.[5] Oncology societies and various national associations all over the world are currently worried about the optimal management of cancer patients during the global COVID-19 pandemic. The Society of Onco-Anesthesia and Perioperative Care (SOAPC) advisory article being published in this issue guides the clinician throughout the pathway of perioperative oncologic surgery management during the pandemic and provides a particular focus on oral, neck and thoracic surgery patients, which may

constitute a particular group with increased risk for aerosol spread.[6] The initial part of the article revolves around the risk of COVID-19 infections in cancer patients and cancer management during the COVID-19 pandemic. In the second half, the authors present the challenges of onco-anaesthesia in a troubled corona-infested world and guidelines on ways to tackle these challenges.[6] Their classification of elective cancer surgeries into green, orange and red route categories with examples under each category based on urgency and time sensitiveness could prove to be of practical importance to the onco-anesthesiologist during these COVID times.

The advisory mentions that cancer patients being immunocompromised in several ways, are at an increased risk of infection, and those on immunosuppressant drugs including steroids should preferably not undergo any elective and planned surgical treatment,[6] but in reality, not many of us know the duration of immunosuppression after chemotherapy. A lead editorial in the British Medical Journal states that after chemotherapy, the duration of immunosuppression is variable. It depends on the type of chemotherapy which again depends upon the type and the stage of the cancer.[7] A recent study demonstrated that the adaptive immune system is altered for at least nine months following chemotherapy.[8] Different cancers produce immune suppression to a different extent, thus leading to a difference in the mortality rates.[9] Nevertheless, results from the TERAVOLT registry for thoracic cancers indicate an unexpectedly high mortality rate of COVID-19 in patients with thoracic malignancies.[10]

The authors of the SOAPC advisory have mentioned about a pooled meta-analysis of 11 studies published till March 14th, 2020. This meta-analysis found that the overall pooled prevalence of cancer in patients with COVID-19 was 2%.[6,11] The advisory also quotes a Chinese study of COVID-19 patients which found the risk of more severe events requiring critical care, involving ventilation and death to the extent of 39% in cancer patients and 8% in others.[6,12] However, several other studies both in China itself and other countries on this topic show variable figures. A more recent study in New York City by Miyashita *et al*. has found 6% patients with cancer among COVID-19 patients.[13]

The results of a study done in Wuhan, China showed that those treated with anti-cancer treatment within 14 days of their COVID -19 diagnosis had the highest risk of severe events.[14] Another Chinese study found that cancer patients who received immunotherapy/ surgical treatment within 40 days before the onset of COVID-19 symptoms had the highest odds of developing a severe/critical symptom. Also, those that had metastatic disease had an increased rate of severe events thus depicting the importance of the stage and type of cancer in planning management.[15] A report of an interim analysis from an oncology hub for cancer care highlights that in Italy, 1% COVID-19 patients had cancer and 50% of these experienced severe/ fatal events.[16] These figures show that there is a lot of variation in the reported incidence of COVID-19 in cancer patients and also varying associations between cancer and mortality in COVID-19. Nevertheless, there is concrete evidence that cancer patients are more vulnerable to COVID-19 and suffer from more COVID-related mortality.

When considering the treatment approach, there are several factors to be considered for the prognosis of COVID-19 in cancer patients. Age is a very important prognostic factor. Nevertheless, older age remains the only risk factor associated with critical events from Severe Acute Respiratory Syndrome (SARS-CoV2) infection in patients with cancer.[17] Miyashita H *et al*. found that after stratifying patients by age-groups, there was a significantly increased risk of intubation in cancer patients aged 66-80 years and cancer patients younger than 50 years had a significantly higher mortality rate than those older than 50 years.[13] The SOAPC advisory states that cancer patients aged more than 65 years should not be routinely seen in clinics including pain clinics and pre-anaesthesia clinics to reduce their stay in hospital environment.[6] Video consultations are advised for cancer patients, but misdiagnosis and long waiting lists are currently the challenges of video consultations.

The American College of Surgeons (ACS) recommends avoiding emergency onco-surgical procedures at night during the COVID-19 pandemic due to limited team staffing.[18] The ACS, the Society of American gastrointestinal and endoscopic surgeons (SAGES) and the European Association for Endoscopic surgery (EAES) state that there is currently insufficient data to recommend for or against an open vs. laparoscopic/ minimally invasive surgery approach and the surgical team should choose an approach that minimises operation theatre time and maximises safety for patients and health care safety.[18,19] SAGES strongly recommends the use of devices to filter CO_2 aerosolised

particles.[19] The Association of Surgeons of India (ASI) clearly states that laparoscopy should be avoided in suspected COVID-19 cases.[4] The SOAPC advisory has placed laparoscopic abdominal surgeries in the red zone category meaning that one has to be cautious while giving the case or the case can be rescheduled.[6]

The SOAPC suggests conduction of COVID-19 screening in all cancer patients before elective surgery and states that the Reverse Transcription-Polymerase Chain Reaction (RT-PCR) test would be preferred for this purpose.[6] However, currently, unless patients undergoing surgeries are symptomatic, they are not entitled to undergo RT-PCR COVID-19 testing. The ASI has recently written to the Union Health Minister stating the urgent need for Indian Council of Medical Research (ICMR) guidelines for doing RT-PCR testing prior to elective/'urgent' cancer surgeries in asymptomatic patients.[20]; however till date, atleast at the time of writing this commentary, no such guidelines have been issued. The Medical Council of India has made it mandatory for all the medical college hospitals to establish RT-PCR laboratories and it is expected that all these hospitals shall establish RT-PCR laboratories by the end of May 2020.[21]

Adoption of measures to reduce hospital stay is a suggested strategy for cancer patients during the COVID-19 pandemic. Hospitalisation is dependent primarily on peri-operative management; hence some authors have suggested that now is the time when evidence-based protocols like early recovery after surgery (ERAS) protocols need to be implemented.[22] ERAS protocols can reduce the hospital stay for cancer patients and can also save inpatient and intensive care unit (ICU) beds for other COVID-19 patients. The ERAS society has chosen not to publish guidelines on this topic, but has pointed to the fact that for patients who do undergo elective surgery, it is now very important to implement ERAS pathways.[23]

Cancer care has currently suffered a major disruption all over the world. In India as well, cancer care is currently disrupted. Let's hope and pray that normalcy will be restored soon and cancer treatment will normalise thereafter. In times like these, we hope for 'Sarve Jana Sukhino Bhavanthu' meaning we all should be free from illness and be happy soon.

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