

Caring for cancer patients during COVID-19 global pandemic: Risk factors and precautionary principle

Abstract

The current global pandemic COVID-19 challenges oncologists to reorganise cancer care in order to strikingly reduce hospital visits and admissions. Cancer patients are more susceptible to infections and likely to get severe consequences compared with other patients. Health-care facility services are quickly changing their systems and workflow in response to the global pandemic COVID-19 crisis. These alterations mitigate infection risks and give profound effects on crucial aspects of care, including patients with cancer. Here, we discuss the current situations and a roadmap for cancer care during the COVID-19 crisis. In the prevalence of global cancer and higher transmission of pandemic COVID-19, there is an urgent need to realise the effect of SARS-CoV-2 infection and their related life-threatening outcomes specifically for cancer patients.

and concomitant infections risk. In China, a group of 18 patients with COVID-19 who had cancer history among 1590 cases of COVID-19 patients (95% confidence interval, 1% prevalence) which was a high incidence of cancer patients in the overall China population (0.29%).² A meta-analysis of 11 research reports exhibited 2% (95% confidence interval, 2.0-3.0%; $I^2 = 83.2\%$) of overall cancer prevalence in COVID-19 patients.⁴ Further, patients with cancer have high risks of other infections compared with patients without cancer (39% vs 8%, respectively).

A recent report from China had a 0.79% infection rate of COVID-19 in patients with cancer (95% confidence interval; 12 of 1524 patients).⁵ Amongst 1524 cancer patients, 228 (14.96%) patients had lung cancer. Another recent study from Italy has reported a total of 355 patients' death with COVID-19 infection, where 72 patients (20.3%) had active cancer.³ These primary data shows an insight into the correlation between cancer and COVID-19 and suggests that clear intensive care is a must need for patients with cancer, especially those in active cancer treatment, hematological malignancies, stem transplants or bone marrow is given that they possibly at high risks. Liang et al² in their opinion reported that the development of serious risk factors is higher in cancer patients (hazard ratio: 3.56), but it is based on a heterogeneous population and few patient numbers ($n = 18$). Further, certain immune-checkpoint inhibitors and chemotherapy agents may involve in causing pneumonitis.⁶ Therefore, handling COVID-19 cases in cancer patients is challenging and needs multi-disciplinary approaches.

1 | INTRODUCTION

The whole world is currently in the midst of a pandemic COVID-19 disease, with over 76.25 million laboratory-confirmed cases, including 1.69 million death across the globe as of 22 December 2020.¹ It is one of the biggest medical disasters since the pandemic of influenza in 1918. This pandemic global health emergency has stimulated an unprecedented response in the biomedical research area to know the infection and immune response, mechanism of transmission, treatments and prevention for COVID-19. Several patients with cancer have pertained that their needs are overlooked or marginalised during the pandemic COVID-19 situation. Cancer-related treatments often cause immunosuppression and they have an excess mortality risk from SARS-CoV-2 infection.² The degree of this risk is not clearly known yet, but few reports indicate a significantly increased risk of death associated with SARS-CoV-2 infection in cancer patients and higher in more than 60-years-old patients including those with pulmonary compromises.^{2,3}

Cancer patients seem to have more severe symptoms of COVID-19 than those without cancer. Patients with cancer who are both elder and immune-compromised may have several comorbidities and taking treatments that often aggravate immunosuppression

2 | COLORECTAL CANCER

The impact on cancer patients COVID-19, who undergo elective non-cancer practice or on health-care workers, is enormous.^{2,7} It is crucial to re-organise and reconsider the surgical aid being provided during colorectal surgery. Colorectal cancer is the most frequent abdominal cancer.⁸ The most affected categories of patients in colorectal surgery are those diagnosed with inflammatory bowel diseases and cancer. Gastrointestinal cancer patients have more chance to get COVID-19 infection compared with healthy persons.⁹ In a recent report from China, amongst 1590 cases of COVID-19, 18 cases (1%) had cancer history including 3 cases (16.7%) with colorectal cancer.⁷ COVID-19 patients with active or previous cancer history seemed to have more adverse effects. According to the Italian

National Institute of Health data, amongst 2003 COVID-19 deaths occurred in Italy (until March 17th, 2020), 72 cases (20.3%) had active cancer history in the last 5 years.¹⁰

3 | EMERGENCY LAPAROSCOPIC SURGERY DURING COVID-19

COVID-19 is a serious dispute in the health system, with a reduction of surgical services, increasing the need for intensive care units and health care workers.¹¹ With a reduced load of surgical cases and health care workers dedicated to surgical work, the spread of COVID-19 infection among healthcare professionals due to aerosolization of viral particles and smoke plume constituted greater harm. Because of the reduction of surgical cases, performing fewer emergency laparotomies is reasonable. The advantages of laparoscopy such as reduced surgical site infections and stay length indicate no differences in the main outcome, such as reoperation rate, mortality or major complications.¹²⁻¹⁴

However, Di-Saverio et al¹⁵ are in the opinion that emergency laparoscopy is better to avoid and traditional open procedures to be preferred for COVID-19 positive patients. Conversely, other researchers consider laparoscopy as a preferred surgical method. This assumption is based on the lack of data which supports COVID-19 is transmissible by pneumoperitoneum or surgical smoke, a chance for containment and surgical gas filtration with smoke evacuation system is highly recommended.¹⁶ However, the substitute methods may not guarantee the filtration efficacy of the manufactured devices. Avoiding electrosurgical use and ultrasonic scalpel may reduce aerosolisation as well as the risk of viral particles and many researchers recommend to reduce the usage of energy devices in both laparoscopic and open surgeries.

4 | ORAL CANCER AND COVID-19

Oropharyngeal and oral cancers constitute a major public health concern globally. Around 30% of worldwide oral cancer are reported in the Indian subcontinent, which first ranks of all cancers in men.¹⁷ Indeed, dentists function a vital role in the early detection of oral cancers by testing opportunistically when patients appear during the dental practice for check-ups and suspicious lesions. During COVID-19, many countries are being in a lockdown situation and dental clinics are limited. Hence, screening of oral cavity might interrupt, and therefore the diagnosis of malignant lesions may be delayed, consequently leads to miss diagnosis of oral cancer or, at a late stage.¹⁸

5 | RECONSTITUTING CANCER CARE DURING THE PANDEMIC

It is very important to note that the mortality rate from other diseases such as cancer and diseases remains substantial. Because of pandemic COVID-19, healthcare workers face the challenge to reorganise the healthcare system to handle the COVID-19 crisis

effectively without losing insight into other patients' care too. To focus on these legitimate concerns has become most important to care for cancer patients. Balancing the cancer treatment values with competing risks during the resources declining time will increasingly face logistical and ethical challenges to clinical standards as well as humanism. Because many out-patient infusion centres and hospitals are now prohibiting visitors from accompanying patients, there is an immense attention to health care proxies, end-of-life care preferences and clarifying advance directives. Patients and oncologists must give preference to these precautionary things. Indeed, the needed empathy for oncology practices will be continuing to exceed the latest physical barriers by masks and telehealth. These changes would not have happened without this global pandemic. Even though the priority is to save lives, in the consequence and recovery phases, scoping the COVID-19 effects on cancer mortality rate is a priority. Certain changes caused by the COVID-19 pandemic crisis may permanently transform how to treat cancer patients and their physicians.

During the global pandemic, a triage decision requires inter-specialists communication and co-ordination. The surgery postponement and administrative neo-adjuvant therapies can reduce patients' risk and maintains health care resources. Likewise, radiation oncologists may delay, drop or use short courses to avoid visiting frequently. In the United States, the American Association of Clinical Oncology has recently launched to survey on the impact of COVID-19 in cancer patients to provide cancer treatments. In the United Kingdom, a project on coronavirus cancer-monitoring aims to examine COVID-19 prevalence in cancer patients and the association of disease site and mortality by comprehensive reports.

6 | CLOSING OPINION AND A PATH FORWARD

This global pandemic COVID-19 is unprecedented and continues to evolve. Indeed, how efficiently to support and treat our cancer patients is the most important aspect. Crowdsourcing to analyse, rapid, accurate, and disseminate information from a large group of patients can provide a unique strategy to tackle COVID-19 complexities in cancer patients. Given the concerns on the rapidly spreading COVID-19, it is most needed that the control of infection and safety precautions should be maintained. Homestay is one of the crucial safety measures that avoid the spreading of infections widely. However, prolonged homestay can induce certain behaviours that lead to inactiveness and adds to depression and anxiety, which in turn may lead to sedentary lifestyles resulting in chronic health conditions. Regular physical activities and routine exercise inside a safe home environment is a crucial approach for healthy and safe living during the COVID-19 crisis.

ACKNOWLEDGEMENTS

The first author acknowledges the award from the University Grants Commission, New Delhi, Government of India (DSKPDF


- No.F.4-2/2006 (BSR)/BL/17-18/0234). The contents of this perspective and the opinions expressed therein are those of the authors.

DISCLOSURE

The author declares no conflict of interests.

H. C. Yashavantha Rao¹ 

Salman Siddeeqh² 

Syed Noeman Taqui³ 

¹Department of Biochemistry, Indian Institute of Science,
Bengaluru, Karnataka, India

²Department of Maxillofacial Surgery and Diagnostic Science,
King Saud Bin Abdulaziz University of Health Sciences, Riyadh,
Saudi Arabia

³Department of Chemistry, University of Malaya, Kuala Lumpur,
Malaysia

Correspondence

H. C. Yashavantha Rao, Department of Biochemistry,
Biological Sciences Building, Indian Institute of Science,
Bengaluru 560 012, Karnataka, India.
Email: hcyrao@gmail.com

ORCID

H. C. Yashavantha Rao  <https://orcid.org/0000-0001-6010-0781>

Salman Siddeeqh  <https://orcid.org/0000-0003-4546-2260>

Syed Noeman Taqui  <https://orcid.org/0000-0002-3546-7212>

REFERENCES

- World Health Organization. Emergency: Coronavirus disease (COVID-19) pandemic. COVID-19 Weekly Epidemiological Update. Accessed December 23, 2020.
- Liang W, Guan W, Chen R, et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. *Lancet Oncol*. 2020;21:335-337.
- Onder G, Rezza G, Brusaferro S. Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy. *JAMA*. 2020;323:1775-1776.
- Desai A, Sachdeva S, Parekh T, Desai R. COVID-19 and cancer: lessons from a pooled meta-analysis. *JCO Global Oncol*. 2020;557-559.
- Yu J, Ouyang W, Chua ML, Xie C. SARS-CoV-2 transmission in patients with cancer at a tertiary care hospital in Wuhan, China. *JAMA Oncol*. 2020;E1-E3.
- Abdel-Rahman O, Fouad M. Risk of pneumonitis in cancer patients treated with immune checkpoint inhibitors: a meta-analysis. *Ther Adv Respir Dis*. 2016;10:183-193.
- Mao R, Liang J, Shen J, et al. Implications of COVID-19 for patients with pre-existing digestive diseases. *Lancet Gastroenterol Hepatol*. 2020;5:426-428.
- Di-Saverio S, Pata F, Gallo G, et al. Coronavirus pandemic and Colorectal surgery: practical advice based on the Italian experience. *Colorectal Dis*. 2020;22:625-634.
- Pietrantonio F, Morano F, Niger M, et al. Systemic treatment of patients with gastrointestinal cancers during the COVID-19 outbreak: COVID-19-adapted recommendations of the national cancer institute of Milan. *Clin Colorectal Cancer*. 2020;19:156-164.
- Istituto Superiore di Sanita. Report on the characteristics of patients who died positive for SARS-CoV-2 infection in Italy. <https://www.epicentro.iss.it/coronavirus/sars-cov-2-decessi-italia>. Accessed November 16, 2020.
- Blanco-Colino R, Soares AS, Kuiper SZ, Zaffaroni G, Pata F, Pellino G. Surgical training during and after COVID-19: a joint trainee and trainers manifesto. *Ann Surg*. 2020;272:e24-e26.
- Dai L, Shuai J. Laparoscopic versus open appendectomy in adults and children: a meta-analysis of randomized controlled trials. *United Eur Gastroenterol J*. 2017;5:542-553.
- Jaschinski T, Mosch CG, Eikermann M, Neugebauer EA, Sauerland S. Laparoscopic versus open surgery for suspected appendicitis. *Cochrane Database Syst Rev*. 2018;11:CD001546.
- Pata F, Khan M, Iovino D. Laparotomy represents the safest option during COVID-19 outbreak: Authors' response to: "The COVID-19 pandemic should not take us back to the prelaparoscopic era" by Botteri et al. and "Emergency laparoscopic surgery during COVID-19: what can we do and how to do it safely" by Bonapasta et al. *J Trauma Acute Care Surg*. 2020;89:277-278.
- Di-Saverio S, Khan M, Pata F, et al. Laparoscopy at all costs? Not now during COVID-19 and not for acute care surgery and emergency colorectal surgery: a practical algorithm from a Hub Ter-tertiary teaching hospital in Northern Lombardy, Italy. *J Trauma Acute Care Surg*. 2020;88:715-718.
- Vigneswaran Y, Prachand VN, Posner MC, Matthews JB, Hussain M. What is the appropriate use of laparoscopy over open procedures in the current COVID-19 climate? *J Gastrointest Surg*. 2020;24:1686-1691.
- Warnakulasuriya S, Greenspan JS. Epidemiology of oral and oropharyngeal cancers. In: Greenspan W, ed. *Textbook of Oral Cancer*. Berlin, Germany: Springer; 2020:5-22.
- Arduino PG, Conrotto D, Broccoletti R. The outbreak of novel coronavirus disease (COVID-19) caused a worrying delay in the diagnosis of oral cancer in north-west Italy: the Turin metropolitan area experience. *Oral Dis*. 2020;1-2.

How to cite this article: Yashavantha Rao HC, Siddeeqh S, Taqui SN. Caring for cancer patients during COVID-19 global pandemic: Risk factors and precautionary principle. *Int J Clin Pract*. 2021;75:e14141. <https://doi.org/10.1111/ijcp.14141>