

Impact of COVID-19 on Cancer Patients

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Almost 18 months since the beginning of the COVID-19 pandemic, we are still witnessing a heterogeneous burden of response to the disease across various regions of the world. While some nations pass through the 'recovery phase', others are in lockdown or experiencing subsequent surges. Every country in the world has registered infection with COVID-19. Globally, the WHO Coronavirus disease situation dashboard presents official daily counts of COVID-19 cases and the mortality from the pandemic. As of 15 June 2021, 175,987,176 confirmed cases have been reported worldwide, including 3,811,561 deaths (<https://covid19.who.int/>).

Older people and those with underlying comorbidities, including cancer, are more vulnerable to complications from COVID-19. Cancer is a major public health problem. Its burden continues to grow to exert tremendous physical, emotional and financial strain on individuals, communities and health systems, specifically in low and middle-income countries which are least prepared to manage its consequences. Pooled analyses from a large series of studies showed that approximately 1-4% of patients with COVID 19 have a prevalence of cancer history.¹⁻³ Higher rates have been observed in other systematic reviews⁴ specifically among patients who were critically ill or died.

Recently, cancer is registered as the third cause of death among the general Iraqi population, following cerebrovascular and ischemic heart diseases.⁵ WHO Coronavirus disease dynamic infographic dashboard of Iraq has so far reported over one million cumulative cases of

COVID-19 (1, 259,683 in 14 June 2021) and 16,736 deaths from the disease. Out of the deceased cases, cancer as a cause of comorbidity was recorded in only 1% of Iraqi individuals who died from COVID-19, while cardiovascular diseases and diabetes mellitus were reported in 49% and 39%, respectively.⁶ By applying logistic regression in a recent retrospective survey, it has been displayed that cancer stage, history of receiving chemotherapy in the last month, severe lung involvement and lymphopenia were among the most important factors influencing the survival among the affected cancer patients.⁷

On the other hand, ongoing research on cancer patients themselves has so far illustrated that they do have a higher risk of developing COVID 19 infection than the general population. The incidence rates in those receiving active treatment ranged between 0.79% and 4.2%.^{8, 9} A large cohort study on 73 million health records demonstrated an adjusted odds ratio for infection with COVID-19 of 1.46 (95% CI 1.42-1.50) in patients who have ever had cancer and 7.14 (95% 6.91-7.39) in patients who had a recent diagnosis compared to those who have never had cancer.¹⁰ The evidence clearly points out that patient with cancer tends to have much worse outcomes. Multiple meta-analytic studies reported statistically significant odds ratios for increased mortality risk in COVID-19 patients with cancer versus those without.¹¹⁻¹³

Nowadays, the oncology community is actively working together to face that problem, emphasizing that to assess the longer term im-

pact of COVID-19 on cancer care across the global regions, we should focus on the “Current Normal” for oncology service. To avoid the risk of infection, cancer care has been adapted to reduce the time spent in hospital settings. If there is an essential appointment, special safety measures should be placed to protect the patient and the working staff. It has been agreed that in many cases, it would be perfectly safe to delay some types of diagnostic and screening procedures or even certain treatment protocols. In general, it has been concluded that if a cancer patient develops symptoms of COVID-19, the medical priority will be to isolate and treat the infection rather than cancer which could be managed after recovery. If continuing diagnosis or therapy is essential, careful evaluation of the risks versus the benefits of any intervention should be thoroughly explored.¹⁴⁻¹⁶

In general, the unprecedented burden of the pandemic on the health system has disrupted the full spectrum of cancer care; not only through delaying diagnosis, treatment and halting clinical trials but also by posing significant impact on other aspects of cancer control, including prevention, screening, supportive and palliative care strategies. The American Society of Clinical Oncology (ASCO) developed guidelines to standardize management of patients with active, progressing malignancy and those with lung or thoracic cancers across the health care system during the COVID-19 era and recommended that the general principles of treatment should be continuously followed in most cases where delays could result in rapid cancer progression.¹⁴ In 2020, ASCO produced a special guide on cancer delivery during the pandemic, stressing the significance of testing for COVID-19 in all patients with cancer and care providers.¹⁵

With the objectives of mitigating the negative impact of the pandemic on the affected patients and prioritizing the different aspects of cancer care, the European Society of Medical Oncology (ESMO) published a consensus statement and treatment adapted recommendations in the management of different cancers.¹⁷⁻¹⁹ The adopted approach considers the patient condition, the urgency of the planned

treatment, its anticipated benefits versus the potential risks of COVID-19 and the available resources for safety. The adaptation strategy differs depending on the therapeutic goal; i.e., curative treatment is likely to continue to ensure the best chance of remission, while the risks of COVID-19 in patients under palliative therapy could outweigh the potential benefits of treatment. The structured tiered approach proposed by ESMO for the management of cancer comprises three levels of priorities, namely: **Tier 1** (High Priority) for patients whose conditions are life-threatening or clinically unstable; **Tier 2** (Medium Priority) for patients with serious conditions but not immediately life-threatening; and **Tier 3** (Low Priority) for stable situations where any treatment could be safely delayed.

Obviously, the current impact of COVID-19 pandemic on cancer care has resulted in serious delays that affected the identification of new cancer cases and the delivery of appropriate treatment.²⁰⁻²² The natural consequence of disruption in cancer-preventive and screenings measures accompanied by the late diagnoses will eventually yield advanced stages at cancer presentation, thus requiring critical treatment strategies with a lower likelihood of response to therapy and higher risks of mortality. A global collaborative cross-sectional study, enrolling 356 cancer centres from 54 countries across six continents, reported that 88% of the examined cancer care centres faced great challenges during the pandemic. These were mainly manifested by reduced services (55%), overwhelmed health systems (20%), lack of sufficient personal protective equipment (19%), shortage of staff (18%) and restricted access to the requested medications (10%). The same study revealed that more than one-third of the participating centres reported that their patients were exposed to harm from the interruption of cancer-specific care and the deficiency of the relevant drugs.²²

In conclusion, anticipating the effects of COVID-19 on access to cancer care on long term bases, experts warned that the next several years could bear witness to thousands of additional cancer-related deaths that could

have been prevented through routine care, which was delayed because of the pandemic. Urgent policy interventions through concerted efforts are highly recommended to handle the backlog of the suboptimal diagnostic and therapeutic services to minimize the substantial harmful impact on cancer outcomes.

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Abbreviations list: American Society of Clinical Oncology (ASCO), Confidence interval (CI), Coronavirus Disease (COVID-19), European Society of Medical Oncology (ESMO), World Health Organization (WHO).

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