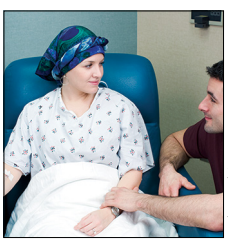
# Cancer and COVID-19: what do we really know?



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Published Online
May 29, 2020
https://doi.org/10.1016/S0140-6736(20)31240-X

See Online/Articles
https://doi.org/10.1016/S0140-6736(20)31187-9 and
https://doi.org/10.1016/S0140-6736(20)31173-9

The COVID-19 outbreak challenges the medical community, including creating an unprecedented competition for health-care resources. The oncology community has suddenly needed to protect a population assumed to be vulnerable from a potentially fatal infection, without jeopardising cancer treatments. Dealing with shortages and lockdowns, the immediate reaction was ruled by the general principle of risk-to-benefit ratios.[1–4]

In *The Lancet*, Lennard Lee and colleagues[5] and Nicole Kuderer and colleagues[6] separately present early investigations of the largest multicentre studies to date collecting data from patients with COVID-19 who have cancer. The UK Coronavirus Cancer Monitoring Project (UKCCMP) prospectively collected data on 800 patients (median age 69 years, 449 [56%] men, and 349 [44%] women) with active cancer presenting between March 18 and April 26, 2020, with COVID-19. Patients were followed up from the date of hospital admission until the patient outcomes were met (death or discharge), and 226 (28%) patients died. Although risk of death was significantly associated with age, male sex, and comorbidities, no interaction between anticancer treatments within 4 weeks before testing positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and COVID-19 morbidity or mortality was found.[5] The US COVID-19 and Cancer Consortium (CCC19) analysed prospectively collected data between March 17 and April 16, 2020, from 928 patients (median age 66 years, 468 [50%] men, and 459 [49%] women) with current or past history of cancer who had a presumptive diagnosis of COVID-19 (888 [96%]) or positive (SARS-CoV-2) test (40 [4%]).[6] The primary endpoint was all-cause mortality within 30 days of COVID-19 diagnosis. After a median follow-up of 21 days, 121 (13%) patients died and 242 (26%) were severely ill. Increased 30-day mortality was associated with age, male sex, smoking, comorbidities, Eastern Cooperative Oncology Group performance status, active cancer, region of residence, and receipt of azithromycin plus hydroxychloroquine, but not with anticancer therapy.

The urgency with which data were obtained meant short follow-up times and high proportions of missing data. The mortality rate observed by the UKCCMP was probably due to the selection of patients who were admitted to hospital, underlying the need for data from patients without cancer from a matched population. Moreover, ending the observation after discharge does not capture the full disease trajectory. Similarly, for CCC19, by limiting observation to 30 days, and with follow-up data missing for 80 (61%) of 132 patients admitted to the intensive care unit (ICU), mortality rates are likely to increase. Subsequently, both studies are missing important data, without concise definitions of viral and cancer stage and status.

The main lesson that we might deduce from both studies is that standard oncological care should be offered if feasible, including chemotherapy administration. We strongly encourage the continuation of these and other projects that will add pieces to the complex COVID-19 puzzle and the disease's interactions with cancer and cancer treatments. Will COVID-19 negatively affect active oncological treatments or, on the contrary, might anticancer therapy be protective against the cytokine storm caused by SARS-CoV-2?[7–9] Are disease stage and status important for these interactions?

After counting the number of SARS-CoV-2 infections, hospital, and ICU admissions, and measuring mortality and acquirement of immunity, we will start measuring excess mortality, and comparing expected mortality country-wise with that during the pandemic. However, this measurement is not so simple, as data show that the lockdown influences other types of mortality. Whether the shortages of non-COVID-19-related health-care provisions will affect oncological and cardiovascular mortality is too early to predict.[10,11]

Finally, we must focus on improving future research, prospectively collecting all relevant data considering the specific local background, encouraging international collaboration, and setting a clear goal to stop, contain, control, delay, and reduce the effects of this virus at every opportunity, never forgetting that we will keep fighting together on behalf of our patients with cancer.

PMP reports working as a medical adviser for Sordina IORT Technologies, outside of the area of work commented on here. VG reports personal fees from Eli Lilly, Novartis, and Roche, outside of the area of work commented on here. M-JC declares no competing interests.

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