



Cancer and coronavirus risk

LEDER

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Some, but not all, people with cancer seem to be at increased risk of a severe COVID-19 disease course. It is important to find out exactly who is at risk.

Early in the pandemic, cancer patients with COVID-19 were identified as a group with poor prognosis (1). An enormous amount of research has since been conducted on the interplay between cancer and coronavirus. Nevertheless, it remains unclear whether cancer patients are more susceptible than others to infection with SARS-CoV-2, what proportion of cancer patients experience a severe clinical course, and how high the mortality risk is for patients with comorbid cancer and coronavirus infection.

Kvåle *et al.* now present, in the *Journal of the Norwegian Medical Association*, an analysis of all cases of confirmed SARS-CoV-2 infection in Norway in the first half of 2020 (2). By using two of Norway's excellent national health registries, the Cardiovascular Disease Registry and the Cancer Registry, the authors show that a history of stroke and metastatic cancer both increase the risk of death after a diagnosis of COVID-19.

Immunosuppression, reduced general condition, advanced age, and smoking are all factors that may render cancer patients more vulnerable to severe disease following coronavirus infection (3, 4). A frequent complication of COVID-19 is thromboembolism. This is also common in patients with cancer (5). Socioeconomic status has an impact both on cancer prognosis and on COVID-19 risk. In addition, cancer patients must attend hospital frequently and may be more exposed to infection than the general population. A Norwegian study revealed an increased incidence of COVID-19 admissions among cancer patients who had recently undergone cancer treatment (6).

Patients with metastatic cancer have a higher mortality risk than cancer patients in general

Even in hard-hit Italy, SARS-CoV-2 was detected in less than 1% of cancer patients undergoing active tumour treatment (7). The data from Kvåle *et al.* indicate that the risk of infection does not differ between individuals with and without cancer. However, the possibility that individuals with underlying diseases take infection prevention and control more seriously than others, and that this has contributed to lower transmission among cancer patients, cannot be ruled out. Cancer patients are probably also tested more frequently than other people.

Kvåle *et al.* find that patients with metastatic cancer have a higher mortality risk than cancer

patients in general. Because the number of cancer patients who died of or with COVID-19 was, fortunately, small, further subgroup analyses were not possible. In studies in other countries, however, two cancer diagnoses in particular have been associated with a high risk of a severe disease course and death, namely haematological cancer (i.e. lymphoma and leukaemia) and lung cancer, along with advanced-stage or progressive disease (1, 8). This may reflect the immunosuppressive effects of both the disease itself and its treatment, while lung cancer patients may be more vulnerable because of reduced respiratory reserves.

Patients undergoing active cancer treatment are at increased risk of a severe COVID-19 outcome, but this risk varies depending on the treatment type. Cytotoxic drugs lead to immunosuppression – which is disadvantageous – whereas there are data suggesting that immunotherapy with immune checkpoint inhibitors may actually be beneficial by enhancing T cell responses (9). Pneumonitis, which is a known adverse effect of targeted immunotherapy, can be difficult to distinguish from COVID-19 pneumonia. The former should be treated with high-dose steroids, which may be harmful in the early stages of COVID-19 (10).

Cancer treatment should continue as planned, even in a pandemic

The pandemic has also indirectly affected cancer care, with screening programmes put on hold, some assessments delayed, and clinical trials halted or slowed down. But cancer treatment should continue as planned, even in a pandemic. An excess of cancer-related deaths, caused indirectly by COVID-19, must be avoided.

In the current Norwegian patient cohort, four out of 18 patients with metastatic cancer and COVID-19 died (2). Although the numbers are small, this represents a significantly increased proportion compared to the group as a whole, and the threefold increase in relative risk is consistent with international findings (8). The study by Kvåle *et al.* may prove useful in the discussion on prioritisation of vaccines, as cancer patients with metastasis can have a long life expectancy. Furthermore, when designing new oncology units in the future, greater emphasis should be placed on infection prevention and control, with units allowing for a safe distance between all those who attend the unit.

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