

Brain Tumours in the Era of COVID-19

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THE COVID-19 pandemic affected and still affects health care for cancer patients. ^[1]

COVID-19 is a respiratory illness caused by the newly discovered virus, SARS-CoV-2. The mechanism through which SARS-CoV-2 leads to symptoms – that may be fatal – is quite complex. In simple words, however, SARS-CoV-2 infection leads to the destruction of lung cells, which in turn triggers a local immune response aimed at clearing the infection. While in most cases, this process is successful, in some cases, the immune response does not work properly and itself becomes the problem and becomes the source of severe lung and systemic injury. ^[2]

Risk factors

Generally, COVID-19 more severely affects elderly people above the age of 65, people with pre-existing conditions, and those with a weakened immune system.

Patients with a diagnosis of brain cancer are susceptible to infections for a multitude of reasons, including a compromised immune system due to the disease itself and due to anti-tumour treatments, such as chemotherapy. In addition, brain tumor patients under active anti-tumour treatment are exposed to inevitable contacts with hospital staff, other patients, or with people during their transit. These factors support the idea that there may be an increased risk of SARS-CoV2 infection in patients with a diagnosis of brain cancer.

Fear of being potentially exposed to the virus, particularly when visiting hospitals for routine visits or to clarify symptoms of progressing disease and necessary cancer treatment, is widespread. This seems to continue even up to the present day despite the measures that hospitals have taken to



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ensure the safety of their staff and patients alike. Recent studies, however, clearly indicate that these measures have been very effective, such that - under strict population-wide and institutional safety measures - infection rates in outpatient cancer patients have been shown to be very low and that the continuation of active anticancer therapy and follow-up visits may be still feasible. ^[3]

Given the aggressiveness of brain cancer, it is critical that treatment initiation and continuation are not hampered by concerns over possible infection with SARS-CoV-2. On the other hand, brain cancer patients should not be exposed to unnecessary risks of contracting COVID-19.

COVID-19 recommendations for brain cancer patients

To provide guidance and ensure proper health care of brain cancer patients in



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times of COVID-19, various societies, health care professionals, and institutions have published recommendations.

The European Society for Medical Oncology (ESMO), the American Society of Clinical Oncology (ASCO), the European Association of Neuro-Oncology (EANO), the American Society for Radiation Oncology (ASTRO), the Indian Society for Neuro-Oncology (ISNO) and others released recommendations for the management and treatment of patients with primary brain tumours in the COVID-19 pandemic concerning hospital visits, imaging appointments, surgery, radiotherapy, and chemotherapy. ^[4-9]

Patients with newly diagnosed brain tumours, new-onset or worsening of symptoms or evidence of tumour recurrence should be considered high risk and are advised to visit their doctor in person as soon as possible. For this patient group, it

is recommended to continue imaging (such as MRI), surgery, radiotherapy, chemotherapy, and TFields therapy (in those countries where TTF is part of the standard of care and is reimbursed) to ensure the best possible treatment and benefit for the patients. Delaying MRI appointments or radiotherapy sessions might lead to tumour growth and worsening of both symptoms and prognosis. Patients with stable neurological symptoms and on adjuvant chemotherapy should consider the possibility of virtual doctors' appointments or telemedicine if the necessary technical equipment is available.

The overall strategy outlined in the ESMO, ASCO, EANO, ASTRO, ISNO, etc. recommendations is to cut down on surgical, radiation, and chemotherapeutic interventions with no clear evidence for survival benefit in order to minimize exposure to SARS-CoV-2 and to provide teleconferences and video consulting whenever possible. Some recommendations, however, such as substituting six-weeks irradiation intervals for four-weeks in malignant glioma, should be considered with caution given the uncertainty of the impact on outcome.

Based on our experience and recent reports, chemotherapy, irradiation and the use of TFields therapy (where available) seem to be safe and not associated with an increased risk of SARS-CoV-2 infection. [3] For example, instigating measures to reduce personal contact, adopting safer practices and following physical distancing recommendations when delivering devices/equipment as well as using telemedical services to educate and assess patients who use TFields should significantly contribute to reduce possible SARS-CoV-2 infections.

In addition to the ESMO, ASCO, EANO, ASTRO, ISNO, etc. guidance, brain cancer patients should follow their country's general national COVID-19 recommendations. These include informing your health care provider about symptoms related to COVID-19 infections before your clinic or hospital visit and staying at home if possible in case of symptoms; frequently washing your hands, especially after touching highly used surfaces (such as doorknobs, surfaces on public transport, handlebars); disinfecting hands with hand sanitiser when washing with soap is not possible; wearing a face mask; practicing social distancing whenever

possible, commuting by car and avoiding public transportation.

It is important to be aware of risks and symptoms of COVID-19, to follow national directives, and to act accordingly. At the same time, and especially in the case of new or worsening symptoms, it is crucial for the diagnosis, consequent treatment, and prognosis of brain cancer patients to overcome concerns and hesitance for follow-ups and medical consultations.

Timely, high-quality, multi-disciplinary treatment for brain cancer patients should not suffer from restrictions imposed by the current pandemic. Good communication between health care providers and the patient will play a central role to ensure state-of-the-art brain tumour management in the era of COVID-19. ■

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Brain tumours and COVID-19: the patient and caregiver experience

The International Brain Tumour Alliance (IBTA) has announced the results of the IBTA's survey: Brain tumours and COVID-19: the patient and caregiver experience which have now been published in the Oxford University Press journal *Neuro-Oncology Advances*.

In April and May 2020, the IBTA, as part of its work with the Society for Neuro-Oncology (SNO) COVID-19 Task Force carried out the first survey within the global community of brain tumour patients and caregivers on how the COVID-19 pandemic had directly affected them. In total, 1,989 participants completed the survey from 33 countries including 1,459 patients and 530 caregivers.

The results serve as a rich resource of data to help individuals and organisations in the international brain tumour community to ensure they continue to fulfil patients' expectations and retain patients' trust by providing accessible, high-quality care, information and support.

The free access paper in *Neuro-Oncology Advances* is available via this link: <https://doi.org/10.1093/oaajnl/vdaa104>