

Call of duty: neuro-oncology outpatient management during the COVID-19 pandemic in Milan, ITALY

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Dear Editor,

After reading the article by Bernhardt et al.¹, we would like to share our experience from one of the European regions most affected by the SARS-CoV-2. Our hospital's neuro-oncological outpatient clinic is a tertiary center for brain tumor patients, with a regular workload of 15 patients/week.

Since the SARS-CoV-2 outbreak reached the pandemic status, our hospital was identified as a COVID-19 referral center. Complete closure of non-urgent hospital activities followed. Non-deferrable oncological pathologies were among the only exceptions following the re-arrangement².

Within the framework of the emergent plan re-organizing the regional health-care system, we were able to operate 3-4 patients with brain tumors per week and to guarantee neuro-oncological visits three times per week.

From March 8th to April 30th, 124 follow-up patients were evaluated: 67, 27, 15, and 3 subjects had previous surgery for High- and Low-Grade Gliomas (HGGs, LGGs), meningiomas, and cerebral metastases, respectively; 12 further patients were evaluated for surgery. We also provided 20 neuro-oncological evaluations to other clinics.

Nine planned visits were rescheduled: 3 LGG patients declared to fear a possible COVID-19 infection in a nosocomial environment; 1 LGG patient could not perform the follow-up MRI; 5 patients (one with LGG, three with meningiomas and one long-survivor with HGG) underwent the prescribed MRI and were evaluated remotely via image-transfer and telephone interview due to their general good condition.

During the outpatient activity, a policy was deployed to mitigate the risk of exposure of patients and further dissemination of COVID-19. Health-care providers and patients followed the hospital

guidelines that were drafted accordingly to those the World Health Organization released³. Patients underwent a telephone interview 1-2 days before the scheduled appointment to rule out the presence of respiratory signs, symptoms or fever. Before entering into the building, patients crossed a check-point, where a trained operator measured the body temperature with a contactless digital thermometer. Subjects were only allowed into the building with a temperature $\leq 37.4^{\circ}$ C. No visitors were allowed aside a caregiver for patients who required one. We wore personal protective equipment⁴ and extended the regular visit time to avoid gatherings in the waiting room. When feasible, we made the medical examination follow the MRI on the same day, to reduce the flow of patients accessing the unit.

Two of our patients are examples of why it is crucial to avoid COVID-19 in neuro-oncological subjects. They were 73 and 69 years old, with a KPS of 50-60 and multiple comorbidities. They underwent surgery for HGG in November 2019 and concomitant radiotherapy and chemotherapy; they were hospitalized in a rehabilitation unit, where they acquired SARS-CoV-2 pneumonia. They were then transferred to a COVID-19 unit where they deceased three weeks later.

As a further measure to limit the patients' accesses to the outpatient clinic, we encouraged the use of e-mails, telephone, and image-transfer tools to provide continuity of care. We enhanced our multidisciplinary network, with remote consultations and video-conferences, to better share the management of the patients among surgeons, oncologists, radiotherapists and other specialists as needed. Despite the objective difficulties created by the pandemic, we provided an efficient service, while avoiding referrals of symptomatic patients to the emergency ward. Our approach improved patients' safety since hospital exposures were limited, while addressing oncological needs. No patient was infected in the outpatient clinic. Our experience contributes to the management proposed by Bernhardt, without compromising the standard of care. Such a multidisciplinary effort may enhance our response to the pandemic and contribute to the development of shared guidelines for modifying the approach to patients' follow-up, as it is already emerging in other medical fields⁵.

We will live with the virus for the months to come. As physicians, we will be asked to improve the tools -such as telemedicine or image-transfer methods- we use to evaluate and communicate with our patients in the era of physical distancing⁶.

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