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Letter to the Editor

How to Reorganize Children's Access to Radiation Therapy in the Era of COVID-19, to Protect Them and Elderly Patients

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To the Editor:

According to Liang et al,[1] as of January 31, 2020, based on a cohort of patients in China, 1% of coronavirus disease 2019 (COVID-19) cases had a history of cancer. Although direct evidence is lacking to support changing or withholding anticancer therapy in cancer patients,[2,3] the report showed that these patients have poorer outcomes from COVID-19, especially older patients.[1] Most comorbidities have been observed in COVID-19-positive deceased patients. In Italy, only 2.1% of deaths had no comorbidities, and in 16.5% of deaths the patients had a history of active cancer in the past 5 years.[4] Consequently, more attention is needed for patients with cancer who show rapid clinical deterioration or symptoms suggestive of infection.[1,5]

From January to February 8, 2143 COVID-19 pediatric patients were reported in China. Four percent were asymptomatic, and in a high proportion of patients, symptoms were generally milder compared with adults.[6] The median incubation period of this virus is 5.2 days,[7] although some suggest it may be as many as 14. Transmission can occur from a person that is infected even 2 days before showing symptoms, but the asymptomatic persons may play an important role. No data are available for children with cancer undergoing chemotherapy, although 3 positive pediatric cases with solid tumors (2 hepatoblastomas, 1 rhabdoid tumor) recruited in Bergamo Pediatric Oncology Unit, Italy's hardest-hit city, have overcome postchemotherapy neutropenia without additional problems from COVID-19 (M. Provenzi, personal communication, March 24, 2020).

During a pandemic, radiation therapy centers remain among the few departments treating both adults and children. Practical recommendations have been recently proposed by colleagues of the "red zone," an area between Milan and Venice in northern Italy, to continue radiation therapy while protecting patients, families, and health professionals from the infection.[8] Hypofractionation, as suggested for adult patients to mitigate the duration of treatment in these exceptional times,[9] is not sufficiently validated in most pediatric tumors.

On March 31, at 5:00 PM, the Italian Minister of Health reported 105,792 cases of COVID-19 infection in Italy, with a median age of 62 years, yielding 12,428 deaths and 15,729 recoveries. The total number of swabs performed so far is 506,968.[10] Since the beginning of March, all Italian citizens have been told to stay at home. No unnecessary journeys or social contact is allowed. Citizens can leave home for grocery shopping or medical needs only.

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Our cancer institute, located in north eastern Italy, treats 120 outpatients daily with radiation therapy, coming from different Italian regions: 52% are over 65 years of age (several with comorbidities) and 7% are younger than 10 years. Most children are enrolled in clinical trials and treated daily with high conformal techniques and conventional fractionation.

Starting in mid-February, we applied these rules for outpatients undergoing radiation therapy: (1) telephonic triage the day before the first admission and specific clinical triage the day of admission in a dedicated area; (2) daily detailed medical history to detect the possibility of COVID-19 contagion; (3) postponement of nonessential check-ups; (4) medical evaluation or nasopharyngeal swab for patients with rhinitis, conjunctivitis, cough, or fever before accessing the hospital; (5) education on hand-washing, no touching of the mouth, nose, and eyes; (6) couch and mask disinfection after every radiation therapy fraction; (7) compulsory surgical masks for patients, parents, and health care workers; (8) no volunteers allowed; and (9) nasopharyngeal swabs only for people with symptoms or family risk conditions. The specific rules for children are: (1) different waiting rooms for adults and children; (2) only 1 parent allowed; (3) no patient overlapping; (4) only 1 patient in need of sedation per recovery room; (5) individual toys for each child to be later disinfected; and (6) suspension of hospital school and limitation of psychological support.

In most hospitals worldwide, the radiation therapy department is shared by pediatric, adult, and elderly patients. Therefore, although we are along a learning curve that is still ongoing,[11] we have applied these measures to avoid the transmission of COVID-19 from asymptomatic or mild-symptomatic patients, that is, pediatric patients, to ones with an increased death risk, that is, the elderly. As of today, none of the patients in treatment at our department have developed signs or symptoms of COVID-19 infection.

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