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LETTER TO THE EDITOR

After 2 years of strict COVID hygiene rules, do they impact on the prevention of febrile neutropenia?

To the Editor:

Despite pharmacological prophylaxis, environmental and dietary restrictions, and strict hygiene rules, febrile neutropenia remains the main reason for unscheduled admissions to pediatric oncology wards. By the end of February 2020, the later so-called COVID-19 pandemic started to hit Lombardy hard, forcing everyone to practice careful hand hygiene, maintain social distance, and wear face-filtering masks, which has significantly reduced the number of infections and related hospitalizations—not only in children.

We wanted to test whether—and if so, to what extent—those COVID recommendations for the general population may contribute to the protection of children undergoing anticancer treatment. We thus retrospectively compared the number of admissions for febrile neutropenia (ICD9: 288.09 and 780.6) at "Ospedale dei Bambini," Brescia Italy, the third-level referral center for pediatric oncology in Eastern Lombardy. As many, especially viral respiratory infections peak biennially[1] and a delayed outbreak for some has been described after the start of the pandemic,[2] we compared the number of admissions for febrile neutropenia during two 2-year periods: "pre-COVID," from March 2018 to February 2020, and "during COVID" ranging from March 2020 to February 2022, taking into account age, sex, length of stay, and the total number of hospitalizations in pediatric oncology.

There were 71 admissions pre-COVID compared to 79 during COVID, representing 9.9% and 10.6% of all admissions, respectively (chi-square $p > .05$). The difference was not significant, and there was no significance in the monthly distribution either (monthly mean 3.0 vs. 3.3, *t*-test $p > .05$). The median duration of hospitalization pre-COVID was 7 days (interquartile range [IQR]: 4–10) versus 9 days (IQR: 5–14) during COVID (Mann–Whitney *U* test $p > .05$). No significant difference also regarding the mean age of the patients: pre-COVID 7.4 ± 4.3 years versus 7.1 ± 4.8 years during COVID (*t*-test $p > .05$).

In contrast to the sharp reduction in ER visits for fever and the decline in admissions to the general pediatric ward observed at the beginning of the pandemic in our hospital,[3] the incidence of fever in neutropenia admissions was not affected by the large-scale introduction of anti-pandemic prevention policies for the general population. We therefore conclude that the routine hygiene measures normally used by our patients and their caregivers are effective in preventing airborne and contact-transmitted infections, and that protection will not be improved by extending them to the general population. Obviously the new COVID-19 prevention rules have no impact on infections caused by the endogenous flora, foodborne pathogens, and/or chemotherapy side effects. These are—in the absence of infections—still the main cause of hospitalization for febrile neutropenia.

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