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## Letter to the editor

### First and second wave of SARS-CoV2 in Italian Cystic Fibrosis patients: Data from Italian Cystic Fibrosis Registry



In February 2020, the first case of SARS-CoV2 infection was recognized in Italy, in the Lombardy Region. Within the same Region, an infant identified through Cystic Fibrosis (CF) newborn screening was considered to be the first Italian case of SARS-CoV-2 infection in CF population: he was asymptomatic and probably was infected within his family by his grandfather [1].

Very recently, the international Cystic Fibrosis Registry Global Harmonization Group published in this Journal interesting data on the clinical characteristics and outcomes of SARS-CoV-2 infection in CF patients [2].

With this letter we would like to share the experience of the Italian Cystic Fibrosis Registry (ICFR) by reporting the results of a survey project we have been experiencing since March 2020 thus contributing to the knowledge of the SARS-CoV2 pandemic in CF patients.

In March 2020, the ICFR launched a survey based on a web form fillable by PC, smartphone and tablet for the anonymous collection of data on patients infected with Covid-19, in order to follow-up trends in this particular cohort of patients. All CF Centres (Italian Law 548/93) that usually provide data to the ICFR (total number of Centres = 29, total number of patients included within the ICFR = 5501) were invited to fill in the form monthly, and the few following anonymous data were collected: number of infected subjects, predominant sex, average age of patients, method for SARS-CoV2 diagnosis (nasopharyngeal swab and real time PCR, serology), type of containment, need for hospitalization in the intensive care unit, number of recovered patients when sending the questionnaire.

In the period February – November a total of 87 CF patients resulted positive to SARS-Cov-2 infection; these patients were followed in 19 different Centres (19/29 = 65,5%); their distribution per month is shown in Fig. 1 (last update 17 December 2020).

During the first wave (February to August 2020) only 22 CF patients were positive to SARS-CoV-2 virus and the percentage of infected patients was 0.40% (0.23–0.57 CI95%). No SARS-CoV2 case was reported in July and only one case was reported in August. This low incidence suggested that CF itself could be a protective factor with respect to SARS-CoV2 [3,4]. Probably this incidence, during the first wave, was due to an earlier distancing implemented in CF families, and it reflects better adherence to social distancing and masking than no CF people.

From September to the end of November, during the second SARS-CoV2 pandemic wave, the number of CF patients positive to virus infection dramatically increased all over the world; in Italy, 65 additional CF patients were reported to be SARS-CoV2 positive from September to end of November (percentage of positive

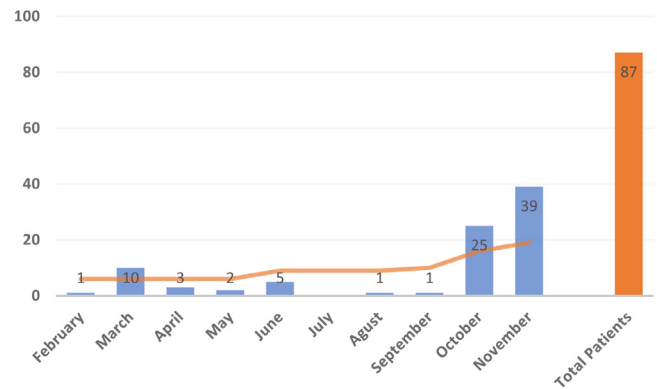


Fig. 1. Monthly distribution of Covid-19 positive Italian CF patients. Orange line indicates number of CF Centres involved during the period.

in this period = 1.18%; 0.90 to 1.47 CI95%). Thirty-nine out of 65 new infections were reported only in November in 8 different Centres.

The percentage of cumulative positivity to SARS-CoV2 infection in the Italian CF population (1.58%; 1.25 to 1.91 CI%) is about half of the cumulative percentage in the general Italian population (2.91%) [5], suggesting that at least infection control practices, already implemented by CF patients, may be partly protecting them also from SARS-CoV2 infection.

Interestingly, during the first pandemic wave the majority of patients were reported by the CF Centres operating in Northern Italy; conversely, during the second wave patients were mainly from the South Regions (e.g. 66,6% in November). This data is perfectly in line with that from general national population, indicating an increasing of positive patients especially in the Southern Italy from September to November [5].

All patients included in the results from the survey were tested by nasopharyngeal swab and real time PCR except for two cases referred to patients positive to serology test.

The majority of patients included in our study were asymptomatic, paucisymptomatic or with minimal respiratory symptoms: indeed, during the two pandemic waves, only 15 patients were hospitalized (15/87; 17.2%) and ICU admission was necessary for 2 patients (2/87; 2.3%). In one single case a patient died. These data are in accordance with those reported by the clinical studies of the global project [2].

The ICFR report was updated and published monthly in Italian and English on the ICFR website [<http://www.registroitalianofibrosicistica.it/>]. Data were also shared with the European CF Society, thus allowing the updating of the European project [<https://www.ecfs.eu/covid-cf-project-europe>].

This simple tool proved to be handy, easy and quick to compile, and thanks to the monthly report, it allowed us to follow the trend of the SARS-CoV2 epidemic in the Italian CF population.

From middle November 2020 a dedicated Covid-19 folder has been also included within the ICFR after adopting the data protection officer (DPO) privacy indications; this inclusion will facilitate a standardized and a more accurate collection of data in accordance with ICFR annual report.

### Acknowledgement

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### References

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