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## Letter to the Editor

### Screening for SARS-CoV-2 antibodies to save vaccine doses



#### To the Editor

We read with interest the paper by Ferrari et al. [1] showing that previously SARS-CoV-2 infected individuals had a strong humoral immune response after a first dose of COVID-19 vaccine suggesting that a single dose of vaccine should be proposed to seropositive individuals. As of June, 21, 2021, more than 31 million persons received at least one dose of vaccine against COVID-19 in France which global population is about 67 million [<https://solidarites-sante.gouv.fr/grands-dossiers/vaccin-covid-19/article/le-tableau-de-bord-de-la-vaccination>]. The Haute Autorité de Santé (HAS) recommends that one dose only of anti-SARS-CoV-2 vaccine be proposed to persons previously infected with the virus. Because infected patients may have been asymptomatic and not tested, screening through rapid serologic test is recommended in individuals who are unsure about their status. This may avoid injecting unnecessary second doses of vaccine in already infected persons and saving doses for those in need [2]. In a serological surveillance study conducted in the Provence-Alpes-Côte d'Azur region, from May, 11 to May 17, 2020, 3.3% of 397 individuals tested positive [3].

In our vaccination center we implemented a pre-vaccination serological screening strategy starting on May 10, 2021 and provide here an interim analysis of results until June 15, 2021. All persons consulting for a first dose of vaccine against COVID-19 were proposed a rapid whole-blood finger-stick immune-chromatographic serologic test (Biosynex COVID-19 BSS, SW40005, Biosynex, Switzerland). The BioSynex test was selected because of its good sensitivity and specificity reported previously [4,5]. Data presented herein were collected retrospectively from the routine care setting using the electronic health recording system of the hospital.

541 persons were included of whom 309 (57.1%) were female, with a mean age of 40 years (ranging 18–97 years). The vast majority, (522 (96.5%)) had a negative result and were eligible for two doses of vaccine. 19 were positive (3.5%). Among 19 persons with a positive result, ten (52.6%) were female and their mean age was 45 years (ranging 20–69 years), which did not significantly differed from negative individuals. Most positive patients had positive IgG only, three had both positive IgG and IgM and one had positive IgM only (Table 1). Among these 19 individuals, ten had a PCR documented past SARS-CoV-2 infection and received one dose of vaccine only. Systematic testing allowed identifying nine additional individuals with a positive anti-SARS-CoV-2 serology who were not aware of a COVID-19 infection and who received one dose of vaccine only. Of note, two of these nine patients experienced symptoms compatible with COVID-19 and one was in close contact with her husband that had a confirmed SARS-CoV-2 infection. Sys-

tematic serological testing allowed therefore saving 9/541 (1.7%) doses of vaccine.

To conclude, the benefit of systematically screening individuals before a first dose of COVID-19 vaccine appears to be limited, in our experience, allowing saving less than 2% vaccine doses. Comparison with similar studies conducted in area with a higher incidence of COVID-19 will be of interest.

#### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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#### Ethical approval

This study was approved by the Ethics Committee of our institute (Ref. 2021-022).

#### Consent to participate

Participant were proposed serological testing as part of routine care. No written informed consent was required.

#### Consent to publish

Not applicable.

#### Authors' contribution

FF, DR and PG contributed to the experimental design, data analysis, statistics, interpretation and writing. LT coordinated the laboratory work.

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#### Availability of data and materials

Data available on request.

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