

## Asymptomatic individuals positive for anti-SARS-CoV-2 antibodies negative on molecular swab

Zhen Zhang and colleagues' Article<sup>1</sup> in *The Lancet Microbe* focused on the usefulness of practical performance of a SARS-CoV-2 RT-PCR-based surveillance protocol. They state that individuals "testing negative on RT-PCR but seropositive were significantly less likely to have symptoms than those testing positive on RT-PCR".<sup>1</sup> Here, using a different approach, we share evidence to support this conclusion, as well as additional findings.

Molecular assays on nasopharyngeal swabs are currently the cornerstone of COVID-19 diagnosis, whereas positive anti-SARS-CoV-2 antibodies only show evidence of SARS-CoV-2 exposure.<sup>2</sup> We do not know whether a positive antibody test means a person is immune to the disease or cannot infect others. Current evidence is insufficient to conclusively establish whether SARS-CoV-2 antibodies play a protective role,<sup>3</sup> and no data have been published on whether the presence of serum SARS-CoV-2 antibodies might affect the results of the molecular nasopharyngeal swab assay. As far as the nasopharyngeal swab is concerned, the health authorities of several

high-income countries conducting active surveillance campaigns, as well as ethics committees working on the approval of clinical studies, recommend that molecular swabs are done on individuals testing seropositive for anti-SARS-CoV-2 antibodies. Our experience, based on a large population study (appendix), is that such a procedure is inappropriate when applied to asymptomatic individuals. From May to June, 2020, during a campaign to study the prevalence of SARS-CoV-2 infection in defined groups of individuals, we tested for the presence of anti-SARS-CoV-2 antibodies in 6731 police officers and 10 646 workers from different areas (such as health-care workers, teachers, and personnel of various government ministries) enrolled in screening programmes at Sapienza University Hospital Policlinico Umberto I. The protocol required that participants testing seropositive for anti-SARS-CoV-2 antibodies be given a nasopharyngeal swab to test for SARS-CoV-2 RNA. Of the 212 (1%) participants who tested positive for anti-SARS-CoV-2 antibodies, only one individual was positive for SARS-CoV-2 RNA. Thus, such a procedure is redundant in the context of an epidemiological survey in which all participants are asymptomatic. Beyond the epidemiological and clinical implication, which would require more complex analyses, we

believe that this consideration is interesting from a practical point of view, in light of the technical demands of nasopharyngeal swabs (and related molecular assays) and the limited resources of reagents, which might reduce or inappropriately subvert our testing capabilities.

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See Online for appendix