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LETTER TO THE EDITOR

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Escaping from COVID-19 emergency accounting on previously infected subjects?

Dear Editor,

In a recent paper, some authors wondered if the COVID-19 pandemic will end with the Omicron (B.1.1.529) and Delta (B.1.617.2) variants.[1] The variant of concern (VoC) Omicron is characterized by few some deletions and more than 30 mutations, several of which (e.g., 69–70del, T95I, G142D/143–145del, K417N, T478K, N501Y, N655Y, N679K, and P681H) overlapping with those ones retrievable in the Alpha, Beta, Gamma, or Delta VoCs.[2] This enables the B.1.1.529 VoC to break through existing vaccines, escape vaccine-induced vaccination, and widespread very rapidly, though with a very poor lethality. The complex coexistence of several VoCs in Europe and the intercrossing of at least two major contact distributions, that is, the Omicron and the Delta ones, are inducing some EU Government's policies to consider the virtual existence of a single concerning "macrovariant," having the typical contagiousness of the Omicron and the typical lethality of the Delta VoC. As antigenic and molecular swab tests are unable to discriminate the different distribution in the infected population of the variants, politics simply treat both as a sort of "merged" novel SARS-CoV-2 strain, to which addressing the most rigorous approach of social restrictions and population tracing, also intensifying the vaccination campaign. This stresses the daily lives of many European citizens, compelled to adjust any common habit to close compliance with restriction rules and green certificates, causing outcries and criticism elsewhere.

In the meanwhile, it is conceivable that the majority of people have earned immune protection from being contacted by the virus directly or because vaccinated. Debating about the actual immune status of a whole population undergoing a vaccination campaign is a quite completely dismissed issue from the politics of some EU countries, Italy included. Moreover, a recent preprint from Khan et al., showed that being infected with the Omicron VoC may increase the neutralizing immunity against the Delta variant.[3]

Aside from any further consideration, actually, the immunology associated with the SARS-CoV-2 impact upon the European population should be considered as a major matter of debate, to reappraise and improve even the vaccination campaign.

The SARS-CoV-2 human coronavirus elicits, upon infection, a mucosal immunity, which can be assessed by the presence of secretory IgAs (sIgAs) in saliva.[4] By contrast, COVID-19 vaccines trigger a strong systemic immunity and drastically boost the development of neutralizing antibodies, both IgGs and IgAs in the serum, not in saliva, unless the vaccinated individual has been previously infected with the SARS-CoV-2. In this cohort of subjects, the even residual existence of a mucosal immunity induces the B memory cells to switch towards the production of secretory IgAs in a more pronounced way, due to the boosting activity of vaccination, which can increase to 10-fold the IgA serum/saliva ratio, respect to non-immunized subjects.[4] The efficacy of vaccination to prevent a huge widespread SARS-CoV-2 infection is quite undoubtedly assessed by recent data and reports, yet the coexistence of naturally immunized (serum positive [SP]) nonvaccinated people, SP vaccinated people, and naïve (serum negative) people, should thoroughly revise our epidemiological overview and data interpretation about social contacts and even restriction measures. We are not merely talking about a blank immune population needing urgent vaccination but of a complex milieu of immunized subjects, whose thorough and expert knowledge may provide fundamental insights to improve the management of COVID-19 pandemic emergency. For example, upon vaccination, a good recommended practice is to evaluate both mucosal and serum immunity, by a quantitative salivary sIgAs and serum IgGs search, better if along with a swab test, to group individuals called for vaccination in cohorts of susceptibility, which should enable physicians to make a decision about how many doses of vaccine and when, they should take into consideration, based on the previous immunity assessed from the subject. Actually, it seems that vaccines act quite exclusively as boosters.[5]

Immunity rules surely the game, not merely vaccines.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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