Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Immunoassays for anti-SARS-CoV-2 antibodies: recent insights

We read with interest the Article by The National SARS-CoV-2 Serology Assay Evaluation Group of the UK,[1] which describes one of the largest studies to date to evaluate multiple commercially available, automated immunoassays. The methodological design of the experimental work and the statistical description are of high quality, and therefore this study most certainly provides added value. However, the literature search in the research in context panel extended only to May 31, 2020. Since June 1, several studies have been published that compared multiple commercially available, automated assays.[2,3]

Additionally, a number of questions raised in the discussion have since been answered. First, it has been shown that antibody levels are associated with clinical severity.[4] Second, it has been reported that seroconversion for anti-nucleocapsid antibodies occurs on average 2 days before seroconversion for anti-spike antibodies.[2] This insight is important when interpreting the results of the study since only samples collected on day 20 or later were included in the primary analysis for sensitivity. Samples collected before day 20 were included only in secondary analyses. The Oxford immunoassay, the assay with the best sensitivity according to the study,[1] detects only anti-spike antibodies, which might negatively affect sensitivity in samples collected within 20 days after onset of symptoms.[1] Third, the correlation of antibody titres with neutralising antibody titres has been shown by several authors. Muecksch and colleagues,[5] for example, established that the anti-spike antibody assays of Diasorin and Siemens correlated more strongly with neutralisation titres than did the anti-nucleocapsid antibody assays of Abbott and Roche. Fourth, in August, 2020, the first cases of reinfection were reported, which is important for the discussion about durability of immunity to severe acute respiratory syndrome coronavirus 2. Finally, the longitudinal evolution of antibody titres (≥3 months) has been characterised in several studies. Muecksch and colleagues[5] showed a decline in sensitivity of the Abbott assay starting 60 days after PCR positivity, compared with an increase for the Diasorin assay and a plateau for Siemens and Roche assays. Gudbjartsson and colleagues[4] showed that antibody levels of pan-immunoglobulin assays (Wantai and Roche) remain at a plateau for up to 4 months after diagnosis, whereas anti-nucleocapsid IgG (Abbott) and anti-spike IgA and IgG (Euroimmun) levels decrease. Furthermore, Gudbjartsson and colleagues[4] showed that IgM was generally no longer detectable after 2 months.

We think these recent insights are of interest to the readers of *The Lancet Infectious Diseases*.

PV reports personal fees from Roche, outside the submitted work. KL reports personal fees and non-financial support from Pfizer and MSD, and personal fees from SMB Laboratories, Gilead, and FUJIFILM Wako, outside the submitted work. All other authors declare no competing interests.

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Published **Online** October 30, 2020 https://doi.org/10.1016/S1473-3099(20)30846-X