Persistence of SARS-CoV-2 IgG in Healthcare workers (HCWs) diagnosed with COVID-19 in the first wave of the pandemic

A. McGreal-Bellone, E. Faller, R. Barry, L. Fanning, C. Sadlier
CATCH Study Group, Cork University Hospital / University College Cork

Background

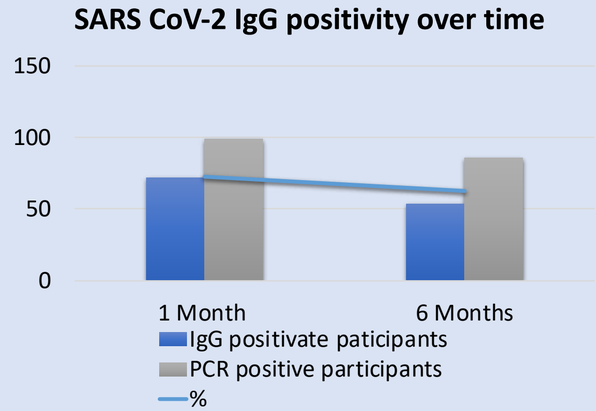
Duration and protection afforded by the humoral immune response to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) remains to be determined. The aim of this study was to investigate persistence of anti-nucleocapsid SARS-CoV-2 IgG in HCWs >6 months following reverse transcriptase polymerase chain reaction (RT-PCR) confirmed COVID-19 infection.

Methods

A single-centre, prospective cohort study was undertaken in Cork University Hospital. HCWs who had previously tested positive for SARS-CoV-2 by RT-PCR had serum tested for SARS-CoV-2 IgG using the Abbott anti-nucleocapsid IgG CMIA assay at baseline and at >6 months following enrolment.

Results

Of 99 HCWs (age range 20-65 years (IQR 30-47 years), 76% female, 43% nursing, 18% medical) who had SARS-CoV-2 RNA detected on nasopharyngeal swab during the first wave, 72 (73%) tested positive for SARS-CoV-2 anti-nucleocapsid IgG at baseline. 86 of 99 HCWs (age range 20-65 years, 80% female, 14% medical, 46% nursing) attended for interval testing at 6 months. 54 (63%) demonstrated persistence of anti-nucleocapsid IgG at 6 months.



Conclusion

10% of HCWs became seronegative for SARS-CoV-2 at >6 months post enrolment. Further work is underway to measure neutralising antibody titres in this cohort. The clinical significance of these findings, in relation to immunity and protection, remains to be determined.