Miscellaneous

Coronavirus Reinfection

Somchai Bovornkitti

It has been shown that neutralizing antibodies occur in patients after infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2),[1] but how long anti-SARS-CoV-19 protective immunity lasts is in question. For other coronaviruses, a number of studies have shown loss of immunity occur within 1-3 years.[2-9] Of note, for some viruses, e.g. measles virus, the first infection may provide lifelong immunity but for seasonal coronaviruses, protective immunity is short-lived.[10]

This matter is elaborated further by a recent report in *The Lancet Infectious Diseases*, published online October 12, 2020, describing the case of a 25-year-old male United State citizen who gave genomic evidence of reinfection with SARS-CoV-2.[11] Other reports of cases secondarily infected with SARS-CoV-2 have been published earlier, one instance each from Hong Kong,[12] Netherlands, Belgium,[13] and Ecuador.[14]

Reinfection could have implications for public health measure; for example, cases that were asymptomatic on first infection might experience more severe symptoms following reinfection. This phenomenon would have impacts on vaccine development and their application.

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