

Antibody titer for effective immunity against Covid-19 infection

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Editorial

By now, we know that Covid-19 infection will stay with us for a long time similar to its relative disease “influenza”; thus, it would be necessary to enhance public health knowledge and pay attention and apply precautionary measures to reduce incidences of infection, and more importantly reinfections in communities. Vaccines provide fairly good first layer of protection against Covid-19 by inducing immune responses. However, Covid-19 constant mutation and developing variants have increased reinfections among vaccinated and infected individuals. Omicron alone has about 50 mutations, including more than 30 mutations on the S protein of the virus. Due to this vast mutations, Omicron variant easily evades individual’s immune response and causing reinfection.

Lessons learned in the past two years, indicate that aside from occurrence of new coronavirus variants, which results vaccination with un-mutated variant less protective, 40 percent of hospitalized patients with Covid-19 who have been vaccinated, were immune compromised hence vaccination and even boosting would not protect them from infection.

However, currently vaccination with any of the FDA approved vaccines, as well as, recovery from Covid-19 infection develop antibodies against Covid-19 virus. The major protective antibody is neutralizing antibody. Anti-Spike antibodies which prevent virus to enter the target cells technically are not protective like neutralizing type. The gold standard test for assessment of protective antibody in Covid-19 is assessment level of neutralizing antibodies. Unfortunately, all of the commercially available Covid-19 test kits cannot assess level of neutralizing antibodies in order to be used for determination of efficiency of vaccines in vaccinated individuals and/or protective immunity of recovered individual from covid-19 infection.

Personal experience indicates that those people who experience multiple infections with Covid-19, have higher chance of experiencing one or more organs damage like kidney, pancreas, lung and heart which are among the most effected. This problem is very serious for the public who thinks the pandemic is over and vaccination would fully protect them. Risk is still existing for contracting or transmitting

coronavirus among vaccinated and/or recovered individuals who were previously infected. Nevertheless, vaccination continues to be useful even for previously infected persons in order to protect them well against sever illness. In addition, avoiding social contacts especially in enclosed environments, wearing mask and keeping distance at least six feet from each other would be contributing to limit transmission of the virus in the community.

My recommendation is that scientists should concentrate more on development of a simple and economically sound tests for evaluation of the protective level neutralizing antibody against Covid-19 variants for assessing the level of immunity of the vaccinated and/or recovered individuals from infection as well as more accurate evaluation of the vaccination efficacy.

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