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EDITORIAL

What we Need to Know About Mu, a New Variant of SARS-CoV-2

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Mu (B.1.621) was identified as a new SARS-CoV-2 variant of interest by the WHO on August 30, 2021 as variant of interest (VOI). The Mu variant is found in less than 0.3% of people in the United States and less than 0.1% of people worldwide. Preliminary laboratory studies indicate that the Mu strain includes genetic changes or "mutations" that may make it more resistant to vaccination and past infection-induced immunity. More study, however, is needed to validate these findings.[1]

Numerous viruses, including SARS-CoV-2, which causes COVID-19, develop through mutation over time. A viral variant has one or more genetic changes, known as mutations, that affect how the virus behaves and distinguish it from other variants. During the outbreak, several SARS-CoV-2 mutations spread throughout the United States and the rest of the world. The WHO and the Centers for Disease Control and Prevention (CDC) frequently track these changes through laboratory and epidemiological studies, as well as sequence-based surveillance. In an interview with Medical News Today, Dr. William Schaffner, M.D., professor of infectious diseases at Vanderbilt University Medical Center, claimed that "most mutations are innocuous and they go by the wayside [and] die out." Every now and then, one of these mutations evolves into an intriguing variation of interest, so we keep an eye out for it." [2]

A Novel variant of Interest:

The WHO classified the Mu variant as a VOI on August 30, 2021. A SARS-CoV-2 VOI possesses distinct genetic markers that scientists believe will influence diagnosis, transmission, disease severity, immune evasion, and vaccine effectiveness. To be recognized as a VOI, the variation must have resulted in many, distinct outbreak clusters or an increased percentage of cases in various nations with limited prevalence or expansion. The Mu subtype (B.1.621) first appeared in Colombia in January 2021. The CDC Nowcast forecasts a 0.1 percent overall prevalence of the Mu type in the United States by the end of the week of September 11th, 2021.

According to the WHO's weekly epidemiological bulletin, which was published on August 31, 2021, countries in Europe and Colombia have experienced more Mu strain illnesses, with only a few isolated cases identified elsewhere. Although the Mu strain is presently found in less than 0.1 percent of the world's population, it has gradually increased in Ecuador (13%), and Colombia (39%). Dr. Schaffner discovered three characteristics that scientists look for when discovering novel genetic variants: It's reason for alarm if it suddenly gets more contagious and spreads quicker than prior strains. One of the most prominent examples is the Delta strain, which has surpassed all other kinds in the United States and is now the most common." [1,3]

He said, "Secondly, does it cause a worse disease, such that when you are [infected], are you more prone to become extremely ill?" Is there a method, as number three, to prevent or reduce the protection we obtain from our present vaccinations? [3]

Do we have an Immune escape?

Emerging study shows that the Mu form, like the Beta variant, may have immunological escape potential. Immune escape refers to a virus's ability to bypass the body's own immune system or vaccination-provided protection.

In a briefing to the White House COVID-19 Response Team, NIH Director Dr. Anthony S. Fauci, M.D. stated, "This variant includes a constellation of mutations suggesting that it might escape some antibodies, not only monoclonal antibodies but vaccine and convalescent serum-induced antibodies." According to Dr. Fauci. However, there is a scarcity of clinical data to back up this assertion — the majority of current information comes from laboratory and in vitro research." [1]

"Not to disparage anything," Dr. Fauci said, "but even when you have mutations that do significantly lower the efficacy of a vaccination, the vaccines are still quite efficient against polymorphisms of that type." Dr. Schaffner answered to MNT's query on whether the Mu variant will cause worry by noting, "I think it's quite unlikely. [...] I'm very certain that [Mu] will remain an intriguing variation, but it will not evolve to an interesting variant of concern." [1, 4]

"So, from the viewpoint of transmissibility, Mu doesn't really appear to be a real worry," Dr. Schaffner stated. It also does not appear to cause more significant sickness at this time, as far as we know. " Early laboratory data show that current vaccines may be less effective against Mu, but further study is needed to be certain." So far, there has been a strike, a walk, and a foul ball. "This is something we're keeping an eye on," Dr. Fauci added during his briefing. Even while we take such threats seriously, we do not consider them to be an immediate concern at this time." [1, 3,5]

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References

1. Uildriks L. Mu, the new SARS-CoV-2 variant: What do we know so far?. Medical News Today. [Online]. Available at: https://www.medicalnewstoday.com/articles/mu-the-new-sars-cov-2-variant-what-do-we-know-so-far?utm_source=Sailthru%20Email&utm_medium=Email&utm_campaign=newsAlerts&utm_term=coronavirus&utm_content=2021-09-16&apid=38880177&rvid=099b221a12ebaa5e8fc3f5857833d63a836dcadcdfaaffb83ce4c7db6a776d2f [Cited on September 17, 2021]
2. WHO. Tracking SARS-CoV-2 variants. WHO. [Online]. Available online at: https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/ [Cited on September 17, 2021]
3. WHO. COVID-19 weekly epidemiological update. WHO. [Online]. Available online at: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20210225_weekly_epi_update_voc-special-edition.pdf [Cited on September 17, 2021]
4. COVIDCDC. Variant proportions. COVIDCDC. [Online]. Available online at: https://covid.cdc.gov/covid-data-tracker/#variant-proportions [Cited on September 17, 2021]
5. WHO. Weekly epidemiological update on COVID-19 - 31 August 2021. WHO. [Online]. Available online at: https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---31-august-2021 [Cited on September 17, 2021]