What do we currently know about the 501Y.V2 variant? It is different from the variant that has been previously described in the U.K. It has several mutations across the full genome. It emerged in early October 2020 in South Africa. It is also something of a reality check.” says Monteori.

The 501Y.V2 variant was first identified in South Africa (referred to as either 501Y.V2 or B.1.351) in early October 2020. This variant exhibits immune escape. For example, Moderna has reported a six-fold decrease in the antibodies elicited by vaccination that are able to block the new variant from infecting cells. Diverse vaccines work differently, and we need to test each of them, which is exactly what we’re doing. Our lab, and many others across the world, are taking published data from laboratory experiments showing that one of the known SARS-CoV-2 variants that was first identified in South Africa (referred to as either 501Y.V2 or B.1.351) are susceptible to neutralization by the antibodies induced by existing COVID-19 vaccines and, once approved, will become very useful. Although it also requires two doses, this vaccine has a high efficacy against the 501Y.V2 variant. This finding prompted the company to explore strategies for including a new booster known as mRNA-1273.351 in clinical trials to specifically address this variant.

An obvious advantage of the Johnson & Johnson vaccine is that it is a single shot, involving more than 15,000 volunteers in the U.K., where the B.1.1.7 variant has been implicated in enhanced transmission. Last week both Novavax and Johnson & Johnson reported data from Phase III trials in the U.K. and South Africa. The Novavax results are encouraging, with the vaccine 89% effective against any mild or moderate COVID-19 infection. The Johnson & Johnson vaccine, the efficacy was 72% in the U.S., 66% in Latin America, 58% in South Africa, and 85% effective overall in preventing severe cases of disease, including complete hospitalization. This is good news, as it means that future COVID-19 vaccines may not need to be as effective against all variants as they are currently, but should be effective against variants that can escape the immune system, such as the B.1.1.7 variant.

Does this mean people who have already been infected with SARS-CoV-2 could be susceptible to reinfection? This raises concerns about what impact, if any, this variant would have on vaccine efficacy, particularly as this variant is now present in several countries around the world. Last week, an expert panel at the National Institute for Communicable Diseases in South Africa expressed concern about the 501Y.V2 variant, its spread, and whether current vaccines can prevent reinfection by this variant. This raised concerns about what impact, if any, this variant would have on vaccine efficacy, particularly as this variant is now present in several countries around the world. Last week, an expert panel at the National Institute for Communicable Diseases in South Africa expressed concern about the 501Y.V2 variant, its spread, and whether current vaccines can prevent reinfection by this variant.

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