PROGRESS IN MEDICAL SCIENCES, 2021
VOL 5, NO. 1, PAGE 1 – 2
DOI: doi.org/10.47363/PMS/2021(5)129

SHORT COMMUNICATION

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New Variant of SARS-CoV-2 in South Africa

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ABSTRACT

Viruses often mutate and take different shapes. There are thousands of known strains of the coronavirus. However, some variants are strongly transmissible, including variants first observed in the UK, Brazil and South Africa, and are concerned about their decreased effectiveness in the V aggregation of vaccines.

ARTICLE HISTORY

Received Feb 06, 2021
Accepted Feb 16, 2021
Published Feb 22, 2021

KEYWORDS

Sars-Cov-2, South Africa, UK, Mutation

In South Africa and in other countries a new version of the SARS-CoV-2 is being extended. The South African version was first discovered on 18 December. Preliminary analysis by the World Health Organization suggests that the indicator is related to "a higher viral charge that might suggest potential for increased transmissibility. New data indicate that the variant is related to an elevated viral load that could contribute to increased transmissibility. The new mutation can damage the efficacy of existing vaccines. A virus undergoes genetic modifications as it passes through the host with new copies. Limited effects are present in most mutations. Some mutations cannot damage the virus, while other mutations can cause a virus to become more contagious or lethal. There are actually thousands of different strains of the SARS-CoV-2 virus, but only a few versions are used by scientists.

501.V2 is the latest version in South Africa. It has an E484K mutation. In three provinces of South Africa the variant has been the prevalent form. In several countries travelers from South Africa have imposed travel limits. It varies from the UK version which has just been identified. Observations indicate that both the latest varieties of South Africa and the UK tend to be more infectious, so stringent controls on travel could be needed to monitor its spread.

Researchers who are successful on existing vaccines in countering the current UK version, note that the South African variant could be able to respond to the vaccine differently while further testing is required to achieve a definitive response. Some scientists claim that the mutations make the vaccines ineffective are highly doubtful. Furthermore, within weeks or months, vaccines can be redesigned or updated. In the South African version Pfizer COVID-19 vaccine with blood serum samples of 20 people was tested by scientists against one of the mutations (N501Y). Preliminary findings indicate that the mutated virus vaccine functions and that N501Y is not just evolving as a consequence of the South African strain. Further variations detected in the spike protein are the interest of scientists. The spike protein is used to penetrate human cells through the coronavirus. To date, in four other countries the South African version has been reported.

The South Africa variant was released last October and has more future enhancements in the spike protein than the UK version. However, a small number of UK variant cases, including an upgrade, were recently found by experts. The E484K is a significant mutation that can enable parts of the anticuerpos virus escape from the immune system.More broadly, the version has been found with records spanning 31 other countries, territories and regions all around the world. In South Africa there are nearly 1.1 million cases of COVID-19 and about 30,000 deaths. The new strain was discovered quickly in Western Cape, Eastern Cape and Kwa Zulu-Natal.

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