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EDITORIAL

SARS-CoV2 or a Chameleon? An insight into our understanding of the new strain emerged in December 2020.

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A new strain of coronavirus was reported to WHO by the United Kingdom authorities on 14 December 2020 [WHO], which raises burning questions worldwide regarding the nature of the new strain, contagiousness, and effectiveness of the currently available vaccine. [1]

Coronavirus is an RNA virus that evolves and changes due to mutation in different geographic regions worldwide. In 2020 we observed multiple variants of COVID-19, which initially evolved in Wuhan, China. The strain that created a global fear after the outbreak in Wuhan was first detected in South-eastern England in September 2020. By December, it had contributed more than half of the newly infected cases globally. This variant strain was then seen in Denmark, the United Kingdom of Great Britain and Northern Ireland, and South Africa. About 23 genetic changes were reported in this new strain. A strong connection between a surge in new cases and the appearance of this specific strain unambiguously draws our attention towards the high contagiousness of this variant. [2]

How this new virus strain differs?

This variant is referred to as SARS-CoV-2 VOC 202012/01 (Variant of Concern, the year 2020, month 12, variant 01) contains 23 nucleotide substitutions, is not phylogenetically related to the SARS-CoV-2 virus circulating in the UK. So, the origin is still unclear. As of 26 December 2020, it replaced other viral lineages in the UK, including London. [1] As of 30 December, VOC-202012/01 variant has spread to over 31 other countries. [3] South Africa named this variant 501Y.V2, because of an N501Y mutation.

Spike proteins of the COVID-19 virus, which helps in the human cells' attachment, are mutated and stickier in this variant; but more research must be established. The new strain is also associated with a higher viral load, making it more contagious, but the preliminary analyses indicate that there is no sign of change in the virulence or the severity of the disease. [2] The mutation increases the chances of survival of a virus rather than becoming virulent because if a virus becomes deadly, there is a lesser chance to reproduce. Regarding the susceptibility of this viral strain to the children is also yet to be established.

Do we need to take more precautionary measures compared to earlier?

We do not need to overreact as the current strain is not

biologically different and we need to practice the same prevention strategy as avoiding gatherings, social distancing, adequate ventilation indoors, sanitizing hands, and using masks when going outside.

Whether the vaccine will work as effectively on the other variants?

According to WHO, as one of the mutations (N501Y) – are present in SARS-CoV-2 VOC 202012/01 and 501Y.V2 variants – is in the receptor-binding domain, so the neutralization activity of the sera obtained from recovered and vaccinated patients against these new strains are currently under investigation. To date, there is no evidence that immune responses driven by available vaccines fail to work against this new variant. [3]

Mutations will continue to take place as coronavirus spreads through the population. The genomic data of the SARS-CoV-2 VOC 202012/01 and 501Y.V2 variants are shared and uploaded to the Global Initiative on Sharing Avian Influenza Data (GISAID), which is paving the way to understand more about nature and future directions for the SARS-CoV-2 pandemic.

Regards,

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