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The Omicron variant of COVID-19: Is it the final nail in the coffin of the SARS-CoV-2 pandemic?

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On December 22, 2021, about two years since the first reported case of COVID-19 with an estimated global fatality of 276,436,619 confirmed cases of COVID-19, including 5,374,744 deaths, a new SARS-CoV-2 variant of concern (VoC), variant B.1.1.529, named Omicron reported. Omicron is the fifth VoC. On November 11, the first omicron case was reported from Botswana. Afterwards, it was identified in Hong Kong with a travel history from South Africa. On November 24, 2021, the World Health Organization (WHO) first reported B.1.1.529.

The Omicron variant has some deletions and mutations (e.g., 69–70del, T95I, G142D/143–145del, K417N, T478K N501Y, N655Y, N679K, and P681H) overlap with previous VoCs. These deletions and mutations most probable cause higher transmission rates, a greater affinity for viral binding, and considerable antibody escape for this new variant. However, other mutations are still unknown, so this is unclear how the complete deletions and mutations will impact the viral character and clinical efficacy of available COVID-19 vaccines.

According to WHO, it is still unclear whether Omicron is more transmissible, causing more severe disease and the effectiveness of vaccines, but there are growing concerns. CDC reported the Omicron variant spreading more quickly than the SARS-CoV-2 virus, but insufficient data available compared to the Delta variant. Current vaccines are expected to reduce disease severity, hospitalisations, and mortality because their efficacy is more dependent on T-cell immune responses comparing antibodies. However, breakthrough infections will be inevitable even with fully vaccinated individuals, but with lower risk and chances for hospitalisation.

Initial reports show the rate of infection by omicron is higher in younger patients with similar clinical conditions as other variants. Based on the massive mutations and significantly higher trends of infection rates in the US and UK, there is no doubt that Omicron spreads faster and escape antibodies. Reports emerging from the Netherlands and Switzerland that Omicron had become the dominant strain in these countries. France, Britain, Greece and Portugal had seen a record spike on the daily Coronavirus case numbers on the last week of December 2021.

According to a recent report of the health department of the South African government, the country had passed its Omicron peak without a significant spike in deaths.

Last but not least, we should not forget the existing preventive measures for COVID-19 infection, such as wearing masks, maintaining physical distance, avoiding gatherings, and frequent usage of hand sanitisers. All these will be the same effective as previous variants.

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Abbreviations
Coronavirus disease (COVID-19), severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), variant of concern (VoC), World Health Organization (WHO)

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