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New Variant XE more Transmissible than Omicron: Alarming towards COVID 4th Wave in India

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Abstract

The Covid-19 pandemic is far from over. There is the fourth wave in some of the Asian and European countries due to Omicron sub-variant BA.2. And now, another deadly and rapidly spreading Covid variant XE has been detected. The World Health Organisation (WHO) itself has given this information. XE is reported to be ten times more infectious than the fastest-spreading Omicron subvariant BA.2. All health organisations have become alert about this new variant. Although it has not yet been considered as a variant of concern, WHO is investigating its seriousness. Many countries in Asia and Europe are facing the fourth wave of the pandemic. The worst situation is in South Korea, where about five lakh new cases are being reported daily. The situation remains grim in China, where many cities have been put under lockdown to curb the spread of the virus. At such a time, this deadly virus has created concern.

Introduction

According to the newest research from the World Health Organization (WHO), the new mutant known as Covid-19 Variant XE may be more transmissible than any COVID-19 variant previously detected (Table 1; IHRPOE, 2022). However, there is no such signal, indicating that this new type is powerful enough to generate a wave. According to the WHO, three hybrid or recombinant Covid strains have been identified so far, the first being Covid-19 Variant XD, the second being Covid-19 Variant XF, and the third being Covid-19 Variant XE. As per the WHO statistics, only 600 Covid cases have been connected to it so far, but it has prompted a deeper look at the new type. Though the WHO has said that the Covid-19 Variant XE version may be more transmissible than prior Covid variants, there is insufficient evidence to back this up and indicate that it may genuinely generate a Covid wave. According to the WHO, a new mutant of the novel coronavirus known as Covid-19 variant XE looks to be roughly 10% more transmissible than the BA.2 sub-variant of Omicron. The Omicron BA.2 sub-variant was thought to be the most infectious Covid-19 strain. Therefore, if the findings of this new study are validated, Covid-19 variant XE will become the most transmissible Covid-19 mutant ever. Meanwhile, the Omicron BA.2 sub-variant is spreading around the globe, accounting for the bulk of new Covid-19 cases in the United States. Right when the world thought it was enough of Covid and its time to move on, the deadly virus may have something else in store for humans (DNA India, 2022).

Covid-19 Variant XE

The new variation is a Covid-19 Variant XE cross between two Omicron variants: BA.1 and BA.2. Unfortunately, at the moment, it only accounts for a small percentage of instances throughout the world. According to figures released

by the Union Health Ministry, India's total COVID-19 cases grew to 4,30,27,035 (IHRPOE, 2022) while active cases fell to 13,445 (IHRPOE, 2022). The death toll had risen to 5,21,264 (IHRPOE, 2022) with 83 new deaths (IHRPOE, 2022). According to the ministry, active cases account for 0.03 percent of total infections, while the national COVID-19 recovery rate remains 98.76 percent.

In a study, the WHO stated, "The Covid-19 Variant XE recombinant (BA.1-BA.2) was first found in the UK on January 19 and less than 600 sequences have been reported and verified subsequently." Since the situation of the fourth wave of pandemic remains in many countries, this virus has caused concern (TOI, 2022). However, Susan Hopkins, Chief Medical Advisor of the UK Health Agency said, "Such variants formed by associating with other variants of the coronavirus are not very lethal and die quickly. A UK Health Security Agency study recently revealed that currently 3 hybrid COVID variants are circulating. The two different combinations of Delta and BA.1 are XD and XF. The third is XE. WHO has highlighted this new variant in its new report. WHO is monitoring this variant and is engaged in gathering more information about it. The health organisation is investigating whether there is a significant difference in transmission and severity between this and previous variants (DNA India, 2022; TOI, 2022).

Covid-19 Variant XE's Transmissibility

Early estimates imply a community growth rate advantage of 10% above BA.2, but this discovery has to be confirmed, the global health organization noted. According to the WHO, the Covid-19 Variant XE mutant will remain classified as part of the Omicron variation unless significant distinctions in features, such as severity and transmission, are discovered. Three novel recombinant strains, XD, Covid-19 Variant XE, and XF, are already circulating, according to research by the UKHSA (TOI, 2022). A recombinant strain combines two previously separate harmonies. XD refers to the Omicron lineage's Delta x BA.1 hybrid. It has primarily been found in France, Denmark, and Belgium. Omicron's Covid-19 variant XE sub-variant mix BA.1 and BA.2 sub-variants (TOI, 2022). It was discovered in the United Kingdom and showed signs of community transmission. XF is another Omicron hybrid from the Delta x BA.1 lineage. It was discovered in the United Kingdom but has not been seen since February 15 (DNA India, 2022).

Covid-19 Variant XE Precautions

Contact your local health authority for the most up-to-date information in your area. Keep a safe distance (at least 1 m) from others to stop the spread of Covid-19

Variant XE, although if they don't seem to be sick. Wear a mask when you're out in public, especially inside or when physical separation isn't possible (IHRPOE, 2022; TOI, 2022). Avoid Close places in favour of open, well-ventilated ones. If you're inside, open a window. Wash your hands frequently, and Use soap and water or an alcohol-based hand rub to clean your hands. When it's your turn, get vaccinated. Vaccination must be complete rendering to local recommendations. Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze. If you're sick, stay at home. If you've a fever, a cold, or are having difficulty breathing, you must seek medical attention. Please contact a doctor ahead of time so they can direct you to the proper healthcare centre (IHRPOE, 2022; TOI, 2022).

Variants and Genomic Surveillance for SARS-CoV-2

A new SARS-CoV-2 variant has one or more mutations that differentiate it from predominant virus variants already circulating among the general population. Variants are expected to occur as viruses are constantly changing. Surveillance can help investigate how some variants may impact COVID-19 disease transmission or severity and the effectiveness of vaccines and therapeutics. CDC (The Centers for Disease Control and Prevention, USA) works with partners around the world to respond to the pandemic. As part of these efforts, CDC is working to expand the capacity to detect and respond to newly identified variants of the virus that causes COVID-19 (Figure 1; CDC, 2022). The World Health Organization (WHO) recently proposed using labels consisting of the Greek Alphabet (*e.g.*, Alpha, Beta, Gamma, Delta) as a practical way to discuss variants by non-scientific audiences.

CDC supports WHO's effort to develop a simple, non-stigmatizing variant naming system and is now indicating the WHO label for each key variant of interest (VOI) and variant of concern (VOC). As the pandemic progresses and new variants of SARS-CoV-2 have emerged, it is critical for the United States and other countries to sequence and analyze virus samples. Sequence data provides us with information about the genetic diversity, spread, and evolution of the virus to assess the impact on current efforts to control the pandemic, including the impact on vaccines. CDC is enhancing sequencing efforts by collaborating with state and local public health laboratories (PHLs) and partners, such as the Association of Public Health Laboratories, to increase the number of specimens that are sequenced as part of the National SARS-CoV-2 Strain Surveillance (NS3) program (Figure 2; CDC, 2022). CDC is also increasing sequencing capacity through contracts with commercial diagnostic laboratories.

Table 1: Covid-19 Variants (IHRPOE, 2022)

Name of the Variant	Lineage	Initial Sample	Primary Outbreak	Designated
Alpha	B.1.1.7	Sep 2020	UK	18 Dec, 2020
Beta	B.1.351	May 2020	South Africa	18 Dec, 2020
Gamma	P.1	Nov 2020	Brazil	11 Jan, 2021
Delta	B.1.617.2	Oct2020	India	11 May, 2021
Omicron	B.1.1.529	Nov 2021	South Africa	26 Nov, 2021
XE	BA.2	Jan 2022	UK & US	19 Jan, 2022

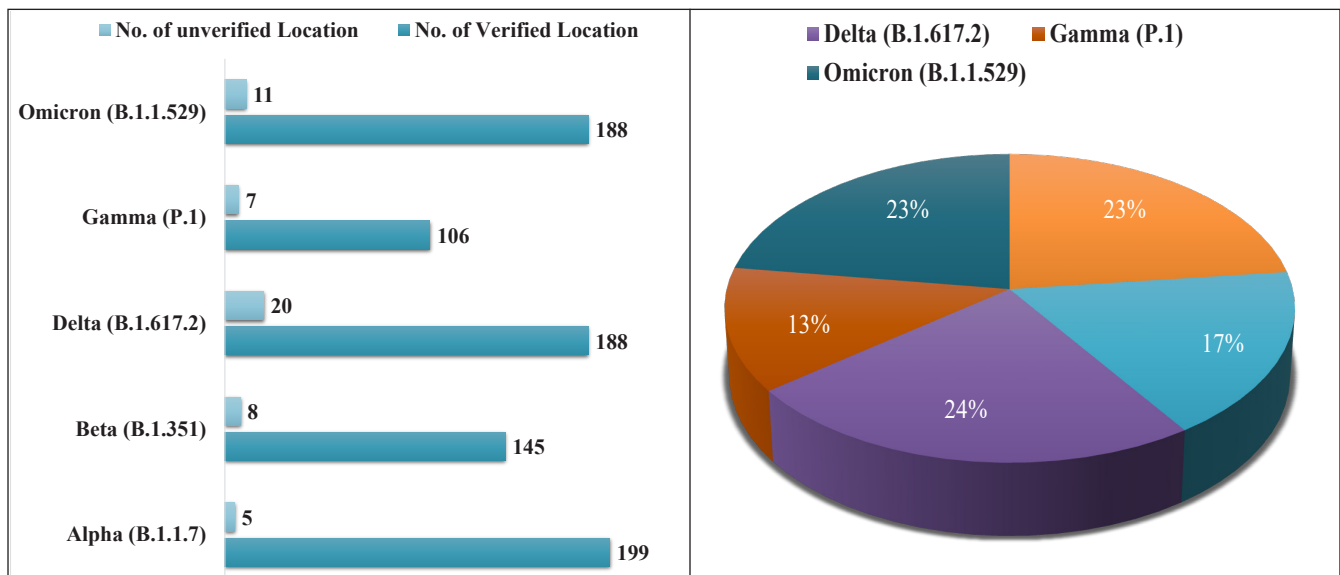


Figure 1: SARS - CoV - 2 Variants by Country/ Area (CDC, 2022)

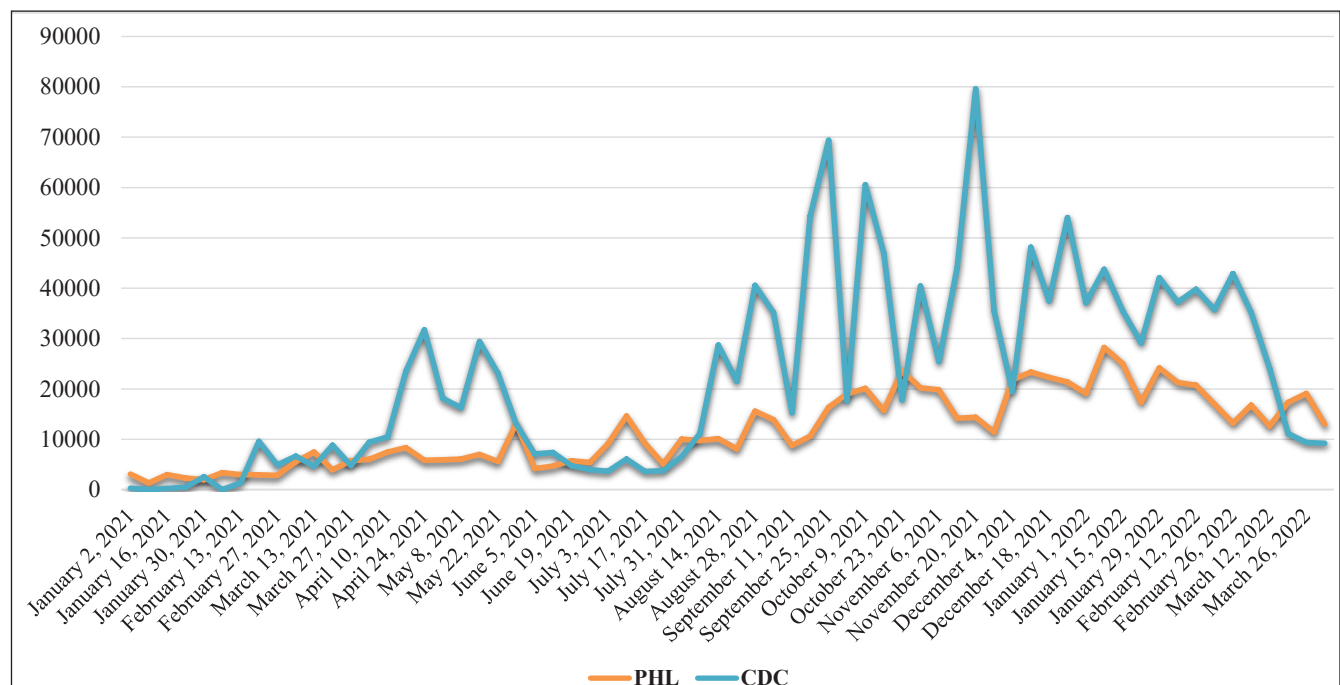


Figure 2: Published Sequences from PHL and CDC Sequencing Contracts (CDC, 2022)

Conclusion

The new Omicron strain XE has now reared its head in India, with the first case detected in Maharashtra's capital, Mumbai. In a statement, Greater Mumbai Municipal Corporation said that of the 230 Covid-infected patients, one has been infected with the XE strain and another with the Kapa variant (News18, 2022). Twenty-one patients had to be hospitalised, but none required oxygen support. The XE variant is touted to be more transmissible than previous strains of the novel coronavirus. WHO said the new strain is known as the XE recombinant, which means that it is a mutant hybrid of the two previous versions of the Omicron variant, BA.1 and BA.2. The Tata Institute for Genetics and Society (TIGS) has urged Indians not to panic. According to the WHO, the BA.2 sub-variant of Omicron is still the most dominant as 86 per cent of all sequenced cases are being attributed to it (News18, 2022). The XE recombinant only accounts for a small fraction of the cases, but its extremely high transmissibility (News18, 2022) could mean that it becomes the most dominant strain in the near future.

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