



COVID 19 Battle: The Evolving Enemy

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As the month of April comes to a debilitating end, there are two extremes of numbers seen. Extremely high (and still counting) number of COVID-19 cases but low number of provisions for the same. The catastrophic second wave of the COVID 19 infection has devastated India. Despite having a strong response at the onset of the COVID 19 pandemic, India now has the World's fastest growing outbreak of the corona virus infection. The cataclysmic nightmare is rapidly sliding into a devastating crisis, with hospitals exceeding their capacity and with paralyzing shortage of oxygen and drugs.

As SARS-CoV-2 virus has spread, it has evolved and developed mutations causing new variant of the disease. Other than the previously known strain, a new double mutant and triple mutant strain of the SARS-CoV-2 virus has been detected in India. The new strain known as the B.1.617 lineage having 2 mutation is highly infectious and has the potential to skip the immunity developed by vaccines or natural infection. That's why there are reinfections and cases among vaccinated individuals.

The B.1.617 strain has been dubbed the "double mutant virus" due to two of the concerning mutations it carries - E484Q and L452R. This strain has spike protein mutations which increase immune evasion and receptor binding. Genome variation studies in parts of India have shown the presence of other mutations (N440K mutation) associated with the ability of the coronavirus to evade neutralizing antibodies. This has also been reported from 16 other countries including the U.K., Singapore, Japan, Denmark and Australia.

The newer strains are more transmissible, affects the younger population and can result in more serious illness. Surface transmission of virus may not be a threat. There is a shift in the age group of critical patients towards the younger age group. New COVID 19 cases may not be detected by the routine RT/PCR test. Clinical Features, CT Chest and Serum Markers should be used for diagnosis where clinical suspicion is high if RT PCR is negative. Symptoms may develop 2 - 14 days following exposure to the virus. Current estimates of the incubation period are 4 - 5 days. The virus in non-replicating after the 9th day. There are more thrombotic

complications associated with the new strain. More severe disease and death may occur even in the absence of comorbidities.

Triple mutant variant or the Bengal strain is the second lineage of SARS-CoV-2 virus identified in India. It is called B.1.618 and is mostly circulating in West Bengal. The three mutations seen are a deletion of H146 and Y145 and two mutation in E484K and D614G in spike protein. This variant is more infectious and spreading more rapidly.

Certain other variants of the coronavirus, B.1.1.7 and B.1.351 - have been named the 'United Kingdom' and 'South Africa' variant respectively as they have mutations associated with large spikes in these countries or reduce the efficacy of vaccines and are also termed 'Variants of Concern (VOC)'.

COVID 19 pandemic is one of the most unprecedented crisis mankind has witnessed. Like all other viruses, the coronavirus is always evolving and changing. We need to be prepared for more changes. Vaccinating the population, emphasizing COVID protocols, constant vigilance and evolving strategies may help us overcome this crisis. Stay safe by maintaining social distancing, wearing a mask, cleanliness, keeping the rooms well ventilated and avoiding crowds.

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