



PANIC-TRIPLE MUTANT VARIANT

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Abstract

A new variant virus is prevailing in India which is known as triple mutant variant or Bengal Strain which is highly infectious and is moving and spreading very fast. It is being called 'B.1.618', and is mostly circulating in West Bengal. It is found that there is three mutations in virus combine to form a new variant as A deletion and two changes in spike protein Deletion of H146 and Y145 Mutation in E484K and D614G in spike protein

Keywords: Mutant, Virus, Variant.

INTRODUCTION

In recent the coronavirus cases explosion is occurring in country which has now become more panic. Many people are struggling to survive in this during the second wave of coronavirus, hospital, medical facilities and oxygen supply have almost paralysed A new variant virus is prevailing in India which is known as triple mutant variant or Bengal Strain which is highly infectious and is moving and spreading very fast it is also detected in Delhi and Maharashtra

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1. A deletion and two changes in spike protein
2. Deletion of H146 and Y145
3. Mutation in E484K and D614G in spike protein

It is being called 'B.1.618', and is mostly circulating in West Bengal. Frequent variation including a 6 nucleotide (2 amino acid) deletion in spike gene Earlier, a" double variant and mutant covid virus was found in India. It was officially named as 'B.1.617'. After genome sequencing of over 10,000 COVID-19 cases in India, researchers have discovered a new variant with two new mutations which may be better at evading the immune system. In 20-30% Cases from the Indian state of Maharashtra (the state accounting for 62% of cases in the country) a new, double mutation in key areas of the virus has been detected. These are now known as the E484Q and L452R mutations. According to scientists, the new variant may have an impact on vaccine efficacy because the new variant has major mutation, called E484K, that helps it to evade immune system. Both these mutations are concerning because they are located in a key portion of the virus – the spike protein – that it uses to penetrate human cells. Spike proteins attach via a "receptor binding domain", meaning the virus can attach to receptors in our cells. These new mutations include changes to the spike protein that make it a "better fit" for human cells. This means the virus can gain entry more easily and multiply faster. This means our immune system may not be able to recognise the virus as something it has to produce antibodies against.

The emergence of these new variants has only been possible because of the continued viral replication in areas with high circulation. The implications of these developments are greatly concerning – not just for India, but for the rest of the world. Mutations can result in 22% more in-hospital deaths as we witnessed during the second wave in South Africa. This is because some mutant variants have the ability to spread faster, resulting in sudden surges and, therefore, an overburdened health system. The Indian origin double mutant virus variant, scientifically named B.1.617, was first identified around March end and continues to drive India's second wave of coronavirus. It contains E484Q and L452R mutations, which makes it more infectious and enables it to escape antibodies. The alarming rise in the number of COVID-19 cases describes India's crisis and reflects the struggling health infrastructure of the country. Unlike the first wave of coronavirus, the second wave is driven by a cocktail of coronavirus mutations, which is not only affecting the most vulnerable, but taking a toll on younger people as well. While the challenges of double mutation coronavirus variant are yet to subside, another new lineage of SARs-COV-2 has been traced in West Bengal. Scientifically termed as B.1.618, the proportions of this new variant has been growing significantly in West Bengal, as per experts. The triple mutation coronavirus variants, which is a combination of three different COVID strains, is identified by a distinct set of genetic variants including E484K, and is being called a major immune escape variant, which means that the variant has the ability to evade antibodies produced by people who have already recovered from COVID-19 infections. The danger and infection risks posed by the triple mutation variant is yet to be found. However, given the surge in the coronavirus cases, the mutations are only getting stronger and more deadly. While the double mutant virus continues to affect older adults, younger people and children alike, the implications of the triple mutation is yet to be seen. As of now, it is being termed as a "variant of interest" rather than "variant of concern". Given the new variant includes a set of genetic variants including E484K, scientists believe that it can escape immune responses and is resistant to antibodies. While coronavirus continue to rise, it is important to protect yourself from different COVID mutations. Only step out of your homes during an emergency and wear well-fitted masks. Double masking is highly recommended. Practice social distancing and avoid coming in contact with

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frequently touched surfaces. Wash or sanitize your hands regularly. In case you have severe COVID-19 symptoms, reach out to your doctor.

Other foreign strains circulating in India

The online database GISAID reveals that B.1.618 is the third most common variant sequenced in the last 60 days in India and has caused nearly 12% of the infections. On the other hand, the double-mutated B.1.617 has caused 28% of infections. Another commonly sequenced variant is B.1.1.7 or the UK variant from across the country. Apart from these variants, other variants from Brazil, South Africa, UK, as well as N440K, E484Q and B.1.36 variants are also prevalent across India. Despite the increasing number of variants, there might be a silver lining with these mutations. Though new strains of the virus are spreading faster, causing breathlessness in more numbers, its fatality rate is not so dangerous if compared to the previous ones. Initial findings suggest that various new strains of the virus could be dangerous but not more dangerous than the earlier ones. Therefore, while the infectivity associated with the new variants may continue to increase in the short term, the death rate and hospitalisation can be brought under control with increased vaccination and following all necessary precautions.

Symptoms and Precautions

In light of the recent surge in the coronavirus cases, people are extremely sceptical of their negative test results for COVID-19, especially when they have been experiencing mild to severe symptoms associated with the deadly virus. While RT-PCR test are considered to be the gold standard for testing, recent reports suggest a 'false negative' is very much possible. Initially, RT PCR tests for detecting COVID-19 were considered to be extremely accurate with some exceptions. However, with the onset of the second coronavirus wave, there have been many reports suggesting that 'false negatives' are very prevalent amongst people experiencing some of the most common symptoms of COVID-19. That said, there can be many reasons behind why you test negative. While the current wave of COVID-19 is driven by a cocktail of mutated variants, experts believe that the standard RT PCR tests is unable to identify the new mutations, hence reflecting a negative test result. Apart from that, it may also happen that the viral load in your body is too low, which makes it difficult to locate the infection and the reports may come back as negative. Additionally, if your sample is not collected appropriately or the swab stick is not inserted accurately, this may also trigger a false negative result. During the current crisis, vigilance and awareness is key to containing the spread of the virus and also minimizing the visits to the hospital. In case you get a 'false negative' test result, but continue experiencing different ailments, isolate yourself and monitor your symptoms. That said, here are some sure shot signs of COVID-19, that you must watch out for, even if you test negative. Loss of sense of smell or anosmia and distorted taste are two of the most unusual yet sure-shot symptoms of COVID-19. You can either develop this condition before a fever or may experience this as the only symptom of COVID. This symptom can also remain for a long period of time and may linger on even after recovering from the disease. Fever is one of the most common symptom of COVID. Given that your fever does not subside even after having pain relieving medicines and continues to worsen, accompanied by chills, it may be a sign of COVID-19.

Apart from fever and cough, COVID positive patients often complain of feeling extremely tired and weak. While fatigue can be a sign of other viral infections, COVID fatigue can be difficult to deal with. Many people may find it difficult to tell the difference between COVID-induced sore throat and an itchy throat as a result of common cold or flu. But if you're having a sore throat with continuous coughs and worsening fever, it may be a sign of COVID-19. In many individuals, diarrhea and nausea have been common reported as a symptoms of COVID-19 infections. This can lead to severe abdominal cramps and vomiting. First and foremost, it is important that you isolate yourself and avoid coming in contact with others. Continue monitoring symptoms and keep a tab of your blood oxygen levels with the help of a pulse oximeter. Next, you should repeat your RT PCR tests 2-3 days later. If symptoms persist, get a CT scan, only at the advice of your doctor or a specialist. While coronavirus continue to rise, it is important to protect yourself from different COVID mutations. Only step out of your homes during an emergency and wear well-fitted masks. Double masking is highly recommended. Practice social distancing and avoid coming in contact with frequently touched surfaces. Wash or sanitize your hands regularly. In case you have severe COVID-19 symptoms, reach out to your doctor.

Conclusion

A new variant virus is prevailing in India which is known as Triple mutant variant which is highly infectious and is moving and spreading very fast Spike proteins attach via a "receptor binding domain", meaning the virus can attach to receptors in our cells. These new mutations include changes to the spike protein that make it a "better fit" for human cells. Virus' spike protein may increase the risks and allow the virus to escape the immune system. The spike protein is the part of the virus that it uses to penetrate human cells. Presence of a VOC (variant of concern) or suspected VOC does not automatically mean that they are causing the outbreak, but rather suggests challenges to public health measures for containment. While the double mutants have been associated with a reduction in vaccine efficacy as well as infectivity, their combined effect and biological implication has not yet been understood. But scientists say reinfections will be very mild compared to primary infections in people who are vaccinated or who recovered already from an earlier case of Covid-19. We need to constantly monitor and make sure none of the variants of concern are spreading in the population.

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