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Short Communication
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New Variants of SARS-CoV-2 Shows Founder Effect Worldwide with the Big Bang

*Shefali Arora**

Department of Chemistry, University of Petroleum and Energy Studies, India

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When the world was starting to look forward with a vaccine, a newly "super spreader" strains of COVID-19 puzzled once again. UK government told that it is highly contagious new variant of the virus. Scientist investigated the genetic materials of the coronavirus and found thousands of tiny modifications which proves it hopscotched across the world. UK is the first to detect the new strain and now it is found in Denmark, Belgium, the Netherland, Australia as per the record of WHO [1-3]. Coronavirus have genetic material called RNA. When virus infects us, it attaches to cells, get inside and make number of copies of their RNA. If there is a mistake in copying, the RNA becomes changed and called mutation. It happens accidently and by random and a normal process in virus by which they spread and multiply. The new variant B.1.1.7 variant is detected in the UK in the month of December 20th followed by the B.1.351 variant in South Africa, Los Angeles and Ohio. Research proves that B.1.1.7 variant is more deadly and contagious than the previous one. A new variant in the coronavirus is VUI-2020 12/01 or lineage B.1.1.7. 17 different changes have been found in new variant and most of them is due to the alteration in a protein made by the virus [4]. The Centers for Disease Control and prevention (CDC) predict that by the March 21st, B.1.1.7 will be the dominant strain in the United States [5,6]. The genetic changes are seen in large number especially in the spike protein which governs how the virus interacts with a human cell. New variant is 70% more transmissible than the old variant and attack the immune system faster and more severe [7]. The primary symptoms such as cough, fever, chest pains, loss of taste and smell, aches and chills is same as that of older. The major concern of today's scientist is that the mutation could affect treatment and prevention. Bollinger said "We deal with mutations every year for flu virus and will keep an eye on this coronavirus and track it". The new variant spread faster from person to person and leads to more deaths. This new variant infects more number of cases in children and more aggressive new strain needs attention. The biggest problem with the virus is that when it mutates it escape from drugs or the immune system by changing the proteins on its surface. Antibodies are generated by our bodies to fight off infection and it doesn't exist in isolation. In our body, several cells have to work together antibodies, specially neutralizing antibodies, enter the stage. One subset of T cells plays a crucial role in the production of antibodies and another type of T cell kills the viruses infected cells. T cells are a kind of WBC and lymphocytes produced in bone marrow and carry a protein on their cell surface, surveil our bodies for pathogen. Dr. Yewdele, chief of cellular Biological Section explains that there are two paths to alert the immune system of the foreign invader. Once a virus enter into the cell, it goes a series of compartments were enzyme chop and unpack into small peptides and these peptides take away by Major Histocompatibility Complex (MHC) class II molecule. When a virus infects a cell, it makes viral protein by hijacking the cell's machinery. At the same time some peptides diverting to MHC class I molecules, which direct them to the cell surface and present them to other cell [8]. Dr. David Mulligan suggested that m-RNA vaccines activate B cells which can able to produce antibodies over 8 months after vaccination. Our immune system produces antibodies to a protein which sits on the surface of the virus called spike in the presence of vaccines. The spike protein opens a passage inside by latching onto the cells. Vaccine helps in the production of antibodies and stick to the tip of the spike and virus can't enter inside. Mutation creates the possibility to the change the shape of spike protein; in turn antibodies gain a tight grip on them. The variant B.1.1.7 includes 8 in the spike gene and the antibodies produce by our immune system may be less likely that virus can easily escape their attack. Currently the scientists think that the variant will be able to evade vaccine but at some point, someday, some where the current vaccine may be ineffective (Kristian Andersen, a virologist at Scripps research Institute). The US chief adviser Dr. Moncef Slaoui said that the possibility of new variant resistance towards vaccines is low but inexistence. The m-RNA vaccine is able to modify to target new variants produced by mutation but definitely new strains could decrease the effectiveness of the virus. The vaccines provide only 21.9% protection

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Correspondence:
Shefali Arora, Department of Chemistry, University of Petroleum and Energy Studies, Energy Acres, PO Bidholi, Via Prem Nagar, Dehradun-248007, Uttarakhand, India, Tel: +91-135-2102549; Fax: +91-135-2776095; E-mail: shefali.arora@ddn.upes.ac.in

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against the mild or moderate COVID-19 development and 10.4% against the B.1.1.7 variant. Several scientists explain that vaccines produce wide range of response beyond the spike protein through the immune system so "VARIANTS ARE UNDER INVESTIGATION". The new virus strain is potentially on a pathway for vaccine escape so Transmissibility and Virulence of the variant requires more research. Various scientist of South America working on a booster shot to guard against the new variant. At last it can be concluded that new variant with speedy spreader properties are a concern to everyone. Prof. Stoye said "Spread will almost inevitably occur because of short separation between different countries". The above letter is not just for new variant but for the future global health security and to manage the threats with pandemic potential. The variant of concern is very much significant to public health and effectiveness of current vaccine. If there is a chance of vaccine failure or reinfection towards new variants then the case can be considered oh high priority. That why new variants is under radar by various health scientist.

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