Twitter Thread by The Sharing Scientist

The Sharing Scientist
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A quick thread on the new variant, pulling together information from news sources, twitter, genomic databases, and word from well-placed peers.

> Cabinet has been summoned for call at lunchtime. Lots of concern about new data on virus in parts of England, feels like fast moving situation. https://t.co/308YsJEVGw
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> — Nick Eardley (@nickeardleybbc) December 19, 2020

The new variant in the UK consists of several mutations in the spike protein, including ΔH69/ΔV70 deletions & other receptor binding domain mutations such as N501Y.

The variant is described here in this pre-print from @GuptaR_lab.

https://t.co/ui2U1r1ANA

Recurrent emergence and transmission of a SARS-CoV-2 Spike deletion ΔH69/ΔV70

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doi: https://doi.org/10.1101/2020.12.14.422555

Abstract

SARS-CoV-2 Spike amino acid replacements in the receptor binding domain (RBD) occur relatively frequently and some have a consequence for immune recognition. Here we report recurrent emergence and significant onward transmission of a six nucleotide deletion in the Spike gene, which results in loss of two amino acids: **Δ**H69/**Δ**V70. Of particular note this deletion often co-occurs with the receptor binding motif amino acid replacements N501Y, N439K and Y453F. In addition, we report a sub-lineage of over 350 sequences bearing seven spike mutations across the RBD (N501Y, A570D), S1 (**Δ**H69/V70) and S2 (P681H, T716I, S982A and D1118H) in England. Some of these mutations have possibly arisen as a result of the virus evolving from immune selection pressure in infected individuals. Enhanced surveillance for the **Δ**H69/**Δ**V70 deletion with and without RBD mutations should be considered as a priority.

The ΔH69/ΔV70 variant continues to increase quite rapidly as a proportion of overall positives (roughly doubling in the last 2 to three days), and is apparently now the dominant strain in test positives in some regions.

Extensive efforts have gone into enhanced surveillance for the ΔH69/ΔV70 deletion with and without RBD mutations, and it is good that we are aware of this.

There is a need for calm and rational thinking, and more evidence is needed.

But the early data is certainly concerning