

People with compromised immune systems are likeliest evolutionary source of rogue COVID variants

A coronavirus typically gains mutations on a slow-but-steady pace of about two per month. But this variant, called B.1.1.7, had acquired 23 mutations that were not on the virus first identified in China. And 17 of those had developed all at once, sometime after it diverged from its most recent ancestor.

Experts said there's only one good hypothesis for how this happened: At some point the virus must have infected someone with a weak immune system, allowing it to adapt and evolve for months inside the person's body before being transmitted to others. "It appears to be the most likely explanation," said Dr. Ravindra Gupta, a virologist at the University of Cambridge.

If true, the idea has implications for vaccination programs, particularly in countries that have not yet begun to immunize their populations. People with compromised immune systems — such as cancer patients — should be among the first to be vaccinated, said Dr. Adam Luring, a virologist and infectious disease physician at the University of Michigan. The faster that group is protected, the lower the risk that their bodies turn into incubators for the world's next supercharged mutant.

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"It's very important to keep an eye on people who are immune-suppressed, who don't have fully functional immune systems," [said Center for Vaccine Research director Dr. Paul Duprex.]

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