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BRACING FOR A THREAT: ON DANGERS OF EMERGING CORONAVIRUS VARIANTS

Relevant for: Developmental Issues | Topic: Health & Sanitation and related issues

An emerging form of the Delta variant called AY.1 is raising global concern. Five of India's leading laboratories, since May, have submitted data to the Global Initiative on Sharing All Influenza Data (GISAID) on its presence in India. Public Health England, a body in the United Kingdom, has said that of the 63 genomes in its repository as of June 7, six were from India. AY.1, or B.1.617.2.1, is a variant of Delta (B.1.617.2) and has all its characteristic mutations along with one called K417N. This particular one has previously been identified in the Beta variant (first detected in South Africa), which is an international variant of concern as it is highly infectious and known to reduce vaccine potency. The Delta variant is reportedly the most prevalent coronavirus variant in India and comprises close to a third of the genome samples, sourced from those with no international travel history, processed until late May. An additional concern with the K417N mutation is that some studies have found that it was associated with resistance to a newly developed monoclonal antibody treatment drug cocktail, Casirivimab and Imdevimab, for those assessed with a moderate to severe disease risk.

Scientists have said that AY.1 marks the continued evolution of the Delta variant. The Delta variant has become globally prominent in the same way as a mutation, D614G, increased the infectivity of coronavirus in March and April last year. Coronaviruses are marked by 'convergent evolution'; some defining mutations that emerge in different strains from around the world start to become more common in subsequent variants. These mutations are beneficial to the virus and, through a process of natural selection, help it infect human cells more efficiently as well as thwart defensive antibodies. Evolution is an incessant process, and it is impossible to forecast if SARS-CoV-2 will become a part of the human ecosystem — less contagious, and manifesting in sporadic outbreaks but ever present or buckling into oblivion under the force of counter-offensive measures such as vaccines, masks, lockdowns. As the virus and people continue to be engaged in a dialectical battle, humanity has a tool that has been absent in previous global pandemics — that of rapid genome sequencing. Several countries, including India, have the infrastructure and the resources to track threatening mutations. Unfortunately, the potency of a mutation to increase infectivity in a region can only be known retrospectively. However, this knowledge can help improve vaccines and enable researchers to perform quick tweaks, or in the parlance of software, develop upgraded patches that can blunt the threat from emergent variants. India has chosen to restrict genome sequencing studies to 10 government labs and not involve private labs, some of which have the capability and the expertise. Time and again, the country has suffered the consequences of a lack of preparedness. It is important not to downplay the seriousness of the threat.

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