



CanCOVID Speaker Series

Event Summary



SARS-CoV-2 Variants: Clinical, Vaccine, and Public Health Implications

Speaker

Charu Kaushic, PhD

Objective

To summarize the Speaker Series presentation led by Dr. Kaushic on 'SARS-CoV-2 Variants: Clinical, Vaccine, and Public Health Implications.' The aim of her talk was to provide attendees with an overview of the information regarding the SARS-CoV-2 variants and emerging evidence on the effect of variants on public health, clinical outcomes, and vaccines efficacy.

Key Messages

- Thousands of SARS-CoV-2 variants are circulating, and new variants are continuing to emerge; some variants have died out and some have come to dominate transmission. The initial dominant strain of SARS-CoV-2 has now been replaced almost entirely by a new strain. Virus strains are mutating and evolving in a geographically stable manner, meaning they establish themselves in different regions, and overtime they become stable in that area. There are variants of concern that have become stable in different global regions that have made their way to Canada. Some mutations make for easier transmission of the virus, while other mutations make for easier detection through genomic sequencing.
- Emerging data has shown that single monoclonal antibodies can be bypassed by variants of concern (such as B.1.351). Ongoing studies of the impact of incubating the virus with convalescent plasma have shown there are certain mutations emerge recurrently and become dominant, suggesting those mutations offer some advantage to the virus.
- Global surveillance (including epidemiologic surveys and genomic sequencing) of virus variants is increasing and using a combination of strategies allows for earlier detection of variants as well as for response and containment.

Implications/Next Steps

- Virus mutations increase the threat of vaccine escape and the possibility of reinfection due to variants of concern that transmit at a higher rate than the original SARS-CoV-2 strain. Smaller studies have shown that current Health Canada approved vaccines, especially Pfizer, produce a strong antibody and neutralizing effect against the variants of concern. Moving forward, more and bigger studies of vaccine efficacy against the variants of concern are needed, and the global community should continue surveillance regarding the emergence and transmission of new variants.

[Click here to view the recording of this event.](#)