Among all SARS-CoV-2 RT-PCR-positive samples identified in our laboratory, all those with a Ct value ≤ 32 are subsequently screened for the 501Y and 484K mutation by specific RT-PCR assays.
Specimens analyzed in our laboratory come from the community (majority), from hospital workers (systematic screening in case of any symptoms and cluster investigations), from asymptomatic travelers, and from hospitalized patients.
501Y and 484K mutation screening by RT-PCR among SARS-CoV-2 positive samples collected in GE and sent to our laboratory for primary diagnosis

Almost all new positive cases are due to a variant carrying the 501Y mutation. Only few samples carrying the 484K mutations (P.1 Brazil and B.1.351 South-Africa) are identified each week. Some samples, displaying the 484K without the 501Y mutation has been detected, and correspond to the P.2 variant. This combination is still rarely observed in Geneva.
Most recent whole genome sequencing results performed on SARS-CoV-2 positive samples collected in GE and sent to our laboratory

WGS is carried out in close collaboration with the Health 2030 Genome Center in Geneva and is based on a daily random sampling of SARS-CoV-2 positive specimens by RT-PCR with as only selection criterion a Ct value ≤ 32. This graph displays the sequences with 95% of positions covered ≥ 15x and submitted to GISAID (282 sequences obtained from samples collected from February 23 to March 4, 2021).

B.1.1.7 is now generating almost all new SARS-CoV-2 infections, as confirmed by whole genome sequencing. Few B.1.351 are also circulating at a low level. P.1 sequences are only rarely retrieved. P.2 variant sequences have been confirmed in two samples in the Geneva area, between February 23 and March 3, 2021.

Conclusions

- The B.1.1.7 variant is representing almost all new SARS-CoV-2 contaminations in the Geneva area since the end of February.
- Only few samples carrying the 484K mutation (Brazilian P.1 or South Africa B.1.351) are detected each week. Rare P.2 sequences are also identified.
- The absolute number of new positive cases and the proportion of positive cases is slightly increasing over the last 2 weeks.

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