

# September 2023 COVID-19 Chronicle

Maxime Coles MD

- A- For the last six months we have enjoyed a world where the masks lost their protective effect because the infection with the COVID-19 virus has significantly lost its capability to invade our body. Fewer admissions were observed in most of our hospitals around the country. The CDC and the White House recommended to abandon the routine use of the masks. The last six months have proven them wrong and a new subvariant of the omicron COVID is seen in our hospital, the BA 4.6.
- B- The new variants BA 4.6 are proven to be more invasive. It seems to be better at evading our immune response than the BA 5. It is well confirmed that it is spreading in the UK. It counts already for around 10% of the recent cases. Defines also in other countries, it seems that we should be worry and more precautions and the wear of the mask appears to be necessary to fight it.
- C- It is not entirely clear how this new variant of the omicron come from but it was detected in January 2022 in South Africa and has speeded around the world alongside with the variant BA 5. The BA 4.6 comes from the BA4, first detected. It could be a recombinant variant seen especially when two different variants of the viruses causing COVID-19 is infecting a same patient at the same time. It carries a mutation to the spike protein on the surface of the virus allowing it to enter the human cell. But this time, the virus seems to escape the antibodies acquired with the vaccinations, to invade the immune system.
- D- The Omicron subvariant is known to cause less serious illness and fewer deaths. There have been no reports of severe symptoms other than cough. This strain is certainly more transmissible and even better at evading the immune system like most of the other omicron subvariants. It may appear to the scientists that the subvariant BA 1.6 replicate more quickly in the early stages of the infection and appears

to have a higher growth rate than the BA.5. More it looks like it is a smaller virus and study may show that COVID vaccines might be less effective against the BA.4.6 strain. It is suggested to take the new bivalent booster to target specifically this strain BA.1.6 of the omicron virus.

- E- Another new variant the BA.2.86 of omicron SARS-CoV-2 deriving from the BA.2 is circulating around. It was detected in Denmark first and later seen in the USA on August 2023. The usual medication to treat the infection are still effective, like Paxlovid, Veklury and Lagevrio. This variant is more capable to infect people who have been vaccinated before but there is no evidence that the strain causes more severe illness. The experts believe that the higher number in hospitalization in the USA is more due to the XBB.1.5 lineage and not BA.2.86 (Pirola combination from the Greek letters Pi and Rho). The variant has been seen in at least 4 states and even was discovered in the waste water of New-York city. It is raising concern. Everybody is encouraged to get one of the bi-valent boosters and the same and usual protection with hand-washing, mask wearing etc.
- F- The emergence of those new variants is concerning and still show us that the virus is still with us, mutating to find new ways to overcome our immune response. Vaccination continues to be the best protection against severe disease and could provide a more durable protection. The omicron virus has demonstrated that people who have been infected with the virus, can become the victim again. New booster vaccine has been approved. One can be even administered through the nose.
- G- Close monitoring of these new variants especially the BA.4.6 or the BA.2.6 is pressing. Symptoms that you may experience are cough, Sore Throat, Runny nose, Sneezing, fatigue, headache, muscle aches, altered sense of smell. A new booster shot is currently being formulated by Moderna, Pfizer and Novavax to specially target the variant XBB.1.5 sub. It is expected to boost the immune system enabling it to fight EG.5 as well, according to officials.

H- We knew two years ago that individuals with blood group A were more susceptible to catch the SARS-CoV-2 virus. Other scientists uncovered how the blood group impacts the risks in demonstrating that the virus interacts with the blood A antigen, which is in fact a carbohydrate structure that decorates the cell surface. The interaction enhances the ability of the virus to infect blood group A cells when compared to blood group O cells, providing a direct link between blood group A and higher chances in contracting the viral infection. They found out that there is a SARS-CoV-2 receptor binding with an ability to bind to ACE2, and enter the cells domain (RBD). Surprisingly, it also binds to the carbohydrate blood group A.

#### References:

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- 2- Symptoms too watch with new CIVID variant. Nbcchicago.com
- 3- Cdc.gov
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