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SARS-CoV-2 versus COVID19: Is not the same

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Abstract

For the common people... Is it worth clarifying some differences between disease and the associated pathogen? Is it worth leveling up counting so many deaths due to this pathogen that has been with us for years? I believe that the reader will be able to carry out this analysis better than anyone and will also be able to catalog this article.

On television, radio, Facebook or on any social network, these two concepts are spoken of interchangeably as if they are the same, rather they speak of what this pandemic by COVID19 is meaning.

You don't say it! It was a program that they will probably remember who brought it to life if you ask them later.

You, as a student, a university academic or as a simple mortal, must express yourself well, even if our highest authority or our Minister of Health has done it poorly. COVID19 is the disease, as the virus is called SARS-CoV-2.

Keywords: Disease, COVID19, Pathogen, SARS-CoV-2, death, virology, nomenclature.

1 Opinion

This is as common as mixing pears with apples and in the veterinary medical field there are several examples: like saying that Canine Distemper is a single-stranded RNA virus belonging to the *Morbillivirus* genus of the *Paramyxoviridae* family. Canine Distemper is the disease, and the associated pathogen is *Canine Distemper Virus*.

COVID19 is a disease that has currently put us in check. We have all been privileged witnesses (we are still alive) of how havoc similar to that described has occurred worldwide due to the misnamed *Spanish flu* of 1919-1920.

Yes, something similar happened almost 100 years ago, but since we only saw it through photos, we were not aware of it. Although currently, being witnesses, not all of us have become aware of the danger of this disease by not staying at home; going out and not washing your hands when you come back and so many other measures that have been denied and finally imposed as mandatory: mask (Figure 1)

SARS-CoV-2 is a virus. A pathogen to fear, but a virus after all. A virus replicates exclusively inside living cells. That is, to multiply it requires a cell, it must find a susceptible cell and also a permissive one. Permissive involves a cell that allows the virus to go through a viral cycle and generate progeny, new infecting viruses.

It is not the same, as Alejandro Sanz says in his song...! <https://www.youtube.com/watch?v=xNgTMDRoa60> read my lips Is not the same.....!!

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Figure 1. It seemed exaggerated before COVID-19 [1]

We all came out of this together says the propaganda. Yes, but only if we take actions so that the virus does not find a cell in which to replicate.

For example, why would washing your hands “kill” the virus?

Knowing something about the viral structure, it is possible to find a relevant answer: alcohol and other reagents allow the viral envelope of SARS-CoV-2 to “disintegrate”, a *coronavirus* that causes COVID19 in humans, a product of which today we are prevented from face-to-face sessions in FAVET.

Therefore, what is said about a coronavirus is applicable to everyone, regardless of the host in many cases. But let's go by part, for something there are differences that place them in genera and families that receive different names: SARS-CoV-2 belongs to the genus *Betacoronavirus*, its family *Orthocoronavirinae*, family *Coronaviridae*, and *Nidovirales* order [2, 3]

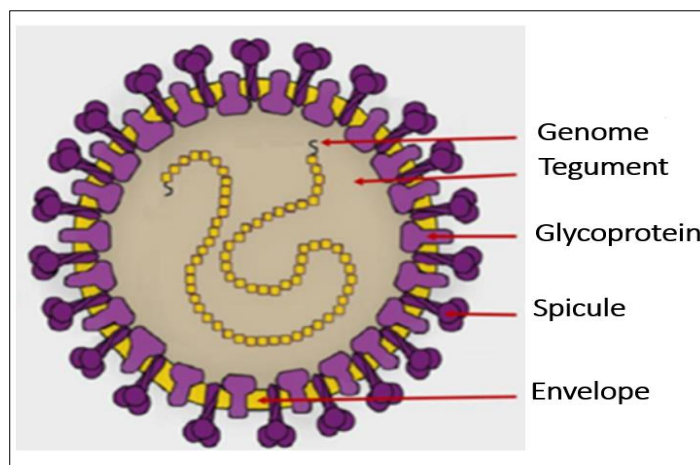


Figure 2 Scheme of one enveloped ribovirus

Strictly speaking, these hierarchical levels are written in italics. In this regard, there are other hierarchical levels higher than order, according to the ICTV: (<https://talk.ictvonline.org/>)

The *Nidovirales* order includes single-stranded, positive-sense riboviruses. It is an enveloped virus and its genome is around 30,000 bases. Its size is 100 nanometers (10^{-9} m) on average, it has membrane glycoproteins, a helical capsid and replicates in the cytoplasm of the infected cell. In this case, the RNA genome of the virion is surrounded by proteins in a helical capsid symmetry (Figure 2) [2, 3]

Of great importance are the extensions of the viral envelope called spicules, which chemically correspond to proteins. These proteins interact with cell receptors and allow viral attachment and penetration. By having a single-stranded RNA genome and positive polarity, the viral cycle is facilitated, as it is an infective genome.

For this reason... due to the presence of the viral envelope, it is very important to wash your hands with soap containing 70% alcohol after going out to buy food or medicine.

The foregoing is as valid for pathogenic agents that affect the human species as for others that we have mistakenly called "minors"... and as André Lwoff said: *viruses are viruses*.

Finally, the technique used to determine infection is called RT-PCR and detects the pathogen, whether it affects humans or other animals [4, 5, 6]

2 Conclusion

In conclusion, it is not appropriate to speak indistinctly about the virus or the disease as if the same thing happens, it is up to us to note the difference.

Compliance with ethical standards

Acknowledgments

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