

Nobel For Novel

“A POSSIBLE SOLUTION TILL THE INVENTION OF VACCINE....”

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ABSTRACT:

This particular virus, SARS-CoV-2 ,popularly known as Novel Coronavirus , has a structure resembling to HIV(Human immunodeficiency virus).The envelop of the virus appears as a distinct pair of electron dense shells. Viral shell consists of

LIPID BILAYER- in which membrane M, envelop E , spikes S are anchored. E:S:M=1:20:300 , specially the shorter spikes hemagglutinin esterase (HE).

Surface spikes are homotrimers of S1,S2 subunits of S proteins, E and M for shape. Outer coating protects viruses outside the body.

THE SPIKES HELPS THE PROTEIN UNIT OR THE VIRUS TO ITS COMPLEMENTARY HOST CELL RECEPTORS.

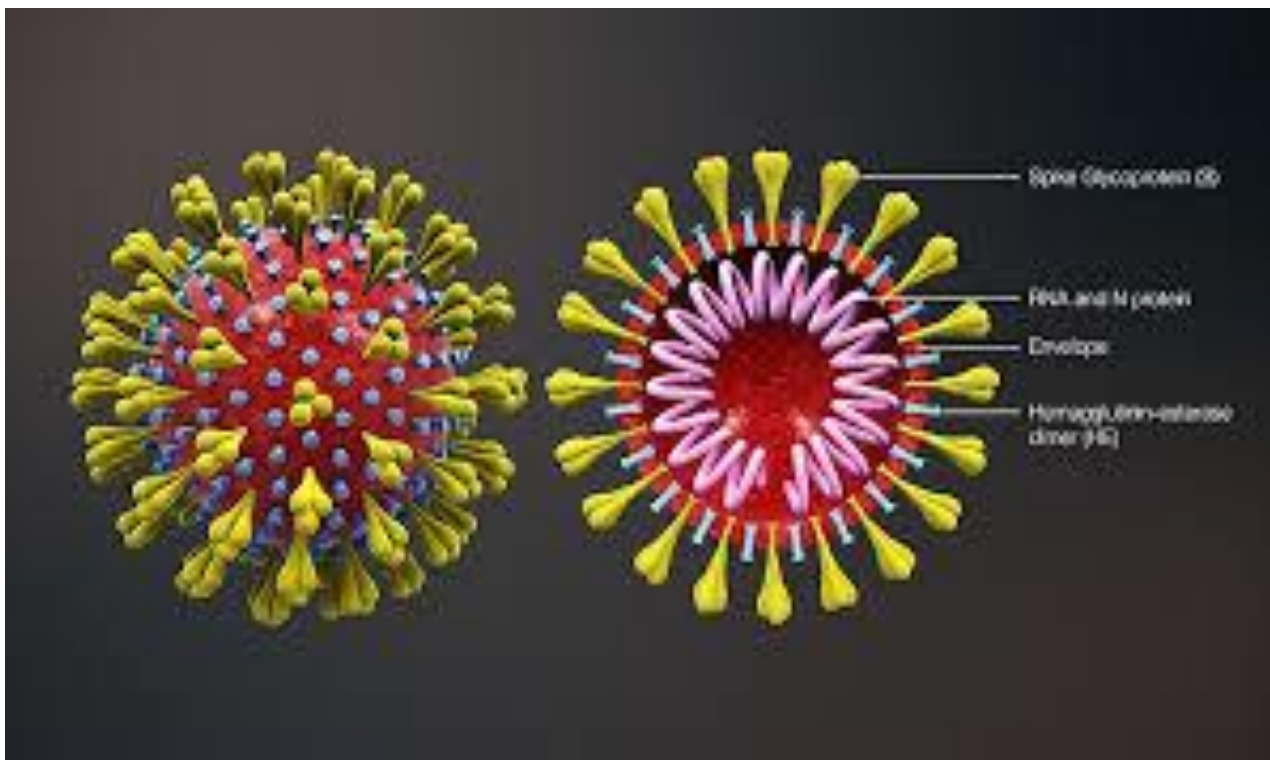
Then it enters by endocytosis or direct fusion of viral envelop with the host cell membrane.

THREATS:

These strain of viruses are responsible for the global pandemic situation. But we need to remember that viruses cannot reproduce on their own. Instead they work their way into the living cells and use them as factories. These viruses attach to the ACE2 enzyme (Angiotensin Converting enzyme2). The strong attachment makes the virus more infectious.

WHAT WE NEED TO FOCUS ON ARE THE SPIKES,

WHICH ARE USED TO PUNCTURE THE HOST CELLS, WHICH LEADS TO THE VERY START OF THE INFECTION, COVID19 .



STRUCTURE OF 'SARS-CoV2'

STRUCTURAL SIMILARITIES IN COMPOSITION AND PROSPECTS:

We need to remember that the outer coat of virus is a lipid bilayer. It consists of hydrophobic and hydrophilic amino acids. After all they are proteins. The hydrophilic ones interact with the molecules of solvation, allow the proteins to form hydrogen bonds with water molecules. If enough of protein is hydrophilic then the protein will dissolve in water.

If the protein is more hydrophobic then the protein tends to remain insoluble in water.

COVID 19 VIRUS lipid bilayer is consisting of hydrophilic coating, below which lies the hydrophobic parts. Typically it is representing a "phospholipid bilayer".

Also due to transmission by micro-droplets, it has a layer of mucous surrounding it providing extra protection.

"OUR AIM IS TO REMOVE THE MUCOUS LAYER AND THEN PRECIPITATE THE PROTEIN OR RATHER THE VIRUS."

First let us see the procedure which can be used to remove the mucous layer of the virus.

For this we need to use the procedure of medical ventilation in a slightly different way. By this, I mean that we will be using a HYPERTONIC SOLUTION OF:

Hygroscopic salts like AMMONIUM SULPHATE, CALCIUM CHLORIDE, which are not only cheap but also light, it can remain suspended in air for quite a long time during its functional period. This hypertonic salt mixture will help in attract in more water because it is hygroscopic and there is humidity in the air, thus there will be enough moisture to thin the mucus coating of the VIRUS.

This in turn can help in the exposure of virus to the environment thus accelerating our further steps.

OUR NEXT STEP WILL BE "SALTING OF PROTEINS":

If good or rather strong electrolytes are added to water, then the hydrophobic proteins and the lesser hydrophilic substances cannot form bonds with water molecules. Hence the protein remains insoluble and thus the process of CLUMPING or SALTING OF PROTEINS occurs. Thus the precipitation of so called insoluble proteins, takes place.

SUGGESTIONS AND AREA OF INTEREST:

We can use strong electrolytes which are,

1. HUMAN FRIENDLY
2. ANIMAL FRIENDLY
3. ECO-FRIENDLY

Thus we need to consider that these Electrolytes to be applied must not be hazardous to health and should not be injurious if inhaled. Thus we can come up with ideas like;

1. Ammonium Sulphate $(\text{NH}_4)_2\text{SO}_4$:

This salt is cheap and can be used as an easy solution. This salt in lesser quantities has been proven not to affect the living body or rather the human body. It is also a good electrolyte and can be used in the salting of proteins.

2. Calcium Chloride CaCl_2 :

This salt has also the excellent hygroscopic property and can be used.

PROCESS:

The process of implementation will be through automated SPRINKLERS which are used in sprinkling in fields. THESE SPRINKLERS can adjust the amount of liquid in the form of mist, that is salt and water to be sprinkled from time to time in the Red and Containment Zones.

CONCLUSION:

THIS CAN LEAD TO A NEW POSSIBLE AVENUE FOR THE REMOVAL OF VIRUS FROM THE AIR. THUS PROVIDING A METHOD OF CONTROL TILL HUMANKIND IS BLESSED WITH THE SUCCESSFUL LAUNCH OF A VACCINE FOR THIS DEADLY DISEASE. If this idea can be presented for further research and implementation, if successful, then this could help in successful control of the spreading of the disease.