

# The Alternative Hypothesis of Peripheral Nerve Pathway Penetration of Coronavirus and all other Viruses in the Body

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## ABSTRACT

**Purpose:** The aim of this study is to propose the peripheral nerve pathway and its mechanism for the penetration of Covid-19 and all other viruses in the body by means of the peripheral nerve endings of parasympathetic and sympathetic systems.

**Introduction:** Today, other than pulmonary infection, we must also consider Covid-19 and all other viruses penetration through the parasympathetic and sympathetic nerve system. In addition to the pulmonary and alveolar tissue penetration mechanism, the virus RNA electrical polarity and the nanoparticle spike electrical polarity of the Coronavirus's surface may also interact, through their electro-chemical properties, with the Golgi apparatus and the terminal endings of the body's peripheral nerve axons. Many patients who have recovered from Covid-19 suffer from loss of taste, numbness of the tongue and alteration of smell, sublingual microangioma, contracture of the masseter muscle, decreased mouth opening, polyarthralgia, mild soreness of the entire body and cognitive problems. *It is obvious that contagion could start from the buccal mucosa via the Golgi apparatus and the nervous endings of olfactory and taste nerves apparatus* (First site of the neural penetration mechanism for Covid-19 and all other viruses?).

**Materials:** Our research has mathematically evaluated the numerical intensity of the environmental accumulation of the Coronavirus in the alveolar surface of the lung, corresponding to *thousands of billions of Covid-19* and all other viruses *virus particles* having, like CNT particles, electrical polarity. By means of both factors (RNA polarity and protein spikes polarity) the Coronavirus may be able to attack and promote cellular and molecular interaction in sensitive peripheral nerves of the body through *the Golgi apparatus of mucosa, the olfactory and the Frank taste nerve, and the Alderman nerve of the outer ear*. Such axonal stimulation could produce cellular migration on nervous axonal cells up to the cervical ganglia of the parasympathetic (Vagus nerve) and sympathetic trunk. Through the Vagus neurons and the sympathetic system, by means of its electro-chemical interaction with different organic molecules, the Covid-19 virus could produce (like the Zoster virus) an inflammation of nerve fibers into the interstitial neurofibrillary tangles of alveolar wall of lungs and the entire pulmonary plexus, producing lesions to give a partial or complete palsy of the lung innervation.

*This means of contagion may have been the Coronavirus's initial penetration of the human body and have been contemporary to the interstitial viral pneumonia.*

**Conclusion:** We want to propose the peripheral nerve pathway as a means of entry of the Coronavirus and all other viruses into the body and its own important role in the inflammatory pulmonary plexus involvement. Our new views into the mechanism for inflammation of the interstitial alveolar pulmonary walls produced by the virus try to clarify the pathology mechanism and stimulate further studies for better treatment of Covid-19 and all other viruses and their peripheral nervous complications.

**Keywords:** Covid-19; CNTs; Peripheral nerves; Spike mechanism; Pathology

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## INTRODUCTION

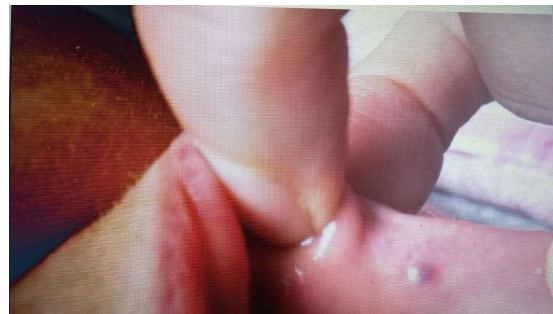
Today we know that Covid-19 and all other viruses, with their aggressive clinical manifestations, are not exclusively located in the lungs, and that the complete mechanism for infecting the alveolar tissue of the lungs is not yet fully known [1].

*Additionally, the ways in which the electrical polarity of the Coronavirus and all other viruses spikes may affect peripheral neuronal electrical activity in the interstitial pulmonary nervous system and its cellular function are not yet studied.*

The electro-chemical conductance of RNA coronavirus and all other viruses provided by electrical polarity [2,3] demonstrates that the potential health risk (inflammatory response) of its particles may be like that of CNT particles, through inhalation, hand skin, mucosal walls, eyes, gastrointestinal absorption etc. [4,5]. It is almost certain that infection may occur through penetration of mucosal contact, nervous endings of hand dermis, by Golgi apparatus, buccal and oral mucosa by Frank nervous action, and the Alderman nerve of the outer ear (First sites of the neural penetration mechanism for Covid-19?).

From clinical observations we know that Covid-19 and all other viruses can be responsible for persistent and worsening pneumonia, as well as for a temporary loss of the olfactory and taste senses (terminal peripheral nervous endings and Golgi mucosal contact points). Many patients, after their recovery, suffer from numbness of the tongue, alteration of smell, sublingual

microangioma, contracture of the masseter muscle, decreased mouth opening, polyarthragia, mild soreness of the entire body, or cognitive problems (Figure 1) [6].

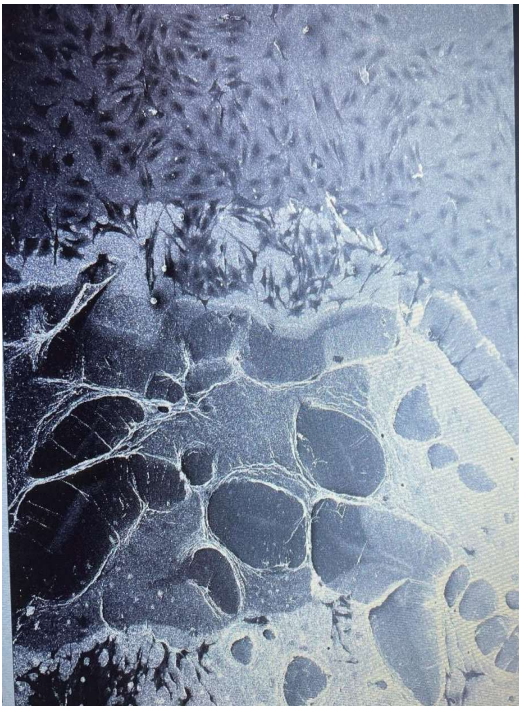


**Figure 1:** Post-Covid sublingual microangioma; a new clinical finding in a 57-year-old woman; many patients who have recovered from Covid-19 suffer from loss of taste, numbness of the tongue and alteration of smell. *It is obvious that contagion could start from the mucosa via Golgi apparatus and the endings of the olfactory and taste nerves.* These nerve endings are stimulated by the electric polarity of the nanoparticle spikes, which promote electrical migration along the parasympathetic nerve cells on the Vagus nerve and the sympathetic system of the entire pulmonary trunk. This mechanism also involves the diaphragm, rib muscles and the innervation of many organic molecules of the nerve interstitial alveolar surface of the lung with consequent inflammatory response (as an allergic-hyperallergic reaction), cell adhesions, microvascular thrombosis, microvascular haemorrhagic lesions or similar microvascular pathological alterations like to this microangioma of the buccal mucosa.

This peripheral stimulation of body nerve endings by means of electrical protein spikes promotes electrical migration along the Parasympathetic cells on the Vagus nerve and on the Sympathetic system, interesting the entire nervous pulmonary trunk. This mechanism also involves the diaphragm, rib muscles and the innervation of the interstitial cellular neurofibrillar tangles of the alveolar surface of the lung with consequent

inflammatory response (as allergic-hyperallergic reaction), cell adhesions, microvascular thrombosis, microvascular haemorrhagic lesions and finally blockage of oxygen exchange (Second site of the neural pathway penetration mechanism?). This mechanism could also have been the first means of introduction into the human body many months before the large explosion of the Covid-19 and all other viruses pandemic and remained silent and underestimated.

Based on the clinical evidence, we think that the action from nerve endings stimulation could promote cellular migration on axonal cells up to the cervical ganglia of the parasympathetic (Vagus nerve) and sympathetic trunk (Figure 2).



**Figure 2:** SEM exam for basic research on nerve regeneration in which CNTs with negative polarization attract nerve cells and stimulate cell regeneration.

*Thousands of billions of Covid-19 virus particles, like CNT particles, may be able to attack and promote cellular and molecular interaction in sensitive peripheral nerves of the body through the Golgi apparatus and the nerve endings of the buccal mucosa, the olfactory and Frank taste nerve and Alderman nerve of the outer ear. Such axonal stimulation due to the electric polarization of Coronavirus RNA and of its polarized particle spikes could promote cellular migration on nerve cells up to the cervical ganglia of the parasympathetic (Vagus nerve) and sympathetic trunk.*

Through the Vagus neurons and the sympathetic system, by means of its own electro-chemical interaction with different organic molecules,

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the virus could produce (like the Zoster virus) inflammation of neurofibrillary tangles of the interstitial alveolar wall of lungs: this mechanism also involves the innervation of diaphragm and rib muscles of the breathing system.

Through the peripheral nerve as the Vagus neurons and the sympathetic system, by means of its electro-chemical interaction with different organic molecules, the electrical virus stimulation may produce an additional inflammatory reaction in the nerve fibers (like the Zoster virus).

Consequently, we believe that the electrical polarity of the Coronavirus RNA and all other viruses and their electrical polarized spike particles [2,3] may be able, like CNT particles, to produce -at the level of the interstitial neurofibrillary tangles of the alveolar wall of the lung -an inflammatory response (as an allergic-hyperallergic reaction), cell adhesions, microvascular thrombosis and microvascular hemorrhagic lesions [6,7].

It is even possible that patient deaths could be due to partial pulmonary palsy by depressive pulmonary parasympathetic action owing to the effect of the strong electrical properties of the virus particles on lung innervation.

*This hypothesis might be studied to gain better knowledge of the internal electrical mechanism of the particle spikes of the virus, which could act in addition to the effect of the curare administered for orotracheal intubation in intensive care units.*

## MATERIALS AND METHODS

To gain insight into the contact surface structure of the alveolar wall and evaluate the total anatomic extension of the interstitial pulmonary surface of the body, along with the quantity of Coronavirus and all other viruses particles acting on the alveolar site of the lung, we have applied a mathematical estimation of the nanoparticles of the virus in Covid-19 and all other viruses and determined how they could act [8].

It is known that the virus has a genome of 26,000 to 32,000 letters in length and an electric polarity at its end;

it has a spherical shape and it is surrounded by a fatty envelope and, as observed under the electron microscope, its surface is covered by a crown of spikes (in reality a complete envelope full of nanoparticle protein spikes) [2,9].

Additionally, the club-shaped spikes have an electric polarity at their end and are made up of nanoparticle proteins which are utilized as harpoons to penetrate the interstitial wall of the alveoli of the lung. They have two action tools: the binding domain (hexapeptide), a kind of grappling hook that grips onto host cells, and the proteolytic cleavage site (proteinases S1, S2, S2'), a molecular opener that allows the nanoparticles of the virus to crack open and enter host cells [4, 9-10].

In order to scientifically evaluate how the match occurs between the nanoparticles of the coronavirus spikes and the interstitial alveolar tissues of the lungs, we have conducted a mathematical evaluation of this material and of the physical situation.

1. First, alveolar contagion occurs in relation to the number of breaths a person takes: in one minute, 20; in an hour, 1,200; in a day, 28,800.
2. The total extension of the alveolar interstitial surface of the lung is estimated to be of the order of  $100\text{m}^2$ , corresponding to  $10^6\text{cm}^2$  (approximately equal to  $100\text{mq}$ ).
3. The virus itself, whose appearance is fairly close to a sphere, has a diameter close to  $100\text{nm}$  (where a nanometer represents the billionth part of a meter). From this, we can compute the surface covered by a single virus on a bi-dimensional projection of the interstitial alveolar tissues of lungs.

$$S_v = \pi R^2 = \pi \cdot (55 \cdot 10^{-9})^2 \approx 9.50 \times 10^{-15} \text{ m}^2 = 9.50 \times 10^{-11} \text{ cm}^2$$

4. In simple words, this means that, to cover even just a third of the  $10^6\text{cm}^2$  of the interstitial surface, approximately  $10^{17}$  particles would be needed: thousands of billions of particles.
5. In terms of volume, similarly, where we estimate the lungs' volume to be of the order of

$6000 \text{ cm}^3$ , we see that the volume of a virus nanoparticle is of the order of:

$$V_v = \frac{4}{3} \pi R^3 = \frac{4}{3} \pi \cdot (55 \cdot 10^{-9})^3 \approx 6.969 \times 10^{-22} \text{ m}^3 = 6.969 \times 10^{-16} \text{ cm}^3$$

6. Purely in words, once again, this means that, to cover even just a third (of the  $6 \times 10^3 \text{ cm}^3$ ) of the volume of the lungs (approximately  $10^{19}$  particles) would require tens of thousands of billions of particles!

These mathematical and physical figures are the real measurement of the mechanism of lung infection and are crucial for environmental transmission.

7. The data on the very large alveolar surface of the human lung corresponds to  $1,000,000 \text{ cm}^2$ , and covering almost half of its surface would require some thousands of billions of virus particles.
8. Considering the amount of space contained within the human lung of about  $6000 \text{ ml}$ , corresponding to  $6000\text{cm}^3$ , we understand the large possibility offered by the human body of invasion by nanoparticles of SARS-Cov-2 and of all other viruses!

In addition, we cannot exclude that the millions of toxic nanoparticles (club-shaped protein spikes having an electric polarity) may act like CNT particles able to attack and promote cellular and molecular interactions (Fig.2). We even believe that the electrical activity of the virus's spike nanoparticles could interface through their electro-chemical properties with different organic molecules and consequently be responsible for the interstitial inflammatory reaction at the neurofibrillary tangles in the alveolar wall of lung.

The action promoting cellular migration to nerve cells and interacting with the interstitial nerve plexus of the alveolar structure of the lung could be responsible for producing nanoparticle spike adhesions and persistent interstitial pneumonia [8-10] (**Second site of the nerve pathway penetration mechanism?**).

The ways in which Covid-19 and all other viruses affects neuronal electrical activity on the pulmonary nerve system and its cellular function have not yet been studied.

Environmental pollution and the intense accumulation of the Coronavirus and all other viruses allow for the first penetration of the virus nanoparticles which might start from the Golgi apparatus, the olfactory and Alderman nerve of the outer ear, or the taste nerve (Frank action). This nerve penetration leads to an interstitial pneumonia as well as to a partial and temporary loss of the olfactory and taste senses and a multiple and multiform lesions as sublingual angioma, contracture of the masseter muscle, decreased mouth opening, polyarthragia, mild soreness of the entire body or cognitive problems, now clinically and definitively ascertained (Figure 1) [2,6,8].

This action, in our opinion, by promoting cellular migration through electro-chemical interactions with different organic molecules of nerve cells, reaches along their axons the cervical ganglia of the parasympathetic and sympathetic trunk (**First nerve pathway of the penetration mechanism?**).

Through the vagus neurons of the parasympathetic system, and together with the sympathetic system, the virus could also produce nerve fiber inflammation and degeneration (like the local dermal and nerve myelin necrosis produced by the Zoster virus) resulting in additional pulmonary nerve plexus lesions up to a partial or complete palsy.

## DISCUSSION

The mechanism by which the coronavirus and all other viruses penetrate the alveolar tissue is not yet fully understood.

Based on recent clinical observations, we know that many patients, after their recovery from Covid-19 and all other viruses, suffer from numbness of the tongue, alteration of smell, sublingual microangioma, contracture of the masseter muscle, decreased mouth opening, polyarthragia, mild soreness of the entire body, weakness

and general fatigue and some cognitive problems.

Therefore, we must seriously consider that involvement of the parasympathetic (Vagus nerve) and sympathetic nerve system represents the coronavirus's first and second means of contagion and penetration.

But the ways in which Covid-19 affects neuronal electrical activity in the parasympathetic (Vagus nerve) and sympathetic nervous system, and particularly the pulmonary nerve trunk and its cellular neurofibrillary tangles function in the alveolar wall, have not yet been studied.

In our Study following penetration of the Golgi apparatus and other peripheral nerve endings located in the olfactory and taste mucosa, the electrical polarity of Coronavirus and all other viruses particle spikes can promote electrical migration on parasympathetic nerve cells along the vagus nerve and the sympathetic system of the entire pulmonary trunk, ultimately determining massive interstitial pneumonia and death.

According to this hypothesis, many patient deaths from Covid-19 and all other viruses may be due in part to the strong electrical properties of virus spike particles, with their electrical polarity acting on the interstitial structure of the lung's alveolar nerve system, resulting in local inflammation from the local allergic-hyperallergic reaction and finally leading to an interstitial degenerative fibrosis of the pulmonary alveolar wall [2,5,7,10].

In order to defeat the pandemic, we have obtained antibodies by the RNA messenger chain of the Coronavirus to make new vaccines. However, the virus RNA can change its structure frequently together with additional different new Spikes, and it is possible that in time we will have an unstable or useless vaccine.

The aggressive nature of the Coronavirus and particularly the electric polarity of its nanoparticle spikes can be only rendered harmless or neutralized by working on the particle spikes in laboratories (white chamber) in order to obtain a definitive immunological state of human body. We are convinced that SARS-Cov-2 and all other viruses are a conveyer and the spike particles are tools for attacking nerve extremities, like the Golgi

apparatus and many mucosal and dermal nerve endings or the interstitial neurofibrillary tangles in the alveolar wall of lung alveolar complex contained into the membrane wall for exchange of oxygen with carbon dioxide, along with arteries, veins and pulmonary lymphatics.

In our opinion the Coronavirus is like a battleship, that is, conveyer provided with a polarized RNA and countless polarized spikes (i.e., the cannons).

The new vaccines try to charge the polarized RNA structure, that is, to immobilize the motor of the battleship by stopping its navigation and its diffusion of the contagion, while producing a lot of antibodies without obtaining a stable immunization from the Coronavirus due to possible continuous changing of its Spikes.

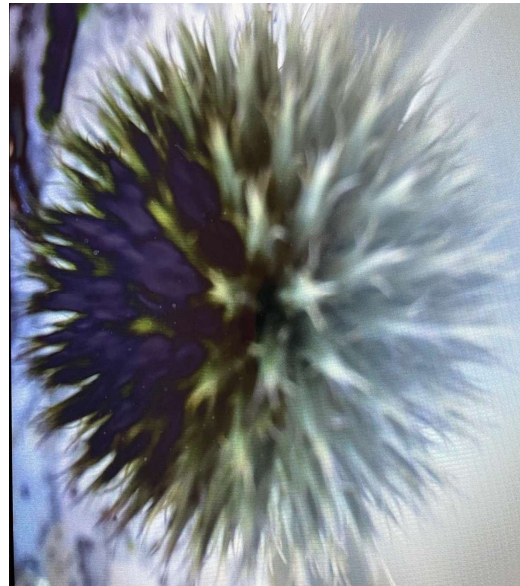
Another solution, more stable and reassuring to stop the conveyer-ship aggressivity, may be obtained by the destruction of the electric polarity of the cannon-particle spikes. This action could render the conveyer harmless, a real innocuous Coronavirus.

Our hypothesis is then to try to use CNT particles (which have negative polarity) in white laboratories to clean up or neutralize all the polarities of the virus spikes.

This would render the coronavirus truly harmless (neutralization of the electrical polarization of the Spikes) so that the cannon spike proteins could not attack the body nerve endings and the interstitial neurofibrillary tangles of the lung's alveolar walls (and the virus might produce only an innocuous cold) (Figure 3).

Lastly, given the strong electrical properties of the virus particles acting on the interstitial structure of the lung's alveolar nerve (Vagus nerve system) [6], we must consider that the need to administer many different drugs and use curare to intubate patients to blow oxygen into their lungs may worsen the paresis or palsy of the Vagus pulmonary nerve system and facilitate patient deaths. In our opinion, this could explain the great number of deaths not scientifically certified by research on extensive international clinical care protocols and

ascertained by systematic autoptic research on the cause of death.



**Figure 3:** Green plant prototype of the Coronavirus image. Our hypothesis is to try to use CNT particles (which have negative polarity) in white laboratories to clean up or neutralize every virus spike's electrical polarity. This would render the coronavirus harmless so that the spike proteins could not attack the body nerve endings and the interstitial neurofibrillary tangles of the lung's alveolar walls (and the virus might produce only an innocuous cold).

## CONCLUSION

the latest mutation of the SARS-Cov-2 virus and all other viruses can render the current vaccine partially ineffective because it is derived by and produced from the specific messenger alteration of the viral RNA structure.

Instead, and alternatively, new insights into the internal mechanism, evidenced by the possibility of electrical molecular interaction of CNTs with different molecular particles of Covid-19 and all other viruses spike proteins, might stimulate further studies in laboratories and lead to a very stable coronavirus vaccine.

The nervous pathway of contagion and body penetration *might also be the first way to have introduced the virus into the human body many months before the explosion of the Covid-19 pandemic.*

In addition, to add value to the scientific fight against the Coronavirus and all other viruses, we want to point out

the necessity for the World Health Organization to establish a unique and meticulous treatment protocol for all Nations to apply to all local hospital and specific environmental pandemic situations.

We hope additionally that the pulmonary anatomopathological data, together with the mathematical evaluations of coronavirus nanoparticles, can improve the possibility of studying the virus's activity on the body.

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