



# Covid-19: Reflections on the Pathology Caused by Coronavirus COVID-19

**Divocha VA\* and Gozhenko AI**

Odessa International Medical University, Odessa, Ukraine

**\*Corresponding author:** Divocha VA, Odessa International Medical University, Odessa, Ukraine; Email: divocha09@ukr.net

### Opinion

Volume 5 Issue 3

Received Date: August 03, 2020

Published Date: September 30, 2020

DOI: 10.23880/vvoa-16000144

## Opinion

### Etiology

- The virus does not have high virulence - infection occurs more slowly than with an influenza virus epidemic of various types;
- A long incubation period indicates low pathogenicity and a weak immune response;
- Severe viral pneumonia, which develops in 2-3% of cases and leads to mortality, suggests that in this case, the etiology develops according to the second mechanism, in which the interaction of the virus with the human body plays an important role, with most of the damage developing self-harming mechanism, according to our definition of immune rebound.

### Features of Pathogenesis

- The duration of the incubation period, in which the virus is already present in the body, its mass increases, but there are no clinical manifestations, due to the fact that the immune response is formed slowly. The data of Chinese doctors, if they have any, on the dynamics of the level of antibodies in the blood are very interesting;
- By the end of the incubation period, the mass of the virus increases, mainly (?) In the lungs, and by this time an immune response is formed:
- The interaction of antibodies (and possibly sensitized lymphocytes?) Is aimed at eliminating the virus (viral antigen) from the body;
- The antibody-antigen complex activates the complement system;
- damage to the lung tissue, where this interaction takes place, occurs by the mechanism of proteolysis (proteolysis enzymes compliment and leukocytes, the number of which increases due to chemo taxis (an

important role belongs to the complement system);

- The basement membranes of the capillaries are an important target of damage, which leads to the release of red blood cells into the alveoli;
- At the same time, free radical mechanisms are activated, as another of the damage factors;
- Respiratory failure, hypoxia develops.

### Pathogenesis Substantiation of Treatment Methods

- There is no vaccine and there is no possibility to form specific immunity yet.
- It is possible to increase nonspecific resistance to the virus, more precisely viruses, by using a proteolysis inhibitor and stimulating it.
- When infected, antibody production should be stimulated.
- Using proteolysis inhibitors (there are drugs), you can reduce the penetration of the virus into the cell.
- The blockade of virus replication in the cell, from fragmentary information coming from China, has been well recommended for dialogue and even statistics (information is needed).
- Block the exit of the virus from the cell - inhibitors neutralizers.
- Block the compliment system during the development and progression of pneumonic (specific inhibitors and non-specific).
- Antioxidant therapy.
- Anti-inflammatory therapy. The main drugs are glucocorticoids.

## Vaccines & Vaccination Open Access

- The fight against respiratory failure. It must be remembered that the oxygen used in hardware ventilation can increase lung damage by the mechanism of oxidative stress. Perhaps more appropriate may be

membrane oxygen generators.

- Improving the effectiveness of the treatment of viral pneumonia is possible only at the level of influence on the main pathogenesis mechanisms.

