Open letter to the Editor, Mini Review, Discussion

HELPING PATIENTS WITH COVID-19: PERSPECTIVES AND REALITY

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Abstract: The presented data of the mini-review strongly suggest that the role of the COVID-19 virus as the sole cause of the disaster is exaggerated and indicates the urgent need to revise the general system of views on the nature of acute pneumonia. The current pandemic cannot be explained solely by the sudden aggression of the virus itself. Continuing important and necessary research on ways to prevent the disease and the ability of the coronavirus to penetrate the body's tissues, doctors should not forget about the general mechanisms of the development of the pathological process.

Keywords: Acute Pneumonia, COVID-19, coronavirus, SARS, severe acute respiratory syndrome

Abbreviations: AP - acute pneumonia; COVID-19 – coronavirus disease; SARS - severe acute respiratory syndrome; MERS - Middle East respiratory syndrome.

INTRODUCTION The history of the COVID-19 pandemic is presented as a sudden and unexpected catastrophe, against which modern medicine does not yet have effective means, but their search and development are actively underway, so there are hope and confidence in success in the future. Such a legend is now widely spread not only in the media and among the population but also in medical circles. However, the facts point to several prerequisites for this event and refute the phenomenon of surprise. At the same time, targeted support for COVID-19 pneumonia patients, who continue to fill specialized wards worldwide, is focused on oxygen insufflation and assisted ventilation [1-6].

The current pandemic's viral etiology cannot be explained solely by the sudden aggression of the pathogen itself. Over the years, the steady increase in viral lung infections has been a concern for specialists, and the number of cases of viral pneumonia reported annually has reached 200 million [7-9]. This figure, which accounts for almost half of all acute pneumonia (AP) observations globally, is an order of magnitude higher than the total number of cases of COVID-19 pneumonia and the total number of infected people (!) the coronavirus during the period of the pandemic. Besides, medicine has already become familiar with the coronavirus, which has caused at least two major epidemics - severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS) [10]. The reason for the increased role and activity of viruses in AP's etiology, especially in the last couple of decades, may be the long-term use of antibiotics, which has led to a shift in the microcosm's proportions around us. Along with the already known side effects of antibiotics, this postulate should receive its scientific confirmation, but, regardless of these conclusions, the already observed etiological changes required timely adaptation of therapeutic approaches, right? This step was particularly important considering the established tradition of treating AP based on "antibiotics alone" and the increasing role of pathogens insensitive to this type of drug.

Today, it is no secret that drugs, as a good analog of antibiotics for bacterial forms of inflammation, for viral variants of pneumonia do not exist. On the one hand, this may be due to the difficulty of neutralizing viruses, which, unlike bacteria, enter the cell, which is an additional obstacle to direct contact with drugs. On the other hand, the existing attitude to antibiotics as an exclusive

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treatment reflects the depth of distortion of views on the problem and hinders its solution.

Contrary to the observed viral trends in AP's etiology, antibiotics continued to be seen as a "cornerstone" in treating this disease just before the pandemic [11, 12]. Moreover, the coronavirus's appearance on the scene had almost no effect on this therapy's assessment and attitude. Currently, up to 70-80 percent or more of patients with COVID-19 pneumonia receive antibiotics, despite the lack of sense in their use and the presence of co-infection only in some cases [13-15]. In the UK, a new group of coronavirus patients is usually included in the treatment program for community-acquired pneumonia [16]. A number of experts on the treatment of COVID-19 pneumonia insist on continuing the previous principles with antibiotics' leading role [17].

Let us be honest, what results can we expect from a treatment that, to put it mildly, does not fully meet the disease's characteristics? But this is just the tip of the iceberg. For many years, under the impression of antibiotics' action, the concept of AP has developed, in which the whole problem is considered in full dependence on the causative agent of the disease. This system of views, leaving aside the basic concepts of this pathology, automatically passes to a similar interpretation of coronavirus pneumonia. This explanation seems quite logical, given the contagiousness and rapid spread of the infection. But this is only at first glance, and if you consider it in more detail.

Today, everyone knows that the very fact of infection with coronavirus does not play a fatal role. Many infected people learn about this only through microbiological tests, and their body does not respond at all to an encounter with the virus. Among the sick, the main part copes with this problem independently, without any medical assistance. The pandemic problem's whole essence is concentrated in a relatively small group of patients who need hospitalization. The very fact of such separation in the conditions of infection with a single pathogen does not give grounds to consider the coronavirus as the only cause of the observed catastrophe. But so far, the causative agent of the current pandemic is considered at all levels as the main and only scarecrow of the whole problem, isn't it?

Perhaps the main reason for the perception of this situation as a disaster is medical care results in a group of hospitalized patients. Suppose modern medicine could quickly and effectively help these patients. In that case, it is unlikely that strict anti-epidemic measures and repeated quarantines would be required, which have not yet been able to stop the spread of infection.

First, today, patients with COVID-19 pneumonia are concentrated in specialized departments. It is unlikely that experienced specialists in this field of medicine could previously see such a huge concentration of severe respiratory catastrophe cases simultaneously. Working in such departments creates a unique and complex psychoemotional atmosphere [18-20].

Secondly, antibiotics have ceased to serve as a basis in AP's treatment, but the doctrine of the disease and treatment principles have remained the same. Having lost the ability to use means to neutralize the pathogen, medicine became confused.

Third, the idea of the pathogen's leading role supports the traditional inattention to cause-and-effect relationships in AP dynamics. For example, in diagnostics, the main importance is given to X-ray examination of the lungs, rather than microbiological studies. To assess the patient's condition, information about the degree of damage to the organ by the inflammatory process is more important than its etiology, is it right? However, the main goal of treatment, on the contrary, is focused on the etiology, and inflammation of the organ that violates its function is not considered as an object for "neutralization."

Even more paradoxical is the situation with the correction of hemodynamic disorders in patients with AP. Primary circulatory disorders in the small circulatory circle lead to compensatory shifts of peripheral parameters, which normally have opposite values with the vessels of the lungs. However, at present, despite this interdependence of the two circulatory systems, there is a widespread desire to normalize peripheral blood flow, rather than pulmonary.

Finally, to understand the degree of danger and aggressiveness of the current pandemic, it is necessary to compare its statistics with AP treatment indicators in recent years. For example, the total number of deaths worldwide from coronavirus is more than twice as low as in the recent past [7-9]. The most severe patients and the peak of mortality occur in intensive care units, the effectiveness of treatment has not changed with the development of the new situation. Thus, AP's mortality rate in these groups of patients shortly before the pandemic was the same 30-50% [21-25] as at present [26-29].

The change in the etiology of acute inflammatory lung lesions did not affect the interpretation of terminal conditions' causes. If earlier shock in patients with AP was considered septic, now the cause of such disorders is considered viral shock without any objective confirmation of this point of view and attempts to prove it [30].
Even a summary of the presented facts and biological patterns allows you to see the contours of a different view of the lungs' acute inflammatory processes. This information does not require additional argumentation, as it is based on the classical provisions of medical science related to inflammation and the features of the functional role of the lungs in the body. Ignoring the biological canons will not eliminate their influence on AP's dynamics but only distort the meaning and priority of therapeutic actions. The new AP doctrine was used in solving this problem to review treatment tactics in the context of a local epidemic of aggressive forms of the disease, which resembles the current situation. The new therapeutic tactic's clinical application was supplemented by objective evidence of its effectiveness and excellent results [31].

Statistics of the COVID-19 pandemic strongly suggest that the virus's role as the sole cause of the disaster is exaggerated and points to the urgent need to revise the system of views on the nature of AP. While continuing important and necessary research on ways to prevent the disease and the coronavirus's ability to penetrate the body's tissues, we should not forget about the general mechanisms of the development of the pathological process and our responsibility to help the body of patients adapt to this extreme situation. Ultimately, patients' fate in hospitals today depends on pathogenetic care now, not on the expected results of the development of etiotropic drugs in the future.

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