



## Acute Pneumonia in Modern Healthcare and in the History of Medicine

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### ABSTRACT

*Historical experience in any discipline is invaluable for its future, as the study of the results of previous practice allows you to use and develop on a new level previous successes and achievements, but at the same time avoid the mistakes of the past. Looking from these positions at the state of the problem of Acute Pneumonia (AP), it seems that this disease, which has more than two and a half thousand years of fame, does not have any worthy results of centuries of experience.*

*This is not just a Statement; it is a statement of fact. Today, when a large number of patients with coronavirus pneumonia appeared, it turned out that there is no reasonable treatment for this situation, and its search is conducted in a “combat situation” and actually from a “clean slate”. There is no doubt that many experts, after reading such an assessment, immediately parry it, saying that we are talking about a new pathogen, against which there are no specific means yet. But this is only a small part of the circumstances. The fact is that the usual scheme of fighting the pathogen, created over the past decades, has long turned into a leading didactic and practical dogma, replacing a logical scientific and clinically based program of medical care for a specific disease.*

**Keywords:** Acute pneumonia; Inflammatory; Antibiotic; Diseases; Pathogenetic effect

### INTRODUCTION

Many people still have a fresh memory of the standard treatment of AP, which in the literature was called “antibiotics alone”, and no one asked, much less initiated a discussion about why one antibiotic is the leading treatment for a completely diverse and incomparable in its clinical manifestations and characteristics of diseases, including AP. After all, such principles of treatment are incompatible with the basics and classical concepts of medicine. What stable and consistent results could be expected with such a selective approach to treatment and disregard for a number of fundamental scientific materials?

With the onset of the pandemic, the well-bred tradition of treating a long list of different diseases with a single pill clearly and unambiguously exposed the primitiveness of such a narrow strategy. Today, when the window is already the 21st century, a patient sent to the hospital with coronavirus pneumonia can only count on oxygen insufflation, and with the further development of the disease-on auxiliary ventilation of the lungs. Various medications are used in various variants and combinations, but so far without noticeable effect [1-4].

### ABOUT THE STUDY

Who can now reasonably and objectively explain the relentless persistence and genuine desire to suppress the causative agent of acute non-specific inflammatory processes, while the dynamics and features of the development of the disease itself have ceased to influence the choice of therapeutic methods of treatment? Try to compare the modern complex of treatment of severe patients with AP, diarrhea or peritonitis and you will not find a big difference in principle.

The search for a way out of this situation is traditional for the last decades, the ultimate goal of which is to study the properties of the pathogen and the ways of its pathogenic action [5-7]. The materials of such studies are undoubtedly necessary for understanding the root causes of the disease and ways to prevent it, but their results help to better understand first of all the features of the pathogen, and not the patient’s problems that arise during the development of the inflammatory process. If we try to draw analogies between ancient and modern medicine, the former will not even

be able to compete with modern health systems in terms of its cognitive, technical and other capabilities. However, in one comparative aspect, ancient medicine has, from my point of view, clear advantages.

In earlier times, medicine was not able to conduct research at the microscopic and molecular level, and the subject of observations and research were objects that do not require special equipment for study. Therefore, the patient as an object of observation was the main figure in the diagnostic and therapeutic process. The modern patient is mainly perceived as a combination and interaction of various cells, molecules and microscopic substances, and his condition is often evaluated from the position of a narrow professional specialization, when many phenomena and reactions that partially reflect the mechanism of the disease begin to seem leading and decisive.

Each new stage of the disease development begins to play a leading role in its manifestations. The presence of even the most dangerous bacteria or viruses in the body is not accompanied by an appropriate clinical picture until the pathogen overcomes the body's defenses and begins the inflammatory process. It is the latter that determines the clinic of the disease, depending on the location of the lesion. There is absolutely no need to prove that the symptoms of diarrhea or acute otitis are radically different from the symptoms of AP, since it is a violation of the function of various morphological structures. Moreover, the main criteria for the diagnosis of AP were determined and continue to be determined by the presence of inflammatory changes in the lung tissue, and not by bacteriological or virological studies. To make a diagnosis of AP, the doctor does not wait for the results of Microbiology, but requires an x-ray, right?

Regardless of whether we take this into account or not, the inflammatory process is necessarily accompanied by five classic signs (heat, pain, redness, swelling and loss of function), which were described many centuries ago by Celsus and Galen and are convincingly confirmed by all subsequent medical practice. The most significant of these signs that determine the clinic of a particular disease is a violation of function. In modern practice, AP is perceived as a respiratory disaster. However, one of the leading functions of the lungs is related to blood circulation and its regulation, and the violation of these parameters occurs first. For example, shortness of breath may occur in the presence of a small focus of inflammation in the lungs, when its appearance is difficult to explain by a critical decrease in the area of alveolar gas exchange.

In AP, a sudden violation of blood flow in the small circle of blood circulation, the pressure in which in normal conditions is several times lower than in the periphery, causes the body to reduce venous return, preventing the growth of pulmonary edema. It seems that ancient medicine understood the mechanism of such adaptation better than modern medicine. Lacking the means and capabilities to accurately and objectively measure and monitor patients with AP, old medicine has empirically found ways to help the patient's body even out emerging disorders. Of course, it was a hard experience of trial and error, which in itself took more than one life.

Today, this method of helping patients with AP, such as bloodletting, is no longer used, but in the past it was used quite widely [8]. The very principle of this procedure was to quickly reduce the volume of circulating blood and reduce its return to the small circle of blood circulation. The released blood was irretrievably lost to the patient's body. There were no strict rules for its implementation, which can be noted from the description of individual observations that have come down to our days.

For example, according to the narrative of the death of the first President of the United States of America, George Washington, his death was not without the influence of bloodletting [9]. Most likely, signs of a severe cold with fever, chest pain, and difficulty breathing could be associated with AP, but the exact diagnosis was never established. Within a short time, a Commission of invited doctors conducted bloodletting of more than half of the patient's circulating blood. Of course, this was done with the best of intentions; although at present even paramedics know that such a volume of blood loss is incompatible with life.

Approximately the same effect had the use of leeches, which did not have a strict accounting of the extracted and irretrievably lost blood for the body [10]. Currently, this method of treatment has also lost its former popularity.

Observations of patients with aggressive forms of AP allow us to note that in the case of successful adaptation of the body to the disease, compensatory reactions are aimed at internal redistribution of blood with its partial deposition [11]. Such methods of ancient medicine as cupping therapy and short-term cooling of the patient's body have a similar effect, which throughout their history were used only on the basis of empirical experience [12-14]. Modern

possibilities of medical research allow us to conduct an objective approbation of the procedures used and form a definite opinion about their actual effect and undoubted effectiveness [15-17].

Currently, cupping therapy and body cooling are widely used, but outside of therapeutic medicine. These treatments can be found among a list of services in various fitness clubs, sports and beauty centers and firms, and their benefits are mostly explained based on impressions, assumptions, and even ancient considerations. Today, such arguments are clearly not enough to convince us of the effectiveness of the procedures. Objective criteria are necessary to evaluate their effect, determine clear indications and contraindications to use. The current situation in which this experience of ancient medicine remains unclaimed, even without attempts to test its positive capabilities, looks completely illogical. This is all the more sad and unfortunate because the modern medical industry cannot offer any new methods for adapting functional disorders in the body of patients with AP.

It should only be noted that cryotherapy [14], which uses ultra-low temperatures, is a relatively recent invention with extreme effects, based on the ancient experience of cooling. In the old days, ice baths were used to reduce hyperthermia, as well as to facilitate the work of the lungs (as a result of spasm of peripheral vessels and moving part of the blood to the depot with a decrease in venous return). Currently, General hypothermia in patients is still used to perform a number of operations and treat terminal conditions, but it has a different rationale. Patients with aggressive forms of AP need more “soft” (as opposed to cryotherapy) cooling in cold or ice baths for several minutes under the supervision of vital signs monitoring.

Some of the ancient methods mentioned above were used by the author in the treatment of patients with AP, but their use was accompanied by objective tests and scientific justification of their pathogenetic effect [11]. Therefore, the stated point of view is a reflection of a fully conscious attitude to the therapeutic value of these procedures, which is based on objective criteria and final results.

The successful treatment results achieved by the author are not a guarantee or prerequisite for the widespread application of these therapeutic principles in modern daily practice, although they could help many patients today. There are at least two very serious obstacles without which it is impossible to hope to provide such assistance to patients in need. First, the psychological factor is caused by the perception of the pathogen as the main and only cause of the disease, which distorts the conceptual idea of AP without taking into account the important features of this localization of inflammation. It will not be easy to change the existing stereotypes that prevent us from correctly assessing the significance of pathogenetic treatment methods and their crucial role at certain stages of the disease development.

Secondly, modern health systems in each state have their own strictly defined rules, schemes and accepted methods of treatment. The use of methods that are not provided for in the state registers of medical care and do not have official permission to practice medicine cannot have a legal status, regardless of the effectiveness of these methods and the recommendations attached to them. This approach ensures that patients are protected from poorly understood methods and possible quackery. This is correct, logical and fair. However, in this situation, we are talking about methods that have long been known to medicine and have received objective confirmation of their effectiveness. Therefore, the process of their official inclusion in the complex of care for patients with AP may take much less time. In this situation, it is necessary to realize the importance of this step and a keen desire to see the real results of such care for patients.

### CONCLUSION

Ancient medicine achieved its goals by trial and error, gradually accumulating experience and analyzing ways to help. The centuries-old experience of using cupping therapy and cold baths, while maintaining their relevance to this day, is the best recommendation for modern medicine to pay due attention to them and conduct an impartial scientific study of their action. This is all the more important and necessary when the traditional capabilities of modern health systems cannot provide the necessary care for patients with aggressive AP development. Such methods of treatment should long ago be transferred from the category of so-called alternative medicine to the category of everyday and generally accepted. I am deeply convinced from my own experience that these methods are not an alternative, but an effective means of providing emergency care. The results of such assistance depend on its timely application, which is largely determined by a clear understanding of the pathogenesis, not the etiology of AP.

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