

Tablet against Pneumonia?

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Tablet against pneumonia does not really exist, and theoretically, it cannot be. However, hopes for the effectiveness of one of the universal remedy remain the main focus of the strategy and tactics in Acute Pneumonia (AP) for the past several decades. Antibiotics are considered such a panacea. Indeed, the discovery of antibiotics has been one of the most outstanding achievements of 20th century medicine. This fact cannot be doubted. Antibiotics remain the main mode of treatment of AP, despite reducing its effectiveness in comparison with the initial period of use. Just the final results of the treatment of AP in children suggest that the time has come to rethink the role and place of antibiotics in General complex medical care.

The essence of the existing dilemma is as follows: on the one hand, the “antibiotics alone” is enough for a large part of patients with AP and their bodies are themselves coping with the disease. On the other hand, in developed countries from 9.5% to 42% of patients with pneumonia are received in the hospital due to the ineffectiveness of primary treatment.¹ “Pneumonia is a leading cause of hospitalization among children in the United States, with medical costs estimated at almost \$1billion in 2009. Despite this large burden of disease, critical gaps remain in our knowledge about pneumonia in children”.²

“The rates of Parapneumonic effusion have been increasing in the USA and Europe over recent years,

and it is now encountered in approximately 40% of all patients with bacterial pneumonias”.³

“Pediatric pleural empyema has increased substantially over the past 20 years and reasons for this rise remain not fully explained”.⁴

“Pneumonia puts thousands of young children in the hospital each year at a cost in U.S. of about \$1billion, not to mention the suffering of kids and hardship for their families.”⁵

In adult patients, the results look in recent years even more pessimistic:

- Increased complications by 51%

- 2.6 million hospitalizations

The hospital read mission rate for pneumonia in the United States is 15.5%.

“Inpatient mortality rates are as high as 23% in North America. The associated costs of pneumonia in the United States exceed \$17 billion each year”.⁶

Note that the above results characterize the work of the best hospitals and health systems. So, what is the root of the problem? In medical practice the essence of any disease is determined by specific therapeutic actions. But in case of diagnosis of acute pneumonia one will not find specific features in medical prescriptions. At the pre-hospital stage doctors decide only two tasks: an empirical (without establishing the etiology) recommendation of antibiotic and decision regarding the place of treatment (at home or in hospital). In the case of admission to hospital the patient is starting to get a standard (for many other diseases) intensive therapy in the form of syndromic and symptomatic relief.

I am deeply convinced that a significant improvement in the results of the treatment of AP and economic benefits can be obtained without much effort. The bulk of this work has already been performed by the author of these lines and the results can be easily reproduced. It is only necessary to clarify some of the details of the problem, to understand the essence of my proposal.

Firstly, the etiology of AP is not a leading cause of their complications. Non-specific lung inflammation has never belonged to the category of infectious diseases. Pathogens of AP remain microorganisms that are part of the symbiotic flora of many healthy people.⁷

Secondly, antibiotics have affected the normal micro flora of the human body. The microbes, as biological objects, are able to develop resistance to antibiotics and therefore constant release of more effective medications is necessary. Today MRSA is often detected in healthy humans as a “shocking” representative of symbiotic micro flora”.⁸ Available data show that pneumococcal bacteria are resistant to one or more antibiotics in 30% of cases.⁹ Several antibiotic-resistant microorganisms are known to date, and the process of the emergence of new forms will continue as a response to increase antimicrobial drugs. In this process, the pharmacy cannot work ahead. However, focusing only on suppressing micro flora neglect other factors the dynamics of inflammation.

Thirdly, the unique role of the lungs in the body is well known, including non-respiratory functions. Also it is well known that the reaction of everyone to certain stimulus has individual character. Therefore, the speed of development of inflammation, the intensity of occurring disorders and the body’s ability to adapt have a huge range of options. Reflex influence of inflammation in the lung on the small circle of blood circulation causes the inevitable restructuring of the systemic circulation. The characteristics and course of action of therapeutic activities allow both inhibition of the inflammatory process and its stimulation. Therefore it is very important to have an understanding of the pathogenesis of the disease and the impact of medical procedures on its links. And should recognize the obvious fact that even more effective antibiotics will not guarantee the prevention of the complications of

AP. The key solution to this problem is hidden in the pathogenesis of the disease.

The essence of my proposal is quite simple; first of all it is necessary to change the view on the problem. Understanding the fundamental differences between AP from other inflammatory localizations will lead to the need for revision of medical care. New insight into the mechanisms of development of AP will dispel the illusion of a cure process with a single (etiotropic only) remedy. Therefore, the basis for future success in the treatment of AP can only be explanatory work through training programme. Plan of such a programme already exists and is waiting for its users and implementation.

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