

Opinion on Septic Complications of Acute Pneumonia

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Abstract

A new era within the treatment of acute respiratory disorder (AP) began with the introduction of antibiotics into practice. The primary successes of the employment of recent medicine were amid a gradual simplification of views on the character of AP with a stress on the characteristics of the microorganism and its suppression. An enormous layer of scientific materials that enable U.S. to know the options of the event and course of inflammatory processes within the lungs, remained unwanted. The focus on the etiology of the illness has semiconductor diode to a distorted read of its mechanisms and an exaggerated diagnosing of septic complications that don't have a reasoned confirmation. This pandemic with an outsized variety of COVID-19 respiratory disorder has radically modified the etiology of AP and disadvantaged sensible medication of typical treatment regimens. The unpreparedness of recent medication for such a challenge and therefore the preservation of the previous ideology of the illness is that the reason for a radical revision of the AP philosophical system.

INTRODUCTION

Bacterial infection and septic shock have for several years been thought of the foremost severe complications and therefore the main explanation for death in patients with acute respiratory disorder (AP). Over the past number of years, the number of patients with virus infection has redoubled dramatically, however the frequency of septic complications, presently of infective agent etiology, really remains an equivalent [1-3]. The simplicity of determinant the septic nature of those complications, that doesn't need microbiological confirmation, ought to raise doubts concerning the validity of such a press release, since the designation sets the direction of therapeutic efforts and determines the ultimate result.

In keeping with the recent classifications, the peculiarity of the body's reaction to the inflammatory method was thought of within the type of 3 main kinds of manifestation of its reactivity: hyperergic, normic. That is, the previous gradation divided one in every of the characteristics of inflammatory diseases into potential individual variants from cases with a comparatively slow and not continually noticeable course of the method to the foremost aggressive and lightning-fast forms.

Over an extended amount of antibiotic use, associate exaggerated plan has developed concerning the leading role of the microorganism within the severity of clinical manifestations of AP. Such associate interpretation of the illness clinic sets up beforehand the expectation of septic complications in such patients. Currently, the conception of clinical manifestations of AP relies on the general inflammatory response syndrome (SIRS), indicating its clinical and laboratory criteria [4-6].

Within the trendy interpretation, the conception of SIRS in AP combines the reactions of the body that don't have the character of maximum manifestations of the illness. At an equivalent time, low-symptomatic kinds of AP have really ceased to be allotted to a separate cluster, and it's a lot of severe manifestations, counting on clinical and laboratory changes, square measure presently thought to be infection or septic shock [4]. The designation of those complications in accordance with trendy recommendations doesn't need such a cardinal confirmation of their septic nature because the detection of the microorganism within the blood. It's shocking that the etiology of the illness, that sometimes occupies the most place within the descriptions of AP, loses its significance simply in those things once it becomes a lot

of vital criterion.

within the literature on this issue, solely isolated reports of microorganism kinds of AP may be found, within which the frequency of detection of bacterium within the blood of patients with this illness is merely from ten.7% to 12%, as well as not solely cases of infection and septic shock, however additionally pathology [7,8]. Even in patients with septic shock, the frequency of positive blood cultures is merely from thirteen.2% to 18%, and therefore the comparative mortality rates from this complication among patients with positive and negative tests don't have vital variations [9].

the most reason for the negative results of medical specialty blood tests in most patients with AP with infection and septic shock is explained by the impact of preliminary medicine medical aid. The self-contradictory nature of this conclusion is clear, since it seems that, on the one hand, antibiotics effectively destroy bacterium, but, on the opposite hand, they're powerless to stop the event of septic complications. This strange and illogical clarification might arise solely on the premise of the whole dependence of the ideas concerning the clinical manifestations of AP on the leading role of its microorganism.

the thought of the causes of the severity of clinical manifestations of AP ought to modification dramatically if we tend to keep in mind the elemental options of respiratory organ tissue harm. In trendy publications, the options of the mechanisms related inflammation within the lungs aren't given due attention, therefore, cases of infection and septic shock in patients with AP square measure analyzed within the general cluster of comparable complications in different diseases. the final material of the analysis of those complications sometimes includes info concerning diseases of assorted localization and cardinal variations in pathological process, wherever patients with respiratory organ tissue inflammation account for up to 40-50% [6]. the mix of diseases with diametrically opposite pathogenetic mechanisms may be a terribly serious idea concerning such analytical work.

Even terribly scant info on the subject coated, that is conferred higher than, provides reason for reflection and a radical analysis of the validity of existing ideas. Such associate examination won't bring full-fledged conclusions if we tend to ignore variety of basic foundations of the AP. 1st of all, it's necessary to recall the final mechanisms of inflammatory transformation of

tissues within the affected space.

there's no have to be compelled to prove the very fact that the premise of the pathological restructuring of tissue structures within the focus of acute inflammation is that the indispensable development of an identical reaction of blood vessels with a violation of blood flow in them and redoubled porosity of the walls. This transformation is additionally essentially during 5 classic signs of inflammation: heat, pain, redness, swelling and loss of operate. The last sign, a violation of the operate of the affected organ, plays a number one role within the clinical manifestations and options of the illness.

But, the most feature of the subject below discussion is that the undeniable fact that AP is that the solely inflammatory method that happens within the little circle of blood circulation, not like all different nosologies localized within the giant circle. The inverse proportion of the practical state between the two circulatory circles with their indivisible anatomical and practical association and reciprocity underlies the elemental variations between the pathological mechanisms of AP and inflammatory diseases of different localization. during this regard, the interpretation of the pathological process of AP by analogy with different kinds of acute inflammation will in no means have an equivalent situation. The assessment of the detected deviations of blood flow parameters ought to even have a unique interpretation.

The appearance of a spotlight of acute inflammation within the vessels of the little circle could be a disaster for the body and the cause that disrupts the balance between the 2 halves of the vascular system. The localization of this zone not solely creates a physical obstacle to the most blood flow, that is ejected by the correct half the center (Figure 1), however is also a supply of reflex spasm of the pulmonic vessels. The pressure within the vessels of the little circle begins to grow, and its turnout decreases. To correct this case and avoid operation of the circulatory system, that is incompatible with life, the body changes the parameters of the massive circle of blood circulation, reducing the pressure in it and increasing its volume for an abrupt "excess" of current blood (Schwiegk's reflex).

Autonomous regulation of blood circulation is one among the elemental materials of life science, and the delineated mechanism permits the body to avoid hemodynamic shifts within the AP that become incompatible with life. The additional aggressive the inflammatory method develops, the less time the body needs to adapt, and the

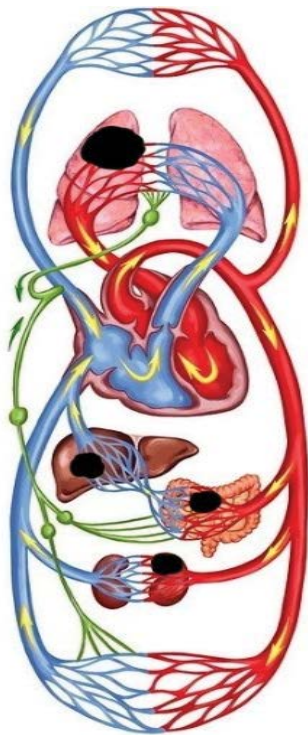


Figure 1. Schematic representation of the human circulatory system. The comparative value of foci of acute inflammation (black fields) for different organs and blood flow volumes, depending on the possible localization.

additional serious deviations area unit determined as a result. In such things, the hyperergic reaction of the body to an abrupt drawback has long been thought about as infection, though no proof of the generalization of the infectious onset is given. within the most important things, secondary changes in peripheral hemodynamics totally correspond to the definition of shock, the origin of that is related to injury to the pulmonic vessels and also the body's arrange to restore the proportions between the 2 circles of blood circulation and also the synchrony of their work. This variant of shock isn't caused by a septic issue, and it'd be additional correct to designate it as a pulmonal shock.

Incorrect interpretation of the explanation for severe AP will increase the concentration of attention on the etiology of the method in several cases while not specifying a selected microorganism and leaves aside truth causes and mechanisms of essential things. These misconceptions area unit any concentrated as a result of existing approaches to assessing the condition of patients. The lesion of the vessels of the little circle is an imperative result of inflammation of the respiratory

organ tissue and also the supply of the ensuing catastrophe of blood circulation. However, the thought of the septic nature of generalized circulatory disorders involves diagnosing, interpretation and their resultant correction supported the parameters of peripheral blood flow. These principles, that area unit quite acceptable in different localities of the first focus of inflammation, have the other which means in patients with AP, once shifts in peripheral blood circulation area unit secondary and additional replicate the difference method, instead of the initial manifestations of the unwellness.

The inverse relationship of pressure level indicators within the little and enormous circles of blood circulation is standard, however the importance and role of this development within the pathological process of AP isn't even mentioned these days. Fashionable recommendations and protocols for the diagnosing and treatment of AP complications area unit targeted on the leading role of etiology within the development and course of the unwellness. The cause and the starting of this pathology are considered to be its motive agent, and also the any dynamics of the method and its consequences area unit determined as a result of the aggressive properties of this cause. the prevailing principles permit US to wide use such diagnoses as "sepsis" and "septic shock", while not resorting to medical specialty confirmation of those complications. The inviolability of this idea continues to unfold these days to COVID-19 respiratory illness. The severity of this way of the unwellness is explained by the event of infective agent infection and infective agent shock, that area unit thought-about as causes solely by analogy with the prevailing thought of AP, with nonobjective proof [1-3].

Widespread fashionable concepts regarding the character of AP began to create when the introduction of antibiotics into practice. for several years, the treatment of this class of patients was outlined as "antibiotics alone", making a halo of the most drawback of the unwellness around its microorganism. the will to suppress the most explanation for AP has narrowed and simplified the overall read of the matter, deed an enormous layer of scientific materials unwanted. Over the years, the etiotropic principle of AP treatment has become Associate in Nursing endless explore for a "pill for pneumonia", and most of the discussions on this drawback are dedicated to finding, testing and examination medicine that would act against the microorganism or its individual aggressive functions.

though the action of antibiotics is aimed solely at suppressing microorganism pathogens and doesn't directly influence broken tissues, they need been thought-about for several decades and still be thought-about because the main treatment for acute inflammation within the lungs. The elimination of the inflammatory transformation of the organ and, most significantly, the restoration of its impaired operate with such principles of treatment truly falls entirely on the counteractive and adaptative systems of the body. further medical aid, that became additional and additional necessary over the years, was symptomatic, not pathogenetic. during this regard, the shortcomings of the prevailing thought of AP and the principles of its complicated treatment have recently become obvious.

In the current SARS-CoV-2 pandemic, once one agent spreads, there's AN infinite vary of clinical variants of infection, the variety of which might now not be explained, as before, solely by the distinction in pathogens. The priority of antibiotics has additionally become immaterial within the treatment of CAVID-19 respiratory disorder, however constant replacement for this etiotropic medical aid is being intensively hunted for within the hope of making a replacement "pill for pneumonia". And whereas such a remedy has not been found, the truth of current events doesn't provide grounds to speak a few ruinous increases in mortality in coronavirus respiratory disorder. per objective statistics, this indicator remains at an equivalent figure because the death rate of recent years from microorganism varieties of AP [6]. the rationale for the identity of those indicators cannot go neglected, and its clarification needs an unbiased analysis, since antecedently it absolutely was believed that patients with AP treated at the utmost attainable level, and currently we have a tendency to talking solely concerning auxiliary ways.

The facts of today's reality not solely mirror the unpreparedness of recent medication for the new options of the event of AP. The illusions concerning the catholicity and exceptional importance of antibiotics for the treatment method were destroyed by the counter-resistance of the microflora close U.S.A. The negative biological consequences of prolonged bactericide medical aid have long been AN unquestionable truth and renowned. However, in recent years, another consequence of the sympathies and preferences of stencils for this kind of medical aid has become progressively obvious. The instinctively established priority of antibiotics over

alternative ways of AP treatment diode to a negative informative impact, that distorted concepts concerning the character of the illness. These views dominate nowadays and, contrary to the fundamental medical and biological canons, accepted because the official truth within the last instance.

The latter circumstance is that the main obstacle to finding the AP downside, distorting the understanding of the essence of the tasks and shifting the stress once decisive the goal and ways in which to attain it. within the context of the subject beneath discussion, any hunt for best solutions to the matter of AP needs recognition of existing abstract misconceptions and a radical revision of the philosophical system of the illness. This report is devoted solely to the causes of excessive identification of septic complications and is barely one in all the distorted links within the general system of views on the character and mechanisms of the illness. A broader argumentation of the AP philosophical system, tailored to the fundamental materials of bioscience, is found in printed books that contain not solely the theoretical idea, however additionally the results of its undefeated clinical testing.

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