

Severe community-acquired pneumonia: principles of diagnostics and intensive therapy

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Conflict of interest: none

BACKGROUND. Pneumonia is an important medical and social problem due to its high prevalence, high rates of disability and mortality, and significant economic losses due to this disease. In Ukraine in 2017, the incidence of pneumonia among adults was 384.0 cases per 100,000 population, and the mortality rate was 11.7 per 100,000 population, i. e. more than 3 % of those who had pneumonia died. Community-acquired pneumonia (CAP) is the leading cause of morbidity and mortality from pneumonia among all age groups worldwide: 3-4 million people suffer from CAP with high morbidity and mortality.

OBJECTIVE. To analyze the pathogenesis, diagnosis, and treatment of severe CAP from the modern literature data to optimize the treatment of this group of patients.

АКТУАЛЬНІ ПРОБЛЕМИ: ОГЛЯД ЛІТЕРАТУРИ

MATERIALS AND METHODS. Bibliosemantic, comparative, and system analysis methods were used. The proposed recommendations are based on the analysis of modern literature, the results of randomized studies, and meta-analyses devoted to the investigation of the problem of diagnosis and management of severe CAP.

RESULTS AND DISCUSSION. The problems of pathogenesis, diagnosis, and treatment of severe CAP were analyzed using modern literature data to optimize the treatment of this group of patients. CAP can be caused by various pathogens, such as *Streptococcus pneumoniae*, *Haemophilus influenzae*, atypical bacteria (eg, *Chlamydia pneumoniae*, *Mycoplasma pneumoniae*, *Legionella species*), and viruses. It is quite difficult to establish the etiology of pneumonia even with the use of modern microbiological technologies, therefore, in many countries of the world, a classification is used that takes into account the conditions of the occurrence of the disease, the features of the infection of the lung tissue, as well as the immune reactivity of the patient's organism. This classification makes it possible to predict the probable causative agent of the disease with a fairly high degree of probability. The diagnosis of CAP is considered established in the presence of radiologically confirmed focal infiltration of lung tissue and at least two of the following clinical signs: acute onset of the disease with a body temperature >38 °C, cough with sputum, physical signs (muffled or dull percussion sound, weakened and/or harsh bronchial breathing, a focus of sonorous small vesicular rales and/or crepitations), leukocytosis ($>10 \times 10^9/L$), and/or shift to rod nuclear cells (>10 % of them). The severity of CAP is assessed clinically, as well as using the criteria given in the scales to determine the need for the patient to be hospitalized or admitted to the intensive care unit (ICU). Patients with CAP requiring mechanical ventilation or with septic shock should be admitted to the ICU.

CONCLUSIONS. Severe CAP is associated with high morbidity and mortality, and although there are European and non-European guidelines for CAP, there are no specific guidelines for severe CAP. These international guidelines from ERS, ESICM, ESCMID, and ALAT present evidence-based clinical recommendations for the diagnosis, empiric treatment, and antibiotic therapy of severe CAP according to the GRADE approach. In addition, existing knowledge gaps were identified and recommendations for future research were provided.

KEY WORDS: severe community-acquired pneumonia, diagnosis and intensive care.
