

Prediction Of Long-Term Results Of Out-Of-Community-Acquired Pneumonia Depending On The Course Of The Disease

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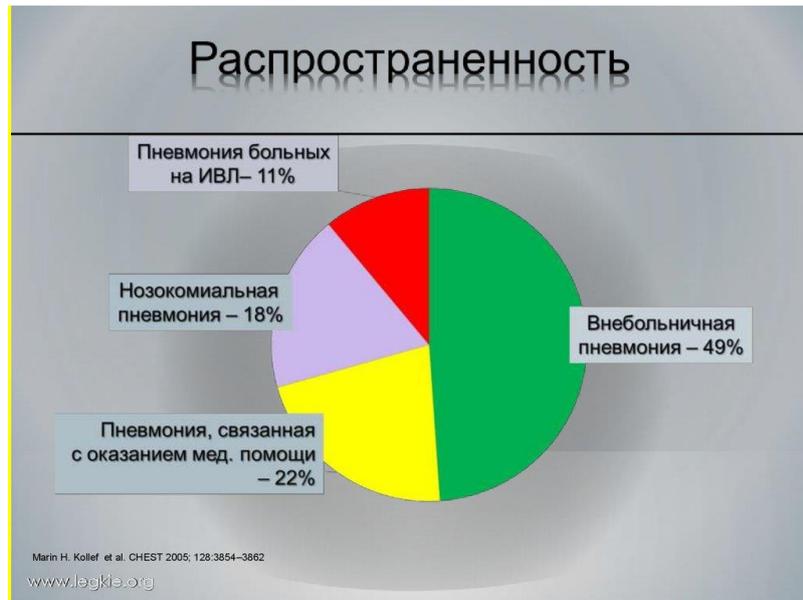
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Abstract: Pneumonia is a disease that has an acute course and is characterized by an infectious and inflammatory lesion of the lungs. The high level of one-stage morbidity of community-acquired pneumonia, mainly in the variant of severe and life-threatening course in combination with concomitant pathology (75.4%), causes significant damage to the health of the population and deaths are observed in 6.7%. The problem of manifestations of long-term results of pneumonia is becoming increasingly relevant today in connection with the sharply increased rate and intensity of working activity of people, improving the quality of work, as well as environmental pollution and concomitant pathology also leaves its mark on human health. In case of community-acquired pneumonia, the concomitant pathology will influence the long-term results, further observation of these patients will show for 2, 3 years, depending on the severity of the course.

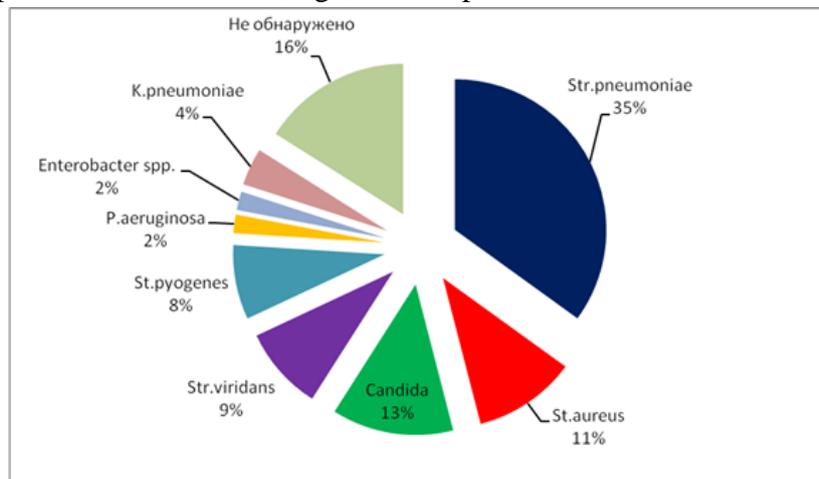
Key words: Community-acquired pneumonia, long-term results, course, complications.

1. INTRODUCTION

Community-acquired pneumonia is an acute illness that arose in an out-of-hospital setting (outside the hospital, or diagnosed in the first 48 hours after hospitalization, or developed in patients who were not in long-term medical observation units for 14 days more) and accompanied by symptoms of lower respiratory tract infection (fever, cough, sputum, possibly purulent, chest pain, shortness of breath) and radiographic signs of "fresh" focal-infiltrative changes in the lungs, in the absence of an obvious diagnostic alternative.



In most developed countries, the mortality rate for pneumonia is 50-60: 100 thousand people. We can say that these data appear to be underestimated, since pneumonia is not one of the diseases subject to mandatory registration. The course, severity and prognosis of community-acquired pneumonia depend on many factors, including the severity of the disease, the prevalence of pneumonic infiltration, age, and the presence of comorbidities.



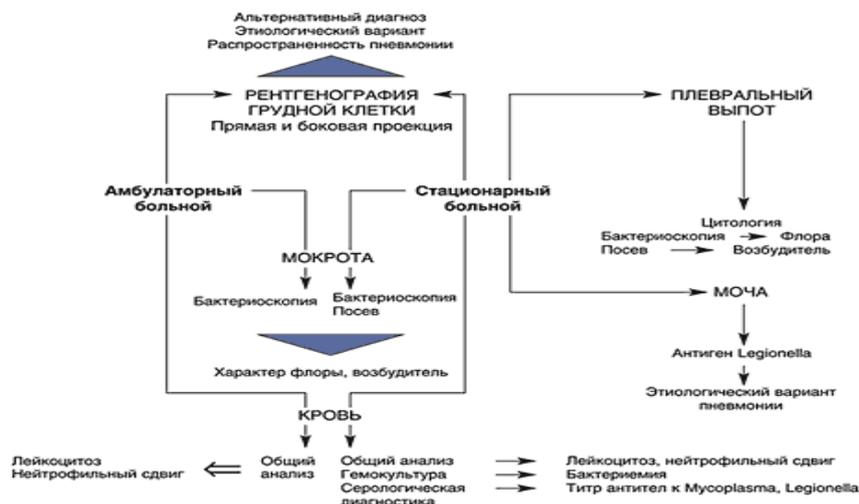
The frequency of hospitalization of patients with community-acquired pneumonia largely depends on the organization of the healthcare system and the preferences of the doctor, ranging from 15 to 42%. The general trend is the physician's overestimation of the risk of death from community-acquired pneumonia and hospitalization of patients with minimal risk. In those cases, when hospitalization of a patient with community-acquired pneumonia is justified from a medical point of view, the expected mortality rates range from 4 to 37% (in older age groups). Taking into account the described features of the pathogenesis of community-acquired pneumonia, it is obvious that its etiology in the overwhelming majority of cases is associated with the microflora of the upper respiratory tract, the composition of which depends on the external environment, the patient's age, general health and concomitant pathology. The classical objective signs of community-acquired pneumonia are shortening

(dullness) of percussion sound over the affected area of the lung, locally audible bronchial breathing, focus of sonorous small-bubble wheezing or crepitus, increased bronchophony and vocal tremor. However, in some patients, objective signs of community-acquired pneumonia may differ from typical ones or be absent altogether, especially if the disease proceeds against the background of concomitant pathology - diabetes mellitus or anemia (in about 20%). CBC data do not allow one to speak about the potential causative agent of community-acquired pneumonia, but they can tell about the severity of community-acquired pneumonia. A high level of one-stage morbidity of community-acquired pneumonia, mainly in the variant of severe and life-threatening course in combination with concomitant pathology (75.4%), deaths (6.7%), causing significant damage to public health. The problem of manifestations of long-term results of pneumonia is becoming increasingly important today due to the sharply increased rate and intensity of working activity of people, improving the quality of work, as well as environmental pollution and concomitant pathology also leaves its mark on human health. Community-acquired pneumonia is one of the most common infectious diseases in developed countries. According to the results of a number of foreign studies, the incidence of community-acquired pneumonia, depending on age, varies from 1 to 44 ‰ and is highest in people of older age groups. The severity of the course of pneumonia is mainly determined by the clinical condition of the patient and changes in the general blood test - this is leukocytosis, accelerated erythrocyte sedimentation rate. [1. from. 490-492].

Pneumonia is a disease that has an acute course and is characterized by infectious and inflammatory lesions of the lungs. At the same time, all structural elements of the lung tissue (alveoli, interstitial lung tissue) are involved in the process. Inflammation of the lungs is one of the most common respiratory diseases. Studies show that out of a population of 100,000, about 400 people suffer from it. To diagnose pneumonia based on the identification of elementary and at the same time informative indicators, which are called the "gold standard". In addition to external examination, laboratory tests are needed to establish an accurate diagnosis. Tests include a general and biochemical analysis of blood, urine and sputum culture for pneumonia. The most significant type of research is considered a complete blood count. In some cases, with such inflammation, blood tests are within normal limits, such indicators indicate a weakened immune system. The second important indicator of the state of the blood, indicating the presence of inflammatory pathology in the lungs, is the erythrocyte sedimentation rate. In elderly patients, the maximum allowable indicator is 20-30. Erythrocyte sedimentation rate. exceeds normal values. Erythrocyte sedimentation rate. reflects the intensity of inflammatory processes, including pneumonia.

When pneumonia erythrocyte sedimentation rate. exceeds 30mm / h. [2. from. 251-252]. The main factors that determine the risk of development and prognosis for CAP are advanced age, smoking status, taking certain medications, and concomitant diseases. One of the leading risk factors for the severity of the course and unfavorable outcome of community-acquired pneumonia is concomitant cardiac pathology. This combination is an extremely unfavorable factor, mutually aggravating the course of both diseases, especially in patients of older age groups. The presence of circulatory failure is an independent predictor of death in community-acquired pneumonia. Chronic heart failure is included in the PORT scale (Pneumonia Outcomes Research Team), which is used to assess the risk class and prognosis of community-acquired pneumonia, as well as to choose the place of treatment for the patient

(outpatient or inpatient) [3. from. 258-263]. Up to 30% of patients with diagnosed community-acquired pneumonia suffer from anemia, which affects the poor prognosis, increasing mortality among such patients. The frequency of anemia in patients with community-acquired pneumonia is a topical issue, and today there is little data to judge its true prevalence.



Алгоритм оценки риска неблагоприятного исхода и выбора места лечения ВП (шкала CRB-65)



Рис. 3. Использование шкалы CRB-65 для выбора места лечения при ВП

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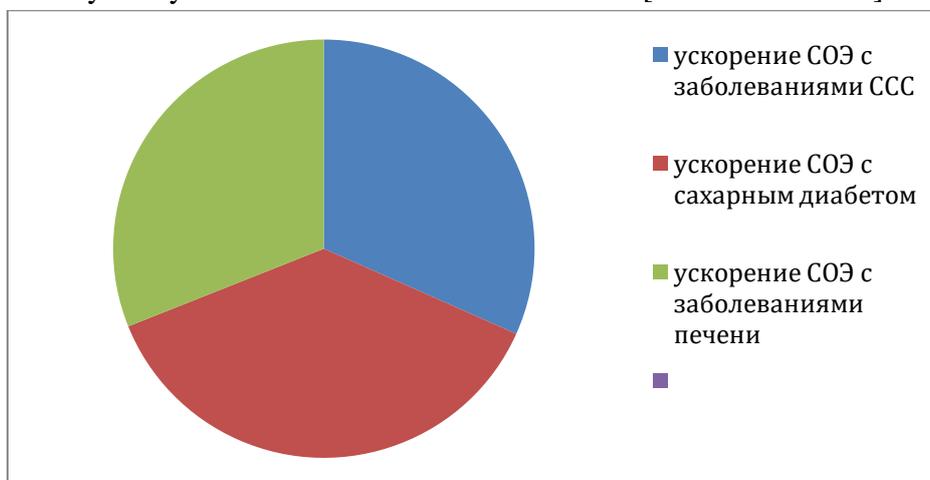
The mechanisms of anemia development in chronic diseases are known and described in many scientific publications [15, 16]. Anemia that occurs in patients with community-acquired pneumonia, ie, with an acute infectious process, is called inflammatory anemia [17, 18]. The study of its pathogenetic features was started relatively recently, and the disclosure of the mechanisms of its development is an urgent issue. [4. from. 488-489].

2. MATERIALS AND METHODS.

We examined 50 patients aged 21-90 years with a diagnosis of community-acquired pneumonia, varying degrees of severity, various concomitant pathologies. All patients were hospitalized in the pulmonology department of the City Medical Association No. 1, Samarkand. The patients were examined according to the standard: complete blood count, urine analysis, electrocardiography, X-ray examination, sputum analysis. Among the examined 90% of patients were with pathologies from the cardiovascular system, with sugar diabetes in 10% of patients, with liver diseases in 8% of patients, with anemia in 52% of patients. Among the patients, in 55.5% of cases there were patients with anemia of varying severity. These patients were taken under control for further observation of them - within 1 year, 2 years and 3 years. He created an individual observation card, which reflected the course of the disease and the results of laboratory and instrumental examinations.

3. RESULTS

According to the results of the study, the severity of pneumonia with concomitant pathology was assessed in patients by the severity of the accelerated erythrocyte sedimentation rate. Among patients with community-acquired pneumonia with concomitant pathology of the cardiovascular system, 51% had an accelerated erythrocyte sedimentation rate, among patients with concomitant diabetes mellitus, an accelerated erythrocyte sedimentation rate up to 70 mm / h, 60% of patients had an accelerated ESR, with liver diseases in 50% of patients an accelerated erythrocyte sedimentation rate was observed [1. from. 490-492].



In group 1, 75% of patients had an accelerated erythrocyte sedimentation rate - up to 62 mm / hour. In group 2, this figure was 63% - Erythrocyte sedimentation rate up to 70 mm / h. In both groups, an increase in the number of leukocytes was not observed. [2. from. 251-252]. Results and its discussion. Management of elderly and senile patients with pneumonia in almost all cases has its own characteristics, and therefore it is justified to refer these patients to the category of difficult patients. The main difficulties in managing this category of patients arise already at the stage of diagnosis (atypical course, extrapulmonary symptoms, etc.) and persist during treatment (choice of an antibiotic, assessment of efficacy, correction of comorbid conditions). Severe concomitant (background) pathology is an unfavorable factor that aggravates the prognosis of the disease, as well as the development of complications, protracted and severe course. In addition, the presence of concomitant cardiac

pathology creates certain difficulties and can become a source of errors in the treatment of the disease. As you can see, it is positioned as a pathological condition comorbid with Chronic Heart Failure syndrome, which increases the likelihood of hospitalization. Our research shows that cardiac problems in elderly patients with community-acquired pneumonia are more urgent and more severe. Thus, the difficulties in verifying community-acquired pneumonia in elderly and senile patients with cardiac pathology may be associated with both overdiagnosis due to the atypical clinical picture of the underlying disease. [3. from. 258-263].

4. CONCLUSIONS

From a practical standpoint, it is advisable to distinguish groups of patients with community-acquired pneumonia, taking into account age, concomitant pathology and severity of the disease. Between these groups, differences can be observed not only in the etiological structure, but also in the prognosis of the disease. The division of patients with community-acquired pneumonia into outpatient (those who can be treated in an outpatient setting) and inpatient (those who, due to the severity of the underlying disease or social conditions, need hospitalization) is fundamentally important. According to the results of the study, more than 50% with concomitant pathology was observed to have accelerated erythrocyte sedimentation rate. In the literature, data on an increase in the erythrocyte sedimentation rate in patients with community-acquired pneumonia in the average percentage are not given. When treating patients with community-acquired pneumonia, it is advisable to take into account the concomitant pathology, since this affects the severity of the course of the disease, distant manifestations and the prognosis depends on this. [1. from. 490-492]. However, you should be aware that in the presence of some concomitant pathologies, for example, with an increase in the viscosity and thickening of the blood composition, the erythrocyte sedimentation rate with obvious signs and radiographically confirmed pneumonia will remain normal. During the recovery period, blood counts normalize gradually. The erythrocyte sedimentation rate remains elevated for some time, which may indicate the presence of antibodies in the body that form immunity. Our studies show once again that the body of elderly people with weakened immunity often does not respond by accelerating the rate of erythrocyte sedimentation to the inflammatory process. Moreover, these patients also need full-fledged treatment, since their pneumonia can often become complicated, give long-term results, or even end in death. [2. from. 251-252].

There are no specially developed standards for the treatment of community-acquired pneumonia in elderly patients with various comorbidities. According to clinical guidelines, the management tactics for this category of patients does not fundamentally differ from that in younger people. The emphasis on cardiac pathology in elderly patients with community-acquired pneumonia makes it possible to improve the quality of life of patients and to optimally select the appropriate treatment. [3. from. 258-263]. In patients with community-acquired pneumonia, complicated by anemia, the course and outcome of pneumonia are more unfavorable. There is an opinion that the anemias accompanying pneumonia do not need correction, as community-acquired pneumonia resolves, they are eliminated on their own and require only adequate antibiotic therapy of the underlying disease. This is probably true for mild to moderate pneumonia. As for anemias in severe destructive pneumonia, as well as in

community-acquired pneumonia against the background of Chronic Obstructive Pulmonary Disease, chronic heart failure or chronic kidney disease, such anemias are usually persistent, worsen the prognosis and require immediate hospital treatment. Correction of anemia in patients with community-acquired pneumonia, in turn, will improve the prognosis.

5. CONCLUSION

In case of community-acquired pneumonia, the concomitant pathology will influence the long-term results, further observation of these patients will show for 2, 3 years, depending on the severity of the course. For example, anemia makes a negative contribution to the development of community-acquired pneumonia, making it worse and leading to an unfavorable outcome. Timely identified and corrected anemia in patients with community-acquired pneumonia will reduce the number of adverse outcomes and significantly improve the prognosis. [4. from. 488-489].

The development of recommendations for the observation of these patients to determine the prognosis after suffering the disease for 1, 2, 3 years, will provide practical help to reduce the severe long-term results of the transferred community-acquired pneumonia.

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