IDENTIFICATION OF CARDIAC DEFECTS IN YOUNG CHILDREN WITH PNEUMONIA

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Abstract. Despite the absolute success in the diagnosis and treatment of nosocomial pneumonia, their course and prognosis are different. They depend on the etiology of the pathogen, the timeliness of diagnosis, the correctness of the initial antimicrobial therapy, and the severity of the comorbid pathology.

Keywords. prognosis are different, Hospital pneumonia, patient,

Hospital pneumonia develops in 2% of patients on inpatient treatment, in the burn unit, in the intensive care unit and in the intensive care unit 5-10%, (1), mortality, even with rational antibiotic therapy, reaches 30-70% (1 -2,4-6), approaching the lethality of a severe oncological patient (3). Until now, the features of the course, the outcomes of pneumonia in palliative patients have not been clarified, which leads to further study of this problem.

Purpose of the study: To study the features of the course, the prognosis of community-acquired pneumonia in palliative patients.

Criteria for inclusion in the study:

1. Adult patients of both sexes from 15 to 70 years old.
2. The timing of the development of the disease within 48 hours after hospitalization in a hospital or within 5 days after transfer from another hospital.
3. Having clinical signs of pneumonia (fever, symptoms of intoxication, cough, sputum production, shortness of breath, physical data: shortening of percussion sound, weakened (bronchial) breathing, moist rales over the affected area).
4. A proven diagnosis of pneumonia during X-ray examination (the appearance of fresh focal or infiltrative changes), with the exclusion of other causes of their occurrence.

Exclusion Criteria:

1. A history of one of the listed diseases (bronchiectasis, interstitial disease), respiratory tuberculosis, oncological diseases of any localization).
2. Patients with uncontrolled cardiovascular, hematological, renal, neurological, endocrine diseases) or other conditions that may affect the interpretation of the results of the study.
3. Having an exacerbation of any chronic disease (chronic tonsillitis, chronic hepatitis, chronic pyelonephritis, etc.), which, in the opinion of the clinician, can distort the results of the study.
4. Fungal diseases of the lungs.
5. Thromboembolism of small branches of the pulmonary artery.
6. Unexplained focal or infiltrative changes at the time of inclusion in the study.
7. Febrile conditions, the genesis of which is not specified at the time of screening.

Research methods: clinical and biochemical blood tests, microscopy of sputum with Gram stain, cultural examination of sputum with its inoculation on the flora

Research methods: clinical and biochemical blood tests, sputum microscopy with Gram-staining, culture of sputum with culture of sputum on the flora, X-ray of the chest organs, high-resolution computed tomography of the chest organs. The PORT scale (Pneumonia Outcomes Research Team) was used to assess the severity and prognosis of pneumonia. During statistical processing of the material, a check was made for the normality of the distribution of groups (Litvin's method). Student's t-test was used to compare mean values and identify statistical differences between samples. A three-point rating scale was used to interpret clinical symptoms and auscultatory signs.

Assessment of the severity of symptoms in points:

1. Shortness of breath: 0 points - no symptom, 1 point - minimal manifestation of a sign that does not limit activity, 2 points - a pronounced manifestation of a sign that limits activity, 3 points - a symptom sharply limits activity.

2. Cough: 0 points - no symptom, 1 point - only in the morning, 2 points - rare episodes (2-3) during the day, 3 points - frequent episodes (more than 3 times) during the day.

3. Dry wheezing: 0 points - no symptom, 1 point - single, disappearing when coughing, 2 points - single, constant, 3 points - multiple, constant.

4. Moist rales: 0 - no symptom, 1 single, not disappearing with coughing, 2 - a small number in the subscapularis, permanent, 3 - a significant number in the subscapularis, permanent.

5. The amount of sputum discharge: 0 points - no symptom, 1 point - a scant amount, not a constant symptom, 2 points - a scant amount, constantly, 3 points - a moderate amount (up to 50 ml) during the day.

6. Expiratory dyspnea: 0 points - no symptoms, 1 point - sometimes, 1 time in two - three days, 2 points - 1 time per week, 3 points - daily.

7. Bedsores: 1st degree: hyperemia (cyanosis) of the skin without violating their integrity, 2nd degree - superficial wound with damage to the epidermis, 3rd degree - damage to the dermis and subcutaneous fat without damage to the fascia and tendons, 4th degree - extensive and deep damage to the skin with the capture of tendons and muscles.

8. Pain in the chest (thoracalgia): 0 - no symptom, 1 - moderate severity of the symptom, 2 - its average severity, 3 - severe symptom.

The study included 51 patients with nosocomial pneumonia. The patients were divided into two groups: the first (main) group consisted of 22 palliative patients (12 men, 10 women, mean age 62.6 ± 0.4 years) treated at the Center for Palliative Medicine in Bukhara, the second (comparison group) consisted of 29 patients with respiratory diseases (15 men, 14 women, mean age 58.7 ± 1.2 years) treated in the pulmonology department of the Central Tuberculosis Medical Sciences.

Results and discussion. The characteristics of the clinical symptoms of the studied patients are presented in Table No. 1. This summary table reflects respiratory symptoms (cough, shortness of breath, sputum production, thoracalgia), hemodynamic parameters, changes in consciousness, pulse-oximetry data, trophic changes in soft tissues (bedsores), the timing of the development of nosocomial pneumonia, the nature of concomitant pathology.

As can be seen from Table 1, pneumonia developed on the third day in

pulmonological patients and on the fifth day of hospitalization in palliative patients. In palliative patients, there were no respiratory symptoms before admission to the hospital; they developed with the addition of pneumonia. The reason for hospitalization was social reasons - the provision of extraneous care due to prolonged immobilization against the background of a fracture of the pelvic bones and lower extremities, other aggravating diseases: coronary heart disease, arterial hypertension, the consequences of acute cerebrovascular accident, dyscirculatory encephalopathy. The severity of the condition of these patients at the time of admission to the hospital was assessed as severe or moderate, all patients, except for pneumonia, had concomitant diseases.

The referral diagnoses of patients of the second group were exacerbation of chronic pulmonary diseases (chronic obstructive pulmonary disease, bronchial asthma), examination of febrile conditions, exclusion of a recurrence of the tuberculosis process, and clarification of the diagnosis of respiratory pathology. Their condition was regarded as satisfactory in 11 patients (37.9%), in 11 patients it was interpreted as moderate, 58.2% of patients had concomitant diseases.

Hospital pneumonia in palliative patients develops later and is more severe: it is accompanied by febrile fever, more pronounced symptoms of intoxication, the development of hypoxemia, a tendency to tachycardia and hypotension, and more pronounced respiratory symptoms. For two of them (cough, sputum) a statistically significant difference was achieved, for others (dyspnea, expiratory dyspnea) this significance was not, but the general trend of greater intensity of symptoms in palliative patients can be traced in these cases.

Indicators of laboratory research are presented in table No. 1.

Table 1

Characteristics of laboratory parameters of patients with pneumonia

Laboratory display	Palliativepatients, n = 22	Patients with respiratory pathology, n = 29
Tel	14,9±1,3	12,1±0,2
Leukocytes*109	5,2±0,8	8,4±0,2
P / nuclear,%	50,3±1,7	54,2±3,3
C/nuclear,%	8,4±0,6	12,2±0,4
Monocytes,%	11,9±1,3	22,8±1,7
Lymphocytes, %	31,8±1,8	26,8±0,4
ESR, mm/h	54,9±2,8	70,7±2,5
Total protein, g/l	4,5±0,4	4,8±0,5
Urea, mmol/l	86,2±4,7	83,4±3,3
Creatinine, µmol/l	2,14±0,1	2,28±0,1
K, mmol/l	137,5±0,2	144,4±0,3
Na, mmol/l	21,5±3,2	22,7±2,6
Bilirubin, µmol/l	44,5±2,8	42,1±0,7
ALT, units/l	43,8±1,6	40,5±2,3
AST, units/l	deny	deny
Hemoculture	Consistency - mucopurulent - 19 patients - 86.3%: (Leukocytes - 75.8%, alveolar macrophages, epithelial cells - a significant number).	Consistency - mucous - 12 patients - 41.3% (alveolar macrophages, epithelial cells - means number, leukocytes - 66.6%; consistency - mucopurulent - 14 patients - 48.3%, L - 78.3% , alveolar macrophages, epithelial cells - a moderate amount
Sputumculture	Streptococcus pneumoniae - 45%, Haemophylus influenzae - 4.5%, Echerichia coli - 4.5%, Serratia marcesans 9%, Enrerocacteriae - 4.5%, Association of microorganisms (gram + and	Streptococcus pneumoniae - 18 patients - 62.1%, Micoplasma 1 patient (3.44%), Enrerocacteriae - 6.44%, Association of microorganisms - 17.2%, no sputum - 6.44%.

Table No. 1 presents the results of a laboratory study of a clinical and biochemical blood test, blood culture seeding for sterility, sputum microscopy with Gram stain, sputum examination for flora and sensitivity to antibacterial drugs. As can be seen from the table, in patients of both groups, an inflammatory reaction (leukocytosis, accelerated ESR) is observed, however, the nature of the inflammatory reaction is different. In patients with respiratory pathology, an acute inflammatory reaction was observed: a greater increase in segmented neutrophils than in patients of the main

group, a shift in the leukocyte formula to the left (stab neutrophils more than 6%), monocytosis.

In patients of the main group, an inflammatory reaction predominates, which does not exclude chronic inflammation: a less pronounced increase in neutrophils and monocytes, lymphopenia. Possibly, leukocytosis and acceleration of ESR in palliative patients is due to chronic inflammation against the background of bedsores. The trend of chronic inflammation in these patients is indirectly evidenced by hypoproteinemia (total protein 54.9±2.8 g/l). All patients had no disturbances in electrolyte balance, liver and kidney function (the values of urea, blood creatinine were within normal limits, bilirubin and transaminases were slightly increased). Chroniosepsis was excluded: there were no symptoms characteristic of bacterial endocarditis on ECG and ECHOCG, blood cultures performed three times for sterility gave a negative result.

In the analysis of sputum by microscopy, in half of the patients (41.3%) suffering from respiratory pathology, a mucous character of sputum was observed, in 48.3% of patients it was mucopurulent. The etiological factor in the development of pneumonia in 18 patients was pneumococcus, in three patients the causative agent of pneumonia was different: enterobacteria and mycoplasma. In five patients, a mixed flora was sown: an association of gram positive and gram negative microorganisms, as well as a fungal flora.

X-ray examination of pulmonary patients showed focal infiltration within one segment (70.6%), in 20.4% of patients, confluent infiltration of two segments. In palliative patients, infiltration within one or two segments was diagnosed in 17 patients = 77.2%, lobar inflammation within one lobe in 4.5%, lobar pneumonia with parapneumonic pleurisy in one patient (4.5%), infiltration two shares (9.0%), three shares in one patient = 4.5%. Thus, the severity of pneumonia according to the scales PORT, CRB -65 in pulmonary patients is 1.22±0.2 points, in palliative patients - 1.95±0.21 points. All patients received treatment in the therapeutic department, none of them needed treatment in the intensive care unit. Clinical and radiological data, interpretation of the results of bacterioscopy and culture of sputum allowed to start antibacterial therapy within the first 24 hours after the diagnosis of pneumonia. Only seven patients with respiratory pathology needed monotherapy with third-generation cephalosporins to resolve pneumonia: three patients had intramuscular ceftriaxone for 14 ± 0.2 days, four patients had cefabol for 15 ± 0.1 days; five patients were prescribed therapy with a combination of beta-lactam actibiotic cefazolin intramuscularly and an antibacterial drug of the macrolide group - clarithromycin per os. Six patients received clarithromycin in combination with intravenous administration of amoxicillin clavunate, the average duration of therapy was 18.5±0.2 days. 11 patients were sequentially treated with two different drugs - 7 patients with vancomycin, then thienam, 4 patients with amoxicillin, zatnm moxifloxacin. 9 palliative patients were prescribed a combination of a cephalosporin drug (cephalexin) and amoxiclav clavunate as initial therapy, the average duration of therapy was 20.9 ± 0.5 days, four-kefzol and amoxicillin, the average duration of therapy was 22.6 ± 0.3 day. Taking into account bilobar pneumonia, one patient was immediately prescribed a combination of two antibacterial drugs: a fourth-generation cephalosporin antibiotic (cefipime IV) and a 5-nitroimidazole derivative (IV metrogyl). Repeated courses of therapy were carried

out for six patients: third-generation cephalosporins (cefatoxime), then respiratory fluoroquinolones (avelox) were sequentially prescribed.

Two patients required a second course of antibiotic therapy: initially, a 14-day course of a third-generation cephalosporin (ceftriaxone IV), then 12 days of a respiratory fluoroquinolone (IV tavanic); in another patient, a derivative of 5-nitroimidazole (IV metrogyl) was prescribed as a starting therapy for 15 days, then respiratory fluoroquinolone (IV tavanic) for 11 days. In addition to antibacterial therapy, detoxification therapy, mucolytic therapy, tracheal aspiration, toileting of the wound surface of bedsores, physiotherapy exercises were carried out: frequent changes in body position, squatting in bed, postural drainage, breathing exercises with the creation of resistance on exhalation in order to increase the residual capacity of the lungs. The average duration of therapy was 25.9±0.2 days, i.e. 1.4 times more than in pulmonary patients. All patients of both groups achieved clinical and radiographic improvement with normalization of temperature, reduction of respiratory symptoms, restoration of the lung pattern during a dynamic study of high-resolution CT. Only in two pulmonary patients (6.9%) against the background of pneumonia, an exacerbation of concomitant diseases was observed (in one case, worsening of the course of chronic obstructive pulmonary disease and bronchial asthma). In six palliative patients (18.2%, those 2.6 times more often) with the addition of pneumonia, an exacerbation of comorbid pathology (CHD, arterial hypertension, diseases of the central nervous system) was noted, requiring intensification of the cardiac and vascular-metabolic therapy.

Conclusion: Pneumonia in palliative patients develops on the fifth day of hospitalization, proceeds more severely: with greater intensity of respiratory symptoms, more pronounced intoxication. Treatment of pneumonia and them requires a repeated course of antibiotic therapy. The terms of pneumonia resolution are 1.4 times longer than in patients with respiratory pathology, exacerbation of concomitant diseases is observed 2.6 times more often.

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