



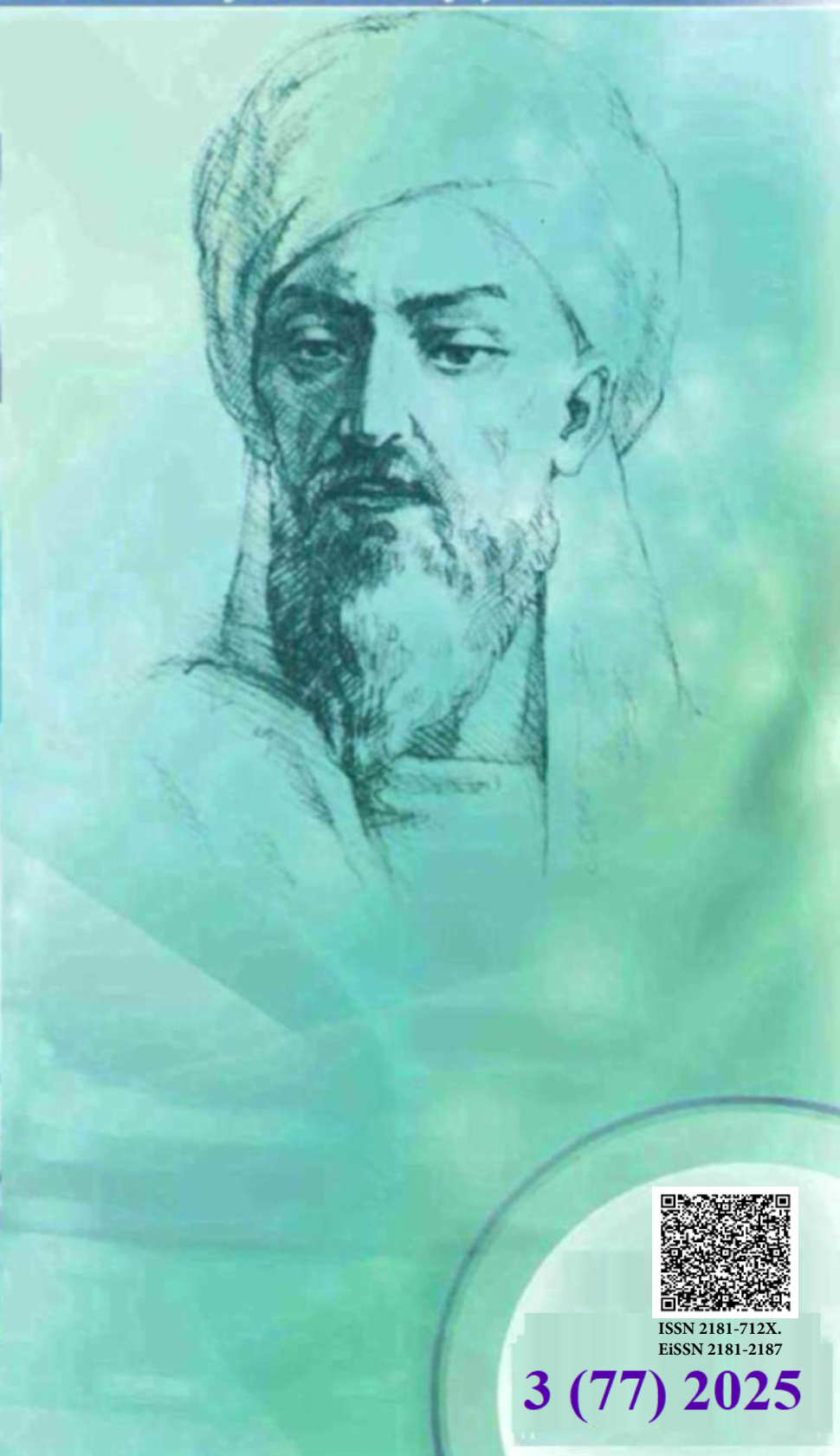
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ТИББИЁТДА ЯНГИ КУН НОВЫЙ ДЕНЬ В МЕДИЦИНЕ NEW DAY IN MEDICINE

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**ACUTE PURULENT-DESTRUCTIVE LUNG DISEASES IN CHILDREN: DIAGNOSIS,
TREATMENT, PREVENTION**

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✓ **Resume**

Given inspections and treatments of 243 patients are presented to works with acute destructive pneumonia. On the basis of it is developed immunology an express method of definition of a kind of activators of the acute destructive pneumonia, based on registration in blood of patients antigens connecting lymphocyte (ACL) selectively reacting with bacterial antigens which has essential advantages before traditional bacteriological research. The differentiated way of drainage treatment of heavy pleural complications of a sharp destructive pneumonia at children is approved, allowing to gain more expressed clinical effect in comparison with traditional treatment.

Keywords: *a sharp destructive pneumonia, immunology an express method, antigen connecting lymphocyte inside pulmonary introduction of the antibiotics, the differentiated way of drainage treatment.*

Introduction

Acute destructive pneumonia (EDP) remains a serious disease of young children (3,9,13,17,18,29,30). In Uzbekistan, it is a common cause of infant mortality (2,12,19). In the last decade, Staphylococcus has been gradually displaced from the etiological agents due to a wide range of gram-negative flora (1,5,14,20,44,45). The treatment of patients with EDP is carried out in a comprehensive manner using surgical and medicinal methods aimed at rehabilitating the focus, relieving intoxication syndrome and activating the body's anti-infective resistance (8,10,13,21).

To date, the issue of early detection of ODP pathogens in the first hours of the patient's admission to the hospital has not been resolved, which does not allow for immediate and targeted effective antibacterial treatment (4,6,7,15,25,31). It is known that the pathogenesis of OP is associated with a decrease in the body's immunoreactivity, so an in-depth study of the immune system and the selection of the most effective immunocorrectors seems necessary [14,16,32]. There is an increasing need to develop and put into practice more gentle and effective methods of drainage treatment of EDP in childhood.

Despite the advances in the development of surgical and drug treatment methods, they need further improvement.

Materials and methods

This work is based on the data of examination and treatment of 176 patients with acute destructive pneumonia. 40 practically healthy children of the same age were also examined, whose immunological status indicators served as a control. When studying the clinical and radiological picture of the disease, we identified several clinical groups in each case. The majority of patients were children with exudative pleurisy (31.3%) and pyopneumothorax (31.8%). The incidence of pleural complications was significantly higher in children under 3 years of age - 78.4%. The main contingent of patients were children of the first three years of life, including: 30.7% - under the age of one year, from one year to three years made up the majority (47.7%) of the observed patients. Among the children we examined, there were slightly more boys (54.3%) than girls (45.7%). It should be noted that 83.7% of patients had acute destructive pneumonia against the background of various concomitant diseases and

complications, which were mainly observed in children of the first three years of life. In infancy, anemia (90.3%), rickets (47.3%), hypotrophy (30.2%), exudative diathesis (8.9%), and others were common concomitant diseases. It is important to emphasize that 94% of children had a history of acute viral infection and pneumonia.

To solve the tasks set by us, clinical-X-ray, laboratory and immunological research methods were applied.

Immunological studies were conducted as follows: isolation of lymphocytes by the Voit method (1974). Detection of T-lymphocytes by E-rosette formation (Jondal et al.; 135). Definition of T-suppressors and T-helpers. Stress tests with theophylline are performed (K.A. Lebedov and Ponyakina 1990). Determination of antigen-binding lymphocytes (F.Y. Gharib et al., 1988). The phagocytic activity of neutrophils was studied by the method of V.M. Berman and K.M. Slavsky (1958).

The statistical analysis of the results was carried out using generally accepted methods with the calculation of the arithmetic mean (M), its error (m), the mean square deviation, and the Student's confidence criterion (L). To carry out rational antibiotic therapy, we have developed a new approach that includes rapid registration of pathogens based on the definition of ASL. In order to determine the etiology of ODP, bacteriological and immunological examinations of patients were performed.

The results and their discussions. When studying the etiological structure of the OP obtained during the lhc. When sowing, we used two indicators: the frequency of detection of the pathogen from among all those examined and from the number of positive results from sowing. Staphylococcus was sown most often - in 49 cases out of 152 studies, which was 32.2%. This figure increases to 62% of the positive samples (79). Pseudomonas aeruginosa is in second place - 9.8% and 18%, respectively. Associations of bacteria were noted, most often Staphylococcus with Pseudomonas aeruginosa and E. coli.

Thus, traditional methods of bacteriological examination of the destruction site, due to the low frequency of registration of pathogens and the duration of the study, do not allow for the initiation of targeted, timely antibacterial therapy. In addition, it is often impossible to obtain the material for the tank. seeding from the focus of the pathological process (inflammatory infiltrate, pneumothorax, bullae, fibrinous pleurisy). All this prompted us to search for alternative approaches to determining the etiology of the ODP pathogen that are not related to obtaining material from the lesion and traditional bacterial cultivation.

For the first time, we found antigen-binding lymphocytes (ASL) reacting with bacterial antigens of the corresponding pathogen in the blood of patients with AFD. Based on this, a new opportunity has appeared - to identify the causative agent of the disease within 2-3 hours.

The method developed by F.Y. Gharib et al. in 1983 was used to determine ASL. The principle of the method is as follows: bacterial antigens prepared from pathogens of purulent diseases, which, according to bacterial studies, are the cause of purulent-inflammatory destruction in ODP (staphylococci, streptococci, Pseudomonas aeruginosa, proteus, E. coli, bifidum bacteria, and others), are added to lymphocytes isolated from the blood of patients. To visualize the reactions of ASL interaction with antigens, we loaded them onto red blood cells. As a result of this interaction, "sockets" are formed, which represent a centrally located lymphocyte (ASL) to which test erythrocytes have joined. The "sockets" are clearly visible under the microscope; counting them allows us to determine the number of ASL reacting with the control antigen. As a result, it seemed important to compare the data on the determination of the causative agent of the disease by two methods: If by bacteriological seeding.

For this purpose, both methods are presented with parallel results: it is clearly noticeable that a significant reaction to the causative agent of the disease was noted in 87% of cases, the etiological structure remained undeciphered only in 13% of cases. Under the same conditions, the percentage of negative tank values. The sowing rate was 48%, which is almost 4 times more than in the past. The value of determining ASL increases even more when determining the etiological structure in patients when obtaining material for the tank. research is not possible. These are lobar infiltrate, bullae, pneumothorax and serous fibrinous pleurisy. There were 1/4 of such patients among the surveyed.

The determination of ASL has a number of advantages over the traditional method of bacteriological seeding of material obtained from the destruction site:

1) The frequency of detection of the causative agent of the disease increases by up to 87% compared with the LHC by sowing - 52%;

2) The possibility of detecting the causative agent of the disease in clinical forms of OP, when it is impossible to obtain material for the tank. studies from the focus (inflammatory infiltrate, bullae, pneumothorax and serous fibrinous pleurisy);

3) The expressiveness of the analysis: by the ASL method - within 2-3 hours, compared with the traditional method of obtaining LHC results. sowing - after 2 days;

4) A 2-fold higher frequency of detection of associations of microorganisms compared with bacteriological research. At the tank.the study was 5.2%, using the ASL-10 method%;

5) The use of the ASL method makes it possible to reduce the frequency of negative studies in the detection of pathogens to 13%, while this indicator was at the lhc. In the study, 48%, which differs 3.7 times, and in serous fibrinous pleurisy, it reached 90%.

The rapid identification of the causative agent of AFP allows you to select an antibiotic to which this type of bacterium is sensitive and immediately begin antibacterial treatment of AFP patients.

This approach formed the basis of the early targeted antibiotic therapy developed by us for children with EDP. It consists of two stages:

Stage I - determination of the type of pathogen based on registration of ASL with the corresponding antigen in the blood of patients;

Stage II is the correct choice of an antibiotic, taking into account the following requirements:

A) high sensitivity of the identified type of pathogen to antibiotics to ensure a bactericidal effect;

B) selective diffusion of antibiotics into the lung tissue, pleural cavity and bronchial secretions.

Analyzing the literature data on the spectrum of bacterial sensitivity to antibiotics, we have compiled a table that is the main one for choosing an antibacterial agent in the treatment of ODP.

For example: Staphylococcus typically exhibits high sensitivity to oxacillin, methicillin, monomycin, kanamycin, gentamicin, and lincomycin. Pseudomonas aeruginosa refers to carbenicillin, gentamicin, polymyxin, erythromycin and tetracycline. Among these antibiotics, those that satisfy the conditions of selective accumulation in the lungs should be used. As our observations have shown, using a new approach to early targeted antibiotic therapy based on the determination of the type of pathogen, it is possible with sufficient confidence to correctly select an antibiotic for the treatment of patients. This method is of particular value in the treatment of lobar infiltrates. With this disease, it is not possible to take the material for the tank. researches. Therefore, the only way to determine the pathogen is ASL.

The choice of antibiotics allows you to immediately start antibiotic therapy by injection into the lesion. We used intrapulmonary administration of antibiotics in the infiltration zone in 31 children. We chose the antibiotic after determining the causative agent of the disease by the ASL method, i.e. we carried out early targeted antibiotic therapy. In case of lobar infiltration, the use of intrapulmonary administration of antibiotics, i.e. early targeted antibiotic therapy in a complex of therapeutic measures, allowed 93.5% of patients (29 patients) to recover. 2 patients (5%) had pneumothorax.

Thus, intrapulmonary administration of antibiotics makes it possible to create a high concentration of them in the area of inflammation, prevent the development of severe pleural complications and in some cases contribute to the abortive course of the pathological process. In general, the method of intrapulmonary administration of antibiotics, used according to indications, is a very effective preventive measure that prevents the development of purulent pleural complications.

The main purpose of drainage treatment is to remove air and fluid from the pleural cavity and straighten the lung to prevent its re-collapse. Thoracocentesis with drainage of the pleural cavity was performed in 72 patients. In this study, according to the method of drainage treatment, patients were divided into two groups in order to determine the comparative effectiveness of new and traditional approaches to drainage treatment.

Traditional drainage, including trocar drainage, is usually introduced urgently, without taking into account the localization of the lesion; as a rule, along the VI-VI intercostal, mid-axillary line, and the differentiation approach provided for the introduction of trocar drainage at the level of the lesion, taking into account its localization.

Patients who underwent thoracocentesis with drainage of the pleural cavity using trocar drainage according to the traditional method made up group I (17 children). Pyopneumothorax and pneumothorax were observed in 15 patients (88%). Pyothorax in 2 patients (12%). When treated with trocar drainage, the condition of patients improved faster and the lung expanded, which was observed in 6 patients (35%). However, in 9 children (53%), the favorable clinical course was not accompanied

by lung expansion. They noted a gradual, slow spreading of it. In 7 patients, the lung expanded slowly, after 2-3 weeks. In general, the use of trocar drainage made it possible to achieve recovery in 16 patients (94%). 1 patient (5%) from this group died. The length of hospital stay was 34.1 ± 0.8 bed days. The thoracocentric opening on the chest wall healed in 27.2 ± 1.1 days after drainage removal.

Patients of group II - 55 children, we used the method of differentiated drainage of the pleural cavity. Pyopneumothorax was noted in 48 children (87%), pyothorax in 7 children (13%).

When treated with a differentiated method, rapid improvement in the condition with lung expansion in the first hours and days was observed in 47 patients (87%), in 6 patients (11%) after a few days, only in 1 child (2%) the lung expanded in the late stages of treatment, after the second drainage was applied 1-2 intercostal spaces higher from places of introduction into the first drainage.

The length of hospital stay was 25.2 ± 0.5 bed days. The thoracocentesis wound on the chest wall healed after 18.2 ± 6 days. 2 children (3.6%) of the 55 patients in this group died. The cause of the adverse events here cannot be attributed to the use of this method (in all the deceased, the lung remained straightened until death). In all cases, there was progressive septicopyemia.

Conclusions: 1. A new rapid immunological method has been developed for determining the type of pathogens of acute destructive pneumonia, based on the registration of antigen-binding lymphocytes (ASL) in the blood of patients who selectively react with bacterial antigens, which has significant advantages over traditional bacteriological research.

2. A method has been developed for early targeted antibiotic therapy in various forms of acute destructive pneumonia, based on an immunological express method for determining the causative agent of the disease and the optimal choice of antibiotic.

3. A new approach to the treatment of inflammatory lung infiltrates has been developed, based on the early detection of the causative agent of the disease by an immunological method, the optimal choice of an antibiotic administered through the cutaneous-intrapulmonary lesion, which prevented the disease from passing into the purulent - destructive stage in 93% of patients.

4. A new differentiated method of drainage treatment of severe pleural complications of acute destructive pneumonia in children has been tested and introduced into clinical practice, allowing for a more pronounced clinical effect compared with traditional treatment.

5. In patients with acute destructive pneumonia, a secondary immunodeficiency condition was revealed, characterized by a significant decrease in the blood content of T-lymphocytes, T-suppressors, T-helpers, phagocytes and an increase in the concentration of immunoglobulins M, G and circulating immune complexes, which raises the question of the need for immunocorrection.

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