

**Ministry of Health of the Republic of Belarus
Education Institution
"Gomel State Medical University"**

Department of Pediatrics with the course of the Faculty of Advanced Training and Retraining

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METHODOLOGICAL GUIDELINES

for a practical exercise
by a teacher with students
6th year of the Faculty of foreign students,
trainees in speciality 1-790101 in the discipline of pediatrics

Topic: Chronic and allergic respiratory diseases in children. Anaphylaxis.

Time: 7 hours

Approved at the meeting of the Department of Pediatrics with the Course of the Faculty of Advanced Training and Retraining
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2022

LEARNING AND EDUCATIONAL GOALS, OBJECTIVES, MOTIVATION FOR MASTERING THE TOPIC

Educational objective:

- Formation of students' basic professional competence in the study of the discipline of Pediatrics according to the curriculum
- The formation of students' scientific knowledge about diseases of the respiratory system and the prospects of their use in professional practice; abilities and skills necessary to work with patients of different ages, knowledge of the clinical manifestations of disease, treatment and diagnostic measures, the basics of rehabilitation and prevention.

Educational objective:

- Fostering in students a sense of professional responsibility of the future worker of medicine;
- Formation of professionally important and socio-psychological qualities of the doctor personality in the system of doctor-nurse-patient relations;
- formation of students' responsible attitude to their future professional activity;
- Formation of academic and work discipline, discussion of disciplinary questions (attendance of lectures and practical classes, unexcused absences, tardiness, debts on missed classes).

Objectives:

As a result of the study session, the student should

know:

- Classification of allergens and allergic reactions;
- epidemiology of allergic diseases;
- Basic risk factors for the development of allergic diseases;
- peculiarities of collecting allergic history and physical examination of a patient with allergic disease or with suspicion of it;
- Clinical symptoms of allergic diseases in children and their diagnostic significance.
- Basic methods of diagnosis of allergic diseases;
- groups of drugs used in the treatment of allergic patients;
- Basic principles of ASIT therapy;
- Primary, secondary and tertiary prevention of allergic diseases.
- Factors contributing to the chronicity of respiratory diseases;
- the stages of diagnosis of chronic diseases of the respiratory organs;

be able to:

- determine the functions of the respiratory organs in children;
- objectively assess the condition of the respiratory organs and identify the main symptoms of the lesion;
- collect allergological history of the child;
- conduct a physical examination of a patient suffering from an allergic disease;
- identify clinical symptoms of allergic diseases in children;

- determine the group of nosologies to make a differential diagnosis;
- construct a plan of examination of a child with an allergic disease or with suspicion of an allergic disease;
- prescribe treatment for a patient with allergic rhinitis, bronchial asthma (basic therapy);
- to provide emergency care for an attack of bronchial asthma;
- Provide first aid in case of anaphylaxis;
- carry out prevention of allergic diseases.

know how to:

- Methods of objective (palpation, percussion, auscultation) and additional (measuring, laboratory, instrumental, histological, immunological, etc.) examination
- communication skills with patients of different age and their parents, medical personnel.

Motivation for mastering the topic:

- Obtained knowledge and skills during the study of the discipline of pediatrics allows to motivate students to improve theoretical and practical knowledge for the implementation of early diagnosis, treatment and complex rehabilitation measures for children with chronic and allergic respiratory diseases, tactics of emergency care.

MATERIAL EQUIPMENT

Tables on the theme of the lesson, medical records of hospital patients, a set of hemograms, biochemical blood tests, a set of chest X-rays, a set of computer tomograms of the lungs, spiograms, the findings of ultrasound heart and internal organs, the results of bronchoscopy, electrocardiogram, phonendoscope; scales, stadiometer, tape measure; a bank of tasks for independent work; selection of thematic patients in the hospital departments.

CONTROL QUESTIONS FROM RELATED DISCIPLINES

1. *"Normal Physiology", "Pathological Physiology":*
 - types of allergic reactions;
 - mechanisms of development of obstructive syndrome;
 - Name the type of allergic reaction in respiratory allergy.
 - Make a differential diagnosis of allergic and infectious inflammation
 - What is asthmatic status?
 - Prevention of bronchial asthma;
 - What is hypoxia and what forms of hypoxia do you know?
 - What is respiratory failure and what degrees of respiratory failure do you know?
 - Factors contributing to chronic respiratory disease.
 - mechanism of gas exchange in the lungs.
 - Pathophysiological mechanisms of the main pathological symptoms and syndromes (dyspnea, hypoxia, respiratory failure, cardiovascular syndrome, obstructive syndrome).

- Pathomorphological changes of respiratory tract in acute and chronic respiratory diseases in children.

2. *"Human Anatomy":*

- Anatomico-physiological features of the respiratory system in children.
- What anatomical features explain the propensity of children's lungs to develop atelectasis

- What is the main mechanism of bronchial cleansing?

3. *"Microbiology":*

- What are the main biological fluids in which the causative agent of pneumonia can be identified?

4. *"Pharmacology":*

- Mechanisms of pharmacological action of drugs used in the treatment of acute respiratory diseases.

- Classification of antibiotics.

5. *"Emergency care in pulmonology."*

- Treatment of emergencies in allergology: an attack of bronchial asthma, anaphylactic shock.

CONTROL QUESTIONS ON THE TOPIC OF THE CLASS

1. Differential diagnosis of chronic respiratory diseases in children.
2. Etiopathogenesis of allergic diseases.
3. Allergic rhinitis. Differential diagnosis. Treatment. Prevention.
4. Bronchial asthma. Differential diagnostics. Basis therapy of bronchial asthma. Specific immunotherapy.
5. Emergency care of an attack of bronchial asthma.
6. Anaphylaxis. Emergency treatment.

PROCESS OF THE SESSION

Introduction .

In preparation for the practical training used clinical protocols of examination and treatment of patients, regulatory documents, educational and methodical manuals, current medical sources (section literature).

In the course of teaching the following kinds of educational activities are realized: lecture, seminar and practical class, controlled self-study of students.

At carrying out practical occupation educational technologies are used: presentations, training computer programs, lectures, tables, work in groups etc.

Current control of progress in the discipline is carried out in several ways:

- 1) oral questioning of students in seminars;
- 2) written control works (solving situational tasks, test control, making hemograms, etc.);
- 3) written answer to one of the control questions on the topic, justification of clinical diagnosis, definition of examination program;
- 4) writing and defense of the essay.

Intermediate attestation is carried out in the oral format

Theoretical part.

The relevance of the topic is due to the high frequency of respiratory diseases in children, the lack of a downward trend in chronic diseases of the bronchopulmonary system. Taking into consideration severe consequences of bronchopulmonary pathology for human health and subsequent life, high risk of disabled patients, high economic costs of treatment there is a need to improve diagnosis, treatment and prevention of chronic nonspecific lung diseases. [4]

Practical part.

Students are instructed, attention is paid to the rules of the internal schedule, the peculiarities of work in the pediatric department ¹ 3 (profile allergological and pulmonological). The selection of patients is carried out in accordance with the theme of the lesson. In the course of practical work the student must carry out:

- collection of complaints and anamnesis of the disease,
- clinical examination of the child,
- making a preliminary diagnosis and drawing up an examination plan,
- interpretation of the results of laboratory and instrumental methods of investigation,
- Formulation of the final clinical diagnosis,
- Formulation of a treatment and rehabilitation plan,
- Writing prescriptions for medications.

Control of assimilation of the topic

1. Demonstration of case studies with analysis of clinical cases:

- Year-round allergic rhinitis, period of exacerbation
- Seasonal allergic rhinitis, acute exacerbation period
- Bronchial asthma with mild intermittent course, remission period
- bronchial asthma mild intermittent, exacerbation period
- bronchial asthma mild persistent, remission period
- bronchial asthma mild persistent course, exacerbation period DN0
- asthma moderate-to-severe persistent, remission period
- bronchial asthma moderate-to-severe persistent, relapsing phase DN I
- bronchial asthma, severe persistent, relapsing phase of DN II
- cystic fibrosis, mixed form
- bronchiectatic disease

2.Decipher the proposed lung radiographs in children.

3.Solve the situational tasks

Task 1

An 8-year-old boy was admitted to the hospital with complaints of shortness of breath. The boy was from his third pregnancy (children from the first and second pregnancies died in the neonatal period from intestinal obstruction). He was ill from birth: he had a persistent cough, and in the first year of life, he had pneumonia three times. In the following years he was repeatedly hospitalized with complaints of high temperature, shortness of breath, cough with difficultly separated sputum. On admission the boy's condition was very severe. Body weight was 29 kg, height 140 cm. Pale skin, cyanosis of the nasolabial triangle. Symptoms of "watch glasses" and "drumsticks" were pronounced. BP - 40 per minute, heart rate - 120 beats per minute.

BP 90/60 mm Hg. The chest was barrel-shaped. Percussion sound over the lungs was tympanic. Auscultatively: on the right side, breathing was weak, on the left side - rigid. Diverse wet and dry rales were heard, more on the left side. Heart tones are muffled, systolic murmur at the apex is weak in intensity. Liver +5-6 cm, n/3. The spleen was not palpable. The stool is abundant, with a greasy sheen, smeary. Additional findings to the pediatrics task

Clinical blood count: Hb - 100 g/l, R - $3.5 \times 10^{12}/l$, C.p. -0.85, Leuk - $7.7 \times 10^9/l$, b/l - 8%, c - 54%, e - 3%, l - 25%, m - 10%, sed rate - 45 mm/hour.

Biochemical blood test: total protein - 60 g/l, thymol test - 9.0, CRP - ++, ALT - 850 units/l (the norm - 220-820), ALT - 36 units/l, ACT - 30 units/l.

Pilocarpine test: sodium - 132 mmol/l, chlorine - 120 mmol/l.

Coprogram: large amount of neutral fat.

Chest roentgenogram: intensification and sharp bilateral deformation of the bronchovascular pattern, mainly in the root areas, dense fibrous bands. There is a significant reduction of transparency in the right middle lobe. Dilation of pulmonary artery cone, "drop heart" was noted.

Ultrasound of the abdominal organs: the liver was enlarged at the expense of the left lobe, thickened, heterogeneous, vascular pattern around the periphery was impoverished, moderate overgrowth of connective tissue, pancreas - 15x5x25 mm, enlarged, diffusely thickened, had indistinct contours, gall bladder S-shaped, with thick walls, spleen was enlarged, thickened, vascular walls were thick, splenic vein was tortuous.

Assignment to the problem in pediatrics

1. Evaluate the given laboratory-instrumental methods of examination.
2. What specialists does the child need to be consulted?
3. Make a plan for further examination of the child.
4. Formulate a diagnosis for this patient.
5. What is the etiology and pathogenesis of the underlying disease?
6. The main directions of treatment

Task 2

A 5-year-old boy was admitted to the hospital with complaints of coughing, wheezing, and shortness of breath. Child from a first normal pregnancy and emergency delivery. Weight at birth was 3250 g, length 50 cm. Period of newbornness had no peculiarities. She was formula-fed from 4 months of age. Since 5 months suffering from atopic dermatitis. Till the age of 2 he was growing and developing well. After entering nursery school (since 2 years, 3 months) he had often had respiratory diseases (6-8 times a year), accompanied by subfebrile temperature, cough, slight shortness of breath, dry and wet wheezing. Radiographically, the diagnosis of "pneumonia" was not confirmed. At the age of 3, during another acute respiratory infections, she had an episode of suffocation, which was relieved by inhalation of salbutamol only 4 hours later. Later on, the attacks occurred once in 3-4 months and were connected either with acute respiratory infections, or with eating

chocolate or citrus fruits. Past medical history: father and grandfather on paternal side had bronchial asthma and mother had eczema. He became ill three days ago. A runny nose and sneezing were noted against the background of body temperature increase up to 38.2°C. He was referred to in-patient treatment due to worsening condition, coughing fits, dyspnea. On examination, the patient's condition was moderately severe. Body temperature 37.7 °C, coughing, whistling breath with prolonged exhalation. Breath rate was 32 per minute. The mucous membrane of the pharynx was slightly hyperemic and granular. The chest is swollen, percussion sound over the lungs is cranial, dry and moist whistling rales can be heard on both sides. The heart tones were slightly muffled. The heart rate was 88 beats per minute. Additional findings to the pediatrics task

General blood count: Hb - 120 g/l, Rb - $4.6 \times 10^{12}/l$, Lb - $4.8 \times 10^9/l$, b/l - 3%, c - 51%, e - 8%, l - 28%, m - 10%, sed rate - 5 mm/hour.

General urinalysis: amount - 120.0 ml, transparency - complete, relative density - 1.018, leukocytes - 2-3 in p/z, no erythrocytes.

Chest roentgenogram: the lung fields are transparent, the bronchopulmonary pattern is intensified in the root zones. No focal shadows.

Consultation of otolaryngologist: adenoids of P-S degree.

Assignment to the problem in pediatrics

1. What is your diagnosis? Rationale for the diagnosis.
2. Which link in the pathogenesis of obstructive syndrome is leading in this case?
3. What is your treatment for this period of the disease?
4. Describe the stage treatment of the disease.

Task 3

A 10-year-old boy is admitted to the children's pulmonology department with complaints of painful coughing, intensifying at night and in the morning. He had been ill for 1.5 months, when after working with magazines and books a barking cough and hoarseness of voice appeared. Treated as an out-patient: bromhexine, Atsc. No positive dynamics was noticed after the therapy. Observed by an allergist for atopic dermatitis. Since he was 8 years old, he had had episodes of obstructive bronchitis 2-3 times a year. Mother suffers from pollinosis (allergic rhinoconjunctivitis). Objectively: Condition of the child is of medium severity. The skin was pale, nasal breathing was difficult. Auscultatively, there was hard breathing in the lungs, on forced exhalation there were dry whistling rales on both sides, exhalation was prolonged, BP 24 per min. The heart tones were clear and rhythmic, heart rate 88 per minute. The abdomen was accessible to palpation, soft. The stools were regular and regular. He urinated freely.

Questions:

1. What disease can be thought of?
2. What additional examinations are necessary to confirm the diagnosis?
3. Prescribe urgent treatment

GUIDELINES FOR ORGANIZING AND CARRYING OUT THE CSR

Students use the time allotted for independent work for:

- working through the topics (issues) assigned for independent study;
- problem solutions;
- carrying out research and creative assignments;
- preparing thematic reports, presentations;
- completing practical assignments;
- designing information and demonstration materials (stands, posters, charts, tables, newspapers, etc.);
- compilation of thematic selection of literary sources, Internet sources;
- duty in health care organizations;
- making a review of scientific literature on the issues of the class.
- preparation of lectures, talks with patients on the prevention of respiratory diseases and the formation of a healthy lifestyle;
- drawing up situational problems on the topic of the class.

The main methods of organizing independent work:

- making a report;
- The study of topics and problems not covered in the classroom;
- preparation and participation in active forms of learning.

The list of tasks of the SIW:

- study of clinical recommendations (examination and treatment protocols for children) with allergic rhinitis, cystic fibrosis, bronchial asthma, bronchiectatic disease.

- Making situational problems on the topic of the class:
- year-round allergic rhinitis, exacerbation period
- Year-round allergic rhinitis, remission period
- Seasonal allergic rhinitis, exacerbation period
- Seasonal allergic rhinitis, remission period
- Bronchial asthma mild intermittent, remission period
- bronchial asthma mild intermittent, exacerbation period
- bronchial asthma mild persistent, remission period
- bronchial asthma mild persistent course, exacerbation period DN0
- asthma moderate-to-severe persistent, remission period
- bronchial asthma moderate-to-severe persistent, relapsing period DNI
- bronchial asthma, severe persistent, relapsing phase of DNII
- cystic fibrosis, mixed form
- bronchiectatic disease

Write prescriptions for major groups of drugs used in pulmonology and allergology

perform research work on the topic of the class.

METHODOLOGICAL RECOMMENDATIONS ON THE ORGANIZATION AND IMPLEMENTATION OF THE SSR

The recommended forms of MSRS organization are:

1. preparation of essays on proposed topics;
2. solving case studies on the subject of the class
3. tests on the subject of the lesson.

List of GSSS tasks:

1.Prepare an abstract on the proposed topic:

- Cortagener's syndrome.
- Congenital malformations of the respiratory system
- Screening and diagnosis of hereditary and congenital respiratory diseases

2.Solution of situational tasks:

Task 1 M., 5 years old, was examined by a pediatrician because he complained of nasal discharge and sneezing. Past medical history: the child fell ill two years ago, when in April his eyes became very itchy and burning, lacrimation, photophobia, conjunctival hyperemia. Later the described clinical manifestations were joined by nasal and nasopharyngeal itching, nasal congestion and difficulty in breathing. Some relief was brought by antihistamines, hormonal ointments and topical drops. In mid-June, the symptoms ceased. From family history we know, that mother suffers from eczema, the patient himself had had eczema in childhood up to the age of 3 years. On examination: the boy is of asthenic build. Skin was clean and dry. Breathing through the nose is difficult, the patient scratches his nose and sneezes. There was abundant watery discharge from the nose. The eyelids are edematous, conjunctiva hyperemic, lacrimation. The respiratory rate was 22 per minute. Breathing in the lungs was puerile. Heart sounds were rhythmic and loud. The abdomen was soft and painless. Stool and urination were not disturbed. Additional findings to the pediatrics task.

General blood count: Hb - 112 g/l, R - $3.2 \times 10^{12}/l$, L - $7.2 \times 10^9/l$, b/l - 3%, c - 34%, e - 12%, l - 50%, m - 1%, SLE - 5 mm/hour. Scarifying tests: sharply positive (++++) with pollen allergens of alder, hazel; latent allergy to wormwood pollen, which has not yet manifested clinically.

Assignment to the problem in pediatrics

1. Diagnose the problem.
2. Draw up a plan for additional examination.
3. What instrumental methods of examination can be used and for what purpose?
4. What are the main principles of treatment?

Task 2 A 6-year-old girl. A district physician visited the child at home on the basis of the report received from the emergency physician. Complaints of coughing fits, wheezing. The girl was from a first normal pregnancy, emergency delivery. Body weight at birth was 3400 g, length 52 cm. Period of newborn birth without any peculiarities. Artificially-fed from 2 months of age. Till the age of 1 year suffered from infantile eczema. Can't stand chocolate, strawberries, eggs (she had rashes on her skin). Family history: child's mother has recurrent urticaria, father has peptic ulcer disease.

At the age of 3 and 4 years, in May, in the countryside, the girl had episodes of suffocation, which were self-limited when she moved to the city. The real attack

occurred after eating chocolate. Emergency physician performed emergency measures. The attack was stopped. The patient was referred to the local doctor. Examination: The condition is moderately severe. Skin was pale, with blueness under the eyes. On the cheeks, behind the ears, in the natural folds of hands and feet, dryness, peeling, scratching. Tongue "geographic", gagging in the corners of the mouth. Breathing is whistling, audible at a distance. The exhalation was lengthened. Breath rate was 28 per minute. Above the lungs percussion sound with cranial tinge, auscultatively: mass of dry rales over the entire surface of the lungs. The boundaries of the heart: the right one cm inside the right edge of the sternum, the left one cm inside the left midclavicular line. The tones were muffled. The heart rate was 72 beats per minute. The abdomen was soft and painless. The liver is +2 cm from under the rib edge. The spleen was not palpable. Her stools were daily and regular. Additional findings to the pediatrics task.

General blood count: Hb - 118 g/l, R - $4.3 \times 10^{12}/\text{l}$, L - $5.8 \times 10^9/\text{l}$, p/l - 1%, s - 48%, e - 14%, l - 29%, m - 8%, SLE - 3 mm/hour.

General urinalysis: amount - 100.0 ml, relative density - 1.016, no mucus, leukocytes - 3-4 in p/z, no erythrocytes.

Chest roentgenogram: pulmonary fields of increased transparency, bronchopulmonary pattern enhancement in the root zones, no focal shadows.

Assignment to the pediatrics problem

1. What is your diagnosis? Rationale for the diagnosis.
2. etiology of this form of the disease?
3. Specify 3 links in the pathogenesis of obstructive syndrome in a child.
4. Emergency measures required in this case?
5. Prescribe the treatment required in the interictal period

Task 3. A 4-year-old boy. Admitted to the hospital with complaints of persistent moist cough with serous-purulent or purulent sputum.

The child from the second pregnancy, which had minor toxemia in the first half, and second term birth (the first child, a boy, had chronic pneumonia and maxillary sinusitis). Weight at birth was 3500 g, length 51 cm. The boy was fed naturally. Timely complementary feeding. His weight gain was poor. Weight at the age of 1 year - 9 kg, at the age of 2 years - 10.5 kg. He was ill from the first days of his life. Pus-like nasal discharge and difficult breathing were noted. At the age of 8 months, pneumonia was diagnosed for the first time. Repeated pneumonias were observed at the age of 1 and 2 years. In the first year of life, he had otitis three times. Frequent acute respiratory infections from the second half of life. The child had poor appetite and unstable stool. On admission, his body weight was 12 kg. The child was lethargic, apathetic. Skin was pale, cyanosis of the pubic triangle, acrocyanosis was noted. Fingers in the form of "drumsticks", nail plates in the form of "watch glasses". BF was 32 per minute. Percussion over the lungs, areas of blunting predominantly in the root areas, auscultation: on both sides, differently scattered moist rales. Boundaries of the heart: right - on the right midclavicular line, left - on the left edge of the sternum. The heart tones were rhythmic, heard distinctly on the right, with a soft systolic murmur, emphasis of tone II over the pulmonary artery. The heart rate was 100 beats per minute. The liver is +2 cm from under the edge of the left rib cusp.

The right edge of the spleen was palpable. The abdomen is somewhat enlarged, soft, and painful along the course of the colon.

Additional findings to the pediatrics task

General blood count: Hb - 115 g/l, R - $4.2 \times 10^{12}/l$, L - $6.8 \times 10^9/l$, p/l - 10%, s - 52%, e - 1%, l - 28%, m - 9%, SLE - 12 mm/hr.

General urinalysis: amount - 60.0 ml, relative density - 1.014, transparency - incomplete, leukocytes - 3-4 in p/z, no erythrocytes.

Chest roentgenogram: the lungs were swollen. In all the lung fields there were few focal shadows, intensification and deformation of the bronchovascular pattern. Bronchoscopy: bilateral diffuse purulent endobronchitis. Bronchography: bilateral bronchial deformity, cylindrical bronchiectasis S 6,8,9,10 on the right. X-ray of maxillary sinuses: bilateral darkening of maxillary sinuses.

Assignment to the problem in pediatrics

1. Make a preliminary diagnosis.
2. State the 3 distinctive features of this disease. What is the basis of the respiratory disorders in this disease?
3. How is this disease inherited?
4. What results can be expected in the study of external respiratory function in these patients?
5. Schedule an additional examination to confirm the preliminary diagnosis.
6. What are the principles of treatment of the disease

3. Test control

1. The following forms of bronchial asthma in children are distinguished:
 1. atopic (allergic);
 2. non-atopic (pseudoallergic);
 3. infectious-allergic;
 4. mixed.
2. Specify the means of basic therapy of bronchial asthma:
 1. antihistamines;
 2. nedocromil sodium.
 3. eufylline;
 4. sodium cromoglycate;
 5. inhaled corticosteroids;
 6. specific immunotherapy.
3. State the clinical signs that are not typical of bronchial asthma in children:
 1. onset of symptoms in the neonatal period;
 2. wheezing, resistant to bronchodilators;
 3. wheezing associated with food intake or vomiting;
 4. sudden onset with cough and asphyxia;
 5. stridor, steatorrhea;
 6. all of the above.
4. Prolonged β -2-agonists include:
 1. astmopent;

2. salmeterol (serevent);
3. salbutamol;
4. clenbuterol (spirovent);
5. berodual;
6. formoterol (foradyl).
5. Type 1 allergic reactions are characterized by:
 1. involvement of Ig A, Ig M in them;
 2. involvement of Ig E;
 3. target cells - basophils, mast cells (mastocytes);
 4. effector cell - sensitized T-lymphocyte;
 5. Anaphylactic shock, urticaria, bronchial asthma;
 6. serum sickness, allergic alveolitis, JRA.
6. expiratory dyspnea is observed in:
 1. acute simple bronchitis;
 2. croup syndrome;
 3. an attack of bronchial asthma;
 4. pharyngeal abscess;
 5. acute destructive bronchitis.
7. Name the M-cholinolytic drugs used in the treatment of patients with bronchial asthma:
 1. nedocromil sodium;
 2. histaglobulin;
 3. ipratropium bromide.
8. Picfloumetry is used for:
 1. examination of children under 5 years of age;
 2. examination of children over 5-6 years old;
 3. determination of vital capacity of lungs;
 4. determination of forced expiratory rate;
 5. determination of carbon dioxide content in exhaled air.
9. Pseudoallergic reactions are characterized by
 1. an increase in total serum Ig E;
 2. presence of specific Ig E in blood serum;
 3. a correlation between the dose of the allergen and the severity of the reaction.
10. Name the leukotriene inhibitor drugs for the treatment of patients with bronchial asthma:
 1. glycyram;
 2. etimizole;
 3. zafirlukast (acolate);
 4. ketotifen (zaditen);
 5. montelukast (singular).
11. A 3-year-old child has a history of repeated bronchitis, pneumonia. The child is retarded in physical development, skin color is pale, fingers in the form of

"drumsticks". Auscultation and differential rales. The coprogram showed neutral fat. Your presumptive diagnosis?

1. bronchial asthma;
2. bronchopulmonary dysplasia;
3. chronic bronchitis;
4. tuberculosis;
5. cystic fibrosis.

12. Name the signs characterizing the third degree of respiratory failure:

1. resting pulse-to-breath ratio is 2-1.5:1;
2. HPC: HD = 4-3.5:1;
3. RaO_2 - 65-80 mmHg, $RaCO_2$ - 40-50 mmHg;
4. RaO_2 - 60-65 mmHg, RAS_2 - 50-70 mmHg;
5. Blood pH 7.35;
6. inhalation of 60% oxygen does not change the state of breathing.

13. The "protected" penicillins include:

1. ampicillin;
2. oxacillin;
3. amoxicillin;
4. augmentin;
5. amoxiclav.

14. A one-year-old child has a body weight of 7 kg, a persistent cough, and a history of pneumonia several times. The stools are profuse and greasy. What is your probable diagnosis?

1. chronic pneumonia;
2. cystic fibrosis;
3. celiac disease.

15. When parasympathetic nerves are irritated, the bronchial muscles:

1. contract;
2. relax.

16. Specify the mechanism of action of beta-2-agonists:

1. stabilize mast cells;
2. cause relaxation of bronchial smooth muscles;
3. influence on bronchial hyperresponsiveness;
4. all of the above.

Answers; 1-1,2; 2-2,4,5; 3-6; 4-2,4,6; 5-2,3,5; 6-3,5; 7-3; 8-2,4; 9-3; 10-3,5; 11-5; 12-1,4,6; 13-4,5; 14-2; 15-1; 16-4.

Forms of GSSS performance control:

1. checking and evaluating the abstract on the given topic;
2. checking and evaluating the correctness of solving situational tasks.
3. test control

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