

MEDICAL UNIVERSITY – PLOVDIV
FACULTY OF MEDICINE

SYLLABUS

IN

CLINICAL ALLERGOLOGY
(Elective course)

Accepted by the Department Council - Protocol № 39/30.01.2020

Confirmed by the Faculty Council - Protocol № 5/08.07.2020

CLINICAL ALLERGOLOGY

Syllabus

Discipline	Final exam/ semester	Academic hours				Academic hours in years and semesters	
		Total	Lectures	Practices	ECTS	1 st year	
Clinical Allergology	IX					1 st sem.	2 nd sem.
		20	12	8	1,3	20	-

DISCIPLINE:

Clinical allergology

TYPE OF DISCIPLINE ACCORDING TO THE UNIFORM STATE REQUIREMENTS:

Elective course

LEVEL OF QUALIFICATION:

Master /M/

FORMS OF TRAINING:

Classroom academic lectures, practical clinical training, seminars, tests, self-preparation.

YEAR OF TRAINING:

5th year

DURATION OF TRAINING:

One semester (9th) of the program for training students in the specialty "Medicine".

ACADEMIC HOURS:

20 hours lectures, 8 hours practices /held every other week/

TECHNICAL EQUIPMENT APPLIED IN THE TRAINING:

Multimedia presentations, discussions, demonstrations of clinical cases, diagnostic methods and tools, analysis and interpretation of clinical data and results of paraclinical studies in different nosological units and specific patients, solving practical problems, development of diagnostic and therapeutic algorithms for allergic diseases and for specific patients, discussion of rarer cases in practice, mastering the models approved for the relevant international and national consensus for diagnosis and treatment of life-threatening systemic allergic reactions and allergic diseases with chronic-recurrent course.

Basis for conducting the training:

- The lecture course will take place in the halls of the Auditorium complex;
- The practical exercises will be conducted in the Department of Occupational Diseases and Allergology by the assistants in the Section of Occupational Diseases, who have acquired specialties in Internal and Occupational Diseases and have the necessary basic competencies in clinical allergology.

FORMS OF EVALUATION:

- Current assessment - tests, oral examination, participation in seminars and discussions;
- Final grade from the passed semester exam.

EVALUATION CRITERIA:

Current control and semester exam

ASPECTS OF EVALUATION CRITERIA:

Ongoing control includes evaluations of the tests performed and oral examination on the thematic material during clinical practices.

Aspects of current control evaluation:

- solving tests;
- participation in seminars and discussions;
- participation of the student in the treatment of patients with allergic diseases of general and occupational nature;
- evaluation of the student's practical skills in performing specific tasks set by the assistant related to the diagnosis and treatment of allergic diseases;
- evaluation of the written exam on the taught material according to a syllabus set in advance for the students.

Semester exam:

The training in the discipline "Clinical Allergology" ends with passing an exam before a commission chaired by a habilitated person with acquired specialties in "Clinical Allergology" and "Internal Medicine".

Formation of the final grade:

The final grade is set on the day of the semester exam. It is complex and is formed by:

1. The evaluation of a written theme from the syllabus;
2. The evaluation of the test made during the exam day;
3. The evaluation of the interview on specific issues of allergic pathology /at the discretion of the commission/.
4. The grade from the current academic semester control, with which the assistant presents the student on the day of the exam.

SEMESTER EXAM:

Yes

STATE EXAM:

No.

LECTURER:

Assoc. Prof. Dr. Svetlan Dermendzhiev, MD, Ph.D., MHM

DEPARTMENT:

Second Department of Internal Medicine, Section of Occupational Diseases and Toxicology

ANNOTATION

The study of the discipline "Clinical Allergology" is dictated by the steady trend of continuous increase in allergic diseases of general and occupational nature. The following epidemiological data on the current situation and forecasts for the spread of allergic diseases worldwide and nationally are in support of that. The World Health Organization (WHO) predicts that by 2050, 50% of the

world's population will be affected by at least one allergic disease. Between 30-40% of Europeans are allergic, a figure that has doubled in the last 20 years. Between 15-20% of these patients have manifestations of severe allergic rhinitis, which, if left untreated, can be complicated by sinusitis, nasal polyposis, asthma.

The curriculum is in line with the main competencies set in the programs for training and specialization of doctors in the specialties "General Medicine", "Clinical Allergology", "Internal Medicine". The program is in compliance with the requirements for covering basic levels of competence according to the approved medical standards for the respective specialties. The choice of the 5th semester as a period of time for teaching the discipline "Clinical Allergology" from the curriculum for the specialty "Medicine" at the Faculty of Medicine is based on the need for students to acquire basic knowledge and skills in "Propaedeutics of Internal Medicine" and "Microbiology", which are the basis of clinical thinking and support the assimilation of the teaching material on "Clinical Allergology". Students should have mastered the rules and competencies for taking a general history, methods for objective examination of the patient and diagnostic algorithms of the main groups of internal diseases. The parallel study of the types of allergic reactions and the pathogenetic mechanisms of allergic diseases in the course of "Microbiology" is a prerequisite for purposeful clinical thinking and correct diagnosis of allergic patients by future doctors.

BASIC AIMS OF THE DISCIPLINE

Students should:

- acquire skills for purposeful taking of allergy history;
- acquire a basic minimum of knowledge on the clinical picture and the peculiarities in the course of the most common allergic diseases of general and occupational nature;
- acquire knowledge and skills to build adequate diagnostic and therapeutic models for each patient with an allergic reaction or allergic disease;
- respond correctly, in a timely and accurate manner when emergency intervention is needed to control life-threatening systemic allergic reactions.

BASIC TASKS

- To acquaint students with the modern achievements of clinical allergology as a science;
- To build a model for adequate diagnostic-therapeutic schemes of behavior in the management of emergencies in allergology;
- To model in the future doctors an approach for correct interpretation of the results of the specialized allergological tests performed on the patients;
- To train students in adequate decision making about treatment of allergic patient and application of therapeutic procedures, to control the exacerbation of the chronically ill, as well as to take life-saving resuscitation measures in case of emergency allergic conditions in clinical practice.
- To build skills in future doctors for an adequate approach in the control of asthma patients in accordance with modern world, European and national concepts and consensus /GINA, Bulgarian Consensus on Asthma, etc./;
- To train and build in the future doctors a model of the relationship with the patient and the GP, which will solve quickly, accurately and competently any allergy problem;

TEACHING METHODS:

- lecture presentation;
- practical exercises;
- incoming tests;
- seminars;
- presentation and discussion of clinical cases;
- multimedia.

MONITORING AND EVALUATION:

- current control - tests, oral examination;
- final grade from the passed semester exam.

CONTROL METHODS:

- **The current control** includes an oral examination on the thematic material from the exercises, the seminars and an assessment from the tests on the topic for each of the practical exercises.
- **The final grade** is given to the student on the day of the semester exam. It is rounded to one and entered in the study documentation. The final assessment is complex and based on the above criteria.

EXPECTED RESULTS

I. Theoretical knowledge of students:

1. To know the etiology, pathogenetic mechanisms, clinical picture, forms of manifestation and course of the most common allergic diseases in practice;
2. To master the diagnostic-therapeutic algorithms of allergic diseases of general and occupational nature;
3. To be able to correctly analyze and interpret the results of the paraclinical examinations, tests and samples performed for each patient;
4. To master the methods for control and expert assessment of patients with bronchial asthma and allergic rhinitis in accordance with the established international and national consensus;
5. To acquire the knowledge necessary for adequate response and intervention in cases of need in acute allergic reactions of urgent nature.

II. Students' practical skills:

1. To master the peculiarities of taking a purposeful allergy history.
2. To acquire the necessary skills and experience in the clinical examination of the allergic patient and the removal of the allergological status
3. To be able to correctly register and reflect in the medical documentation of the patient the data from the anamnesis, the objective examination, the diagnostic procedures necessary for diagnostic clarification.
4. To acquire skills for correct interpretation of the results of the performed specialized allergological tests.
5. To be trained to apply the appropriate algorithm for the correct diagnosis of patients with allergic diseases.
6. To acquire skills for the appointment of an adequate therapeutic regimen for the patient's condition and allergic disease.
7. To be trained to perform basic manipulations necessary for the diagnosis of allergic diseases and the initial stage of treatment of emergency allergic conditions:

- performing, reporting and interpretation of skin allergy tests / scarification tests with antibiotics and other medications according to indications /;
- inclusion of a peripheral venous source;
- intravenous injection of a corticosteroid;
- performing a muscle injection with an H1-blocker and / or corticosteroid;
- measurement of blood pressure;
- supply of O2 with a face mask or nasal catheter;
- appointment, application, dosing and control of aerosol therapy with BDB2-agonists /Salbutamol, Ventolin, Butoasthma, etc./ and preparations from other groups for relieving bronchospasm in asthma attacks in emergencies;
- inclusion of a system for intravenous infusion of solutions and medications for more severe allergic reactions and conditions / severe asthma attack, asthmatic status, anaphylactic shock /.
- determining the therapeutic scheme and prescribing medication for the control treatment of an asthmatic patient;
- solving a specific clinical case requiring determining the severity of the acute asthma attack / exacerbation of asthma, or the degree and severity of chronic asthma, in accordance with generally accepted clinical and functional criteria.

Lectures
5th year, 9th semester

№	THEME	HOURS
1.	Introduction to clinical allergology - epidemiology of allergic diseases, social significance, clinical classification. Types of allergic reactions and clinical manifestations. Basic principles in the diagnosis of allergic diseases - features of the allergic history and physical examination of the allergic patient. Paraclinical tests - markers of allergic inflammation. Determination and clinical significance of eosinophilic cationic protein (ESP). Interpretation of eosinophilia and the results of functional examination of respiration. Bronchodilator test. Determination of nonspecific bronchial hyperreactivity /Methacholine tes /. Skin allergy tests: types, methods, indications and contraindications, reporting, interpretation of results. Allergy-specific in vitro studies - determination and clinical interpretation of general and allergen-specific IgE. Stages of diagnosis of a patient with allergic disease.	2 h.
2.	Allergic rhinitis - definition, epidemiology, etiology, pathogenesis. Etiological and clinical classification of rhinitis. Modern concept of "single airway - one disease" / ARIA /. Clinical picture of the two main types of AR. Criteria for diagnosis. Complications, differential diagnosis. Principles of treatment of allergic rhinitis. Pharmacotherapy. Criteria for assessing the occupational etiology of rhinitis.	2 h.
3.	Bronchial asthma - definition, epidemiology, etiological forms. Characteristics of atopic and non-atopic asthma. Factors causing inflammation in the respiratory tract / inducers / factors that trigger the onset of an acute attack / triggers /. Pathogenesis of atopic asthma - cells, mediators	2 h.

	and effects of early and late allergic reaction. Diagnostic-therapeutic classification / clinical phenotypes /. Clinical picture of asthma.	
4.	Bronchial asthma - acute and chronic. Assessment of the severity of an asthma attack. Forms of chronic asthma according to the severity of the course / GINA, Bulgarian Consensus on Asthma /. Laboratory researches. Criteria for the diagnosis of asthma during an attack and in remission. Criteria for assessing the occupational etiology of asthma. Complications of asthma. Principles and methods of treatment. Pharmacotherapy of asthma. Modern controlling treatment of asthma - place and role of inhaled corticosteroids and combination drugs.	2 h.
5.	Staged / stepwise / therapeutic approach in the treatment of chronic asthma. Treatment of acute asthma. Status asthmaticus - etiology, clinical picture. Therapeutic approach in severe attack and asthmatic status. Fatal risk assessment. Criteria for symptom control. Anaphylactic shock - definition, etiology, pathogenesis, clinical forms, diagnosis and differential diagnosis. Principles and methods of treatment. Drugs and principles of treatment in allergology. Antihistamines and glucocorticosteroids - the basis of pharmacotherapy of allergic diseases.	2 h.
6.	Urticaria and angioedema - definition, etiology, forms. Clinical picture. Special forms of urticaria and angioedema. Hereditary angioedema (HAE) - etiology, pathogenesis, forms, features in the clinical manifestation and course, criteria for diagnosis, differential diagnosis, principles of treatment. Prevention. Drug allergy. Food and insect allergy-etiology, pathogenesis, clinical manifestations, diagnostic-therapeutic algorithm.	2 h.

Total: 12 h.

THEMATIC PLAN OF THE LECTURES – EXPANDED OPTION:

LECTURE № 1 – 2 academic hours

Introduction to clinical allergology – epidemiology of allergic diseases, social significance, clinical classification. Types of allergic reactions and clinical manifestations. Basic principles in the diagnosis of allergic diseases – peculiarities of the allergological anamnesis and physical examination in the allergic patient. Paraclinical tests – markers of allergic inflammation. Determination and clinical relevance of eosinophilic cationic protein (ECP). Interpretation of eosinophilia and the results of the respiratory function tests. Bronchodilator test. Determination of nonspecific bronchial hyperreactivity (methacholine challenge test). Skin allergy tests: types, methodologies, indications and contraindications, reporting, interpretation of results. Allergen-specific IgE antibody in vitro tests – determination and clinical interpretation of general and allergen-specific IgE. Stages of diagnosis of an affected person with an allergic disease.

LECTURE № 2 – 2 academic hours

Allergic rhinitis – definition, epidemiology, etiology, pathogenesis. Etiological and clinical classification of rhinitis. Modern concept of an Integrated care pathway (ICP) /ARIA/. Clinical manifestation of the two main types of allergic rhinitis. Complications, differential diagnosis. Principles of treatment of allergic rhinitis. Pharmacotherapy. Criteria for assessing the occupational etiology of rhinitis.

LECTURE № 3 – 2 academic hours

Bronchial asthma – definition, epidemiology, etiological forms. Characteristic of atopic and non-atopic asthma. Factors provoking inflammation in the respiratory system (inducers) and factors that trigger the occurrence of an acute attack (triggers). Pathogenesis of atopic asthma – cells, mediators and effects of early and late allergic reaction. Diagnostic and therapeutic classification (clinical phenotypes). Clinical manifestation of asthma.

LECTURE № 4 – 2 academic hours

Bronchial asthma – acute and chronic. Assessment of the severity of asthma attack. Forms of chronic asthma according to the severity of the course (GINA, Bulgarian consensus on asthma). Laboratory tests. Criteria for diagnosis of asthma during an attack and in a period of remission. Criteria for assessing the occupational etiology of asthma. Complications of asthma. Principles and methods of treatment. Asthma pharmacotherapy. Modern controlling treatment of asthma – place and role of inhaled corticosteroids and combined medications.

LECTURE № 5 – 2 academic hours

Stage (stepwise) therapeutic approach in the treatment of chronic asthma. Treatment of acute asthma. Status asthmaticus – etiology, clinical manifestation. Therapeutic approach in severe asthmatic attack and asthmatic status. Assessment of the risk of fatal outcome. Criteria for controlling symptoms. Anaphylactic shock – definition, etiology, pathogenesis, clinical forms, diagnosis and differential diagnosis. Principles and methods of treatment. Medications and principles of treatment in allergology. Antihistamine drugs and glucocorticosteroids – basis of the pharmacotherapy of allergic diseases

LECTURE № 6 – 2 academic hours

Urticaria and angioedema – definition, etiology, forms. Clinical picture. Special forms of urticaria and angioedema. Hereditary angioedema - etiology, pathogenesis, forms, features in clinical expression and course, criteria for diagnosis, differential diagnosis, principles of treatment. Prevention. Medical allergy. Nutritional and insect allergy - etiology, pathogenesis, clinical manifestations, diagnostic and therapeutic algorithm.

Practices
5th year, 9th semester

№	Theme	Academic hours
1.	<p>Etiology and pathogenesis of allergic diseases. Diagnostic methods in allergology – anamnesis, objective examination of a patient with allergic disease, paraclinical tests – diagnostic significance and interpretation of eosinophilia. Respiratory function tests – characteristic and interpretation of obstructive syndrome. Bronchodilator test – methodology, interpretation of results, necessary conditions for compliance before conducting the test. Determination of nonspecific bronchial hyperreactivity – Methacholine test. Specific tests on the shock organ: elimination, exposition and provocation tests – inhaled broncho-provocation and dermal provocation test. Specific tests on the shock organ: elimination, exposure and provocation tests - inhalation bronchial provocation and nasal provocation test.</p> <p>Skin allergy tests: types, methodologies, reporting, interpretation of results, indications and contraindications for skin allergy tests. Interpretation of blood gases in arterial blood. Determination of total serum IgE and allergen-specific IgE – clinical significance, interpretation of results. Stages of diagnosis of an affected person with an allergic disease.</p>	2 h
2.	<p>Bronchial asthma: definition, socio-economic dimensions of the problem, etiology, etiological forms, clinical phenotypes. Pathogenesis of asthma. Clinical manifestations of the asthma attack. Criteria for assessing the severity of the attack. Chronic asthma – classification by degree and severity. Clinical and functional criteria in determining the degree and severity of chronic asthma. Paraclinical tests in the asthmatic patients – blood, lung function tests, imaging tests, skin allergy tests. Clinical value of specialized allergological tests. Model for interpretation of the obtained results. Criteria for diagnosis of bronchial asthma. Differential diagnosis between atopic and non-atopic asthma. Criteria for differentiating asthma from COPD. Complications of asthma. Status asthmaticus – triggering factors and clinic. Demonstration of clinical cases. Solving practical tasks in asthma patients. Treatment of asthma – principles and methods (seminar training). Pharmacotherapy of bronchial asthma. Principles of application and dosing of mitigating and managing agents. Modern concepts for therapy and control of chronic asthma - stepwise (staged) approach.</p> <p>Principles of treatment of acute asthma and asthmatic status. Place of specific immunotherapy in the treatment of asthma. Aspirin-induced asthma – peculiarities.</p> <p>Determining the therapeutic regimen for the control treatment of asthma in a specific patient. Prescription with the appropriate preparations.</p>	2 h.
3.	<p>Allergic rhinitis – definition, epidemiology, etiology, pathogenetic mechanisms. Basic principles in the Integrated care pathway (ARIA). Etiological and clinical classification of rhinitis. Features in the clinical characteristic of the two main types – with a flowing or "dripping" nose, and with a stuffy nose. Diagnosis. Differential diagnosis between allergic and non-allergic rhinitis. Complications. The connection between rhinitis and asthma in the context of the concept of the "Allergic March". Principles of treatment of allergic rhinitis. Pharmacotherapy of rhinitis.</p>	2 h

4.	<p>Urticaria and angioedema – definition, classifications of different forms of urticaria and angioedema. Pathogenesis. Clinical forms of urticaria and angioedema. Acute urticaria and Quincke’s edema – peculiarities in the clinical course, diagnosis and treatment. Forms of chronic urticaria, diagnostic-therapeutic algorithm in patients with chronic urticaria. Presentation and discussion of a clinical case with urticaria and/or angioedema. Hereditary angioedema – definition, etiology, pathogenesis, forms, clinical expression, diagnostic criteria, differential diagnosis. Principles in the treatment of hereditary angioedema. Treatment of edema, prevention of an attack of hereditary angioedema in upcoming risky manipulations and procedures. Intolerance to drugs and medical allergy.</p> <p>Definition and classification of drug intolerance reactions. Clinical forms of medicinal exanthemas. Severe skin reactions to drug intolerance (Stevens-Johnson syndrome, Lyell's syndrome, serum sickness, etc.). Groups of medicines that cause medical allergy and types of allergic reactions. Peculiarities of penicillin allergy – types of allergic reactions to penicillin, diagnosis. Allergic reactions to anesthetics and neuroleptics used in anesthesiology. Allergic and anaphylactoid reactions to radiopaque substances. Reactions to medications by non-immune mechanism (pseudoallergic, anaphylactoid) - pathogenetic mechanisms, peculiarities. Treatment and prevention of medical allergy – primary and secondary. A specific algorithm for the actions of the GP and the allergist in patients with drug allergy. Presentation of a model of specific premedication in a patient with an allergic history, who is about to undergo planned or emergency surgery. Latex allergy.</p>	2 h
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TOTAL: 8 hours

Bibliography

OBLIGATORY

1. Bozhkov, Bozhko. Allergology : Principles and Practice / Bozhko Bozhkov - Sofia : Arso, 1999 - 410 r.
2. Allergic diseases : Principles, diagnosis and treatment / V. Dimitrov, Bozhko Bozhkov, Maria Svetoslavova Boikikeva, Em. Petranov / - Sofia : Arso, 2000 - 271 s.
3. MILEVA, Jeni, etc. Clinical Allergology / Jeni Mileva, Marta Baleva, Daniela Baltadzhieva : Sofia "Knowledge", 2001 - 351 s.
4. DIMITROV, B. , etc. Clinical Allergology for General Practitioners / V. Dimitrov, St. Hristova, S. Slavov. - Sofia : ARSO, 2002 - 174 s.;
5. DIMITROV I., PETRUNOV B., KISYOVA A. Clinical Allergology, 2009
6. Dermendzhiev, Svetlan. Diagnostic-therapeutic algorithms in acute poisoning and toxoallergic reactions. Ed. Medical University - Plovdiv, Plovdiv, 2018 – 143 s.

RECOMMENDED

1. KRASTEVA, Zahari, etc. Internal medicine / under the editorial of Prof. Dr. Zahari Krastev, Md., Dr. / Sofia 2004, 543 – 561 s.; Sofia : ELDO, 2004, 54-77 s.
2. DERMENDZHIEV, Svetlan Mihov. "Comparative analysis of allergic diseases of a general and professional nature for a 10-year period in plovdiv region" .Research work for the award of educational and scientific degree "Doctor" Svetlan Mihov Dermendzhiev - Plovdiv, Mu - Plovdiv, 2011 - 165 s.
3. Occupational diseases. C. Kostova and Assacs. C. Petkova, S., Rahl and Kolober, 2007
4. Zlatka Stoyneva, Svetlan Dermendzhiev. Professional nervous and allergic diseases. Ed. House

"Elestra", Sofia, 2015

5. Svetlan Dermendzhiev. Diagnostic-therapeutic algorithms in bronchial asthma. Ed." Elestra Ltd., Sofia, 2017

6. Svetlan Dermendzhiev. Angioneurotic edema. Ed." Studio Griff Ltd., Providev, 2018

7. PATTERSON, Roy et al. Allergic Disease - Diagnosis and Treatment / Roy Patterson, L. K. Gremmer, Paul A. Greenberger. - Moscow : GEOTAR-MED, 2000 - 768 s.

8. [ATLAS](#) of allergies / Ed. Philip Fireman, Raymond G. Slavin. - 2nd ed.- St. Louis : Mosby - Wolfe, 1996 - 301 p.

9. ALLERGY: Principles & practice : In 2 v. / Ed. Elliott Middleton, Charles E. Reed et al. - 5th ed.- St. Louis : Mosby, 1998

10. Modern treatment of allergic diseases, in order. of J.Mileva, Ed."Knowledge", 1997 and second edition 1999

Conspectus in Clinical Allergology

1. Allergy and allergens – definition. Classification of allergic diseases. The essence of the concept of atopy. Classical atopic diseases. Pseudoallergy.
2. Etiology of allergic diseases. Types of allergens - house dust and micro-ticks, pollen allergens, animal (epidermal) allergens, mold allergens, food and food impurities, other household allergens - characteristics, sources, sensitizing potential. Allergic reactions and diseases caused by different types of allergens.
3. Pathogenesis of allergic diseases - types of allergic reactions and clinical manifestations. Genetic factors for atopy and IgE production. Mosmann's concept of the Th2-immune response and Okudaira's hypothesis of changes in immunity under the influence of environmental factors.
4. Mediators of allergic reactions – reformed and newly synthesized. Adhesion molecules, cytokines, interleukins. The role of histamine and its induced effects in the pathogenesis of allergic reactions. Lipid mediators – derivatives of arachidonic acid and cyclooxygenase products. Effects of prostaglandins, thromboxans, leukotrienes, PAF, lipoxins.
5. Diagnosis of allergic diseases – peculiarities of the allergological anamnesis and physical examination of the allergic patient
6. Eosinophilia – interpretation, clinical evaluation.
7. Respiratory function tests – the most important indicators of pulmonary ventilation for the functional diagnostics of the lung. Types of ventilatory defect (VD). Characteristics of obstructive VD. Bronchodilator test (BDT) - nature, methodology, interpretation of results, significance
8. Nonspecific bronchial hyperreactivity - nature, assessment of nonspecific bronchial hyperreactivity. Inhalant bronchial provocation tests with Methacholine - interpretation of the methacholine test results.
9. Skin allergy tests - indications and contraindications for skin allergy tests, direct and indirect skin allergy tests, methods, scales for reporting, interpretation of the results, significance for the diagnosis of allergic diseases.
10. Specific samples on the shock organ - types, indications, diagnostic value.
11. Determination of general and specific IgE methodologies, indications, interpretation of results, clinical significance .
12. Bronchial asthma – definition, epidemiology, forms, etiological factors (inducers and inciters), pathogenesis – specific cells and mediators of early and late phase allergic reaction.

13. Clinical picture of bronchial asthma – characteristic of asthma attack, cardinal symptoms (marker) of asthma. Assessment of the severity of the asthma attack (according to the criteria of bronchodilator test).
14. "Acute severe asthma" (Asthmatic status) - definition, factors of occurrence, peculiarities in clinical expression.
15. Forms of chronic asthma according to the severity of the course (Bulgarian consensus on asthma, 1999). Characteristics of the forms/stages of chronic asthma.
16. Criteria for diagnosis of asthma during an attack and in a period of remission. Diagnosis of initial asthma.
17. Complications and differential diagnosis of bronchial asthma. Criteria for differentiation of non-atopic bronchial asthma from COPD.
18. Special forms of bronchial asthma (BA) – asthma from physical exertion, aspirin asthma, asthma syndrome. Occupational BA. Features in the etiology, pathogenesis, clinical manifestation. Types and forms of occupational BA. Criteria for diagnosis and assessment of the occupational etiology of asthma. Labor expert assessment.
19. Basic principles of treatment of BA. Etiological treatment. Specific hyposensitization (allergen immunotherapy) - nature of the method, goals and tasks, pathophysiological mechanisms, indications and contraindications, modifications, risks and complications. Modern methods of specific immunotherapy.
20. Asthma pharmacotherapy. Anti-inflammatory treatment – main groups of anti-inflammatory (controlling) medications – cromons, inhaled steroids, oral steroids, antileukotrien – mechanisms of anti-inflammatory action, method of administration, dosing, principles of combination therapy, therapeutic and undesirable/side/effects, control of therapy.
21. Principles, mechanisms and most commonly used in practice medications for treatment. Pharmacological feature of relievers – inhaled beta2-agonists of short action, long-acting beta2-agonists, methylxanthines, anticholinergics – mechanism of action, indications, dosing of the most commonly used medications in practice.
22. Stepwise/therapeutic approach in the treatment of chronic asthma. Modern principles and approaches in the treatment of asthma, based on the Global (GINA) and National Consensus.
23. Treatment of acute asthma - an algorithm for behavior in mild, moderate and severe asthma attacks. Treatment of severe attack and asthmatic status in a hospital setting. Actions of general practitioners and allergists in bronchial asthma (Expert group at the NHIF, 2001).
24. Hypersensitivity pneumonitis (Exogenous allergic alveolitis) - definition, etiology, pathogenetic mechanisms, clinical picture of acute, subacute and chronic form, immunological tests, diagnosis, treatment. Differential diagnosis between exogenous bronchial asthma and allergic alveolitis. Criteria for diagnosis and assessment of the occupational etiology of hypersensitivity pneumonitis.
25. Drug allergy - definition, etiology, pathogenetic mechanisms. Drugs causing allergy by non-immune mechanism.
26. Clinical forms of drug allergy – generalized reactions and organ manifestations. Features of drug allergy caused by beta-lactam antibiotics and anaesthetics.
27. Features of drug allergy to iodine-containing radiopaque substances and algorithm in an upcoming tests. Primary and secondary prophylaxis. Diagnostic and therapeutic algorithm in patients with drug allergy. Behavior of general practitioners and allergists in drug allergy.
28. Allergic rhinitis – definition, epidemiology, etiology, pathogenesis. The essence of the concept of Integrated care pathway /ARIA/. Classification of allergic rhinitis.
29. Allergic rhinitis – clinical picture, laboratory tests, diagnosis criteria, differential diagnosis of rhinitis.

30. Principles of treatment of allergic rhinitis. Pharmacotherapy – groups, most often used in practice drugs, indications, therapeutic schemes. Indications for allergenic immunotherapy in allergic rhinitis.
31. Insect-allergy: definition, etiology, pathogenesis. Clinic of normal and allergic reaction. Features of the generalized reaction after an insect sting. Unusual reactions.
32. Insect-allergy: diagnosis and treatment. Events of an emergency order performed by the stung patient. Allergen immunotherapy – principles, indications, scheme of conduct, side effects, changes occurring during and after completion of allergen immunotherapy.
33. Food allergy – definition, etiology, pathogenesis, classification, clinical manifestations. Criteria for diagnosis of food allergy, diagnostic allergen elimination diets. Oral provocation with food. Treatment of food allergy, prophylactic and curative diets.
34. Urticaria and angioedema – definitions, etiology, clinical pathogenetic classification of the various forms of urticaria and/or angioedema. Clinical forms of urticaria and angioedema.
35. Diagnostic and therapeutic algorithm in urticaria and angioedema. Stages in the diagnosis of chronic urticaria. Principles of treatment.
36. Hereditary angioedema - definition, etiology, pathogenesis, forms, clinic, criteria for diagnosis. Principles of treatment. Treatment of edema. Prophylactic treatment between attacks. Prevention of hereditary angioedema in diagnostic and therapeutic procedures with increased risk.
37. Anaphylactic shock – definition, etiology, pathogenetic mechanisms. Medications that most often cause anaphylactic shock. Special forms of anaphylaxis /anaphylaxis after physical exertion, idiopathic, immunocomplex, anaphylaxis from ionic compounds, drugs provoking anaphylactoid reactions/.
38. Clinical forms of anaphylactic shock. Features of idiopathic anaphylaxis. Complications, diagnosis and differential diagnosis.
39. Treatment of anaphylactic shock - goals, algorithm for behavior. Features in the treatment of biphasic, idiopathic and exercise-induced anaphylaxis. Prevention of anaphylactic shock - general measures, specific measures, premedication, precautionary measures, injection of medication by the patient at the first symptoms (autoinjection preparations).
40. Serum sickness – definition, etiology, pathogenesis, major clinical symptoms, diagnosis and differential diagnosis, treatment.
41. Allergy to latex.
42. Allergic contact dermatitis – definition, classification, etiology, pathogenesis. Clinical picture of contact dermatitis. Morphology of changes in acute, subacute and chronic phase. Criteria for diagnosis. Significance of patch test in the diagnosis of the disease. Differential diagnosis of contact dermatitis. Principles of treatment and dosage forms used in contact dermatitis.
43. Atopic dermatitis – definition, genetic and immune factors in the etiology of the disease, pathogenesis. Factors that provoke the disease. Clinical picture – dynamics in terms of morphology and localization of the rash depending on age. Clinical characteristic of individual stages and other characteristic symptoms. Immune disorders in atopic dermatitis. Basic (mandatory) diagnostic criteria. Differential diagnosis and complications of Atopic dermatitis. Basic principles in therapy and treatment regimens.

AUTHOR OF THE PROGRAM:

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