**Methodical development**

**Self extracurricular**

**prepare for practical training for students of the 5th year of the Medical Faculty**

**Topic number 3**

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| --- | --- |
| ***Uch ebnaya discipline*** | "Clinical and Imunolog ALLERGOLOGY" |
| ***Modulus number 1*** | "Clinical and Imunolog ALLERGOLOGY" |
| ***D yslovoy module number 1*** | Them an immune status, age features. Immunodeficiency deficit and other immune diseases, principles of diagnostics, immunotherapy, immunization and immunorehabilitation. |
| ***Those classes ma*** | Wasps basic principles immunotropic destination therapy. Immune, immunoprophylaxis. |
| ***Ku pc*** | 5th |
| ***Fa partments*** | "A echebnoe business", "Pediatrics", "Medical-preventive work" |
| ***K The number of hours*** | 4 |

**2013**

**I.** **Actuality of theme:** Various types of immunopathology: immunodeficiencies, allergic and autoimmune, lymphoproliferative (tumor) disease occurring on a background of chronic recurrent infectious - inflammatory processes occur as a result of transient or persistent imunomodulyatsy under the influence of negative environmental factors. Due to the successes of theoretical and clinical immunology disclosed mechanisms of etiology and pathogenesis of these diseases, involving violations of various parts of the immune system. This gives you the opportunity to influence the course of immune responses using immunomodulatory and immunosuppressive therapy, the introduction of which in practice is considered one of the greatest achievements in medicine.

**II.** **Learning Objectives lesson.**

1. Be familiar with basic types, methods, and the designation of immunotherapy (immune).

2. Know the meaning of such concepts as immunostimulation, immunosuppression, immunomodulation, immunorehabilitation, immunoprophylaxis.

3. Master concepts such as immuno drugs, immunosuppressants, immunomodulators, immunostimulants.

4. Know the classification of immune preparations, indications and contraindications to their destination according to the immunopathology laboratory and immunological changes, side effects, clinical criteria.

5. Know the basic principles of treatment and immunopathology able to prioritize the treatment of the individual patient, taking into account comorbidity.

6. Able on the basis of acquired knowledge and skills to make a clinical examination of the patient with a specific immunopathology, assign the necessary examination, be able to interpret their data, perform differential diagnosis in related Diseases and select the treatment strategy.

7. Independently develop and prepare a presentation to 5 minutes on the need to appoint immunotherapy in patients on the future profile of the specialty (neurology, pulmonology, obstetrics, rheumatology, pulmonology, gastroenterology, cardiology, etc.). . If possible prodemonstuvaty on supervised patient.

**III. Targets personality development (educational purposes)**

Familiarize students with the concept, types, methods and principles of immunotherapy immunization immunorehabilitation theme material and develop a sense of responsibility for the timeliness and accuracy of professional actions when choosing treatment for each patient. On the basis of ethical principles to teach young professional set psychological contact with the patient / patient and his relatives

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**IV.** **Interdisciplinary integration**

|  |  |  |  |
| --- | --- | --- | --- |
| p / p | Discipline | Acq amb | Um et |
| 1 | Biology | EV olyutsiya immune system development of living organisms |  |
| 2 | Normal anatomy | Organs of the immune system, their structure | mind et survey |
| 3 | Histology and embriologiya | Cells of the immune system, their structure | et mind exercised in optical microscopy |
| 4 | Normal physiology | The functions of the immune system in health | Prospect Appears when testing |
| 5 | Endocrinology | Thyroiditis, Addison's disease: clinical and laboratory manifestations | mind et diagnose, treat |
| 6 | Genetics | Principles of inheritance of disease, structure of chromosomes | mind et prescribe methods of genetic testing |
| 7 | Pathological Physiology | Immunopathological reactivity changes in proteinograma, leucogram | Institute interpret blood tests proteinogramu, immunogram |
| 8 | Mr.ematologiya | Ay toimmunnaya hemolytic anemia, thrombocytopenia, agranulocytosis: clinical and laboratory signs | mind et diagnose, treat |
| 7 | Pulmonology | Extrinsic allergic alveolitis, sarcoidosis, fibrosing alveolitis: clinical features, diagnosis, treatment | mind et diagnose, prescribe treatment |
| 8 | Propaedeutic terapіya | Examination of the immune system and clinical tools | direct clinical examination Gadfly |
| 9 | Rheumatology | Criteria for RA, SLE, SSc, rheumatism | Prospect Gadfly clinical examination of patients |
| 10 | Neurology | Criteria for multiple sclerosis, myasthenia gravis | Prospect Gadfly clinical examination, treat |
| 11 | Obstetrics | Infertility problems with immune mechanisms | Prospect Gadfly clinical examination, treat |
| 12 | Pharmacology | Wasps major groups immunosuppressants, immunomodulators. Regulations prescribing | You prescriptive recipes prescribe adequate treatment |

V. Content of the topic classes.

Teacher reminds students of the importance of carefully collected history and notes that the basis for the purpose of immunotherapy is precisely the clinical signs of immunopathology. Also gives definitions of immunotherapy, immunoprophylaxis, immunorehabilitation, imunokorekttor (immunomodulator) talks about indications, contraindications and prescription principles immunotherapy.

Immunocorrection ("immunotherapy", "immunomodulation") - this kind of treatment acts on the immune system to restore immune homeostasis, regulation or temporary replacement of individual units to the destination immuniteta.Pokazaniya immunotherapy should be clearly justified in each case taking into account the necessity of raising the level of and the time of its implementation.

Immunotropnye funds should be assigned based on clinical and immunological parameters, under control for the influence of drugs in each contingent sluchae.Immunoterapiya conducted as follows:

\* The first group - persons with clinical signs of impaired immunity and immunological changes in laboratory parameters;

\* The second group - persons with clinical signs of the immune system in the absence of changes in laboratory immunological parameters.

It **is not conducted to persons** having only changing the immunological parameters without clinical signs of disease of the immune system.

Immunotherapy may be higher and intraimunnoyu.

1. Ekstraimunnaya therapy includes: - Reducing the antigenic load on the body (hypoallergenic diet, etc.) - Elimination of chronic foci of infection (antibiotics, surgery) - Appointment of complex non-specific funds aimed at improving the general condition of the body and metabolism.

2.Intraimunnaya therapy - the use of immuno funds inkorporalnih and extracorporeal lecheniya.Intraimunna therapy as a means of the immune system, depending on the given effect fundamentally divided into: immunostimulatory, immunosuppressive, immunomodulatory. And in recent years, the new direction in clinical immunology - immunorehabilitation.

Immunostimulation - a way to activate a specific clone of immunocompetent cells or the overall gain of the immune defense.

Immunosuppression - the influence on the immune system is directed to the suppression or elimination of antibodies and / or lymphocytes which specifically react alo - or autoantigens. Immunomodulation - a system with the recovery of the immune status to a normal balanced condition.

Immune - a complex medical - sanitary measures aimed at restoring functional disorders of the immune system.

Students need to know that there are the following methods immune:

- Medical (immunotropnye funds);

- Drug-free (phyto -,-api, physio -, reflex -, aromatherapy);

- Inkorporalny (Tonsil - Apendi - splenectomy);

- Extracorporeal (immuno -, Lien -, hemosorbtion, plasmapheresis).

Basic principles immunotropic therapy

• Statement of significant clinical diagnosis and determine the extent of immune pathology, based on clinical signs of immune deficiency, laboratory data immunoassays necessarily taking into account concomitant somatic pathology. • Individual selection of immunomodulatory drugs, depending on the degree of immune disorders.

• Immunotherapy immunomodulatory drugs, usually held on the background of pathogenetic therapy and included a comprehensive program of treatment.

• Integrated immunorehabilitation using immunomodulators should consist of methods that directly affect the immune system and methods ekstraimunnoi action.

It should be noted that in addition to drugs belonging to the classification immunotropnyh lot of money inserted into the body for any other purpose may also affect the immune system (gemodez, Riboxinum, metiluratsil dibazol, chimes, indomethacin). Several preparations of traditional medicine, non-drug factors such as physical, psycho-emotional stress, physical therapy facilities, temperature - climatic conditions may have immunotropic effect.

In recent years, widely used non-pharmacological methods such as magnetic therapy, elektromagnitoterapii (millimeter or decimeter waves), UFO - or lazerooprominennya blood.

The immune system of many linkages with other life support systems, and above all, with the central nervous and endocrine. The central organ of the immune system thymus is known to link the hypothalamic - pituitary - adrenal cortex - gonads. Therefore, to achieve a certain effect on the immune system can by acting on the central nervous and endocrine systems. For the immune system characterized by a clear, balanced work and antisystems systems, the sequence of steps to respond, so planning treatment of immune preparations must be clearly defined clinical - immunological stage of the immune response and the degree of damage to the immune mechanism.

Imunokoreguyucha therapy may be mono - or a combination of immunotherapy. Monoimunokoreguyucha therapy is used in patients with isolated immunodeficiency II-th degree in one of the systems of immunity, given the effectiveness of the drug in each case of the disease and the patient's body and personality. Combination immunotherapy is the simultaneous use of several immunomodulators which have different mechanisms of action. This therapy should conduct highly skilled - Clinical Immunology under the supervision of a number of laboratory parameters. Immune preparations - are drugs that primarily affect a greater or lesser extent on the functional system of immune homeostasis and characterized by affinity for the immune system. Immunomodulators - are drugs that restore the therapeutic doses of immune system function (effective immune protection).

The effect depends on the initial state of the patient: reduce increase and improve performance reduced иммунитета.Иммуностимуляторы - are drugs that enhance immunity, leading indicators dropped to normal.

Immunosuppressants - are drugs that suppress the immune otvet.Immunotropnyh drugs are assigned:

1. With immunodeficiency diseases kvoloprotikayuchih and chronic inflammatory processes, frequent relapses, complications related.

2. On the background of nutrition, receiving vitamin preparations which contain micro - and macro.

3. After first using detoxification to enhance the function of elimination organs (enzymes, sorbents, infusion therapy).

4. Upon correct choice of formulation depends on the degree of dysfunction of the immune system or other link, the process stages.

5. After a preliminary determination of individual sensitivity to drugs, dose selection in vitro, individual scheme.

8.Detyam and the elderly spend a gradual increase and decrease doses of immune preparations.

9. During convalescence used drugs to help rehabilitate the immune system (vitamins, adaptogens).

Selection of immune preparations in vitro:

1). Without matching (on the recommendation of the company in the instructions)

2). According to the level of antigen expression (CD2, CD3 in vitro)

3). The phenotype of T - and B-lymphocytes in the experimental therapy (each drug for 3-4 days before and after the test purpose)

4). Activity by NK in vitro (oncology)

5). By modulation of the phagocytic activity of leukocytes

6). Optimal: T definition. + NC + FAL

There are several classifications of immune preparations \. In our opinion, the most successful is the classification of the "origin".

Immune preparations (classification).

1. P r o d u c t s f and s and l o g and h e i s o d o (b and l o g and h e i s o d o) p r o and x o w e e n i: t and to t and n and, m and m o s t m and y n and n, m and m and n and n, t o m m. n ..
2. P r o d u c t s m and n p o b o d o p r o and x o w e e n i:

\* Live bacteria - BCG;

\* Extracts - Biostim, urovaksom;

\* The lysates - bronhomunal, IRS - 19 Imudon, bronhovaksom, rinovak, respivaks, grow into;

\* Lipopolysaccharide - pirogenal, prodigiozan;

\* Yeast polysaccharides - zymosan, nukleinat;

\* Fungal polysaccharides - bestatin, lentinan, glucan;

\* Ribosomes + proteoklglian - Ribomunil;

\* Probiotics - blasts biosporin, Linex;

3.Sinteticheskie drugs: timogen, likopid, diutsefon levamisole (dekaris) kemantan, leakadin, polioksidony, groprinozin, Isoprinosine, neovir, tsikloferon, galavit.

4. Vitamins and antioxidant drugs: Oligovit, yunikap etc. .

5. Herbal drugs: Immunal, manaks, tinctures of echinacea, lemongrass, ginseng, Siberian ginseng, imunoflam, fitomaks, Immunomax.

6. Chelators: belosorb, ensoral, Reporting silart, antral.

7. Immunosuppressants: glucocorticoids, azathioprine (Imuran), Sandimun, Prograf, selsept, timoglobylin.

8. Complex fermetny drugs: vobenzim, Phlogenzym, vobemugos.

9. Inducers of endogenous interferon: dibazol, indomethacin, amizon, fitomaks, Proteflazid, lavalaks.

Teacher presents the mechanisms of action of individual groups of drugs

. Peptides immunoregulatory thymic origin (T-activin, thymostimulin, timalin, that - uvokal, Timoptin, vilozen etc.)

Mechanisms of action:

- Increase lymphopoiesis;

- Inducing the maturation, differentiation, increased functional activity of T - cells;

- Strengthen the response of T - cells to mitogens;

- Generate T - suppressor cells and killer functions;

- Increase the production of various cytokines (T-activin, thymostimulin);

- Induces the production of thymic serum factor (T-activin), increase the phagocytic activity of neutrophils (Timoptin);

- Inhibit the production of IgE, and stimulate the production of immunoglobulin M, G-membrane-stabilizing effect on basophils (vilozen).

Immunoregulatory PEPTIDES marrow origin (mielopid - In-activin).

Mechanisms of action:

- Accelerate the aging B-lymphocytes;

- Increase the number of cells that produce antibodies (especially anti-viral);

- Increase the total resistance of the organism;

- Possess the ability to reduce pain by acting on the processes of sensory signals in the nervous system;

- Adjust the increased activity of T - killers, K - cells, NK-cells.

- Improve the function of T - helper;

- Stimulates the immune system, at the level of the secondary immune response;

- Acting on a red germ blood (thus can be used for anemia).

DRUGS SPLEEN (leykomaks, granotsin).

Mechanisms of action:

- Enhance the expression of HLA class 1 on human monocytes;

- Increase the synthesis of antibodies;

- Increases the phagocytic activity of mature leukocytes in the blood peripherin.

Cytomedines - low molecular weight peptides that act as tissue-specific intracellular and intercellular messengers (prostate flax Epithalamin).

Mechanisms of action:

- Restore modified by disease or aging functions of the bodies from which they were obtained.

Product of microbial origin (see above):

Mechanisms of action:

- Increase the number of macrophages and their phagocytic activity;

- Increase the content of endogenous interferon and lysozyme;

- Activate the peroxidation processes in macrophages - monocytes, which contributes to the destruction of infectious agents

- Stimulates the secretion of prostaglandin E2, interleukin-1, TNF (tumor necrosis factor), macrophage - monocytic cells;

- Stimulates the release of cytokines (IL -6, IL -8, interferon);

- Increases the expression of adhesion molecules on macrophages, monocytes, and granulocytes;

- Increase the number of secretory immunoglobulin A, serum Ig-A, Ig-G, Ig-M.

Synthetic drugs (see above).

Mechanisms of action:

- Activate the proliferation of T - lymphocytes;

- Strengthen the reaction of phagocytosis, normalize the function of cellular and humoral immunity;

- Strengthen the blast transformation of lymphocytes;

- Increase the production of antibodies by the stimulation of macrophages and T - helper;

- Activated NK-cells, the complement system;

- Stimulate the production of interferon;

- Reduce the intensity of delayed-type hypersensitivity.

Immunosuppressants (glucocorticosteroids, azathioprine (Imuran), Sandimun, Prograf, selsept, timoglobin, thymoglobulin, etc.).

Mechanisms of action:

- Immunomodulatory effect (GCS);

- Inhibits the activity of T - cell mechanisms (T-tsitoksikiv - killer - CD8 +);

- Suppress humoral defense factors (reduced production of antibodies);

- Inhibit the production of proinflammatory cytokines IL 1, IL 2, IL-3, TNF;

- Inhibits the cellular inflammatory factors and collagen biosynthesis.

Vitamins and vitamin preparations (see above):

Mechanisms of action:

- Vitamin C - stimulates phagocytosis and migration of lymphocytes. Contained in Kalina, mountain ash, currant, wild rose.

- Vitamin A - stimulates the complement, properdin, enhances antibody response is immunoprotector. Found in carrots, spinach, lettuce, parsley, green onions, red pepper, wild rose.

- Vitamin E - enhances antibody production, the activity of T - helper. Found in vegetable oils, cereals young sprouts in nut.

- Zinc - enhances the migration and proliferation of stem cells of the thymus. Contained in aloe cottonweed, violets, herd, celandine, nut plants.

- Iron - stimulates the immune system. Contained in Sinyusi, Lubell, Maren zaytseguba, sushenitsy.

- Cobalt - stimulates the immune system. Contained in daisy, sushenitsy, herd, wild rose.

INTEGRATED enzyme preparations (vobenzim, Phlogenzym, vobemugos). Mechanisms of action:

- Induces phagocytosis (increase the cytotoxic activity of macrophages);

- Activate a 8-100 times NK-cells;

- Activates the tumor necrosis factor (TNF);

- Activate inducers IL-1;

- Inhibits the activity of the complement;

- Eliminates circulating immune complexes fixed on fabric;

- Prevents new circulating immune complexes;

- Take part in the destruction of circulating immune complexes (partially destroying enzymes, macrophages - output);

- Affect the immune system through T - helper cells.

Immune preparations based on monoclonal antibodies Infleksimab (Remicade) - "fancy" a monoclonal antibody directed against tumor necrosis factor.

Rituximab - "fancy" monoclonal antibody subclasses of IgG / k, directed against CD20 - antibodies.

Basiliximab (Silumekt "Novartis") - "humanized" monoclonal antibody directed against the molecule CD25, which is an alpha - subunit receptor iiterleykinu 2.

Expert advice IRS CIS Congress of Immunology (2000) during the "round table", which was held under the title "

Immunomodulators and immuno drugs: Problems and Prospects "has decided to recommend a clinical immunologist and clinicians to the following:

• Do not assign immunomodulatory drugs without a study of the immune status, instead of helping to do no harm to the patient.

• Conduct the dynamic monitoring of the immune status if no clinical manifestations, and only then make a decision on the appointment imunnotropnih funds.

• Conduct the dynamic monitoring of the immune status of the patient before starting immunotropnye means when expressed clinical manifestations of the disease, if the violation of the immune system of the patient is not revealed.

• Read destination immune preparations required in individuals with pronounced clinical manifestations of disease and functional and quantitative changes in the parameters of the immune system. The type and dosage determined in each case individually.

• Appointment of immune preparations without immune status assessment is only possible as a preventive measure:

- While waiting for any epidemic diseases (such as influenza);

- Before the acute surgical procedure;

- Patients with AIDS and HIV - infected;

- In severe cancer patients.

Practical experience shows that the indications for the purpose of immune preparations are:

1. Use in adjuvant therapy along with antibiotics, antifungal, antitiprotozoynimy, antiviral agents in patients with acquired immunodeficiency in chronic infectious - inflammatory process.

2. On the first day of application of the chemotherapy, etiotrop agents in patients with acquired immunodeficiency.

3. In immunocompetent persons in order to prevent the development of infectious complications.

4. Indications for use of immunomodulators affecting phagocytic immunity link is clinical immunodeficiency.

5. Indication for the need of rehabilitation miropiemstv immunomodulators:

- People with incomplete recovery after infectious diseases;

- We often chronically ill people before the autumn - winter season, especially in ecologically unfavorable regions;

- In cancer patients to improve quality of life.

6.When appointment immunomodulators desired immunological monitoring, while for normal immune status indicators take their physiological abnormalities in one or another stage of infection - an inflammatory process.

7.Znizhennya indicator of immunity during examination of a healthy person is not necessarily an indication for an immunomodulator.

Immunization includes a variety of ways of influencing the immune system, to prevent the occurrence of disease or relapse. It may be:

v Specific

§ Primary vaccination

- Differentiated - mandatory vaccines

- More - to pneumococcal menigokoku, Hemophilus influenzae

- Annual - influenza

- According to the testimony - against herpes simplex virus

§ Secondary - causal suppressive, anti-infective therapy, management of specific antibodies

v Non-specific (probiotics (hilak) hepatoprotectors (Gepabene) sorbents (Micothon) sanogennykh activities dispensary observation.

Immune - a complex immunological (immunotherapeutic, public immunization), social, environmental, biomedical interventions aimed at restoring altered immunological reactivity of the patient population or specific population group. Integrated immunorehabilitation conducted taking into account the higher and intraimunnoi therapy.

Requirements for immunorehabilitation:

1) Stable number of violations of subpopulations and functions of the various parts of the immune system.

2) The drug is used must be sufficiently studied the mechanism of action is aimed at stimulating the immune system suppressed level.

3) Treatment should be under immunological control.

**VI.** **Plan and organizational structure of classes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fl Zanathy ups, their function and content | Ur ovni assimilation | Me ods monitoring and training | Ma forced ones methodological support | Timein min emya |
| * 1. p r o d o t o in t and e n s o m th e m a n   Organization of classes  Learning Objectives  Control the input level of knowledge, skills:  - Immunotherapy as a treatment method  - Types, methods of immunotherapy | 1 | fr ontalny poll  Rapid survey  test control (input) | Those sty  Schemes | 25 |
| * 1. about a tio n n o d e t a n   Formation of professional knowledge and skills:  - Know the interpretation of concepts immunostimuljatsija, immunosuppression, immunomodulation  -Know the classification of immune preparations  - Know the basic principles of immunotherapy immunorehabilitation, immunization  - Know the release form, the dose of immune preparations  - Be able to write prescriptions | 2  2  3  3  3 | Ying vidual survey (checklists)  Professional training in solving typical problems ("Step 2") | That blitz  Allocation scheme based on the results of immune preparations immunograms  Typical case studies | 210 |
| 3.zaklyuchitelny stage  Monitoring and correction of professional knowledge and skills  - Be able to appoint agents regarding immunopathology phase of the process, age and laboratory immunological changes.  - Know the basic indications and against indications for immunotherapy | 3 | Those stirovanie (baseline)  individual survey  Decision atypical case studies | Cx emy  Tests  Unusual case studies | 35 |
| Pr The behavior of the outcome studies.  Homework for the next theme |  |  |  |  |

VII. Methodology of the educational process at the practical (seminary) lesson.

7.1. Preparatory stage.

Definition of immunotherapy as a treatment, immunization immunorehabilitation. Understand the types, methods, principles, indications and contra-indications of immune preparations. Know the classification of immune preparations.

Familiarize students with specific objectives and lesson plans.

Conduct initial control level of preparation of students using test items 1 - and 2 - level.

7.2. The main stage

This phase involves the execution of each student independently under the supervision of a teacher below these practical works.

Objective 1

Students conduct survey and objective examination of the patient with immunological disorders, using inspection, palpation, auscultation, percussion.

Task 2

|  |  |  |
| --- | --- | --- |
| **Number** | **W Tasks** | **fl Alon answer s** |
| 1. | Yk azhite vitamins that are important in immune? | vi Tamin A, vitamin E, vitamin C, vitamin PP |
| 2. | Ka Kya laboratory tests can be used for the selection of immunomodulators in vitro? | those rosette Article |
| 3. | Not specifically stimulates immunotherapy involves the use of: | Mi elopeptidov thymic origin (thymomimetic) |
| 4. | Wasps new destination for immunotherapy is ...? | Cl inicheskie signs of immunity |
| 5. | K and mmunotropnyh funds recombinant origin are .. ? | Ex eparaty interferons, interleukins |
| 6. | Ka covariance primary point of action of thymic origin mielopeptidov? | Ak ciency of T-lymphocytes |
| 7. | Ka Coy secondary pharmacological effect when applying the preparations of thymic origin? | mustache Ylenia phagocytosis |
| 8. | In a Akiho cases shows specific allergen desensitization? | Prospect and atopic diseases |
| 9. | They are not appointed munotropnyh drugs .. ? | Bo lnym with laboratory evidence of immune deficiency |
| 10. | Wasps new point of application of the drug polioksidony: | F gotsitoz |
| 11. | On Call mast cell stabilizers? | On lkrom, lomuzol, tayled |
| 12. | K and mmunomodulyatorov microbial origin are .. ? | Bi Ost, Ribomunil, IRS-19, bronhomunal |
| 13. | On Call immunotropnye drugs that are used during specific immunotherapy substitution? | They immunoglobulin. Antisera lymphocytes, macrophages. |
| 14. | On Call antiviral drug, whose purpose is shown in cytomegalovirus infection? | qi meven |
| 15. | Yk azhite allergovaktsinatsiya principal mechanism of action? | they munologichesky |
| 16. | Wasps new point of application of the drug mielopid? | Ak ciency of B-lymphocytes |

Task 3

1. Immunotherapy (immunotherapy, immunomodulation) that .. ?

Answer - the kind of treatment aimed at restoring immune homeostasis, regulation or temporary replacement of individual components of immunity.

2. Types of immunotherapy you know?

Answer - specific or nonspecific, intraimunna, ekstraimunna.

3. What are the basic principles of immune preparations destination?

Answer - when their appointment immunodeficiencies, prior use of detoxification is not given without the study of the immune status, conduct dynamic monitoring.

***Task 4***

|  |  |  |
| --- | --- | --- |
| ***Number*** | ***For cottages*** | ***Of covenants*** |
| 1. | Cn etsificheskaya immunotherapy is ...? | on power-dosing causative allergen growing |
| 2. | Thu about is the basis for the decision on the appointment of immune? | Cl inicheskie signs of immune deficiency |
| 3. | Ying vidual selection immunocorrective drugs that ..? | By dbor in vitro |
| 4. | For I deficiency correction In-immunity is expedient to use .. ? | In-and ktivin (mielopid) |
| 5. | On Call immunotropic drug related to immunosuppressive? | sa ndimun |
| 6. | K n Reparata, sealed membrane of mast cells include: | Ying tal, tayled |
| 7. | On Call immunotropic herbal preparation? | ma nax |
| 8. | Yk azhite trace minerals that are important in immune? | Qi nc, iron, copper and selenium. |
| 9. | On Call immunotropic drug product of microbial origin? | br onhomunal |
| 10. | On Call immunotropic drug biological (physiological) origin? | ti raspberries |
| 11. | For I deficiency correction T - immunity appropriate to prescribe ...? | They unofan |
| 12. | *On Call immunotropic synthetic drug?* | By lioksidony |
| 13. | On Call immunotropnye drugs that are used during specific immunotherapy stimulating? | *va ktsiny* |
| 14. | Ka Kya drugs used to treat angionevro cally hereditary edema caused by deficiency of C1 - esterase? | Episodes Cylon-aminocaproic acid ,  danazol, fresh frozen plasma |
| 15. | On Call immunotropnye drugs that are used during specific immunotherapy depressing? | al lergeny |
| 16 | K and mmunotropnyh funds are of natural origin .. ? | Prospect eparaty immunoglobulins |
| 17. | On call me a drug used during nonspecific immunotherapy? | Hell yuvanta, thymomimetic, Miyelopid marrow origin. |
| 18. | On call me a drug used during nonspecific replacement therapy: | le ykotsity |
| 19. | Wasps new fulcrum action immunotropic dibazola? | Ak ciency natural killer |
| 20. | Pe rechislite methods of immunotherapy? | Me dikamentoznye, non-drug, inkorporalni, extracorporeal. |
| 21. | On Call immunotropnye drugs that are used during the nonspecific depressant therapy? | qi tostatiki |
| 22. | Ka Kya immunotropnye immunosuppressive drugs belong to? | CC C Sandimun, selsept, azathioprine |
| 23. | On Call adjuvant inorganic origin? | Guy droksid aluminum ,  calcium phosphate , calcium chloride,  alyumokaltsievi alum  Quartz powder  absorbent carbon |
| 24. | On Call herbs which have immunomodulatory effects? | Au p marsh, astragalus, Echinacea purpurnayaVinograd, sage, fasolAloe tree, licorice, garlic |

Problem number 1. Patient 42 years ulcerative colitis, acute form, severe course, the ultimate defeat of the intestine, the activity of III degree, toxic dilatation of the colon. That you want to assign for an increase in gamma - globulin A: Cytotoxic agents

Problem number two. Woman 32 years, suffered a severe form of viral hepatitis B. Within two months while testing revealed high concentrations of HBV - DNA. What tactics of patient A: Assign a course of therapy with interferon.

Problem number 3. Patient 32 years old, works as a driver, he turned to a dermatologist with complaints of a painful vesicular rash on the skin of the face on the left, fever, edema. A diagnosis of herpes zoster. Of the following drugs would be most effective? Answer: Acyclovir

Problem number 4. Patient 48 years old, a teacher by profession, who was often sick with colds, consult a dermatologist complaining of a rash on the skin and mucous membranes of the mouth. After the examination, the patient was diagnosed mihurchatku vulgar. As a result of the treatment, clinical recovery occurred. Of the drugs must be assigned to the patient in order to prevent relapse dermatosis A: Prednisolone

Problem number 5. Of the following drugs is most active with shingles? Answer: Acyclovir

Problem number 6. Clinic in hospitalized patients with infectious - allergic asthma. Of these, the most appropriate means of immuno to prevent frequent repeated respiratory viral infections in a patient Answer: Ribomunil

Problem number 7. Patient M., aged 42, complained of general weakness, sweating, irritability, decreased performance, and recurrent bacterial infections. Over the past 3 years suffered otitis, sinusitis, pneumonia twice, repeatedly acute respiratory infections. In the study of immunological parameters showed a reduction in IgA, phagocytic activity of neutrophils and macrophages, the synthesis of interleukin-1, interleukin -6. Of drugs the patient is recommended to promote antimicrobial immunity Answer: Ribomunil

Problem number 8. Clinic in hospitalized patients with systemic lupus erythematosus. She appointed parenterally prednisolone at a dose of 1200 mg. What is the main effect of prednisolone in a dose? Answer: immunosuppressive

7.3. The final stage.

Evaluates the current activities of each student during class, an analysis of student performance, declared evaluation of each student and exhibited in the register of visits and student performance. Warden group simultaneously enters evaluation timesheet achievement and attendance of students, teachers assures his signature.

Advisable to brief students on the subject of the next lesson and instructional techniques to prepare for it.

VIII. apps

8.1. Theoretical issues of the preparatory phase:

1. What is immunotherapy.

2. Species, methods of immunotherapy.

3. Basic principles destination immunotherapy.

4. Classification of immune preparations.

5 What is the basis for the appointment of immune preparations.

6. What is immunorehabilitation, immunoprophylaxis.

8.2 Formulate a clinical diagnosis

Tasks third level

Problem number 1. Patient P., aged 42, complains of increasing the temperature to 38 ° C, dry cough with difficult sputum, chest pain when coughing, runny nose, weakness. Sick about 3 - days ago after hypothermia.OBJECTIVE: nasal breathing difficult. In light percussion dullness in the lower parts of both lungs. Auscultation of the lungs breathing hard, in the lower divisions - crepitus. Rhythmic activity of the heart, heart rate -88 beats / min, AT-125/85 mmHg Radiographically: WGC - bilateral lower lobe pneumonia. Changes in humoral immunity in a patient? Answer: Reduced IgG, a significant rise IgM, IgA normal level

Problem number 2. Patient K., 52 years old, complains of weight gain, weakness, constipation, memory impairment. These symptoms slowly grew over the past 1.5 years. OBJECTIVE: dry skin, mild swelling of the face and extremities, heart borders expanded muted tones, pulse 66 in 1 min. BP 110/70 mmHg Thyroid was not palpable. ELISA detected antibodies to thyroglobulin (+) and microsomal antigen (+ + +), TSH level - 15.2 IU / l. U.S.: iron with reduced dimensions, the inhomogeneous structure. Install the diagnosis. A. Autoimmune thyroiditis, hypothyroidism.

Problem number 3. Patient H, 47 years old, diagnosed with nephrotic syndrome. Which will be observed in a patient changes of humoral immunity? Answer: Reduced IgG, IgA; normal and increased concentration of IgM

Problem number 4. Woman 35 years delivered to the surgical ward in a serious condition with complaints of severe diffuse pain throughout the abdomen, nausea, vomiting. Deterioration occurred 2 days before admission, when the skin of limbs appeared punctulate hemorrhagic rash, having cramping abdominal pain, bleeding from the rectum. 2 weeks before that suffered an acute viral infection. OBJECTIVE: BP 90/60 mm Hg. Art. , Heart rate 95 per minute, abdomen palpation tense peritoneal signs. The study of blood observed leukocytosis and eosinophilia, reduction of red blood cells and hemoglobin. What are the main pathogenetic mechanisms of this disease? Answer: Immune vascular lesions

Problem number 5. Patient 53 years old, an accountant by profession, on the background of a satisfactory general condition appeared painful rash in the mouth, and then - on the skin and body. Dermatologist diagnosed mihurchatku vulgar. Examination revealed chronic gastritis. Mechanisms for the development of dermatosis can be considered the most likely in this case? Answer: Autoimmune

Problem number 6. Patient appealed to the allergist M, 40 years old, complained of watery eyes when going out on the street, shortness of breath, redness and itching of the skin. Diagnosed with hay fever. What are the common features of atopic diseases: A: Availability (products) IgE - reagin

Problem number 7. Patient toxic goiter. Mercazolilum gets a dose of 50 mg per day. After 3 weeks of treatment increased body temperature to 38.1 C, there was a pain in the throat, painful sores in the mouth. Complete blood count: er. - 3,1 × 1012 / L Hb - 94 g / l, KP - 1.0; Lake. 1,0 × 109 / L ESR - 28 mm / hour. Which is likely to cause deterioration of the patient? Answer: The development of agranulocytosis.

XI. conclusions:

9.1. Mastered knowledge of immunotherapy as a method to influence the immune system

9.2. , The understanding of concepts immunization immunorehabilitation.

9.3. Initial understanding of the prevailing individual assignment immune preparations depending on the immunopathology phase of the process, laboratory immunological changes and the patient's age.

9.4 Learning and knowledge hits and contraindications to the use of immune preparations.

9.5.Priobretennoe understanding of the need for timely appointment immunotherapy

Tasks for independent work on this topic:

1. C o s t and s and t n e r e h e n s h a r a c t e r n s x and y m m n o p r o p s n x p r e p a r a t o in m and m n o y s t y l and m and p y w o f r o, m and m y n o d e p r e a c and d n o, m and m y n o m o d y l and p y w o f o r d e d s t in me.

2. Develop a table (schema) prescriptions depending on vozrasta.3. Form the main evidence against the indications immunotropic therapy.

H. List of educational - methodical literature

Summary:

1. Chopyak VV , GA Potemkin , Gavriliouk AM Lectures on Clinical Immunology for practitioners. - Lviv. - 2010.

1. GN Drannik: Clinical Immunology and Allergology. - K. - 2009.

2. BM Pukhlik: Allergy to the family doctor. - Vinnitsa. - 2012.

3. BM Pukhlik Allergology. - Vinnitsa. - 2004.

4. Pytsky VI et al .. Allergic diseases. - Moscow, 2010

5. BM Pukhlik: Elementary allergology. - Belgrade - 2002.

6. BM Pukhlik Allergology. - Belgrade - 2004.

7. M. Yakobisyak / Immunology. - Translated from the Polish, edited by prof. VV Chopyak. - 2009.

8. Kazmirchuk VE Kovalchuk LV Clinical Immunology and Allergology. - M.: NEW BOOK. -2006.

9. Sokolov EI Clinical Immunology / M: Medicine. - 1998.

General:

1. G. Lawlor - Jr., T. Viter - Clinical Immunology and Allergology. - M. - 2000.

2. KA Lebedev, ID Ponyakina: immunogram in clinical practice. - MA - 2003

3. DK Novikov, PD Novikov - Clinical immunology. - Vitebsk. - VSMU 2006.

4. BA Nikulin Evaluation and correction of immune status. - Moscow. -2007

5. BM Pukhlik: Practical Guide for immunodiagnosis and immunotherapy. - Vinnitsa. - 1992.

6. LI Chernyshev, DV Samarin - Primary combined immunodeficiency in children K. - 2004.

7. Sidorenko EN Clinical Allergy. - Moscow - 2005.

8. Roy Patterson, Leslie K.Grezmer Paul. Allergic disease (diagnosis and treatment). - MA - 2000

9. Beloserov ES Immune system disease Elista: APP "Djangar", 2005.

10. Fundamentals of Clinical Immunology (textbook for medical schools) lane. from English. E.. Csepel, M. Heine, C. Misbah, N. Snovden, M: GEOTAR Media, 2008.

11. Dig A. immunology / M: peace. -2000.12. RM Khaitov "Immunology" textbook for medical schools - Izd. GEOTAR Media. - 2009. - + CD ROM

Scientific benefits:

1. Yarilin A.A.Osnovy Immunology: Textbook. -M. : Medical. , 1999.

2. Clinical Immunology. Under. Ed. G. Lawlor - Jr., T. Fisher and David Adelman. Lane. from English. - M., Practice, 2000.

3. Imunodifitsitnye state / red. - V.S.Smirnov and IS Freidlin - SP B "Tome", 2000.

4. Dig A. Brostrof J. Mayle, D. Immunologiya.Per. from English. - M.Mir 2002.

5. West S.dzh.Sekrety Per rheumatology. with Engl. - M.SPb. : Publisher Bion ", 1999.

6. Periodic magazines "Immunology and Allergy," "Immunology", "Clinical Immunology", "Rheumatology", "Neurology" "Gastroenterology", "Pulmonary", "Medicine of Ukraine", "Doctor", "The Art of treatment" in 2000 - of 2003. Methodical : VE Mileryan

Methodical bases of preparation and holding of training zanyatiyv medical schools (handbook). - K. "Khreschatyk", 2004. -80 S.

Allowances for training:

1. Set presentation sessions for multimedia use.

2. Test control Croc 2 (computer-based) and a collection of case studies for the assimilation of knowledge.

3. Metodrazrabotki for practical training.

4. Set of tables prepared recommendations slaydovMetodicheskie

MD , Associate professor of OB Bondarchuk

Guidelines approved by the faculty meeting ......... "29" 08 "in the 2013 Protocol number 1

MD Head of Department Professor BM Pukhlik