Ministry of Public Health of Russian Federation Amur State Medical Academy



Students' Scientific Society





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ABSTRACTS 24th SCIENTIFIC STUDENTS CONFERENCE IN FOREIGN LANGUAGES

15

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Section of the English
Language

INTRODUCTION TO JAPANESE CULTURE

Soshi M., Kimikazu K – 3rd-year students, Junichi K. – a 5th-year student

Three Osaka Medical College students are going to introduce some Japanese culture. The traditional art of flower arrangement 'Ikebana' and some world heritage sites in Japan, including 'HIROSHIMA' where a nuclear bomb was dropped in 1945.

BURN OUT BURNOUT SYNDROME AMONG HEALTH CARE WORKERS

Hotsanyan K.- the 4th-year student

Scietific leader – Dr.Med.Sc., Prof. T.A. Savinova, Cand.Med.Sc.Goryacheva S.A.,Kostina V.V.

Medical professionals - one of the social groups that are affected by all the real problems of modern social life. Professional activities of a doctor suggests emotional intensity, psychophysical stress and a high percentage of the factors that cause stress. Doctor forced to reside under the negative emotions of others - to serve as consolation for the patient, the target of anger and aggression.

Numerous studies in the field of sociology of medicine proved that doctors, as a social group belonging to the category of professions "man-man", are most susceptible to emotional burnout.

This phenomenon is not just desirable for the medical profession, but also entails an error, psychological strain and reduced quality of life of the doctor, so the timely diagnosis and correction of such violations is very urgent.

Prophylaxis is divided into primary and secondary which comprises integrated event.

We can distinguish the main conditions to prevent burnout in health care workers:

- 1) Measures directed to the work environment are: creating and maintaining a "healthy work environment," good atmosphere within the team.
- 2) It is necessary to cultivate other interests that are not related to professional activities, contribute to the diversity in their its work, the presence of a hobby.
- 3) It is necessary to maintain their health, to keep the regimen of sleep and food; learn the technique of meditation, debriefing (discussion) after a critical event, learning relaxation techniques, the ability to say "no.

FIRST EXPERIENCE PRODUCING MESENCHYMAL STEM CELLS

Hotsanyan K., Sharvadze N. - the 4th-year students Scientific leaders - Cand.Med.Sc. Brash A.A., Kostina V.V.

Today modern medical research cannot be imagined without the study and cultivation of stem cells, tissue engineering, transplantation, etc.

An important foundation for this work are the mechanisms and methods of cultivation of stem cells. The uniqueness of stem cell self-renewal and the ability to differentiate into several directions: chondrogenic, adipocytates, neuronal, cardiomyocytates, myocytates (Kruglyakov PV, 2008).

Amoung all stem cell mesenchymal stem cells (MSCs) have a higher proliferative potential, are self-renewing cell population to maintain their undifferentiated state, and are able to differentiate into specific types of cells by differentiation stimuli (Mia Buehr, 2008).

Therefore MSC draws attention in terms of their possible use for replacement or rehabilitation therapy of diseases, gene or cell engineering, to study the possibility of allogeneic MSC transplantation of stem cells from bone marrow (Menzorov AG, 2013).

The aim of our work is the development of methods for the isolation and cultivation of MSCs rat bone marrow. In our study we used rats - males, aged 3 months. 3 weeks after sowing culture on Petri dishes, the result of our work was to obtain a sustainable culture of mesenchymal cells for future use.

We have grown a culture based on these articles data the author of which got stable fibroblast culture.

To confirm the results, we conducted verification by Pappenheim - Kryukov staining, which made it possible to differentiate the components of cells, using light microscopy, which showed the presence of undifferentiated cells.

MULTIPLE PERSONALITY DISORDER AS AN EXAMPLE OF BILLY MILLIGAN

Hotsanyan K.- the 4th-year student Scientific leaders - Brash N.G., Varganova S.V., Kostina V.V.

Dissociative disorder of identity - a very rare mental disorder from the group of dissociative disorders in which a person's identity is divided and the impression that the body of one person, there are several different personalities. In this case at certain moments there's a «switch» in man. These "persons" may have a different gender, age, ethnicity, temperament, intelligence, philosophy, respond differently to one the same situation.

The causes of this disorder are severe emotional trauma in early childhood, repeated extreme physical, sexual or emotional abuse.

Billy Milligan - the first man who was acquitted in court in connection with the diagnosis of "multiple personalities". Therapists were able to prove that the number of crimes for which Milligan was accused were committed without his "participation". Periodically "waking up" in prison, in the car (which he did not know how to drive) or in the middle of the conversation, he did not understand what was happening. Some personalities of Billy Milligan were gifted artists and musicians .All 24 had a different IQ and different from each other EEG data.

NEW ANTIOXIDANTE COMPLEX ON THE BASIS OF NATURAL FLAVONOIDS

Hotsanyan K.- the 4th-year student Scientific leaders - Dr.Biol.Sc. Simonova N.V., Kostina V.V. Many common diseases and complications are associated with to the deficiency in the human organism the endogenous antioxidants - substances that prevent the accumulation of excessive amounts of free radicals.

The pharmacological properties of a new complex on the basis of flavonoids ridges grapes, licorice, as well as tocopherol, ascorbic acid were proved.

Antioxidant effects of flavonoids is realized through different mechanisms of action. They may react as classical phenolic radical inhibitors, interacting with lipid radicals. Another way to influence on an organism is associated with the ability to inhibit lipoxygenase.

Due to the balanced composition and the low toxicity, the composition which is based on natural flavonoids, provides comprehensive protection against the damaging effects of free radicals.

RESEARCH ON THE STATUS OF ORGANISMS ON THE BASIS OF FUNCTIONAL ASSYMMENTRY OF THE HEMISPHERES

Hotsanyan K.- the 4th-year student

Scientific leaders - Cand.Med.Sc. Karnaukh A.I., Dr.Med.Sc. Karnaukh V.N., Kostina V.V.

Most of the simple functions in the brain are equally distributed between the two hemispheres, so sensitivity and voluntary movements of the left half of the body is provided by the right hemisphere, the right half of the body - the left one. However, there is specialization of the right and left hemispheres in various higher forms of mental activity.

The aim of our study was to determine the relationship between the leading handleading hemisphere and the state of the organism, the difference of diseases and temperament.

The study was conducted among 50 students of ASMA, including 30 right-handers - writing with his right hand and 20 left-handers - writing with his left hand. They were asked to answer 3 blanks of the form: the first to determine the state of health, and the second to determine the temperament, the third on the definition of the autonomic nervous system.

Results: in 30 right-handed subjects —writing by the right hand the general state of immunity: 33% -stronger (sick 1-2 times a year), 40%- of the average (3-5 times per year), 27% with a weak immune system (more than 6 times a year). The tension of headache is in 50% of subjects in 3% migraine, 47% have no headaches.

The sympathetic nervous system is in 23 subjects, 7 - has the parasympathetic nervous system.

Type of temperament - sanguine dominated in 17 tested person, phlegmatic-8, and choleric- 5 person.

A left-handed - writing with his left hand, the general state of immunity in 65% is stronger, 25% intermediate, 10% is weak. The headache of t was in 40%, migraine was not observed, 60% had no have headaches.

The sympathetic nervous system is in 16 (80%), parasympathetic- in 4 (20%).

Type of temperament- there is dominated choleric persons in 11 tested ones, 5 - phlegmatic, 4 sanguine persons.

THE EFFICIENCY OF ZHUKOVSKIYS BALLONS TAMPONADE IN THE PREVENTION AND TREATMENT OF POSTPARTUM HEMORRAGE

Hotsanyan K.- the 4th-year student

Scientific leaders - Cand.Med.Sc. Zaritskaya E.N, Kostina V.V.

Maternal mortality in abdominal delivery is 10 times higher than in vaginal birth canal. In this context, a concern maternal mortality due to rotations of placenta ,infusion, obstetrical bleeding global trend of increasing frequency of deliveries by cesarean section call out anxiety.

Surgical methods have evaluated the hemostasis of postpartum hemorrhage from uterine artery dirssing (1869) up to the embolization of uterine vessels as breast-conserving surgery (2002).

Another option is a compression effect on the uterus - the experience of bilateral compression lower uterine segment and vaginal balloons praevia and placenta low localization.

The effectiveness of the joint application of the two are in different parts of the birth canal cylinders is enhanced by the mobility and the ability to move the vaginal module axial tube uterine catheter.

Intrauterine pressure on the bleeding placental site in the molten cavity by balloon the world obstetrics is regarded as a method of choice, the first step in the absence of uterotonic effect.

Prudent, careful, prompt filling of entire cavity of the uterus of damaged uterus by thin-walled bladder shaved its highly productive ness in the prevention of major complications of cesarean section.

The introduction of technology into practice BTZH perinatal centers allowed 2.5 times to decrease incidence of postpartum hemorrhage. Most effective in early treatment in loss of blood than 500 ml affects blood loss less more in reducing of indices.

CREATIVITY AND MENTAL ILLNESS

Sharvadze N. – the 4th-year student Scientific leaders – Brash N.G., Kostina V.V.

Numerous studies demonstrate correlations between creative occupations and mental illnesses.

Many famous historical figures gifted with creative talents may have been affected by bipolar disorder - Ludwig van Beethoven, Ernest Hemingway, Isaac Newton and etc (Goodnick,P.J.1998). In many examples creation and psychopathology have some common traits, such as a tendency for "thinking outside the box," flight of ideas, speeding up of thoughts and heightened perception of visual, auditory and somatic stimuli. Many people with bipolar disorder may feel powerful emotions during both depressive and manic phases, potentially helping them to create (Psychiatric Times).

In Kay Redfield Jamison's book "Touched with Fire: Manic-Depressive Illness and the Artistic Temperament" there are examples that some creative people posthumously were diagnosed with bipolar disorder or unipolar, which was based on the facts of their biographies, letters, correspondence, or other materials. The argument was given in the same source of information that bipolar disorder and affective disorders more generally may be found in a disproportionate number of people in creative professions such as actors, painters, comedians, musicians, authors, performers and poets.

Several recent clinical studies also showes that there is a positive correlation between creativity and bipolar disorder, although the relationship between the two is unclear.

EBOLA VIRUS DISEASE

Sharvadze N., Khotsanyan K., - the 4th-year students Scientific leaders – and.Med.Sc. Kruglyakova L.V., Kostina V.V.

Ebola virus disease, formerly known as Ebola hemorrhagic fever is a severe often fatal disease of humans and other primates caused by ebolaviruses.

The virus spreads by direct contact with blood or other body fluids of an infected human or wild animal. Humans become infected by contact with the bats or with a living or dead animal that has been infected by bats. The average case fatality rate is about 90%.

The first outbreak of EVD take place in remote villages of Central Africa in moist tropical forests, however the last outbreaks in West Africa has penetrated the major cities and rural areas. This year the first outbreak of the disease was recorded in Guinea, Sierra Leone and Liberia.

The involvement of local communities is important for a successful fight with outbreaks. Quality control of outbreaks is based on a set of events, namely on the management of patients, surveillance and contact tracing, quality laboratory service, safe burial and social mobilization.

The provision of early supportive treatment with fluids and symptomatic therapy improves survival of patients. So there is no licensed treatment with proven ability to neutralize the virus, but several blood, immune and drug therapies are elaborating. At the present time there is no licensed vaccine against Ebola, but 2 potential vaccine candidates are estimating.

FLOW CYTOMETRY METHOD. QUALITATIVE ANALYSIS OF A POPULATION OF CULTURED IN VITRO MESENCHYMALSTEM CELLS

Sharvadze N., Khotsanyan K. – the 4th-year students Scientific leaders – Cand.Med.Sc. Brash A.A., Kostina V.V.

In the last few years researches associated with the study and use of MSC in medicine for cell replacement therapy of damaged tissues are of great interest. MSCs have an aptitude to the differentiation in chondrogenic, adipocyte, neuronal, cardiomyocyte, myocyte direction.

It is known that In vitro MSC can be differentiated into osteocytes (Pittenger et al., 1999; Jaiswal et al., 2000; Lee et al.2003).

After the MSC cultivation and excretion there is a requirement in its phenotyping. Flow cytometry method allows to research the cell proliferative activity in the base of analysis of the cell cycle, to do immunophenotyping cells of peripheral blood, cord blood, bone marrow. Flow cytometry performs the investigation of cells located in the liquid stream in transmitted light of laser. The method is based on the ability of the cell surface receptors (CD-antigens) to bind with specific antibodies labeled with fluorochromes. At the passage of cells through the laser beam, the excitation of fluorescent dyes occurs. The light signal is amplified on the photomultiplier of the flow cytometer and provides information about the size of the cells, granularity, and expression of certain antigens. Thus, the method allows to determine the identity of a particular subpopulation.

Phenotyping of rat MSCs can be carried out on the flow cytometer FACSscan (Beckton Dickinson, USA). MSCs are stained by antibodies against the negative marker CD45, against the positive marker CD90 and by antibodies against cell surface markers.

METHOD OF AUTOPLAZMODONATION IN OBSTETRIC PRACTICE

Sharvadze N. – the 4th-year student

Scientific leaders - Cand. Med. Sc. Zaritskaya E.N., Kostina V.V.

In structure of maternal mortality the obstetric hemorrhage take a leading position. According to the literature it is known that more than 2/3 of all obstetric hemorrhage are associated with impaired of hemostasis state and they are the primary coagulopathic. The main component of infusion-transfusion therapy in coagulopathic bleeding is a fresh frozen plasma in which all the factors contributing to the stabilization of the hemostatic potential of the blood by restoring the balance of coagulant and anticoagulant systems are saved in a natural balanced state.

The elaboration and introduction of the blood-save technology allows to cost a minimum volume of donor blood components or without them. The used methods of the prenatal and perioperative blood savings include the preliminary provision of autoblood and autoplasma, normovolemic hemodilution with autologous transfusion, intraoperative reinfusion of autoerythrocytes. The benefits of the blood-save surgery are caused by the absence of risk of post-transfusion reactions and complications, of bloodborne infections' transmission, absence of danger of alloimmunization. In obstetrics the use an autoplazmodonation is more expedient than an autotransfusion, as it is a source of plasma coagulation factors.

The autoplazmodonation – is the blood-save method which consists in workpiece of autologous plasma of an individual and intends exceptionally for further autologous transfusion.

In obstetrics the essence of method is in the collection, freezing and storage of women's plasma for the later transfusion during or after delivery to recover the circulating plasma volume and blood coagulation factors, as well as the relief or treatment of DIC.

SURGICAL PREVENTION OF ISCHEMIC STROKES

Sharvadze N. – the 4th-year student

Scientific leaders – and.Med.Sc. Karnaukh A.I., Dr.Med.Sc. Karnaukh V.N., Kostina V.V.

During last years the data of the high efficiency of the surgical method of the stroke's prevention were obtained.

Indications to operative treatment of stroke are artery stenosis of more than 70%, the availability of less severe stenosis with embologenic dangerous plaque in the carotid bifurcation and vertebrobasilar insufficiency caused by cerebral steal syndrome. Diagnosis of ischemic cerebrovascular disorder implies especially careful history taking, conducting of screening activities. Obligatory physical methods of examination are: an investigation of the temporal, carotid, brachial and radial artery pulsation on both sides, an auscultation in the typical points in the projection of these arteries, an obligatory measurement of blood pressure in both upper extremities. From the special diagnostic methods it is applied a Doppler ultrasound, a duplex scanning, CT, MRI, angiography.

Today, there are 4 types of reconstructive operations shown for the secondary prevention of stroke. Carotid endarterectomy - an operation in which the atherosclerotic plaque and thrombotic mass that caused the development of ischemic stroke, are removed from the lumen of blood vessels that feed the brain. Carotid stenting - is aimed at the installation of the polymer structure in the lumen of narrowed vessel. Prosthetics – the resection of the occluded vessel and its replacement by one or another transplant. Shunting of brain vessels is aimed at forming of anastomosis between the vessel that do not participate in the blood supply and the artery located on its surface.

During last years there was a good evidence about the benefits of surgical treatment of stroke. The risk of cerebral stroke with surgical interventions decreased from 26 up to 9% in the second year, and from 16.8 up to 2.8% by the third year.

ULIPRISTAL ACETATE IN UTERINE FIBROIDS TREATMENT

Sharvadze N. – the 4th-year student

Scientific leaders - Dr. Biol. Sc. Simonova N.V., Kostina V.V.

Hysteromyoma is the most prevalent cause of hysterectomy, but women nowadays prefer to avoid removal of the uterus.

In the last decade the proved role of progesterone in stimulating the growth of uterine leiomyoma called out an interest in the studying of possibility of treatment of this disease using selective progesterone receptor modulators.

Ulipristal acetate is a selective progesterone receptor modulator, characterized by partial tissue-specific antiprogesteron effect. In the uterus it exerts an antiproliferative, anti-fibrotic and pro-apoptotic effects in relation to the uterine cells, which leads to reduction of the nodes. Interaction of ulipristal with endometrium causes

amenorrhea or bleeding decrease by the 10th day and reduces pains, which is important in symptomatic myoma.

Its prescription at a dosage of 5 mg/day for 3 months reduces the volume of large fibroids in average by 45–50%. These results are comparable with the effect of agonists of gonadotropin-releasing hormone, but unlike them it's more easily transferred because of lower likelihood of developing hypoestrogenism symptoms.

USE OF THE EFFERENT METHODS OF INFLUENCE IN THE PERIOPERATIVE PERIOD APPLIED TO PATIENTS WITH OBESITY

Sharvadze N., Kirey U., Matilyuk O., Khotsanyan K. – the 4th-year students Scientific leaders – Dr.Med.Sc. Shimko V.V., Kostina V.V.

Hernias of anterior abdominal wall have a significant place in the structure of surgical morbidity of population. Treatment of anterior abdominal wall hernias is an actual problem of abdominal surgery. With the increase of the number of operations the frequency of postoperative ventral hernias forming has increased too, especially in individuals who had overweight.

For the prevention of postoperative hernias in patients who have obesity, with the aim of improving microcirculation and wound healing in the preoperative and early postoperative period application of laser exposure on the wound gives good results. Clinical observations show that the laser irradiation has an anti-inflammatory, anti-edema effect, regenerative, analgesic and immunocorrective action.

Also ozone therapy is used successfully as an efferent method. Ozone is able to improve the blood circulation in the subcutaneous fat, thus increases metabolism in tissues. Ozone therapy promotes the burning of lipids - the splitting of fat. Ozone therapy has bactericidal, anti-inflammatory, analgesic, detoxification effect, increases the overall immunity, activates the oxygen-dependent processes in the body. These efferent methods are applicable for the preparation of a patient with overweight for operation, and are also widely used to accelerate recovery in the postoperative period.

Thus the use of efferent methods in the perioperative period can improve the results of treatment of patients with morbid obesity and ventral hernias.

200 - THE ANNIVERSARY OF THE GREAT ANATOMIST W.L. GRUBER

Fomina E. - the 1st-year student

Scientific leaders - Pavlova A.E., Kostin V.V.

Gruber Wenzeslav Leopoldovich was born in 1814 in Bohemia. He studied in Prague, in 1844 he received the degree of Doctor of Medicine. In 1847 at the invitation of N.I. Pirogov he moved to Russia and worked in the Medical-Surgical Academy in St. Petersburg as vice rector of the course of normal and pathological anatomy. From 1858 to 1888 W.L. Gruber headed the Chair of Anatomy, he created the anatomic museum. Gruber cut more than 10,000 bodies, published about 500 scientific papers on various aspects of systematic, comparative and pathological anatomy. Moreover bursa of the knee joint and extra limb bones, one of which (intermetatarsae bone)

was named as Gruber bone, were described by him. W.L. Gruber studied congenital malformations and spent a lot of work to reorganize the teaching of anatomy. Great anatomist died in 1890.

AGE FEATURES OF SKULL

Barabash A., Krasilnikova V.-the 1st-year students Scientific leaders - Zherepa L.G., Kostina V.V.

The main role in development and shaping of the skull belongs to the cerebrum and also skull changes greatly in the process of its individual development. The development of the dome of cranium on the basis of connective tissue explains the presence of fontanels in infants and other features. In postnatal life the growth of the skull is uneven and there are 3 stages of growth: 1) active growth up to 7 years old; 2) stunted growth from 7 years old till the beginning of puberty; 3) the intensive growth of the facial skull. After 30 years old the development of the skull stops.

AGE PECULIARIATIES OF PERIPHERAL BLOOD – FORMING ORGANS AND IMMUNE SYSTEM

Natpit A. – the 1st-year student Scientific leaders – Cand. Med. Sc. Semyonov D.A., Kostina V.V.

For lymph nodes of the newborn it is characteristic the fineness of the capsule and trabeculae, as well as the weak development of follicles. The sinuses are poorly defined, poorly visualized cords in the medulla of the site.

During the first year of life there is the formation of lymphoid nodules and the formation in them reactive centers, there are appear ed plasma cells. In 4 - 8 years old there is the increase in lymphoid tissue, there is an intensive formation of new lymphoid nodules, myakotnih cords, clearly demarcated cortical and brain substance. The spleen begins to function as the organ of the immune system in the fetus. To the moment of birth, the spleen is a perfectly formed by the organ. In the newborn spleen white pulp is poorly developed: the breeding centers in lymphoid nodules are absent, the marginal zone, located on the border of white and red pulp, is not formed. During the first year of life there is the development of follicles, the maximum number of which will be reached to 10 years.

The capsule and trabeculae of the spleen of newborn babies in the first year of life are thin, presented by more loose tissue than in older children. Smooth muscle cells in the composition of the capsule and trabeculae are very few.

The differentiation of the elements of the stroma, capsule and trabeculae occurs most actively with 5 - month postnatal development. The growth and formation of the spleen as a whole ends up to 13 - 15 years.

Characteristic structure of lymphoepithelial organs is a close structural relationship with the covering epithelia, occupying the boundary position with the external environment. Occupying a boundary position, lymphoepithelial organs prevent the penetration of foreign agents in the body. The lymphoepithelial organs prevent in the organs of the digestive, respiratory, excretory and reproductive systems.

By the time of birth the lymphoepithelial organs es are ready to perform the function of immune protection, so there is the presence of lymphoid nodules centers reproduction. The number and size of lymphoid nodules in the walls of the digestive tube after birth increases rapidly, reaching a peak in early childhood and in teen agers.

CLINICO-ANATOMICAL IMPACT OF FEMALE AND MALE SEX HORMONES ON THE GROWING ORGANISM

Trubachev R., Arkhipov S.- the 1st-year students Scientific leaders – Pavlova A.E., Kostina V.V.

All processes which take place in our body are controlled by the endocrine system. Hormones secreted by cells of the sex glands have a great influence on the development of personality

Male genital hormony- androgens accelerate linear growth, skeletal maturation. Adrenal androgens play a certain role in the physiological stimulation of growth and skeleton maturation enhancing protein synthesis of teenagers by increasing supply of amino acids by increasing retention of nitrogen. Increased androgens in nubertative period provide for the appearance of secondary sexual characteristics: the increase of penis in boys and scrotum, in girls- clitors and labia.

In both sexes androgens influence on the growth and development of skeletal maturation. The skeletal in girls is strongly influenced by androgens, produced by adrenal glands. With an excess of androgens, growth and skeletal maturation occur quickly.

Estrogens affect the processes of growth through protein-anabolic action: strengthen the calcification of the protein matrix of bone, increase its density, stimulate osteoblast activity, accelerate the appearance of ossification points in epiphysis and the closing of epiphisis that inhibit the linear growth.

With a lack of estrogen endochondral assification is delayed. Analysis of the influence of hormones on growth and skeletal maturation allows to predict with some accuracy the length of the body, that's why the study of skeletal maturaty is of great importance.

ANATOMY AND SYNDROMES OF LESION OF CEREBELLUM

Piura D. – the 2nd-year student Scientific leaders – Zherepa L.G., Kostina V.V.

The most important functions of the Central motor system are ensuring accuracy of goal-directed movements, regulation of concerted, coordinated action of the antagonist muscles. Ensuring coordination requires a clear and continuous reverse afferention, indicating the position of the muscles, joints, on load. The cerebellum is the center of coordination of movements.

The cerebellum occupies a special place in the brain. It is the roof of the fourth ventricle. The cerebellum is located between the brain stem and occipital lobes of cerebral hemispheres. It occupies most of the space of the posterior cranial fossa, lying

close to the vital centers of the medulla oblongata and anatomically connected with different parts of the Central nervous system.

The neurons of the cerebellum are able to immediately respond to changes in the environment. If the cerebellum is damaged, learning new motor skills is extremely difficult When performing previously familiar movements, appears poor coordination in the limbs relative to each other and trunk. Ultimately ataxia is developing. Symptoms of ataxia depend on the affected part of the cerebellum

Ataxia is a lack of coordination while performing voluntary movements. It may manifest in the form of clumsy, inaccuracy or instability. Movement are choppy and seem to be unrelated among each other. Next in work I describe the various manifestations of ataxia. Ataxia can affect any part of the body.

Cerebellar disorders are accompanied by hypotonia. Coordination of activity of individual muscles or groups of them is broken.

Lesions of the cerebellum are accompanied by other signs, which are also described in my work.

ANOMALIES OF THE EXTERNAL EAR

Mirgyan R. – 1st-year student Scientific leaders - Pavlova A.E., Kostina V.V.

Floor of the auricle in the norm is in fact a rudimentary body, so the concept of its anomalies seems to be very loose.

Signs, by which the floor of the auricle of the individual is different from the characteristic of the majority, it is necessary to consider not so abnormal as variation. If you come to the diversity of the ear device with this point of view, go to the so there will be not enough for the lobe of anomalies only the most exvisited deviations from the norm .The number of them do not exceed 5%

Abnormalities of the external ear, are more common on the right side than on the left one. The double-edged anomalies occupy in this respect, an average place. Abnormalities of the ear can be expressed in its unusual size, position, abnormal external shape, the presence of additional structures and abnormal moves – fistulas Ear of macaque is characterized by the fact that the curl is not wrapped inside a sublime form roller and is deployed, and on the top of it there is a free sticking Darwin's tubercle, which normally faces inside.

If the upper part of the ear is deployed (no curl) and the ear cartilage in addition to this place forms a bulge in the direction of the lateral surface of the shell, without pronounced Darwin's tubercle so this is called the ear satyr or faun.

ANTHROPOMETRIC DATA OF PUPILS OF 10^{TH} CLASSES OF MEAE SCHOOL 11

Minko E, Mirgyan M., Melkonyan A. – the 2^{nd} -year students Scientific leaders - Ambrosjeva N.P., Kostina V.V.

To collect of anthropometric material it was used generalized method. At using standardized anthropometric techniquea, measuremnts of somatometric indicators were

made (height, weight, the circle of chest). M.B. Chernorutskiy suggested to identify the type of constitution by index of physical development (index Pinye), which is determined by the formula: IP=L-(P+T), where L-is body length(cm), P-body weight(kg), T-circle of chest (cm).

In hyposthenic persons (asthenic type) this index greater than 30, hypersthenic (piknic type) it is less than 10, normosthenic (athletic type) – from 10 up to 30. Thus pupils of the 10th classes of the current educational year are characterized by very low degres of development of adipose muscle and bone tissue. To study different types of somatic body constitution we examined pupils of the 10th classes of MEAE school 11 of Blagoveshchensk (30 girls and 30 boys) 16-17 years old, and conducted a comparative analysis of physical development of pupils of the 10th classes according to the data of 2012.

Regarding the height, weight and circle of chest the index Pine was calculated. Accordiny to our data 75,5% of the pupils of the 10th classes are asthenic body type persons that is height than in 2012 to 5,5%; 3% hypersthenics ones(2% less than in 2012), the rest ones intermediate body type.

The number of persons with asthenic body type increasing among girls (65% in comparison with 55% in 2012); 3% -are of hypersthenic body type (opposite it was 5% in 2012); 32%-mesomorphic type (in 2012-40%). The indices in boys are practically the same as in 2012. The mesomorphic and 80%-2 year ago). The mesomorphic type is in the remaininy 15%.

ATHEROSCLEROSIS

Krylova E., Dadasheva S. - the 2nd-year students Scientific leaders - Etmanova L.Y., Tertychnaya L.G., Kostina V.V.

Dislipoproteinemia - violation of an exchange of LP of blood and, respectively, violation of an exchange of the lipids transported by LP. Dislipoproteinemiya are shown most often by strengthening either one LP type, or the combined increase in the maintenance of several LP types. Violations of an exchange of cholesterol and triacilglycerol are most widespread. Violations of exchange of cholesterol most often lead to a hypercholesterolemia and the subsequent development of atherosclerosis. Dislipoproteinemia: Type I (heritable failure of the LP-lipase), Type II (family hypercholesterolemia), Type III (family combined lipidemia, violation of removal of residual lipoproteins from blood), Types IV and V (family hypertriglicerolemia). Atherosclerosis - the disease affecting arteries of elastic type, such as an aorta, ileal vessels and also large and average arteries of muscle type (coronary, sleepy, intracerebral, arteries of the lower extremities). Atherosclerosis is shown by consolidation of a vascular wall and formation of atherosclerotic plaques. It is dynamic process for which it is characteristic both progressing and an involution of changes in an artery wall. However atherosclerosis progresses during time, leading, finally, to clinical manifestations of a disease. The main complication of atherosclerosis of coronary arteries is coronary heart disease which is clinically shown by stenocardia, a myocardial infarction and the cardiosclerosis conducting to the progressing heart failure. Damage of the turnpike arteries of a brain is shown by symptoms of its

chronic ischemia with the subsequent development of atherosclerotic encephalopathy and stroke. Atherosclerosis of arteries of the lower extremities is followed by a clinical picture of the alternating lameness. In the absence of the corresponding treatment the disease progresses and can end with a gangrenosis of the lower extremities. Morphologically allocate four stages of development of an atherosclerosis. The first and second stages are widespread widely and at the healthy nutrition are reversible, the third and fourth stages have clinical value and are irreversible.

1 stage – the earliest manifestation of atherosclerosis; the 2nd stage – the stage of initial changes; the 3rd stage – the stage of late changes; the 4th stage – the stage of complications.

Predisposition to atherosclerosis: Genetic factors. Sex. Age. Psychological features of the person.

The factors promoting to atherogenesis: increase of cholesterin and other violations of a lipide exchange. Hypertensia. Smoking. The increased body weight. Violation of carbohydrate metabolism. Hypodynamia. Stress.

BIOCHEMICAL MARKERS OF MYOCARDIAL DAMAGE

Natpit A. – the 1st-year student Scientific leaders – Feoktistova N.A., Kostina V.V.

Daily cardiologists and physicians of admission department assess the condition of patients with pain in the chest, highlighting among them patients with acute coronary syndrome (ACS), which is the most frequent acute thrombosis in the coronary arteries. Diagnosis is based on finding of complaints, anamnesis and interpretation of resting ECG in 12 leadings. Only 1/3 of patients with ACS describe the pain as typical: localized in the chest, burning or tightness. In other cases, patients report discomfort, heaviness in the chest, weakness, aching pain to the left of the sternum. Sometimes some patients with ACS, especially in patients with diabetes, women, younger patients (25-40 years) and the elderly (over 75 years), there is no sensation of pain or the pain is atypical. In addition, according to the results of large epidemiological studies, about 50% of patients with suspected ACS at the time of admission have no of diagnostically significant changes in the ECG. These patients with "old" full block of left bundle branch, with previous macro focal myocardial infarction (MI), aneurysm of the left ventricle (in the absence of previous ECG for comparison), patients with ST segment changes, which don't reach sufficient degree for diagnosis. In cases where diagnosis is difficult due to the above circumstances, significant support is provided by the determination in blood markers of myocardial infarc-

In the diagnosis of acute coronary syndrome without persistent ST-segment elevation decisive importance is attached to biochemical markers of myocardial damage, which are normally contained in cardiomyocytes and released during ischemia, which is accompanied by their serum concentrations. The majority of biochemical markers of myocardial damage is a protein structure (myoglobin, troponin T and I); some of these are enzymes: lactate dehydrogenase (LDH), MB fraction of creatine phosphokinase (MB - ck). Improved biochemical markers in patients suffering from

unstable angina, is one of reliable diagnostic criteria of acute myocardial ischemia even in the absence of negative dynamics on the earliest appearance of necrotically resorptive syndrome.

BLOOD GROUPS AND RHESUS-FACTORS OF THE FIRST-YEAR STUDENTS OF THE AMUR STATE MEDICAL ACADEMY

Cheban A., Baymysheva D., Katsuba S. – the 2nd –year students Scientific leaders - Ambrosjeva N. P., Kostina V. V.

Blood group is the description of individual antigenic characteristics of erythrocytes which is defined by identification of specific groups of carbohydrates and proteins contained in membranes of humans' and animals' red blood cells.

The data confirm about the geographical irregular distribution of erythrocytes antigens in populations. The difference in frequency of occurrence of antigens in different peoples is very important for hem transfusion and also is one of the biggest problems in transfusion. It influences on the frequency of post transfusion complications and hemolytic diseases of fetus and newborns. So, it is very prospective to research regional specific of blood groups distribution according to the ethnic polymorphism within some administrative territory.

CHANGE OF BEHAVIOR AFTER DEPRIVATION OF A PHASE PARADOXICAL SLEEP IN RATS

Mokrushina Y. - the 2nd-year student Scientific leader – Prof. N.R.Grigorjev, Assoc. Prof. G.E.Cherbikova, V.V.Kostina

The Search Activity is concept which declare, that it is a fundamental form of behavior of animals and the person, who provides process of creative and active transformation of the world. Activity of Search is necessary for adequate changes of behavior during the adaptation of an organism which realizes the continuous changes of an environment (V. Rotenberg, V. Arshavsky, 1985).

he hypothesis which is put forward by authors assumes that effective search of the decision of a problem is carried out during paradoxical sleep, especially though during vigilance the decision of problematic task wasn't carried out. The Search activity is an ability and skill of the person or an animal effectively search and find a way out of the arisen problem situation. Preliminary results of studying of behavior after deprivation of a paradoxical sleep have taped the authentic intensifying of dynamic characteristics of search in absence of changes in their cognitive abilities.

CHANGES IN BLOOD GLUCOSE LEVELS WHILE TAKING SUGAR-CONTAINING BEVERAGE

Kucherenko T. – the 4th-year student Scientific leaders – Cand.Med.Sc. A.A. Brash, V.V. Kostina Diabetes affects every of 16th adult. The number of people with diabetes worldwide is approaching to 382 millions, and by 2035, as predicted by IDF (International Diabetes Federation), this figure will reach 592 millions.

Based on the model of creating hyperglycemia using sugar-containing beverage there was launched an experiment, which involved 6 individuals laboratory rats. They were divided into two groups - the experimental and intact; each group consisted of 3 individuals.

The experimental group received a sugar-containing drink in the public domain, the intact group - did not work. All animals were kept on a standard diet in terms of our vivarium.

Blood glucose levels were determined using a glucometer ACCU CHECK Active GC. To determine capillary blood, it was taken from the tail.

The results of this study suggest that it is possible to create a model of hyperglycemia using sugar-containing beverage. Its advantages:

- 1. The simplicity and cheapness.
- 2. Does not require special skills.
- 3. Does not require continuous monitoring of the animals.
- 4. The absence of stress effects on laboratory animals.

CHONDRODYSPLASIA

Mikhailova V., Anokhina A. – the 2nd-year students Scientific leaders - Ambrosjeva N.P., Kostina V.V.

The term a chondrodysplasia literally which means the wrong (dys) growth (plasia) of a cartilage (chondro) is applied to definition of hereditary diseases of a cartilage which affect its function as matrixes for growth of a bone. The clinical picture is usually expressed as dwarfism of various degree and also in deformation of bones and joints. So far as genes in which there are mutations, defining chondrodysplasia, they often are not specific to growth of a bone, clinical manifestations quite often spread on other cartilages, for example, on articulate cartilage and on other tissues. The majority of bones develops and grows in endochondralnic ossification thus the cartilage serves as a matrix for formation of a bone. During the post-embryonic period the ossification occurs in the growth plate which is found near the ends of bones. Plates of growth have the conducting and conducted edges. Generally the matrix of a cartilage is synthesized at the leading edge whereas it degrades and replaces with the extending front of a bone at the conducted edge. The endokhondralnic ossification provides the linear growth of a bone from the middle embryonic until the end of the pubertal period.

CLINICAL FEATURES OF SEVERE BRONCHIAL ASTHMA IN PREGNANT

Karatsuba S., Grashoven T., Rasskazov I. – 6^{th} -year students Scientific leaders - Assoc.Prof. Prikhodko O.B., Cand.Med.S . Goryacheva S.A., Kostina V.V.

Bronchial asthma is one of the most common chronic lung disease and the constant increase in the number of patients including women in childbearing age explains the growing interest to the problem of bronchial asthma (BA) in pregnant women worldwide.

We analyzed the clinical and functional characteristics of the duration outcomes of pregnancy, childbirth and neonatal status in 29 patients with severe persistent asthma. A control group consisted of 50 pregnant women without allergic bronchopulmonary diseases. We used clinicoanamnestic data, integrated monitoring of clinical syndromes, testing with the help of formalized Asthma Control Test (ACTTM), an examination of pulmonary ventilation function with the study of the reversibility of bronchial obstruction, daily monitoring of airflow obstruction. In 13 (44.8%) patients there were diagnosed a form of allergic asthma, in 4 patients (13.8%) - non-allergic, in 12 (41.4%) - mixed. AURI (Acute upper respiratory infections) during pregnancy was observed in 26 (89.7%) patients often occuring in the II and III trimester of pregnancy.

Escalation of asthma during one trimester was in 10 (34.5%) patients. Escalations of the disease could be traced for two trimesters: I and III - in 4 (13.7%) of pregnant women in the II and III trimesters - in 11 (37.9%), 4 (13.7%) cases occurred uncontrolled bronchial asthma during the pregnancy. In 3 (10.3%) patients asthma status with gestational age 36 - 37 weeks was developed. In general the duration of BA in 8 (27.6%) patients in the gestation period is left without essential dynamics, in 21 (70.8%) - weighting of symptoms. Anti-inflammatory basis therapy (nedocromilnatrium, inhaled corticosteroids, systemic corticosteroids) during pregnancy received all patients. Thus 26 (93.1%) of them inhaled glucocorticoids. From bronchodilator drugs short and long-acting 2 – agonists with a preferred introduction by nebulizer were administered.

The high frequency of gestational complications in patients with bronchial asthma exceeds the value of the comparison group in 2-3 times. Operative delivery was performed as for obstetric indications as in association with somatic pathology: by weighted asthma symptoms, by the growing phenomena of respiratory failure and the possibility of status asthmaticus.

The average body weight of newborns from mothers with asthma was in $2985\pm150g$, in the comparison group - 3530 ± 110 g (p <0.05). In the structure of revealed pathology of newborns the leading places were: cerebral ischemia, intrauterine infection, a violation of the adaptation period, respiratory distress syndrome, and the level of disease was much higher in children from mothers with asthma (p <0.05). In children of mothers who received systemic corticosteroids during pregnancy should be noted greater number of pathological conditions, including more frequent prematurity, compared with all children (respectively, 21.4% and 9.2%), cesarean delivery - 64 3%, whereas among all births - 37.2%, more severe condition at birth, and therefore resuscitation was performed in 42.9% of cases. In children of this group an intrauterine infection predominated (64.3%) compared with all the children (44.4%) and its implementation (vesiculopustular lesions, conjunctivitis, meningitis), more frequent development of intrauterine growth restriction - 22.7% (among all children - 19.3%).

In general, the analysis of the health of children has shown that children who were born from mothers with asthma had more frequency disharmonious development, greater morbidity multiple-organ lesions of different systems in comparison with children born from healthy mothers.

CLINICO-ANATOMICAL IMPACT OF FEMALE AND MALE SEX HORMONES ON THE GROWING ORGANISM

Trubachev R., Arkhipov S. - the 1st-students Scientific leaders - Pavlova A. E., Kostina V. V.

Male genital hormony-androgeny accelerate linear growth, skeletal maturation. In both sexes, androgens influence on the growth and development of skeletal maturation. With an excess of androgens growth and skeletal maturation occur quickly. Estrogens affect the growth processes through protein-anabolic action. All processes are controlled by the body organs endocrine system. Hormones secreted by cells of the sex glands have a great influence on the development of personality.

CONTRIBUTION OF LESGAFT PETER FRANTSEVICH INTO THE DEVELOPMENT OF ANATOMY

Rogovchenko A., Bayramov M. - the 1st-year students Scentific leaders - Pavlova A.E., Kostina V.V.

Peter Frantsevich Lesgaft was born in Petersburg in 1837. He graduated from medico-surgical academy in 1861. He worked at the Chair of Anatomy as a rector's assistant of Gruber Venceslav Leopoldovich.

In 1865 he defended his doctoral thesis "About endings of the longitudinal muscular fibers of the rectum." In 1868 he defended thesis for getting degree of doctor of surgery. He worked as a professor of physiological anatomy of Kazan University. In 1871 he was dismissed for his speech against unlaw actions of trustees and conservative professors.

He came back to Petersburg. In 1877 he became pro-rector and in 1884 he resigned. Peter Frantsevich Lesgaft developed the functional direction in Anatomy. He recognized decisive role of external environment and exercises in the development of organs.

His works were devoted to architecture of bones, structure and function of joints and muscles, anatomy of rectum and crotches. In teaching of anatomy he proceeded from common principles of structure of organs.

Common regularities of entrance and ramification of blood vessels were formulated by him. The results of his researches were published in "basis of theoretical Anatomy". Creature of progressive system of physical nurture is his big merit. His name was awarded to the University of physical culture in Leningrad and Academy of pedagogical sciences. He died in 1909.

DAILY BLOOD PRESSURE MONITORING OF TEENAGERS

Fomina M. - the 5th-year student

Scientific leaders - Cand. Med. Sc. O.S. Yutkina, Martyanova I.A., Kostina V.V. During the past decades the negative tendency of reducing of child and teenager's health level is kept. In Russia according to preventive medical examinations ,the proportion of healthy children and adolescents has decreased over the last 10 years by 1.5 times- from 47% up 32% , and according to some data it does not exceed 2-3%. School diseases remain widespread and are intensified in the dynamics of learning from younger to older classes.

The examinations of 64 teenagers 15-18 years old, macrosomatotypeis defined in 41,4 % of children (group 1) , mezosomatotype – in 32,9% (group 2), microsomatotype- in 25,7% (group 3). The average body weight in the 1st group – 85,3 kg, body length- 183,1 cm, in the 2nd group -67,9 kg and 171,6 cm(p<0,05) , in the third group -49,3 kg and 165,8 cm, respectively (p<0,05). In teenagers with macrosomatotype according DBPM predictors of hypertensionwere identified : an increase in SBP and DBP , change in the temporal organization and variability of blood pressure , hypertension and increase of indices etc., which is essential in the early detection and timely correction of hypertension.

Thus morphofunctional characteristics of children and adolescents with different types of morbidity constitution give possibility for the further development of the fundamental base for a more complete study of the physiological human individuality and proposals for the development of new approaches to the diagnosis of disorders of cardiorespiratory system and the evaluation of the health.

DEMENTIA

Kucherenko T. – the 4th-year student Scientific leaders – S.V. Varganova, V.V. Kostina

Dementia - organic mental disorder, manifested by memory disorders, decreased intelligence, personality changes, and not accompanied by impairment of consciousness. Unlike mental retardation in which violations noted at birth, dementia is acquired disorder. At the base of dementia there is always the organic brain damage, although often it doesn't manage to identify specific organic factor. In most cases, dementia is inversible.

Dementia occurs in 10% of persons older than 65 years and in people older than 80 years it is 15-20%. Currently, worldwide there are 24.3 million people with dementia. Thus in 2040, the number of patients with dementia will reach 81,100,000. In the literature there are more than 100 clinical entities, which may lead to dementia. Dementia is a major cause of disability and dependence in older people worldwide. It has a profound impact not only on the people suffering from it, but also on their families and on those who takes care. Often there is a lack of awareness of dementia and the lack of understanding of such condition, which leads to the emergence of stigma and barriers for diagnosis and care. The impact of dementia on the family and society can be physical, psychological, social and economic.

FEATURES OF THE VENOUS SYSTEM OF CRANIAL CEREBRAL PART

Belikin A., Natpit A. – the 2nd-year students Scientific leaders – Zherepa L. G., Kostina V.V.

The characteristics of the venous system of cranial cerebrae part are, first, the presence on the head a few venous systems or tiers veins and, secondly, the relationship between these venous systems. On the head there are veneciano, cranial and intracranial venous system. Extracranial venous system is presented by veins of soft tone accompanying by the artery of the same name and leading the blood into internal jugular vein through post inferior maxilla vein (v. retromandibularis) from the cranial vault and through the facial vein (v.facialis) from the face. Cranial venous system is bone, so-called diplococci veins (vv. dipioici), embedded in the spongy layer of calvarium. On each side in the thickness of the bones there are 4 diplococci Vienna: frontal (v. diploica moreover), anterior and posterior temporal (vv. Diploici temporales anterior et posterior) and occipital (v. diploica occipitalis). They are connected with the veins of the vault of the skull and with sinuses of the hard mater. Intracranial venous system is made up of the sinuses of hard mater and cerebral veins (superficial and deep).

The relationship between intracranial and cranial venous system is done through special venous sinuses, the so-called emissary veins (v. emissariae), or venous graduates which connects veins of the skin of the skull vault and Vienna spongy layer bones with the sinuses of the hard mater. Value of emissary veins varies. They can achieve significant sizes and sometimes one or the other of venous emissary missing. Most permanent are parietal (v. emissaria parietalis) and mastoid (v. emissaria mastoidea) emissary. The last is the largest and associates the sinus transversus or sinus sigmoideus with veins of soft tissues of head (v. occipitalis v et. auricularis posterior). Vv. Emissariae parietales connect the veins of the skin of the skull vault (v. temporalis superficialis) with the upper saggital sinus (sinus sagittalis superior). Space projection of the parietal emissary veins in the skin are located on the other side of the sagittal suture anterior and posterior to biauricular line, which is carried out from the hole of the right external ear canal to the left. Rarely, the frontal and occipital emissary occur (v. emissariae moreover, et occipitalis). It should be noted that emissary informs the sinuses of the hard and veins of the soft tissue of the arch of the skull, or directly connecting them (mastoid emissary Vienna), or through diplococci Vienna (frontal and occipital emissaria). The relationship between intracranial and veneciano venous systems can play both positive and negative role from a practical point of view, on the one hand, it provides additional backup path of blood flow in violation of the main path through the internal jugular vein, and on the other hand due to such communication it becomes possible to transfer of the infection from the skin skull to meninges (for example, when the boils and carbuncles of neck) and the subsequent development of meningitis, sinus thrombosis and other severe complications.

FEODOSIY GRIGORJEVICH DOBRZHANSKY

Omoniddinova U. – 1st -year student Scientific leaders – Prof. Gordienko E.N., Kostina V.V.

Feodosiy Grigorjevich Dobrzhansky was born in Ukraine and got education in Kiev. His development as a geneticist was influenced by well-known scientists as V. Luchnik, S. Kushakevich, and G. Levitsky. In 1924–1927 F. Dobrzhansky worked at the Chair of Genetics and Experimental Zoology headed by Yu. Filipchenko in Leningrad University. At the end of 1927 he was sent to the USA, to the laboratory of T. Morgan and he remained there. At the beginning of 1930-ss he started to work on the problems of evolutionary and population genetics. The world publicity came to Dobrzhansky in 1937 after publication of his book «Genetics and Origin of Species», in which he carried out the synthesis of genetics and evolution theory. The achievements of Russian biological science were given widely of presented in this book.

FIRST EXPERIENCE PRODUCING MESENCHYMAL STEM CELLS

Hotsanyan K.,. Sharvadze N - the 4th-year students Scientific leaders - Cand.Med.Sc. Brash A.A., Kostina V.V.

Today modern medical research cannot be imagined without the study and cultivation of stem cells, tissue engineering, transplantation, etc.

An important foundation for this work are the mechanisms and methods of cultivation of stem cells. The uniqueness of stem cell self-renewal and the ability to differentiate into several directions: chondrogenic, adipocytates, neuronal, cardiomyocytates, myocytates (Kruglyakov PV, 2008).

Amoung all stem cell mesenchymal stem cells (MSCs) have a higher proliferative potential, are self-renewing cell population to maintain their undifferentiated state, and are able to differentiate into specific types of cells by differentiation stimuli (Mia Buehr, 2008).

Therefore MSC draws attention in terms of their possible use for replacement or rehabilitation therapy of diseases, gene or cell engineering, to study the possibility of allogeneic MSC transplantation of stem cells from bone marrow (Menzorov AG, 2013).

The aim of our work is the development of methods for the isolation and cultivation of MSCs rat bone marrow. In our study we used rats - males, aged 3 months.

3 weeks after sowing culture on Petri dishes, the result of our work was to obtain a sustainable culture of mesenchymal cells for future use.

We have grown a culture based on these articles data the author of which got stable fibroblast culture.

To confirm the results, we conducted verification by Pappenheim - Kryukov staining, which made it possible to differentiate the components of cells, using light microscopy, which showed the presence of undifferentiated cells.

FOXP2 SPEECH GENE

Kapustyanskaya A, Kalinichenko V, Safarov N. – the 2nd-year students Scientific leaders – Ambrosjeva N. P, Kostina V.V.

Forkhead Box Protein P2 is a human protein, encoded by the FOXP2 gene on 7th chromosome, which represents a transcription factor - a regulator of the activity of many other genes. As shown, this gene has evolved rapidly after the separation of people from simian ancestors.

FOXP2 is important not only for higher cognitive and linguistic aspects of speech, but for motor speech skills too.

FOXP2 gene functions are not clearly limited by the formation of articulate speech, but they are rather focused on the coordination of the whole cascade of genes and proteins which are necessary for the development and normal work of the brain. Anyway, it is clear that this study is rather promising. It leads us to the edge of the great mystery called "human speech". This way is long, laborious and expensive. But it is reliable.

GASTROINTESTINAL HORMONES AND THEIR ROLE IN REGULATING THE ACTIVITY OF THE GASTROINTESTINAL TRACT

Mirgyan M. - the 2nd-year student Scientific leaders –Prof.Grigorjev N.R., Kostina V.V.

Gastrointestinal hormones exert regulatory effects on target cells by various ways: endocrine they are (deliveredto target organs general and regional blood flow) and paracrine (diffuse through the interstinal tissue to close or nearby cell). Some of these substances are produced by nerve cells and play a neurotransmitter role. Gastrointestinal hormones involved in the regulation of secrecion, motility, absorption, release other regulatory peptides, as well as providing general effects: changes in metabolism, the cardiovascular and endocrine systems, feeding.

GASTROINTESTINAL HORMONY

Mirgyan M.- the 2nd-year student Scientific leaders – Assoc. Prof. Egorshina E.V., Etmanova L.Ya., Kostina V.V.

Gastrointestinal hormony- group of biologically active produced peptides are made by endocrine cells of the mucosa of the stomach, duodenum and neurons of the gastrointestinal tract and pancreas; they have a regulatory effect on the secretory function, absorption, motility, blood supply of the gastrointestinal tract and trophic processes in it have a number of general effects on metabolism.

January 16, 1902 Bayliss and Starling Bayliss and Starling discovered not only a new substance - secretin, but also introduced a new concept of the regulation of the body by means of "chemical information from the blood," ie. Thus endocrinology of digestion appeared.

In 1964, Gregory and staff presented the amino acid sequence of gastrin, and the message about the sequence of amino acids in other molecules appeared. On the

basis of homologous sequences amino acid of gastrointestinal hormones are combined in 3 families.

Pearse, Polak, Solcia and colleagues discovered the cells which reacted with antibodies of each of the peptides extracted from the intestines. For each peptide there are individual cells producing and accumulating the peptide, wherein the cells are distributed over a certain length of the intestine.

The mechanism of action of G. target cells is similar to the mechanism of action of other polypeptide hormones.

Nowadays Gastrointestinal hormones are being considered as part of a unified system of humoral regulation of the body, carried a single system cells chemical information in which the same or similar peptides or amines can be used for neurocrine, paracrine and endocrine transmission.

HISTORICAL EXCURSUS INTO TERATOLOGY

Darina N., Nikitina D. -1^{st} -year students Scientific leaders – Zherepa L.G., Kostina V.V.

Malformations of man are known from ancient times: conjoined twins, defects of faces, bisexuality. In Talmud, there is a list of more than 100 types of congenital malformations.

In the 2nd century BC, there appeared the concept of "monster", that was childrenmonster. Birth of baby-monsters caused the emergence of various superstitions and legends.

The occurrence of malformations in the middle Ages was associated with the supernatural forces, because human ugliness by their appearance resembled mythical heroes. In Europe and America there were executed women who gave birth to childrenfreaks.

There was another theory "theory of maternal impressions," according to which the deformity of the fetus can be caused by strong emotion of expectant mother. In Russia the beginning of research of defects was associated with the name of Peter 1, who in 1718 issued a decree on the establishment in St. Petersburg the "museum of ugly."

GENOMIC ASPECTS OF DEVELOPMENT OF LEFT VENTRICULAR HYPERTROPHY – RELEVANT OF STUDING AT THE MEDICAL ACADEMY

Fomina E. - the 1st-year student

Scientific leaders - Prof. Gordienko E.N., Cand.Med.Sc. Vakhnenko Y.V., Kostin V.V.

Conductive or atypical cardiomyocytes form the conducting system of the heart, which provides coordinated rhythmic contraction of its various departments. These cells are genetically and structurally are muscular functionally resemble neural tissue, as they are capable of forming and rapid conduction of electrical impulses. Adult cardiac muscle cells have the limited ability to reproduce. Backup capabilities

"are included" in cases of absolute necessity - when restoring organ after an internal injury (eg, after a heart attack). Scientists know about a few molecules that activate the multiplication of the cardiac cells, including hypertrophy of the heart muscle. Biologists found that in to the process of pathological hypertrophy of cardiac muscle transcription factors are involved - proteins that carry information from DNA to mRNA and "read and interpret" the coding text.

The cause of the disease is different mutations in genes encoding sarcomeric proteins, which allows to define the disease as a violation of the contractile apparatus of the myocyte. In most patients the disease is inherited in an autosomal dominant fashion, approximately in 50-60% of patients there is revealed mutations in one of eight genes that encode the various components of the cardiac sarcomere and associated proteins: the heavy chain p-myosin (14th chromosome), cardiac troponin -T (1st chromosome), cardiac troponin-1 (19 th chromosome), a-tropomyosin (15th chromosome), cardiac myosin connected protein C (11th chromosome), essential and regulatory myosin light chain (3- I and the 12th chromosome, respectively), and cardiac actin (15th chromosome). Lately there were also identified three other gene mutations of sarcomeric proteins, titin, troponin C and a heavy chain of myosin. In the occurrence of the disease there may be also important interactions of violation of the developing fetal heart to catecholamines, thyroid hormones, growth hormone, adenosine. Prevalence and localization of hypertrophy considerably vary even among relatives. The same mutation can lead to severe ventricular hypertrophy in one family member and moderate hypertrophy of the others. The reasons of these phenotypic differences in individuals with identical genetic mutation are not entirely clear, but may be due to other genetic factors that play a role in the expression of cardiac hypertrophy.

MEASUREMENT OF THE INTELLECT OF RATS BY THE ESTIMATION OF THE PROBABILITY OF CORRECTLY ACCEPTED DECISION IN VARIOUS OF DYNAMICALLY CHANGING PROBLEM OF ENVIRONMENT

Shpidonova R. - the 2^{nd-}student Scientific leaders - Prof. N.R. Grigorjev, Assoc. Prof. G.E. Cherbikova, V. V. Kostina.

Presence of intellect in animals is actual problem of psychophysiology and neurophysiology. Intellect is necessary for animals and for a person in problem situations: and congenital or acquired behavior – automatism needs no intellect. It has a different name but all this is an elementary thinking which is always a probable prediction or carrying out the function forward on a line, hypothesis which may be correct or wrong. The founders of the artificial intellect (AI) called it "the model of the problem environment (MPE) (L.A. Shamis, 2004). The impossibility of creation of artificial intellect without study of psychological bases on cognitive functions of animal's brain is recognized. Creation of problematic situations in rats showed the high level of IQ was in 10%, the average one – 40-50%, the low – in 20-30%. There was re-

vealed the dependence of intellect from emotionality. Emotionality stupid rats have very low level of cognitive abilities and v. s.

METHODS OF RESEARCH IN ANATOMY

Pecherskaya Yu., Tsydendambaeva S. – the 1 ^{st-}year students Scientific leaders - L.G. Zherepa, V.V. Kostina.

To study the structure of the human body and its functions, it is used various methods of research. To study the morphological features of a person there are two groups of methods. The first group is used to study the structure of the human body on corpses, and the second one- on a living person.

The first group includes: method of dissection, method of soaking, method of cutting, method of corrosion, injection method, microscopic method.

The second group includes: X-ray method, somatoscopic (visual inspection) method, anthropometric method, endoscopic method.

In the early stages of the development of physiology such methods were used: of extirpation, fistula method, catheterization method, denervation method, chronic experiment, method of perfusion.

In modern anatomy it is used new methods of research, such as computer-tomography, supersonic echolocation, stereophotogrammery, nuclear-magnetic resonance, etc.

Application of computer technology in the conduct of the physiological experiment changed radically the ways of registration processes and the working up of the results

MODERN ADVANCES IN PLASTIC NERVES

Shpidonova R. - the 2nd-student

Scientific leaders - Assoc. Prof. Seliverstov S.S., Kostina V. V.

The indication for plastic nerve is a complete or partial rupture of the nerve with a significant degree of conduction disorders. It is distinguished the primary crosslinking nerve, which is carried out simultaneously with the primary debridement and delayed performed in 2-4 weeks after the treatment of the wound. It is performed two types of operations: neurolysis and nerve suture.

On neurolysis it is realized the secretion of nerve from the surrounding scars or calluses, causing its compression and clinically loss of function and symptoms of irritation of the nerve. There are two types of nerve suture, interfascicular and epineural. To settle the diastasis between the ends of the damaged nerve it was used the following techniques: flexion of the limb joints; mobilization of all the injured nerve; phased suture; moving nerve; resection of the bone; application autoneuralgic inserts cutaneous nerves (it must be considered that not formed neuroma). New method is autoneuralgic plastic. When nerve is damaged and accompanied by severe traumatization of the nerve trunk with significant divergence of the day, there interfascicular plastic is performed. The operation is that the defect nerve is substituted with one or more fragments of the graft and crosslinked with tufts of its ends. As a transplant it is

used sural nerve, medial cutaneous nerve of the arm and forearm, superficial branch of the radial nerve, the cutaneous branches of the brachial plexus and cervical. When there is poor blood supply to the bed of the nerve, in order to ensure adequate trophics transplant it can be performed plastic defect tubulirization nerve. Another method is neuroticism is the intersection of the donor nerve and suturing its proximal segment of the distal segment of the injured nerve.

NEURAL NETWORK MODELING IN PROGNOSIS OF THE OCCURRENCE OF FOREST FIRES

Votyakov A.– the 2nd-year student Scientific leaders – Dr.Ph.Math.Sc., Prof. Vanina E.A., Kostina V.V.

The article discusses the features of construction of the artificial neural network model for prediction of forest fires in a certain area. The model allows to reduce information uncertainty when posting large amounts of heterogeneous data, affecting the frequency of occurrence of forest fires. But this approach requires the coupling of a large number of heterogeneous data, creating considerable uncertainty. The goal is to build models based on artificial neuronic networks (ANN) to obtain full and accurate information about the occurrence of forest fires in the region. The proposed model provides the possibility of adapting to a new region by simply retraining on new monitoring data.

Neural network model consists of a set of similar elementary units functioning in parallel and which are called artificial neurons by analogy with biological prototypes. An artificial neuron is schematically depicted as adaptive adder and the function of the Converter output signal. Adaptive adder computes a scalar holding of the vector of the input signal X on a vector of parameters-weights W and generates an internal signal of the neuron NET.

The process of modeling of the frequency of occurrence of forest fires is iterative for one iteration it is modeled value of the parameters, in the next current day (the value of Cm+1 in the output vector), on the next iteration - the next day etc.

As a result of training a neural network is a dynamic model of the distribution of indicators of a fire hazard at a given location in a given period of time with the possibility of prediction. To obtain a forecast it is necessary to continue the iterative process of modeling parameters at each point on a given number of iterations, thus, will be generated values for a specified number of days beforehand.

The technique complements and extends the assessment of the fire situation, the previously held on the basis of monitoring at specific points on the positions of the measurements. The application of the theory of ANN as a mathematical tool for modeling allows to create a complete model of an integrated method for prediction of forest fires using data from monitoring at certain points of all forest of any region.

FEATURES OF THE PHYSIOLOGY OF BLOOD CIRCULATION IN THE MOTHER-FETUS SYSTEM

Votyakov A.–the 2-nd year student Scientific leaders – Prof. Batalova T.A., Kostina V.V.

Various complications of childbirth are common and today it is difficult to predict them. So, bleedings nowadays take the first place among the causes of maternal mortality. Anomalies of labor activity lead to the increased perinatal morbidity and mortality. Thus, all above cited shows about the relevance of studying the physiology of fetal blood circulation in the system of mother-fetus.

The blood circulation of the fetus differs from that after birth. This difference is connected with the fact that there is no lung respiration in the pre-natal existence. In the period of fetal development the circulation of fetus passes through three successive stages: the yolk, allantoine and placental one.

The most important features of the blood circulation of the fetus: the presence of placental circulation; blood flow in the systemic circulation, bypassing the pulmonary circulation through communication between the right and left parts of the heart and major blood vessels; provision of all organs of the fetus by mixed blood (more oxygenated blood enters the liver, brain and upper extremities); the presence of HbF with greater affinity to oxygen.

Physiological characteristics of the circulation of the fetus is important not only from the point of view of its supply by oxygen. Blood circulation has not less importance for the to implement the critical process of excretion of fetal CO_2 and other products of metabolism. Anatomic features of the circulation of the fetus create preconditions for the implementation of very short path of CO_2 excretion and metabolism products: aorta - arteries of the umbilical cord - placenta.

ANTI-INFECTIVE DRUGS OF NEW GENERATION BASED ON NANO-BIOCOMPOSITES SILVER

Ovchinnikova S. – the 4th-year student Scientific leaders – Assoc. Prof. Anokhina R. A., Kostina V.V.

A modern period is characterized by the increase of number of microbiosiss, including surgical and postoperative in the entire countries of the world, regardless of their economic development. There appeared microorganisms steady to most antibiotics and antiseptics, the ways, methods of transmission and duration of their existence are transformed in an organism. These are the basis of general biological reasons, basis of that is made by changing immunological resistance of the human body and causes associated with technical progress, and, in part, ey the achievement of optimal health. In connection with the development of the phenomenon of antibiotic-resistant microbes, again there has been a growing interest to preparations of silver. There were created and characterized the water-soluble nanocomposites, with contained nanomeasured silver particles, stabilized biopolimeric matrices of arabinogalactan, galactomannan and carrageenan. Galactose contained polymer matrices in-

crease biocompatibility of nanoparticles and are means of transport and delivery of pharmacological groups to the bodies of humans and animals.

Introduction of nano particles of silver into biologically compatible matrices of lisa-saccharide which bring out condition of their high potential antimicrobial biological activity. Water-soluble nanobiocomposites with extensive interval variation of silver have an extended range of use. Practically relevant for use in the pharmaceutical practice there may be composites containing 4-12% of nano metal.

Determination of antimicrobial activity of silver Nanocomposites on basis of arabinogalactan and carrageenan conducted by serial dilutions of the test cultures. It is showed that nanobiocomposites have highly antimicrobial activity in the range 1-100 mg/ml against micro-organisms of different taxonomic-related groups, including the Staphyllococcus aureus, Escherichia coli and Salmonella typhimurium, Candida albigans, Bacillus subtilis. Nanocomposites of its antimicrobial activity are similar to that used in the practice of pharmaceutical preparations, which are different from those with the higher solubility in water. Created by Nanocomposites with biopolimeric matrix they can serve as a basis for the development of the drug substances of antiinfectious preparations of new generation.

OXYTOCIN IS A LOVE HORMONE. MYTH OR TRUTH?

Baymysheva D. – the 2nd-year student Scientific leaders - Assoc. Prof. Egorshina E.V., Kostina V.V.

Oxytocin is a hormone of peptide nature which is generated in hypothalamus. Then this substance is transported to the posterior pituitary, accumulated there and thrown out into the blood.

There are well-known main functions of oxytocin in women's bodies shown below:

- •Stimulation of uterine muscle and increasing of its contracting activity.
- •Stimulation of contraction of uterine neck in forthcoming labor and during its second and third periods.
- •Intensification of prolactin generation in hypophysis hormone having a direct influence on lactation.
- •Increase of the coagulability of blood in the womb to stop uterine bleeding after labor
- •Reduction of cells situated around alveolus of mammary glands and "ejection" of breast milk into ducts

However, only a few people notice the psychotropic effect of the hormone. Nowadays, scientists confirm that oxytocin is responsible for so-called "love - chemistry". In other words, production of oxytocin is the reason of our emotional attachment to other people.

PAPILLARY PATTERNS ON FINGERS

Mikhailova V., Anokhina A. – the 2nd-year students Scientific leaders - Cand. Med.Sc.Ogorodnikova T.L., Kostina V.V. Papillary patterns occur in the human fetus at the time of formation of the skin and remain unchanged until his death. The structure of papillary patterns is individually. Numerous studies established that the papillary pattern were not repeated in different people. Even Siamese twins body and soul of which in varying degrees are connected, have different patterns on the fingers.

There are three main types of papillary pattern: arcs, loops, curls.

Arc - indicates on a very simple and practical people who prefer things to talk because often do not know how to express their thoughts restricted emotionally. They are a very reasonable and economical even greedy people. Such person does not like changes in life, he is extremely conservative.

If there is the loop on the fingers of the, then we have a developed versatile personality with a good mental and spiritual qualities. Sometimes however they lack initiative and determination. Their natural caution and flexible nature can lead to uncertainty. They are friendly, emotional, sensitive.

The curl. The more complex the curl is, the more difficult is the human psyche. Such person will never take hasty decisions and he will think about all more quickly. His motto: "measure twice - cut once" or "better safe - than sorry". The owners of the curls are extremely sensitive and touchy. They have an exceptional memory abstract thinking and developed subconscious.

PATERNITY TEST-SCIENTIFIC AND MODERN DEMAND

Mironenko A. – the 1st-year student Scientific leaders - Prof. Gordienko E.N., Lakeeva T.I., Kostina V.V.

In recent years on TV during such programs as "Let Them Talk" or "Direct broadcast", we can hear more and more about such procedure as a determination of paternity with a DNA test. I think everyone has heard about it, but nobody has any idea what he represents.

Usually test on paternity men make because of curiosity, uncertainty or doubt and greed. Women, on the contrary know that a child is of their own, and the question of paternity raise solely "on the matter ", for example: to bring to justice and participation in education (most often it is the financial assistance). Just determination of paternity may require the embassy when traveling abroad for permanent residence, in the case that a Russian citizen is married to a foreigner and they have a child, as well it will save the child from problems with citizenship.

To determine the paternity it is necessary the genetic material from all third persons: mother, child and a candidate for the role of the biological father.

Usually blood, saliva or buccal scraping (from buccal mucosa) are taken. DNA analysis is based on the comparison of DNA fragments (loci) between the alleged father and child is date. If we take a specific part of DNA of the child and compare it to the same site of the alleged parent, so in 50% it will be the same between them. If we compare the different sections of 12, different part then according to the laws of statistics, approximately 6 of them are the same. In this case, the probability will be 99.99% that the alleged father is the true biological parent of the child. However, if only 1-2 of the 12 examined loci will be the same, then the probability that the al-

leged father is the biological parent of the child is the same as for any other person taken at random. In this case, the alleged parent can not be the biological parent of the child and there shall be made a negative opinion about the genetic relationship. The accuracy of the analysis of DNA is affected by two main factors - the number of genetic studied loci and their nature. There are some areas that are almost unique for each person (that's what makes us different from each other), or present in a small number of people. Among these portions, sections of hypervariable DNA are most often used in human genetic identification. The more sites of this nature will be analyzed, the higher will be the probability of establishing (or disprove) of paternity. Currently, each DNA sample are analyzing on 16 hypervariable loci, which provides the probability of 99.9999% at confirmation of paternity and 100% at its refutation. Unfortunately, the cost of paternity proceedings is great, but the procedure is becoming increasingly attractive.

PELLAGRA

Kharkovskaya A. - the2nd-year student Scientific leaders - Feoktistova N.A., Kostina V.V.

Pellagra (pelle agra - rough) is a disease resulting from a deficiency in the body of nicotinamide, tryptophan, vitamins belonging to the group C. If the clinical manifestations of the disease was first described by the Spanish doctor G. Casal (1735), Italian physician F. Frappoli called the disease pellagra.

There are scientific facts that pellagra is due to insufficient intake of nicotinamide (vitamin PP), vitamins (B1, B2, B6) and other protein substances (tryptophan, leucine, isoleucine, and others). Therefore, the disease occurs in periods of famine, war, natural disasters in mass order. Pellagra occurs also in people in the diet dominated by corn.

Pellagra is manifested by the following classic triad of dermatitis, disorders of the gastrointestinal tract (diarrhea), neuro-muscular activity. The initial clinical signs of pellagra are manifested in the form of dermatitis on exposed parts of the body on which the sunbeams fall. Dermatitis is manifested by swelling of the skin, erythema, which have a sharp and clear boundary. Subjectively, patients are concerned about severe itching and burning. Patients who have pellagra, appetite disappears or decreases, stomach painful, there's diarrhea. Violation of neuro-muscular activity takes the form of Pellegrino polyneuritis, depression, fear, and dementia, which are accompanied by paresthesia and decreased skin sensitivity. Pellagra can last for years, can be accompanied by severe diarrhea and on clinical course it resembles the scurvy. In very severe symptoms, it can simulate typhoid fever. Patients may quickly die. The disease pellagra should be distinguished from those ones close to the clinical course of the disease, such as solar dermatitis, porphyria, erysipelas.

PELVIMETRIC INDICATORS OF FIRST MATURE AGE'S WOMEN

Shpidonova R., Mizenin M., Lazareva K. - the 2nd-year students Scientific leaders - Ambrosjeva N. P., Kostina V.V.

In Russia during last years in connection with the increase of birth rate the contingent of pregnants and women in childbirth was changed, among which there was a significant increase the proportion of women with high risk of obstetric and perinatal pathology. The great significant in such women has a prognosis of duration and outcome of delivery, the specific role in which has the timely identification of anatomical features of the pelvis. In order to establish the size of the pelvis we surveyed 100 women aged 22 up to 35 years. It must be emphasized that 71% of women with abnormal hips were under the age of 28 years – they have certain medical conditions. Smoking in these 80% of cases was the cause. This issue remains actual due to the occurrence of complications in childbirth which are dangerous for mother and fetus.

PHENOMENON OF RUSSIAN AMERICAN - FROM ENERGY STAR TO GENETIC CODE

Mirgyan R. -1^{st} -year student Scientific leaders - Prof. Gordienko E.N., Kostina V.V.

Personality in science - a subject for study in natural sciences and medicine. We, are as future doctors, attracted by information of our compatriots who created the glory for our motherland when they were abroad. George Gamov is one of such persons. Soviet and American the theoretical physicist, astrophysicist and science's populazer. He was the 1-st who clearly formulated the problem of the genetic code. The world publicity came to Gamow after the publications of his scientific popular works in which the modern scientific statements were given. Gamow was born in Odessa, March 4, 1904 in the teacher's family. His father Anton Mikhailovich Gamow was a teacher of Russian language and literature at a private school.

The theory of alpha decay (1928-1931). Gamow graduated in 1926 and become a post - graduate student. Applying the idea of the quantum-mechanical wave function penetration of alpha particles through the Gamow's barrier (tunneling), he was able to show that the particles are with not very high energy with a certain probability coned fly out of the nucleus. This was the first successful explanation of the behavior of radioactive elements on the basis of quantum theory. Gamow was able to estimate the size of the nuclei and, more importantly, to give a theoretical derivation of the empirical law of Geiger - Nettolla binding energy of the emitted alpha particles with alpha decay time.

"Big Bang" and the genetic code (1946-1956). In 1954, a year after the discovery of the double-helix structure of DNA, Gamow unexpectedly made a significant contribution to the establishment of a new discipline - molecular biology, for the first posed the problem of the genetic code. He realized that the structure of the basic building blocks of cells - proteins consisting of 20 basic (natural) amino acids – have to be must be encrypted in the sequence of the four possible nucleotides that make up the DNA molecule.

In recent years, Gamow heavily suffered from disorders of the cardiovascular system, he was infected by chickenpox and hepatitis. Gamow died in Boulder, August 19, 1968. One of the tallest buildings constructed on the territory of the University of

Colorado, is called "Gamow Tower." In 1990, he was been posthumously restored as Corresponding Member of the Academy of Sciences.

PROBIOTICS AND INFLAMMATORY BOWEL DISEASE: IS THERE A SCIENTIFIC BASIS?

Bova E. – intern

Scientific leaders - Cand.Med.Sc. Soluyanova I.P., Kostina V.V.

Most conventional forms of drug therapy suppress or modify the host immunoin-flammatory response and neglect the other contributor into disease pathogenesis – the environmental microflora. Probiotics are live microbial food ingredients that alter the enteric microflora and have a beneficial effect on health. The ground for using probiotics in IBD is mainly based on evidence from human studies and experimental animal models implicating intestinal bacteria in the pathogenesis of these disorders. The relationship between the host immune response to the enteric microflora is leading to chronic mucosal inflammation, in susceptible individuals.

The enteric flora presents a highly variable antigenic load for the mucosal immune system to contend with them. The central design paradox for mucosal immunity is avoidance of unnecessary, potentially harmful reactivity to commensal flora (oral tolerance) coupled with the capacity for rapid responsiveness to episodic challenge from infection. Errors in these regulatory processes disrupt mucosal homeostasis and are associated with mucosal inflammation.

Besides the use of antibiotics, almost all conventional drug treatments for IBD involve direct suppression or modification of the host immune or immunoinflammatory response.

Perhaps more exciting than the anti-inflammatory effect of probiotics in murine experimental colitis was the finding that a strain of Lactobacillus salivarius diminished the rate of progression from inflammation through dysplasia to colon cancer in the IL-10-deficient model, when compared to nonprobiotic-fed animals. In comparative studies with ordinary therapy, a nonpathogenic strain of Escherichia coli had apparently efficacy similar to that of mesalazine in patients with UC.

SERGEY CHETVERIKOV

Mirgyan M., Melkonyan A.- the 2nd-year students Scientific leaders - Prof. Gordienko E.N., Kostina V.V.

Sergey Chetverikov is a geneticist the founder of the modern synthetic theory of evolution. He was born in April 24, 1880 in the family of industrialist- the owner of smectite factory, in Moscow. As a student of physics and mathematics faculty of Moscow University, in 1900, he published his first work in the field of biology devoted to the Lepidoptera. In the same year he made his first major zoological expedition, during which he collected butterflies of Minusinsk Territory and Western Sayan. In 1905 he published an article about the additions to the fauna of butterflies of Moscow province. In the same year a very interesting book called "Waves of Life", which contained the analysis of the fluctuations in populations of organisms.

From 1909 to 1918 Chetverikov taught entomology at the University for Women. When writing the master s thesis freshwater isopod crustacean water donkey was selected as the object of research. Chetverikov defended his thesis successfully and he was awarded the degree of Master of Zoology. He was appointed as Assistant Professor of Experimental Zoology at the University of Moscow in 1919. A few years later he became the head of the Department of Genetics of the Institute of Experimental Biology. In 1929 he was arrested and sent to Sverdlovsk for three years. Having no permit to the return to Moscow in 1932, he moved to Vladimir, where he continued his scientific work. In 1945 he was approved in the degree of Doctor of Biological Sciences without defending a thesis. In the second half of the 1950 a revival of soviet biological science began. At the anniversary congress in April 1959 Chetverikov was awarded the Medal of Honor «Plackett of Darvin» for the development and strenthening of the doctrine of evolution and genetics. The men in white coats our great compatriots were named so for their achievements and for their self-less work for the good of the world and domestic science and due to their tragic fate.

STUDYING OF PHYSICAL DEVELOPMENT IN OF CHILDREN

Sibileva D. - the 5th-year student Scientific leaders - Can. Med. Sc. O.S. Yutkina, Kostina V.V.

At the estimation of physical development of 6-7 years old children by system of the automated complex of clinical examination it was noted that in the majority of examined children development was harmonious, mildly - disharmonious in 1/4 of 6 years old age and in 1/3 of 7 years old children. At the same time disharmonious with surplus of height and insufficiency of body weight among girls of 6 years old in 3,3 times was observed more often, than among boys (according to 14,6 and 4,4%). Disharmonious developments with insufficiency of body weight in the same age-dependent group is marked similarly more often for girls as compared to boys. Disharmonious development with insufficiency of body weight among children of 7 years old was observed in 2 times more often for boys as compared to girls. Indices of dynamometry of 6 years old children: for girls the force of right arm was $5,0\pm1,8$, force of left arm $4,7\pm2,2$; for the boys of force of right arm - $6,4\pm1,9$ and force of left arm $6,1\pm2,1$. The same indices are in 7 years old - in girls: force of right arm $6,2\pm2,1$, force of left arm $6,1\pm2,3$, in boys: force of right arm and force of left arm are equivalent $8,0\pm2,5$.

The indices of vital capacity of lungs for 6 years old children were 838 ± 72 mls without obvious distinctions among boys and girls. The indices of vital capacity of lungs for 7 years old girls are at the level of 961 ± 272 mls and among boys are 1115 ± 309 mls.

SYNDROMES OF LESION OF THE AUTONOMIC NERVOUS SYSTEM

Piura D. – the 2nd-year student Scientific leaders – Batalova T.A., Kostina V.V. The vegetative nervous system regulates metabolism, anxiety and autonomous work of the internal organs, as well as the physiological state of tissues and organs (including the brain and spinal cord)

Peripheral vegetative nervous system is divided into sympathetic and parasympathetic. The sympathetic division of the autonomic nervous system provides the mobilization of the body's resources (energy and intellectual) to perform urgent work. Rebalancing and the constancy of the internal environment of the body is the task of the parasympathetic nervous system. In this sense, the activities of these divisions of the vegetative nervous system in a number of reactions manifested as antagonistic. In topical diagnosis of autonomic disorders we can distinguish between the levels of vegetative nodes, spinal cord and stem levels, hypothalamic and cortical vegetative disorders.

In this work I described the symptoms the nodes of the edge trunk, pterygopalatine nodes.

Nervous plexus causes the vegetative disorders due to lesions of the autonomic fibers included in the nerves. Vasomotor, trophic, secretory, pilomotor disorders are observed in the area of innervation of the corresponding nerves.

Vasomotor, trophic, secretory, pilomotor disorders in the area of segmental vegetative innervation occur with lesions of the lateral horns of the spinal cord.

The symptoms of lesions of the hypothalamus is described in the paper.

Syndromes with a clearly defined clinical manifestations are observed with lesions of the hypothalamus along with pluriglandular disorders. These include: dysfunction of the sexual glands, diabetes insipidus and others.

There were considered such violations as syndrome Itsenko-Kushinga, adiposogenital degeneration, premature puberty, delayed puberty, cerebral nanism, diabetes Insipidus.

NIKOLAY IVANOVICH VAVILOV IS A SCIENTIST WHO WANTED TO FEED THE WORLD

Votyakov A., Kunitskiy E. – the 2nd-students Scientific leaders – Prof. Gordienko E. N., Kostina V.V.

Nikolay Ivanovich Vavilov can be called as an encyclopaedist of the XX century and he was the first versatile scientist for all time of existence of biology.

The most characteristic feature of the Vavilov as a scientist is the ability for broad scientific generalizations and rare talent of foresight of the main directions of development of science. For example, there was opened by him the Law of homologous rows in genetic variation in 1920. It is amazing that Vavilov was able to establish the universality of this fundamental biological patterns, exploring the diversity of morphological characteristics of plants.

The problem of genetic plant resistance to diseases, pests and adverse environmental conditions Vavilov related to the most important directions of the development of genetics and breeding.

Heritage of Vavilov cannot be overstated. He was one of the first to realize the enormous importance of genetics for plant growing, breeding and all of agriculture. Sci-

entific and social activities of Vavilov from the beginning was very smoothly and perfectly in a very dramatic, largely tragic period of the new Russian history.

The fate of the great scientist was changeable and tragic. Violent elimination of the Vavilov was a huge damage to genetics and science in general. "Equal to Vavilov scientist and organizer of science, national genetics and breeding had not have and does not have". All his life he was serving to science.

Tragedy of Vavilov meant the end of a whole branch of science - genetics. Starting in 1939 with the tacit support of Stalin, Lysenko and supporters held a real destruction of genetic science in the USSR. He was arrested in 1940.

N.T.Vavilov often repeated: "Life is short, we must hurry". And he did everything he could to lead info forward movement all that he conceived.

THE DEVELOPMENT OF ANAYOMICAL TECHNIQUES

Kukhno T., Zaikina S. – the 1st-year students Scientific leaders - Zherepa L.G., Kostina V.V.

Leonardo da Vinci was not only an artist, but also an anatomist. Leonardo made drawings with stolen corpses, he was the first to use anatomical technique by pouring into the 4th brain ventricle the painted wax.

Andrew Vizaliy. Under his leadership, the artist Kalckar has created wonderful treatises about the structure of human body, which were printed in 1543, where it was spoken about the anatomical techniques, about cooking and maceration of bones, tying of skeleton. He proposed to use the tools and wire, and frame-saw machine for drilling the bones.

There was a new conservative- alcohol, which was opened in 18th century. But usually scientists used wood alcohol, which was cheaper. This new conservative quickly earned great frame, despite its deficiencies (dehydration drugs, shrinkage, disappearance of color, etc.). However, it was used until 1893, before the appearance of formalin.

Anatomical technique began in the late of the 17th century, it was built on the achievements of chemistry, physics, biology and various anatomical discoveries. Nicholas Bidloo was the first Russian anatomist-surgeon and professor. He worked in the first medical school established by Peter 1.

M.V. Lomonosov wrote about the necessity of knowledge of anatomy:" How can you talk about the human body, knowing neither the addition of bone or distribution of nerves for feeling, nor the location of the viscera to prepare nutritious juice or attraction lived for the treatment of neither blood, nor other agencies of this wonderful structure".

During the life of Peter Zagorodsky there was appeared the fist Russian anatomical textbook "Guide to the knowledge of the structure of the human body".

Wetzel Leopold Gruber, a prominent scientist, opened maceration embalmed corpses by the strong solution of zinc chloride in alcohol. With this solution, corpses had been preserved for a very long time.

Professor Mitrofan A. Popov was the first who introduced the embalming of corpses by formalin for student practice.

THE ROLE OF FORENSIC MEDICINE IN THE PREVENTION OF NARCOMANIA AND TOXMANIA

Subbotina S. –the 6^{th} -year student, Gigolyan A. the 4^{th} -year student Scientific leaders - Assoc.Prof. Gigolyan M.O., Kostina V.V

In the prevention of narcomania and toxmania forensic medicine is played a major role. Analysis of drug poisoning, medicines and household chemicals provides material for the general health education and preventive work among the population, especially among teenagers and young people. Urgent task of forensic chemical and drug laboratotries is the development and implementation of modern methods of chemical investigation of the biological material with the use of new laboratory methods of analysis. In recent years, when the addiction began increasingly penetrate our society, punitive policy of our country is strengthened, being persecuted for illegal acquisition, preparation, storage, sale, of sowing and cultivation of the opium poppy, Indian hemp and some other it species, it organization keeping of dens for consumption of drugs, pressure to use of the narcotics and so on. To law enforcement and medical professionals often raises the question of determination of kinds of substances(narcotic, strong or poisonous), their names and properties, as well as the establishment whether the plants is concerned to the to cultures containing narcotic substances. To dissolve these questions, the lawful organs should have an expert opinion. This means that all forensic experts -chemists should know well the law on narcotic, toxic and virulent means, constantly monitor changes in it. Every year we conduct the analysis of cases of acute poisoning drugs by medicines and household chemicals. The obtained data are used for performances in printing to prevent poisoning. We made numerous reports on forensic scientific medical and practical conferences. Struggle with narcomania and toxmania is the important state task. Great importance has the general education of the population, especially among students and young people, by the help of parents, teachers, doctors, lawyers, community organization, labor collectives.

THE TREE OF LIFE

Shpidonova R. - the $2^{nd-year}$ student, Trubachev R. - the $1^{st-year}$ student Scientific leaders - Prof. Gordienko E.N., Kostina V. V.

The totality of all life on Earth, from the creation to the present day, we usually call the tree of life. And why, in fact, there was the tree? Why was not scrub? Sounds not badly: bush of life ... In other words, life is presented in this metaphor of multi system, all branches and twigs of which, anyway, are equal.

So we set out to demonstrate and to prove the equivalence of these discoveries, thereby identify patterns of growth and development of genetics on the bottom-up, but there was a problem - with whom to begin. Like any tree, here is the root of where Mendel because like with his laws, which he used on pea, and collaterals appeared from it (branching), but not in the same direction, and in the two these are heredity and variation. There were many options for scientists involved in genetics,

but we were looking for basis, that is, the one who gave the continuation of genetics. An important finding was the discovery of DNA (Crick and Watson). Then with the help of Elena Nikolaevna, we continued the selection of candidates for seats on the tree. This included the creator of the chromosome theory and chromosomal maps -Morgan. Nirenberg - genetics and biochemist, project manager on deciphering of the human genetic code. Collins - is the Head of the Human Genome (hereditary material). Mackyusik - gave impetus to the development of clinical genetics (these works were made in the field of inherited genetic diseases). But we know that in the body there are different factors that alter the structure of the organism. So we can't help mentioning mutation. In this area, Moeller worked, who proved the effect of radiation, which determined the amount of quality (the stronger the radiation, the greater the risk of death). And of course we could not mention genetic engineering. Our modern world is a world of technology. So in genetics there was a breakthrough. Craig Venter and his team presented a sample of artificial life: the world's first cell which was successfully managed a fully synthesized genome. All these steps were the supporting elements for the implementation technology artificial genetic code of a host cell. "This is the first time that a synthetic DNA completely controls the cell," - said Venter. He believes that, ultimately, such work will lead to the construction of cells that perform useful functions - from synthetic of drugs to fuel.

TYPES OF TRUNK CELLS

man body the so-called trunk cell.

Shchedrova A.P. - the 3rd-year student Scientific leaders – Cand. Med. Sc. Brash A.A., Kostina V.V.

Now the media with reassuring regularity report about new practical achievements of cell therapy (treatment is based on the use of trunk cells) and fantastic prospects, the implementation of which, however, is very real. What are the trunk cells? Almost all cells of the adult body are specialized. They vary in appearance and perform different functions. Such cells are called differentiated. But there is in the hu-

Trunk cell - a cell devoid of specific structures, capable to differentiate into different types of specialized cells.

For use in gene and tissue therapy it was recommended several types of trunk cells: mesoangioblasts, muscle trunk cells and multipotent adult progenitor cells.

Confluence of macrophages with cells of other tissues in the body may become the basis of a cell or gene therapy.

Clinical trials were conducted, during which we tried to find out whether the trunk cells of the bone marrow can produce cardiomyocytes after myocardial infarction. They were administered, either directly in the heart or into the blood stream. The test results showed that even if the bone marrow trunk cells were not involved in the physiological regeneration of other tissues, they can contribute for this process by providing factors of growth and other signaling molecules.

Successful preliminary experiments were done by scientists from different institutions (Article 7 in "Chemistry and Life", 2002 Author: Korochkina L.I.). Re-

searchers obtained from bone marrow stromal cells growing in culture formation are capable under the inductors become exposed into various cells of the nervous tissue. Thus, the basic property of trunk cells - to differentiate into other cell types which are commonly used in regenerative medicine, and the direction is relevant for the study.

VARIATION OF VIRUSES

Fomin D. - the 7th form pupil, scientific society «Erudit» Scientific leader - Kozlova V.S.

Nowadays the study of viruses is one of the most important tasks for the humanity because of the danger of these organisms. The matter is that new strains and types of viruses appear every year.

The Baltimore classification, developed by David Baltimore, is a virus classification system that groups viruses into families, depending on their type of genome (DNA, RNA, single-stranded (ss), double-stranded (ds), etc.) and their method of replication.

Three hypothesis of origin of viruses:

Regressive hypothesis

Cellular origin hypothesis as

Coevolution hypothesis

Viruses have such a simple structure that they are often considered to be nonliving, but it's not true.

Viruses are reproduced inside living cell using it for synthesizing its own nucleic acid and proteins. Viruses are transmitted from cell to cell as inactive substance. From 140 up to 190 thousands of cases of upper respiratory track (URTI) infections and influenza are registered in Amur region every year which amounts from 17 - up to 23% of the total population of the region.

Fetal infections play the main role among the reasons of infant mortality. Vaccination is a cheap and effective way of preventing infections by viruses. The aim of my report is to inform the population of the danger of such microorganisms as viruses.

VICTOR MCKUSICK – THE GENETICIST WHO DESERVED IMMORTALITY

Pronina D. -1^{st} -year student

Scientific leaders – Prof. Gordienko E. N., Cand. Med. Sc. Vakhnenko U. V., Kostina V.V.

Doctor Victor Almon Mckusick (21.10.1921 – 22.07.2008) – the American doctor famous as "The father of medical genetics". He was born in a religious family in which education was highly appreciated. When he was 15 he made a choice of future profession – he decided to become a doctor. Scientific achievements of doctor Mckusick are legendary. Having got an education of the cardiologist, he initially

specialized in heart and other sounds. In the 1950s he could describe these sounds with a special accuracy that nobody could do this before him.

In 1957 he founded the country's first office of medical genetics in Johns Hopkins University. In 1968 his team deciphered genes for blood groups on the first chromosome, for the first time the gene was identified not on a sexual chromosome. Doctor Mckusick became the specialist in Marfan's syndrome and identified it in Abraham Lincoln, the 16th U.S. President. In 1991 he allocated and identified the gene responsible for Fibrillin-1 (FBN-1). As a result of the researches, he created potentially new methods of treatment of a syndrome of Marfan and ways of its studying in various clinical tests.

Victor Mckusick in 1996 published the first edition of his the classical book "Mendelian Inheritance in Man (MIM)". At that time it included 1800 genes. To the 12th and last printing version in 1998, it grew up to three volumes and was processed to capture about 12 thousand genes. Since then it was published only in the Internet. He was one of the first who proposed to order human genome, and recognized the value of studying of genetics of mice as model of human diseases, stimulated joint projects between researchers in both areas.

Among his many awards there are:

- Albert Lasker's award (1997) for outstanding achievements in medicine,
- National medal for achievements in science (2001)
- Japanese award for merits in medical genomics and genetics (2008 g).

According to doctor Ric Voychik, the director of the Jackson Laboratory, in the message, to the staff of laboratory of Jackson: "on July 22, the country lost the giant in the world of science, Maine lost the outstanding fellow countryman and Jackson Laboratory lost dear friend. As you know, Victor was known as "the father of medical genetics" and was one of founders of a short course of medical and experimental genetics of mammals. Victor was not only the brilliant scientist, he cared of people, was the teacher and the mentor of thousands of students, scientists and doctors. I will miss him"...

VIRUS OF TICK-BORNE ENCEPHALITIS

Zubkova M., Kanash T. - the 3rd-year students Scientific leaders - Dr.Med.Sc. Chubenko G.I., Kostina V.V.

Tick-borne encephalitis, one of the most dangerous viral infections which strikes the central and peripheral nervous system which heavy complications, can pour out in paralysis or a lethal outcome.

The virus of tick-borne encephalitis is a small virus of a spherical form, about 25 — 45 nanometers in size. The genome is presented by one thread of the linear RNA surrounded by capside. The virus is covered with fiber coat.

Tick-borne encephalitis - a transmissive infection with a natural focus. The main tank and a source of a virus in the nature are iksodovy pincers: Ixodes persulcatus widespread in east regions of the country, and Ixodes ricinus - in western. Traditional areas of distribution of tick-borne encephalitis — Siberia, the Urals, the Far East. At

the same time cases of infection meet and in a midland of Russia, the Northwest region, the Volga region.

Pincers pass some stages of development - egg, a larva, the nymph, an imago (an adult tick). To transformate a tick from one stage to another, blood of warm-blooded animals is necessary. Begining with the stage of a larva, ticks actively look for a susfenancers, as a rule, there can be small forest animals (hares, mice, etc.), birds.

Ticks can attack both small forest animals and large ones, including livestock: goats, sheep, cows. During a blood sucking the tick transmits a virus which gets into blood and animals become additional tanks of an infection. Also pincers can transmit a virus to posterity. Infection of man occurs through stings of a tick. The transmission of infection is possible will using of crude milk of goats and cows. Incidence of Tick-borne encephalitis has the seasonal nature corresponding to activity of pincers. Its maximum rise is observed in May - June. The second, less expressed rise, is registered at the end of summer - in early autumn.

The disease develops in 1.5-3 weeks after a sting. The virus affects gray substance of a brain, motor neurons of a spinal cord and peripheral nerves. The person has spasms, paralysis of separate groups of muscles or the whole extremities and violation of sensitivity of skin. Later, when the virus inflammation covers all brain, headaches, vomiting, loss of consciousness are noted, up to a coma or on the contrary excitement with loss of orientation in time and space can develop. Violations of cardiovascular system can be noted: myocarditis, arrhythmia, gastrointestinal tract: increase in liver and spleen. There is a toxic defeat of an organism, body temperature increases up to 39-40 degrees. For specific prevention there the special vaccines prepared from a virus is used. After vaccination long and resistant immunity is developed in person. Traditionally it is done in autumn - winter period in advance. Also protection against tick-borne encephalitis is the head-dress, the clothes closing all body and splashed by the means which is frightening off ticks.

WHAT WE KNOW ABOUT GALEN?

Umarova S., Omoniddinova U. – 1st-year students Scientific leaders – Pavlova A.E., Kostina V.V.

Claudius Galen (129 - 200 year) - Greek in origin, was born in Pergamum. He was an outstanding physician and scientist of antiquity, he studied philosophy and medicine, much attention he paid to the study of anatomy, he improved his knowledge in Alexandria.

From 158 he worked as a doctor in his native school of gladiators. From 169 he worked as court physician in Rome. Galen has collected and systematized anatomical - physiological informations of his time, added them by his own observations. He studied anatomy predominantly on animals (on pigs and monkeys).

A lot of new materials he had brought into the anatomy of the nervous system. He wrote more than 100 works, only a few of which have kept. His works were studied and commented by medieval scholars, his views were considered infallible for 13 centuries.

Misconceptions about the movement of blood by Galen were refuted by Harvey in the XVII century. The name of Galen had a big vein of brain, connective tissue with the lower laryngeal nerve (Galen anastomosis). The main work of Galen "About the appointment of parts of the human body" was published in Russian in 1971.

THE USE OF OXYTOCIN IN OBSTERIC PRACTICE

Babiychuk E.– the 4th-year student Scientific leaders - Dr.Biol. Sc. Simonova N.V., Kostina V.V.

Oxytocin has all the biological properties which inherent in the natural hormone by the posterior pituitary gland. Oxytocin is used for excitation and stimulation of uterine contractions, for prevention and treatment of hypotonic uterine bleeding after abortions, in the early postpartum period for acceleration of postpartum uterine involution, for enhancing the uterus contractility during cesarean sections. Mechanism of action: affecting on specific receptors in myometrium, it increases the intercellular content of Ca2+. It stimulates rhythmic contractions of the uterus by strengthening and increasing contraction rate. Acting on myoepithelial elements of mammary glands, it causes contractions of the walls of the alveoli's smooth muscles and stimulates the supply of the milk into large ducts of sinuses and also eases the lactation.

CHOREA OF GENTINGTON - THE RARE DISEASE «LIKE A BOLT FROM THE BLUE». RELEVANCE OF STUDYING AND SOCIAL COMPONENT

Chervova Y. - the 1st-year student Scientific leaders – Prof. Gordienko E.N., Kostina V. V.

Chorea of Gentington - one of the most serious progressing neurodegenerative heritable illness of a brain.

Relevance of studying of a problem. The essential part in structure of incidence and mortality of the person is made up now by hereditary diseases. There are over 4000 diseases, and this list is constantly increasing. Important is also that fact that these diseases affect more often than persons of working-age and quickly enough lead to an invalidism of patients, and is frequent and to death. Hereditary diseases of nervous system are characterized, as a rule, by special weight of clinical manifestations and steadily the progressing current.

This illness was for the first time described in 1872 by George Gentingtonom. Further epidemiological researches showed that this state meets in many countries. Level of abundance of a disease varies in wide limits and averages 4-7 cases on 100 thousand people of the population. And to a great regret, this disease tends to body height. The most terrible in my opinion that until recently the healthy young people carrying a pathological gene without suspecting that, by 35-45 years become disabled people. At the prevailing most of patients with a chorea of Gentington alienations are observed. Frequency of suicide attempts, offenses and social inferiority of patients increases.

Horeey Gentington - one of most hard and dramatically proceeding heritable neurologic diseases which arises "like a bolt from the blue" and is shown sluggishly and progressiruyushche.

MECHANISM OF ACTION OF NOOTROPICS

Chirich A., Ryabenko V. - the 4th-year students Scientific leaders - Dr. Biol. Sc. Simonova N.V., Kostina V.V.

N otropic drugs are drugs which have an activating action on perebral metabolism and higher mental functions. They are characterized by metabolic and neurotrophic effect, which causes the process of improve ment of the redox reactions, reducing the aggressive actions of lipid peroxidation (LPO), a positive effect on neurotransmission.

As a result of numerous clinical and experimental studies it was identified the main mechanisms of action of neuroprotective drugs:

- Accelerated penetration of glucose through the blood-brain barrier and increase of assimilation of it by brain cells, especially in the cerebral cortex.
- Amplification of cholinergic impulses in the central nervous system (CNS).
- Increased synthesis of phospholipids and proteins in the nerve cells and erythrocytes (stabilization of cell membranes), the normalization of the properties of liquid membranes.
- The inhibition of lysosomal enzymes and removal of free radicals.
- Activation of cerebral microcirculation by improving the deformability of erythrocytes and the prevention of platelet aggregation.
- Improved cortical-subcortical interaction.
- Normalization of neurotransmitter disorders.
- Activating effect on the higher mental functions (memory, learning ability, etc.)
- Improvement of reparative processes in the brain lesions of various origins. Nootropic drugs can be used by patients with different pathologies of the CNS and in healthy people with fatigue, with natural aging, as well as in emergency situations.

NEBULIZER THERAPY

Vdovin.D - the 5th-year student Scientific leaders– Cand.Med.Sc. Kostrova I.V., Kostina V.V.

Inhalation therapy is the primary method of delivery of all types of drugs in the syndrome of bronchial obstruction (asthma and COPD). Success inhalation therapy depends not only on the correct choice of formulation but on the adequate way of its delivery to the respiratory tract.

The delivery systems of inhaled medications:

- pressurized metered dose inhalers
- a combination of metered-dose inhalers with spacers
- powder inhalers
- nebulizers

The word "nebulizer" is derived from the Latin «nebula» (fog, cloud), was first used in 1874 to mark "the tool which turns liquid substance into an aerosol for medical purposes." Modern nebulizers resemblance a little about the first device, but they fully comply with the old definition - aerosol products of the liquid medicament. Currently, depending on the type of energy which converts the liquid into an aerosol, there are two basic types of nebulizers:

- Streamed (compressor, pneumatic) used a stream of gas (air or oxygen)
- ultrasound using the energy of the oscillations of the piezoelectric crystal. Nebulizers - non-portable inhalation device designed to convert the liquid drug into an aerosol with relatively small dimensions of the generated particles (from 1 up to 5 microns)

absolute indications

Absolute indications for use of nebulizers are the following:

- a drug can not be delivered to the respiratory tract by other inhalers;
- require delivery of the drug into the alveoli;
- the patient's condition does not allow the proper use of other in-inhaler.

The latter evidence is the most important when choosing Inga-translational machinery. Despite certain dignity of metered in-inhaler (MDI) - small size, lower cost, speed IP-use - for their application it requires precise coordination between inhalation of the patient and the drug release, as well as the forced breath. Studies on evaluating of the correctness of using DI in stable patients with obstructive lung disease showed that only 25-60% of all patients are able to use correctly the DI. Taking into account the severity of patients during exacerbation of the disease, marked dyspnea, changes of breathing pattern (shallow rapid breathing), it becomes clear why inhalation therapy in using conventional DI is practically ineffective in patients. Using of spacers and powder DI can allows to solve the coordination problem, but, unfortunately, not always. Advanced age of the patient often becomes an obstacle to the proper use of all types of inhalation technique, except nebulizer. Nebulizer is also the only possible means of delivery of aerosol medications in children under 3 years old. Relative indications

All other indications are relative (in such situations nebulizer can be replaced by other inhaled systems)

The necessity of using of a large dose. Doses of drugs may depend on the severity of the functional disease. The task of inhalation therapy is to achieve a physiological response in the interaction of the drug molecule to the receptor of the bronchi or lungs. In severe exacerbation of Bronchoobstructive disease or chronic severe bronchial obstruction maximum clinical response can be achieved only on using of high doses of drugs

The preference of the patient. Many patients during acute condition, prefer to use a therapy and a technique that is different from that one they use at home. Practical comfort. The use of nebulizers is a simpler method of therapy, the patient does not require the learning of patients breathing maneuver and the control of a doctor for inhalation technique. Nebulizer helps to be sure that the patient receives the correct dose of the drug.

NEW DOMESTIC TECHNOLOGIES IN MORPHOLOGY – POLYMERIC EMBALMING

Malynova I., Goncharskaya A. – the 2nd-year students Scientific leaders - Zherepa L. G., Kostina V. V.

The methods of embalming of dead bodies with the help of formalin, carbolic acid and glycerin are traditionally applied on the Chairs of Anatomy. They are unhealthy for the teaching stuff and students, and also can't provide long storage of the embalmed bodies without tight packing in the open air.

As prototype of modern technology of polymeric embalming it is possible to consider Dizhenir and Berndt's experiences in 1914 and Hokhshtellere and Shnaydell in 1927. They applied paraffin to receive dry anatomic preparations, sating with it intercellular space of bodies after dehydration and degreasing. In the early 80th of the 20th century the teacher of anatomy of Geydelbergs University (Germany) professor Von Hagens developed technology of impregnation of intercellular space of the whole bodies by various polymers (silicone, polyester and epoxies). In 1992 Institute of a plastination at Gaydelbergs University by Gunter Von Hagens's invitation, professor I. V. Gayvoronsky visited Institute where he got acquainted with the opportunities of unique technology. There were developed several technological processes which purpose was replacement of water and lipids of the biological tissues on silicone polymer that received the name – polymeric embalming.

In this process it is possible to allocate five main stages which are carried out consistently:

preservation of object in the solutions fixing the formalincontaining;

production of a preparation;

dehydration and degreasing;

treatment by polymer;

polymerization.

In comparison with traditional preparations the new samples received by means of polymeric embalming have four main advantages:

The anatomic preparations impregnated with polymer aren't toxic, deprived of a smell at all and don't make harmful effects on an organism of teachers and students. These samples possess high presentation and demonstrativeness as the applied polymers don't change natural color and a form of the embalmed bodies and fabrics. Preparations are stored beyond all bounds long term on air without use of hermetically closed containers.

Silicone polymers considerably increase durability of natural anatomic and biological preparations, significantly increasing the term of their use in educational process that does their application economic.

Thus, introduction of technology of polymeric embalming in educational process on the Chair of Normal Anatomy of ASMA will lead to that the anatomy, at last, will stop being only a science which badly smells and causes negative emotions, and will become the discipline capable to bring esthetic pleasure from studying of complex structure of a human body.

SUMMER CLINICAL PRACTICE IN SERBIA

Karatsuba S., Kamchedalova T. – 6th-year students. Scientific leaders – Assoc. Prof. Loskutova N.V., Assoc. Prof. Bataeva V.V., Kostina V.V.

Let me introduce you my report about summer practice in Serbia.

Our summer practice started on the 1st of July in the second largest city of Serbia -Nis. We lived in small 4-stored student hostel not far from clinical center, where we had our practice. We went to the hospital every morning from Monday till Friday. Before our practice started, we were allowed to choose any department we wished. We chose neurology and plastic surgery. Every department had a professor from University, who managed the clinical practice in foreign students. Our mentor in neurology department was Elena Stamenovich. We were showndifferent methods of diagnosis such as MRI, CT, Doppler ultrasound, EEG. In addition, we visited neurophysiology office. After we had finished practice in neurology department, our professor made a present for us – map of the city, CD, brochure of Nis and her book "Neuroloski pregled", which is translated as "Methods of research in neurology". Our next department was plastic surgery. When we came, we were met by our head mentor Predrag Kovachevich. He showed us surgery department, operating rooms and surgical ambulance. We got a chance to assist operation with him and other surgeons. We saw many operations such as skin transplantation, skin tumor resection and others.

We have combined a hard work with a pleasant and useful rest. After hard working day we went to the big water park, that was near the hospital. Tickets were very cheap so we spent much time here with our friends from St.Petersburg and Stavropol. Also we went sightseeings. Nis have many historical places, like a Chele Kula or Skull Tower, Nis fortress, Nis Concentration Camp, different museums.

As Serbia situated near Montenegro, we had a short vacation to the Adriatic seaside. We spent our holidays in Budva - the biggest touristic center of Montenegro. We rented a car, which made it possible to see all the local beaches.

At the end of our practice, we went to the capital of Serbia Belgrade, where we were about 2 days. It is very beautiful big city divided by 2 parts: old and new city. It's crossed by two rivers like our Blagoveshchensk.

To sum it up, we are very glad that we had an opportunity to take a part in summer clinical practice in Serbia. We got great clinical experience, nice impressions about country, made friends with many young people from other different towns, and most importantly – taken only good memories of the friendly country of Serbia.

THE INTEGRAL APPROACH TO THE ASSESSMENT OF CLINICAL SYMPTOMS IN PATIENTS WITH COPD

Abuldinov A., Fedorova K. – the 4th - year students Scientific leaders - Kulik E.G., Katina O.I.

Chronic obstructive pulmonary disease (COPD) is a disease that can be prevented and treated. It is characterized by a persistent limitation of air flow rate, that is usu-

ally progressive and is associated with increased chronic inflammatory response of the lungs to the action of pathogenic particles or gases (GOLD, 2013). The presence of exacerbations and comorbidities may affect the overall severity of COPD.

Chronic obstructive pulmonary disease is a serious medical and social problem. This is a life-threatening pathologic process with plentiful clinical implications which can significantly affect the quality of patients' life. Morbidity and mortality from COPD has no tendency to decrease. According to researchers' forecasts, occupied the 6th place in the number of deaths in 1990, by 2020, COPD will be moved on the 3rd place among causes of death. As COPD is a disease which can be treated, the problem of early diagnosis and differentiated, individualized, timely started therapy becomes especially important. To solve this problem, the method of the integrated approach to the assessment of COPD was selected.

Earlier surveillance of patients with COPD was determined from the position of the severity of ventilation disorders that turned out to be insufficient. For the integral assessment of the course of COPD as criteria were selected the following factors: the degree of ventilation disorders, the frequency and severity of exacerbations, the severity of breathlessness, the criterion of the impact of the disease on the patient's quality of life. According to these criteria all patients are divided into 4 main groups: categories A and C are determined by the severity of bronchial obstruction (spirometric classification GOLD), categories B and D by the frequency and severity of exacerbations (number per year), categories A and B by the degree of dyspnea and impact on quality of life. The main reason for changing the approach to the evaluation of disease has been the lack of a direct correlation between the degree of ventilation disorders and the clinical course of the disease. The most important indicator of the disease is the risk of adverse outcome. For proper risk assessment on the part of the patient is extremely important to understand that the evaluation criteria of the disease are not connected. In addition, these criteria have different degrees of importance to determine the prognosis of the patient.

In order of importance for the characterization of disease criteria can be distributed in the following way:

the presence of life-threatening exacerbations in the anamnesis is an important criterion of poor prognosis. The patient, who has suffered life-threatening exacerbation should be classified as category D - high risk category;

the frequency of exacerbations: 0-1 case per year - low risk; 2 - high risk. Thus, if the patient underwent 2 or more exacerbations in the last year, he should be classified as D;

the violation of the ventilation function (forced expiratory volume [FEV1] <50% due value - high risk; <50% - low risk) is an important criterion, especially in rare exacerbations (0-1 case per year); the patient undergoing 0-1 exacerbation per year, with an FEV1 <50% belongs to the category C - high risk category;

the intensity of clinical implications (assessment by mMRC, CAT) - when the patient has 0-1 exacerbation per year and FEV1 > 50%, evaluation of clinical implications allows to make a decision of determination patient to the group A or B: when evaluating mMRC 0-1 and SAT less than 10 points, the patient is classified as category A, when evaluating mMRC > 2, SAT>10, patient belongs to category B.

This algorithm allows objectively stratifying the risk of poor prognosis, therefore, to approach to the choice of initial treatment of patients with COPD in the right way.

STRUCTURAL FEATURES OF THE TEMPORALE BONE IN NEWBORNS

Repyeva E. - the 1st - year student Scientific leaders- Pavlova A.E., Katina O.I.

The temporale bone of newborn consists of three adherent parts. These are squama, tympanic part, petrous part (petrous pyramid) and zygomatic process of tempoorale bone.

There are the fissures between the petrous pyramid parts of a newborn:

-petrosquamous fissure of Glaser – closes to the 4th year of a child's life. When mild otitis not the slit itself takes part in the spread of the disease, but process of dura mater passing through it. That process has lymphatic vessels;

-mastoidsquamous fissure is the continuation of the previous fissure on the outer surface of the temporal bone. It is closed by the end of 2 years of life;

-squamous tympanal fissura (persists in the childhood).

The fissures consist of conjunctive tissue which is rich in vessels. Their damage can lead to the growth of sub-and supraorbital hematomas.

Mastoid process is missed in newborns. There is only a small tubercle behind the upper end of the tympanic ring. The mastoid process is formed by connection of the mastois surfaces of the petrous part of temporale bone and the squamous part of temporale bone. Pneumatization begins at 4-5 months and completes to 3-5 years.

The development of the mastoid process and osseous part of acoustic duct results in an extension of distance between a stylomastoid foramen and an apex of mastoid process.

The children's zygomatic process of temporale bone is drawn into inflammatory process often. The source material of forming zygomatic process base is the lower part of squama of temporalis bone. Up to 3 years it has a spongy structure generally, from 3 to 8 years it takes more horizontal position and forms the upper wall of external acustic meatus, its pneumatization is developed. Air-bearing alveoli are connected with pneumatization cells of mastoid place. The age – related features have a practical importance in the development of the inflammatory processes.

CHRISTIAN ALBERT THEODOR BILLROTH – THE FOUNDER OF GASTROSTOMY

Bugreeva T., Zeynalov O.- the 3rd - year students Scientific leaders - Cand. Med. Sc. Piskun S.I., Katina O.I.

A gastrectomy is a partial or full surgical removal of the stomach.

Basic methods:

 $\label{eq:billroth} \textbf{Billroth} \ \textbf{I} - \text{the formation of an anastomosis between the stump of the stomach and duodenum in "end-to-end" type.}$

Advantages of the method:

- -Saving the anatomical and physiological way of food;
- -Adequate reservoir function of the stomach stump;
- -The lack of direct contact of the mucous membrane of the stomach with mucosa of the jejunum, which completely eliminates the formation of peptic ulcers anastomosis.
 - -Technical simplicity and speed of an operation.

Disadvantages: the possibility of tissue tension in anastomosis of the stomach stump and duodenum and the presence of three sutures at the top of the gastroenteroanastomosis. Both features can result in joints and cause the eruption of anastomotic leakage. Following proper surgical technique it is possible to avoid the influence of these unfavorable factors.

Billroth II - the imposition of a wide anastomosis between the gastric stump and the initial portion of the jejunum in a "side-to-side" type. It is usually used in case of impossibility to create a gastroenterostomy with previous method.

ATYPICAL FORMS OF MYOCARDIAL INFARCTION

Bugreeva T., Zeynalov O.-the 3rd - year students Scientific leaders - Cand. Med. Sc. Menshikova N.V., Katina O.I.

Peripheral type of myocardial infarction with atypical localization of pain is characterized by pain of varying intensity, sometimes increasing, not cropped by nitroglycerin. It is localized neither in the chest nor in the precordial region, but in atypical locations - in the throat, in the left hand, the tip of the left little finger, left scapula, in the cervical-thoracic spine and in the mandible. It may be accompanied by weakness, sweating, acrocyanosis, palpitations, arrhythmia and drop in blood pressure.

Abdominal type of myocardial infarction occurs more frequently with diaphragmatic infarction. It manifestes by intense pain in epigastrium or in the right hypogastrium, the right part of the abdomen. Simultaneously there is vomiting, nausea, bloating. There diarrhea, paresis of the gastrointestinal tract with a sharp expansion of the stomach and intestines may occur. On palpation of the abdomen tension and soreness of the abdominal wall are marked.

It is necessary to differentiate this form of pancreatitis, cholecystitis, appendicitis, intestinal obstruction, perforated gastric ulcer and foodborne diseases.

EBOLA

Bugreeva T., ZeynalovO.-the 3rd -year students. Scientific leaders- Cand. Med.Sc.Bubinets O.V., Katina O.I.

What does Ebola hemorrhagic fever cause?

Ebola hemorrhagic fever is caused by Ebola virus Marburg virus genus of Filoviridae family. It is one of the largest viruses. The virion has a different shape - filamentous, branching, and arachnids. Its length is up to 12 000 nm. Genome is presented by a single - negative RNA surrounded by a lipoprotein membrane.

The structure of the virus consists of 7 proteins. There are four serotypes of the Ebola virus according to antigenic properties of glycoproteins. Three of them cause different in severity diseases in humans in Africa (Ebola-Zaire - EBO-Z, Ebola-Sudan - EBO-S and Ebola-Ivory Coast - EBO-CI). Symptomatic cases of Ebola-Reston virus (EBO-R), which is highly pathogenic for monkeys, were not identified in humans.

The virus has a high variability. It is passaged in cell culture of guinea pigs. Ebola virus has an average level of resistance to the damaging environmental factors (pH, humidity, insolation, etc.).

DANGER OF VOSTOCHNY COSMODROME

Bugreeva T., Zeynalov O.-the 3rd -year students Scientific leaders - Prof. Korshunova N.V., Dolgopolov A.S., Katina O.I.

Building of a next Russian space harbor is in process in the Amur region. The enginery works simultaneously on some platforms, all the day long. The launching site, command point, corpses of houses of a building estate has become real. The first launching is scheduled for 2018.

According to Roscosmos, kerosene and liquid oxygen are used as a component of rocket fuel at the start and flight of a carrier rocket. But without heptyl starts won't do. Heptyl is known to be related to the substances of A-class danger. Its lethal dose for a man is 1 microgram per liter of water. This is one of the main reasons why it is not used as a propellant in any country in the world except Russia.

Heptyl is a component of rocket fuel that is highly dangerous to humans. It has an extremely low maximum permissible concentration. Influencing people it affects almost all human systems. It is a carcinogen and attacks the immune system, cardiovascular, lymphatic and nervous systems, gastrointestinal tract, liver and skin. Heptyl causes a disturbance of reproductive activity and the appearance of congenital malformations.

METHODS FOR DETECTION OF SEROTONIN IH HUMAN SALIVA

Bugreeva T. - the 3rd - year student Scientific leaders - Cand.Med.Sc. Brash A.A., Katina O.I.

The invention relates to medicine, namely to methods for laboratory research. The method includes sampling test in examined person, extracting from it a serotonin and histamine, chromatography of the extract and concentration determination of serotonin and histamine on the fluorescence intensity.

Saliva is used as a biological fluid. Extraction was carried out with 1 ml of saliva 4ml 1N. perchloric acid. 2 g.of anhydrous potassium carbonate and 5 ml of butanol and chloroform in a ratio of 3:2 was added. Then it was shaken and centrifuged. 4 ml of the organic phase was suctioned and then was passed through a chromatography column with a diameter of 3 mm and a height of 16 mm. The ion exchange resin CB 4 or CB-4P-2, or Bio Rex - 70 in H $^+$ form was placed within the column. Grain size was 0.1 ± 0.02 mm.

Histamine was eluted with 4 ml 0.1N. of hydrochloric acid at a speed of elution solution of 0.4 mL / min. Histamine concentration was determined by reaction with o-phthalic aldehyde, dissolved in ethanol.

Serotonin concentration was determined by reaction with ninhydrin in the organic phase passing through the column.

The method allows to determine the concentration of serotonin and histamine in the saliva with a high accuracy.

DOWN'S SYNDROME AND ITS RESEARCHER

Bekker A., Pokrashenko V. –the 5th - year students Scientific leaders – Cand.Med.Sc. Chupak E.L., Katina O.I.

Down's syndrome, also known as trisomy 21, is a genetic disorder caused by the presence of a third copy of chromosome 21.

It is named after John Langdon Down, the British doctor who described this syndrome completely.

In 1866, he wrote an article entitled "Observations on the Ethnic Classification of Idiots" in which he put forward the theory that it was possible to classify different types of conditions by ethnic characteristics. Down listed several types including the Ethiopian type. He is most famous for his classification of what is known as Down syndrome, named after him, but which he classified as the Mongolian type of an idiot.

ICHTHYOSIS

Guseinli G. - the 4th - year student Scientific leaders - Cand. Med. Sc. Melnicenko N.E., Katina O.I.

Ichthyosis is a hereditary disease of the skin, which is of dermatosis type. It is characterized by diffuse disturbance of keratinization and manifests itself in the form of scales on the skin that resemble fish scales.

The main reason of ichthyosis is a gene mutation. Its transmitted by inheritance biochemistry has not been deciphered yet. The main manifestations of the gene mutation leading to ichthyosis are disturbances of protein metabolism when amino acids accumulate in the blood and fat metabolism disturbances that are increased in cholesterol content. All metabolic processes are reduced, the body's heat regulation is violated, and the activity of enzymes in the oxidative processes of the skin breath instead amplifies. In patients with a genetic mutation decreased activity of the thyroid gland gradually builds up or appears immediately. The deficit of humoral and cellular immunity increases. There is a disturbance of vitamin along with reduced functions of the sweat glands that resulte in disturbances of keratinization in skin hyperkeratosis, as there is the excessive production of keratin. That, along with the retardation in the process of exclusion of the keratinized layer of epidermis, causes manifestations of ichthyosis. When ichthyosis, amino acid complexes that have the effect of cementation accumulate between the scales. So flakes are tightly connected together and their separation from the body is painful.

To clinical picture ichthyosis is distinguished as vulgar, x-linked, lamellar, fetus ichthyosis (fetus of Harleguin), congenital ichthyosiform erythroderma, linear circumflex and epidermolytic.

CORONARY ARTERY BYPASS GRAFTING

Vovk A., Gorohovsky I. – the 3rd - year students Scientific leaders – Dr.Med.Sc., Prof. Moruschenko G.N., Cand.Med.Sc. Sergienko A.V., Katina O.I.

Coronary artery bypass grafting—is a surgical procedure when any vessel of sick person is taken (usually it is internal thoracic artery or area of a great subcutaneous leg vein) and grafted to the coronary artery to bypass atherosclerotic narrowing. So it improves the blood supply to the myocardium (amount of blood which comes to the heart is increasing). This process leads to elimination of myocardial ischemia and absence of stenocardia attacks and cardiac infarction.

The goal of coronary artery bypass grafting is improvement of blood flow directed to <u>cardiac muscle</u>. A surgeon corrects the main reason of stenocardia and provides blood supply for cardiac muscle, in spite of an affected coronary vessel.

Types of coronary artery bypass grafting:

- -CABG with artificial blood circulation and cold cardioplegia.
- -CABG on beating heart without artificial blood circulation.
- -CABG on beating heart with artificial blood circulation.

Before a surgical procedure some of required analyses can be taken in outpatient department. Usually patients are hospitalized to 5-7 days before the procedure. At hospital the examination of patients is carried out and preparation for a surgical procedure begins. Patients acquaint with their surgeon, his assistants, a cardiac surgeon, a perfusionist and an anesthesiologist. They look after patients during the procedure and after it. An important point is rehabilitation. Adoption of special methods of deep breathing and expectoration is a significant point after a surgical procedure.

Diagnostic:

- -coronagraphy;
- -blood and urine test;
- -electrocardiography;
- -coronary by-pass surgery;
- -echocardiography;
- -X-ray study;
- -doppler sonography of vessels of brain and extremities;
- -esophagogastroduodenoscopy;
- -ultrasound investigation of abdominal cavity organs.

PREVENTION AND THERAPY OF OVERWEIGHT AND OBESITY

Vovk A., Gorohovsky I. – the 3rd - year students Scientific leaders – Dr.Med.Sc., Prof. Korshunova N.V., Katina O.I. In the prevention and therapy of overweight and obesity one should pay attention to both components of the initial ratio of "income / expense". In this case a person predisposed to overweight has to limit himself with pleasure (tasty and abundant food) and be full with that what needs energy expenditure (physical exercise).

In the diet one should pay attention to the factors that cause fat accumulation in the body. First of all it is overeating and the so-called "fast" carbohydrates, i.e. factors which have been noted above. Of particular note is the value of salt. Its role in the appearance of overweight is double. First, it stimulates the starvation center in the central nervous system, stimulating the appetite and the desire to eat more. Second, holding water in the body, salt increases total body weight, as excess water activates the synthesis of fat.

It is necessary to follow these circumstances in the organization and selection of physical culture for obese. When muscular effort certain inertia in the change in the intensity and the character of the energy provision in the body is seen. In regulation load a gradual increase to the duration of continuous work up to 40 or more minutes at a frequency of exercises at least three or four times a week is needed. Usually, people who have excess weight to the second degree of obesity require no more than 4 to 6 months of training.

Any food limitations are only a temporary solution. If a person wants to solve this problem, it is necessary to rationalize the diet on a regular basis. So a person should stop to be a slave of his food desires. What is diet for everyone who takes a short-term effect should become a regular diet for him. This diet should be based not as on the meticulous counting of calories consumed, but the choice between the consumption of different types of food in their correct proportions and feeding at certain times of the day. The usual diet should consist of products with a high percentage of carbohydrates and fiber, sufficient, but not excessive of food containing protein, and less fats, salt, alcohol and caffeine.

To develop such a diet it is possible to make a table that will be fixed consumed food and mealtimes per day. This will allow to conduct a thorough analysis of a menu. To make a menu one can use cookbooks or manuals containing information about one or another consumed product.

FEATURES OF INTRACARDIAC HEMODYNAMIC DISTURBANCE IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE COMPLICATED WITH CHRONIC PULMONARY HEART DISEASE COMBINED WITH AN ACUTE CORONARY SYNDROME

Bugreeva T., Zeynalov O. - the 3rd - year students Scientific leaders - Levanova T.V., Katina O.I.

Chronic obstructive pulmonary disease – is one of the leading causes of morbidity and mortality. According to epidemiological studies, the prevalence of COPD in the world is about 10.1%.

The pathology of the cardiovascular system is a leader in the structure of morbidity and mortality in the Russian Federation and worldwide.

The reason for the frequent association of COPD and ACS may be common risk factors - smoking, obesity, low physical activity, obstructive sleep apnea, hemodynamic instability in the pulmonary circulation, intake of certain medications.

Thus, in patients with COPD in combination with acute coronary syndrome revealed expressed disturbances of intracardiac hemodynamics with the progression of diastolic and systolic right ventricular dysfunction and heart failure.

ROBOTS IN SURGERY

Bugreeva T., Zeynalov O. – the 3rd - year students Scientific leaders – Can.Med.Sc. Zuzko A.S., Katina O.I.

Our lives are inextricably linked with the modern technology. Today, doctors can perform operations that seemed to be impossible a few years ago.

Such advances in medicine are caused by many factors. First, modern operating rooms are equipped with the latest equipment, which allows to perform operations more accurately and with less risk to the health of the patient. Second, the technologies will improved the quality of doctors training. One of the most famous and known achievements of the last time is a robot called "Da Vinci".

ATOPIC DERMATITIS

Ondar S., Krichko M.- the 4th – year students Scientific leaders - Can. Med. Sc., Assoc.Prof. Melnichenko N.E., Katina O.I.

Atopic dermatitis is a chronic allergic dermatitis. The disease develops in people with a genetic predisposition to atopy. It has a relapsing course and the age characteristics of clinical manifestations. It is characterized by increased levels of serum IgE and hypersensitivity to specific (allergenic) and non-specific stimuli. It occurs usually in childhood (usually up to 2 years old). It has a clear seasonal dependence: winter - exacerbation or relapse, in the summer - partial or complete remissions.

Classification by stages:

Constitutionally - allergic dermatitis (diathesis). Infant up to 2-3 years. Localization: face, cheeks, thighs, buttocks. Implication: mild erythema, peeling, itching.

Children eczema 3-7 years. Localization: face, elbow, inguinal, popliteal crease. Implication: bright edematous erythema, true and false polymorphism; bubbles, crusts, papules; moisture on the well serous type.

Neurodermite: restricted (5% of the skin), disseminated (up to 40% of the skin), diffuse (total or> 40% of the skin). Adults. Localization: elbow, popliteal crease, back of the hand, wrist and ankles, neck. Implication: lihenification, white dermographism, intense itching, multiple scratches. Increased levels of serum IgE. Seasonality.

Clinical picture:

1) The acute phase of the disease: intense itching;

erythematous papules and vesicles on erythematous skin background;

excoriation, erosion, discharges of serous fluid.

- 2) Sub-acute phase of the disease:
- erythema;
- excoriation;
- peeling and lichenification.
- 3) The chronic phase of the disease
- thickened plaques;
- lihenification;
- fibrous papules.

At prolonged, often recurrent course, all three types of changes may be present in 1 patient in different areas of the skin

Atopic dermatitis severity:

- 1) Light form. Slight hyperemia, slight exudation, slight scaling, single papules, vesicles, faint itching not disturbing a sleep.
- 2) Moderate severity. Multiple lesions with exudation or lichenification, multiple scratches and hemorrhagic crusts, moderate or severe itching, disrupted sleep, swollen lymph nodes to beans.
- 3) Severe. Multiple and confluent lesions, exudation, lichenification, deep cracks, erosion, multiple scratches and hemorrhagic crusts, strong and painful, paroxysmal itching, disturbed sleep and feeling. All lymph nodes are enlarged to hazelnut.

FENG SHUI

Golubeva Y., Lalina I.– the 5th year students Scientific leaders – Mironova N.V., Katina O.I.

Feng shui - literally means "wind and water".

Bagua - spatial feng shui is the impact of the five elements to the cardinal. Spatial feng shui, or "Compass School", based on a grid of Bagua, helps to maintain the energy of surrounding area on the scheduled-mym distribution of energy to the cardinal. Typically, Bagua map is depicted as an octagon, or a square.

Translated Bagua means 8 (ba) trigrams (Gua). And really Bagua consists of eight ancient elements of feng shui - the trigrams.

Chinese emperor Fu Hsi invented trigrams during observation the nature. Each of the 8 trigrams corresponds to some natural phenomenon: fire, wind, water, thunder, etc. Also all the trigrams have their elements, one of the 5 elements of Feng Shui, and its compass direction. The origin of trigrams dates back to ancient book "I-Ching" - "Book of Changes", which is devoted to the study of energy flows in space.

Where one sits, and so he learns.

Due to the small class size, it is unfortunately impossible to put all students in a favorable zone for them. So a student should try to take a better place for himself. The door should be located so that, opening it, he will immediately sees a table of the teacher. This is a very good feng shui for education, since it reminds students that they came into the class to receive knowledge from the teacher, and not to play or eat

an ice cream. In some schools, teacher's desk is elevated to the knowledge stream flowed into the heads of students.

In a conventional classroom the sits of students are also located according to the principle of feng shui. The front part, where there is a teacher, is in the north. The smartest students sit in the north-eastern part - the knowledge is given to them without any effort. In the southern part there are usually children who behave badly. They consider themselves very smart as they sit in the sector of fame. In the southwest corner will be children, who will always comb themselves and watch the nails, as they sit in the sector of family relationships and marriage. If one really wants to succeed, he should sit in the north-eastern sector or on the front desks in the sector of career or job position. If a student is sitting not far away from the teacher, in the north-western sector, it is very well for him, because the teacher can give him an additional attention. This place is believed to be for a student who helps the teacher and becomes his favorite. The Chinese believe that to be a favorite of teachers - is the honor.

CIRRHOSIS

Guseinli G. – 4th - year student Scientific leaders - Cand.Med.Sc. Sulima M.V., Katina O.I.

Cirrhosis is a chronic progressive process in the liver, characterized by a significant reduction in the number of functioning hepatocytes, nodes formation and the development of portal hypertension and liver failure.

The causes of the disease: viral liver disease of chronic and acute character (hepatitis B, C, D), alcoholic liver damages and liver damage caused by drugs, diseases of biliferous system and autoimmune liver diseases: autoimmun hepatitis, primary biliary cirrhosis, disorders of metabolism, which is innate in nature: disturbances of fat metabolism in the body, galactosemia and Wilson Konovalov disease.

Complications of liver cirrhosis: portal hypertension, bleeding from esophageal varicose veins or hemorrhoids, liver failure leading to hepatic coma, encephalopathy, secondary bacterial infection (severe pneumonia, sepsis, peritonitis), transition of cirrhosis of the liver to cancer.

NATURAL ANTIBIOTICS

Golov N., Ul'ko A. – the 4th year students Scientific leaders – Cand. Med. Sc. Anohina R.A., Katina O.I.

Antibiotics- are substances having natural or semisynthetic origin. They suppress the growth of pathogenic microorganisms mostly prokaryotic or elementary.

Remedial characteristics in plants depend on the presence of: Organic acids. All organics acids have antibacterial activity. More intensely it manifests in benzoic acid that is in blueberry and cram berry. There are a lot of derivatives of salicylic acid in raspberry. Fewer amounts of them are in strawberry, currant, cherry and grape. Malic and citric acids are contained almost in all fruits and berries. Sorbin and parasorbin acid have antibiotic characteristics. Tannic substances are compound organic to junctions with viscois acerbic taste. Many tannic substances being in vegetables and fruits have P-vitamins features. They have anti-inflammatory influence on mucous coat of an intestine and reduce the secretary activity of gastrointestinal tract.

The glycosides and alkaloids. The pear fruits contain glycoside arbutin. In humans, arbutin converts into a highly active compound hydroquinone. It accumulates in the urinary passages, where, along with antibacterial activity, manifests diuretic effect. Barberry berries and pomegranate fruits contain alkaloids, berberine and kelterin that have a harmful effect on protozoa.

Essential oils. These are volatizes, being complex mixtures of various compounds, alcohols, aldehydes, ketones, esters, phenols, and sulfur compounds. They are found in many vegetables, fruits, spices, and give them a flavor. Essential oils, along with aromatic one, have antibiotic properties.

Phytoncides. These are complex organic compounds produced by plants for defense against pathogens, insects, rodents and pets. Horseradish root has strong bactericidal action, as well as roots of radish, turnips, onions, garlic; leafy vegetables- lettuce, parsley; red pepper, mustard seeds, etc.

BLOOD TYPES AND INCIDENCE

Pestryak N.- the 2nd- year student Scientific leaders - Can. Biol. Sc. Gasanova S.N., Katina O.I.

People having various blood types are subjected to these or those diseases in an unequal measure. So, people with I 0 blood type suffer from ulcer of a stomach and duodenum more often. People having II A and III B blood types fall ill more often and sustain diabetes severely. They have an increased coagulability of blood. At the same time persons having I and IV blood types are less susceptible to causative agents of plague, but smallpox proceeds heavier in them.

SQUAMOUS CELL CARCINOMA OF THE CERVIX UTERI

Akhremenko A. -3^{rd} - year student Scientific leaders - Can. Med. Sc. Menshchikova N.V., Katina O. I.

Cervical cancer is one of the most common diseases in gynecological oncology. Among the malignant tumors of female genital organs uterine cancer is second only to breast cancer. It is about 12% of cancers in women. The average age of the patients ranged from 30 to 50 years.

Cervical cancer is established to be preceded by precancerous lesions, which include endocervicoses and precancerous changes in the form of severe dysplasia of the vaginal portion of the cervix. Cervical cancer can be non-invasive and invasive. According to the histological structure the cervical cancer can be squamous, glandular and glandular - squamous. And each of them can have different degrees of differentiation.

Metastases in cervical cancer occur early and spread primarily by lymphatic lymph nodes in the pelvis, inguinal and retroperitoneal. Later hematogenous metastases are observed.

MODERN TRAINING OF LAPAROSCOPIC SKILLS IN SURGERY

Akhremenko A., Kryvenko A., Gorshkova K. - 3rd - year students Scientific leaders - Can. Med. Sc. Zyuz'ko A.S., Katina O.I.

Modern medical education is faced with the ongoing technological revolution and changing informative area around us. High modern requirements for the development of practical skills of medical students towards the actualization of teaching material and the approximation of the educational environment to the new environment of practical health care make virtual technologies in medical education a key focus of the development of higher medical school.

Practical skills in surgery assigned a central place in the system of medical education. It is the skill with their hands to implement the taken decisions that distinguishes this medical specialty from most others.

Preparing surgeons is carried out in different directions (general surgery, emergency care, laparoscopy, etc.) and has several levels.

In particular, it includes the development of basic surgical skills, emergency surgery in trauma, a variety of laparoscopic skills.

To improve the development of practical surgical skills, there are many educational articles:

- Virtual simulators of laparoscopic surgery, gynecology, urology, and others. Mastering of basic skills, clinical skills, as well as completely separate surgeries.
 - A variety of simulators for individual surgical skills.
 - Phantoms, models and models of tissues and organs.

HEMORRHAGIC FEVER WITH RENAL SYNDROME

Akhremenko A. - 3rd - year student

Scientific leaders - Can. Med. Sc. Bubinets O.V., Katina O.I.

Pathogen of hemorrhagic fever with renal syndrome belongs to the genus Hantavirus that includes several species: Hantaan, Seoul, and others.

Hemorrhagic fever with renal syndrome is a serious viral disease of man characterized by natural foci.

In the pathogenesis of disease the damage of T-suppressors and polyclonal activation of B-lymphocytes plays an important role. The formation of infectious immune complexes is characteristic. They are deposited in the glomeruli and the convoluted tubules of the kidneys, affecting their function. The reproduction of the virus occurs in cells of the lungs, kidneys, spleen and the vascular endothelium.

Immunity is humoral, virus-neutralizing protective antibodies persist after the disease for life.

Multiple foci are registered in the following regions: the Far East, the Urals region, the Middle Volga, Belorussia, and Western Ukraine. Antigenic variants of the virus are found in different countries.

The main reservoir of the virus in nature - many species of rodents, especially voles, and synanthropic rats.

A person is infected by contact with infected feces of rodents.

The main clinical symptoms are fever, intoxication, hemorrhagic and renal syndromes. In the pathogenesis of the disease a significant place belongs to immunopathological processes in the formation of immune complexes.

PULMONARY EMBOLISM. DIAGNOSIS. TREATMENT. PREVENTION.

Akhremenko A. - 3rd - year student

Scientific leaders - Prof. Jartsev V.G., Katina O.I.

Pulmonary embolism (PE) is one of the most common and serious complications of many diseases of the postoperative and post-natal periods, adversely affecting their course and outcome.

The practical importance of PE problem is currently defined. First, there is a vivid increase of the frequency of pulmonary embolism in a variety of diseases. Second, a significant increase in the frequency of postoperative and posttraumatic emboli often arising in complex surgical procedures. Third, the fact that PE is becoming the third most common cause of death in developed countries, second only to cardiovascular disease and cancer.

The urgency of the PE problem is due not only to the severity of the disease and high mortality, but also the difficulty of timely diagnosis of this complication due to polymorphism of developing clinical syndromes. According to numerous postmortem studies (P.K. Permiakov, 1991; G. Stevanovic et al., 1986), in 50 - 80% of cases pulmonary embolism is not diagnosed at all, and in many cases only presumptive diagnosis is made. Many patients die within the first hours of the onset of the disease, not receiving the adequate treatment.

THE USE OF FIBROBLASTS IN COMBUSTIOLOGY

Saaya L. – the 3rd - year student

Scientific leaders – Can.Med.Sc. Brash A.A., Katina O.I.

At present, the use of human fibroblasts is one of the most popular among cellular technologies in traumatology, combustiology and aesthetic medicine. Fibroblast (from «fibra» - «fiber», «blastos» - «germ») is the most common and functionally significant cell of a loose connective tissue. The main function of fibroblasts is to participate in the metabolism of intercellular substance.

In clinical practice, a new method for the treatment of extensive burns, based on the use of allogeneic fibroblasts in culture was worked out in Vishnevsky Surgical Institute RAMS. Fundamental research of regenerative processes became prerequisite for its development. They showed the key role of fibroblasts in it, and

also established the fact of partial fibroblasts loss surface histocompatibility antigens during cultivation.

Pathogenetic mechanism of action of the proposed method is in synthesize extracellular matrix, growth factors, stimulate the proliferation the epithelium of its own directed to restore both the epidermal and dermal components of the skin by allogeneic fibroblasts. With deep burns 3B, 4 degrees allofibroblast transplantation is combined with autodermaplasty. Clinical experience from various burn centers and offices has shown its high efficiency. The advantages of this method are - short periods of cultivation with allofibroblasts (3 days), good engraftment (up to 97%), the possibility of creating a bank of allogeneic cells, and relatively small costs.

In the children's burn center at CGCH 9 (A.K Shtukaturov; A.A Baharev; Shmelev N.A) 370-420 children affected by burns are treated annually. In adopted method of preoperative transplantation of allofibroblasts the need for fibroblast culture will be 1.2-2 billion ells per year. With the successful development of a method using the epithelial cell layers their need may be up to 45-50% per year. (A.A Alekseev, S.V Popov "Combustiology" 1.1999)

METHODS FOR DIFFERENTIATION OF STEM CELLS

Alieva A.- the 3rd - year student Scientific leaders- Can.Med.Sc. Brash A.A., Katina O.I

Tissue engineering is looking for ways to repair damaged or growing new tissues, often using these or other types of stem cells. Stem cells -are the basic reconstruction blocks of the body, with the ability to transform into a number of specialized cell types. One of the main issues of tissue engineering is what influences the stromal stem cells of adult bone marrow to differentiate into bone cells, fat and cartilages. Or, in other words, how is it possible to guarantee that it will be converted precisely the type of cells that is needed for doctor or a scientist?

The authors suggest that factors determining the direction of differentiation of a cell can be chemical signals. And they can be used in cases where the scientists were able to identify the appropriate supplements. If it is, for example, bone cell, hormones may be such additives. Several other studies have shown that cell differentiation on a flat surface can be controlled by structuring of the surface, limiting the space, which can be attached with growing cells.

The same study, published online in the journal «Science Signaling», reported that the expression level of the protein p190RhoGAP affect the direction of differentiation of stem cells of the heart. This level determines the building blocks for what type of tissue - the blood vessels or heart muscle - they will become. Altering the levels of this protein, the scientists were able to influence the future of stem cells.

MENINGOCOCCAL INFECTION

Danilets V. – 3rd - year student Scientific leaders – Cand.Med.Sc. Bubinets O.V., Katina O.I. Meningococcal infection is the antroponosic disease which is transferred in the airborne way and characterized by the wide range of clinical manifestations: from a meningococcus carriage to meningitis and sever meningococcal sepsis having a lightning course.

The causative agent of a meningococcal infection is the Gram – negative diplococcus of Neisseria meningitidis. The excitor belongs to the division of Gracilicutes, Neisseriaceae familia, the Neisseria genus. For the first time the phatogen was studied in detail in 1887 by A. Vakselbaum. Meningococci aren't movable, don't form spores, Gram – negative, a capsule is changeable, and there are saws. Big epidemics of meningitis are caused by – meningococc cause, usually meningococcus group A. The origin of more than 50% of endemic diseases is meningococcus group B.

In the majority of the developed countries the prevalence of a meningo-coccal infection makes 1-3 cases to 100 thousand of population. It is met at any age. However 70-80% is in children under three years. Epidemiological increase of the disease occurs every 10-20 years. It is connected with the change of the excitor and change of immunological structure of the population.

The source of a disease is a patient or a bacilli carrier. The transfer mechanism is airborne. Immunity at a meningococcal infection is unstable and type – specific.

In comparison with the similar period of 2013 the incidence of a meningococcal infection decreased in 5 cases.

Early diagnosis of a meningococcal infection at children is important due to quickly progressing course and also potentially lethal outcome.

Treatment. Antibiotics are used as etiotrophy therapy: penicillin, chloramphenicol, rifampicin. In medical practice polysaccharide meningococcal vaccines of types A and C are used. Mass immunization by Meningo's vaccine of A + C (with coverage not less than 85%) is carried out at acute growth of incidence – higher than 20,0 to 100 thousand of population. Vaccination is also carried out in the centers of the infection caused by meningococcus of the corresponding sero group. In Russia meningococcal A and A + C vaccines are used.

CARRIAGE OF HBsAg: CONDITION OR DISEASE?

Ceplyaeva D. – the 5th year student Scientific leaders – Dolgih T.A, Katina O.I.

There are about 300 million of carries of HBsAg all over the word. At present, the topical problem is to decode the structure of HBsAg carriage, to single out individuals with active forms of chronic viral hepatitis among them, and to determine the groups of risk for the unfavorable course of disease and its outcomes. Only a few centers carry out episodic profound examinations of HBsAg carries. It has rather a stating than prognostic character. The examination included 805 individuals, the so-called HBsAg carries. The structural changes that correspond to the picture of chronic viral hepatitis were found in the absolute majority of the patients (86.6%) during morphological examination of liver bioptates.

Developing the theory of genetic predisposition to carriage of HBsAg, a number of researchers are trying to draw a parallel between the group of infected blood and predisposition to carriage of HBsAg, noting the dominance AB (IV) blood groups among HBsAg carriers.

Studies of domestic and foreign hepatologists testify nonspecific character of almost all of ultrastructural changes of hepatocytes in carriers of HBsAg, which reflect the violation of protein, fat and carbohydrate metabolism. As a result of repeated histological and immunological study the vast majority of HBsAg carriers with morphologically intact or minimal changes in the liver were found to have a favorable prognosis and be not likely to develop chronic hepatitis.

Conclusions

- 1. Chronic carriers of HBsAg are a diverse group of people with latent flow chronic HBV-infection and the various expressions of clinical and biochemical, morphological and immunological disorders.
- 2. During the morphological study of biopsies of the liver by structural changes fit into the picture of chronic viral hepatitis were identified in the absolute majority of HBsAg carriers (86.6%).
- 3. Established chronic infection in the group of HBsAg carriers has different immunological focus: CH patients in the active phase are characterized by a marked reactivity of cellular immunity and the presence of autoimmune shifts; in patients with chronic hepatitis in the inactive phase and asymptomatic HBsAg carriers primarily suppressive phase of cellular immune responses are noted.

MODERN DISINFECTANTS

Maltsev I., Rusakovich A. – the 3rd - year students Scientific leaders - Dr.Med.Sc., Prof. Chubenko G.I., Katina O.I.

Infections caused by antibiotic resistance microflora are a constantly growing threat both in hospitals and in the community. Nosocomial infections result in reduced effectiveness of the therapy, increase the length of hospital stay and increased mortality.

Oxygen-containing drugs are strong oxidants, whose basic action is the formation of free radicals that damage the cell membrane lipids, DNA and other important components of microbial cells.

Available chlorine compounds have high antimicrobial activity. Iodine compounds react with amino acids and fatty acids, destroying the cell structures and enzymes. They have decisive antibacterial, antiviral and antifungal activity. Alcohol group cause denaturation of microbial proteins. Alcohols in a concentration of 60-90% are active against vegetative forms of bacteria, fungi, mycobacteria, and enveloped viruses.

Chlorhexidine bigluconate has a large antimicrobial spectrum that includes vegetative forms of bacteria, fungi and many enveloped viruses. Instead of a rapid destruction of microorganisms, chlorhexidine provides long persistent antimicrobial activity that prevents microbial growth for at least 6 hours after administration of the drug.

All disinfectants have different antimicrobial spectrum of action, have varying degrees of activity and toxicity, extent and scope of use. In every sphere of medical activity various disinfectants are used. This is due to the popularity of each agent in a particular field of medicine and the efficiency of its use in health care settings.

CHANGE OF TROMBOCYTE ACTIVITY AT DIABETES

Alexeeva E.- the 3rd- year student Scientific leaders- Cand. Med. Sc. Brash A. A, Katina O. I.

Process of a fibrillation is defined by a condition of a hemostasis of 3 components: platelets, coagulation factors and integrity of a vascular wall. If though one of the components is broken, the process leading to the raised trombformation is activated.

Platelets at diabetes are characterized by high adhesiveness, tendency to aggregation and a trombogenesis. Expressiveness of aggregation and adhesion of platelets is regulated by derivatives of arachidonic acid — prostacycline (PGI2) and tromboxane (Tkha2).

Besides disturbances of various factors of coagulation at diabetes there is also a disturbance of structure and function of platelets that also promotes disturbances of system of coagulation. Platelets of patients with diabetes are sensibilized to activation of adhesion and aggregation that is caused by decrease in sensitivity to action of a prostacycline and the nitrogen oxide developed by endothelium and disturbance of its functions.

Also disturbances of a biophysical condition of a membrane of platelets are found: increase of R-selektine expression, decrease in an expression of GPIb-a, big sensitivity to the incentives increasing calcium mobilization, and smaller — to protective effects of the substances reducing release of calcium from intracellular depots. All these changes promote the development of hyperfunction of platelets at diabetes and the formation of blood clots.

INFLUENCE OF FASHION ON HEALTH

Saidova Zh. – the 2nd - year student Scientific leaders – Zherepa L.G., Katina O. I.

Negative influence on health has, unfortunately, too large number of factors of modern life, and not least it is the fashion. In habitual understanding fashion — is that most popularly at the moment in clothes, life, appearance of the person and even public life. It is difficult, living in society, not to give in to style.

It is possible to give the dresses opening a middle part of abdomen at women as an example of negative influence on health of fashionable clothes. The skirt or trousers with a little lowered waist and a top instead of a blouse or a sweater, perhaps look beautiful, especially on graceful figures, but only doctors know, what flash of inflammations is obliged to this fashion by the existence. Similar dresses were nicknamed by gynecologists as adnexitic fashion; from the word adnexit that means an inflammation of appendages of a uterus. In our midlatitudes such cloth in the fall, in

the spring, and sometimes even in winter – it is the guaranteed overcooling of abdominal organs. And organs of women's reproductive system react to it most sensitively. In spite of the fact that it has already been established that the similar set can bring health into a deplorable state, nevertheless the fashion on it exists, and is in every possible way supported in mass media in commercial interests.

Speaking about the factors having negative impact on health it can't help mentioning fashion on some food. It is fast food, energy drinks, sweet aerated water and various snacks, for example, the croutons or chips impregnated with fragrances.

It is characteristic that teenagers are most subjected to influence of fashion, thus their organism, owing to physiological features, is extremely vulnerable for the damaging factors as it is in a condition of reorganization. Children need to be explained how to eat properly, what to wear, how not to put the life at unnecessary risk, and then they won't become the victims of fashion, and will learn to be her partners.

Eventually, at present there is a fashion on useful things: on fitness, on personal care, on intelligent and healthy food. It is important to make a right choice only.

HISTOPLASMA CAPSULATUM- CAUSATIVE AGENT OF HISTOPLASMOSIS

Gorshkova K., Krivenko A.- the 3rd- year students Scientific leaders – Can. Med. Sc. Bubinets O.V., Katina O.I.

The pathogen was first detected in the tissues of patients who died from ST Darling in 1906

Morphology.

H. capsulatum - is dimorphic fungus growing in the yeast or the mycelial phase;

On blood agar and in tissue culture it fasciates at the narrow end of the parent cell;

On Sabouraud glucose agar at 25-30 $^{\circ}$ C the fungus develops in mycelial phase forming micro- and macroconidia.

Cultural and biochemical properties.

H. capsulatum grows well on various nutrient media, pH 5.5-6.5; strict aerobe, needs in a number of B vitamins;

utilizes lipids, does not liquefy gelatin, does not coagulate milk, does not hydrolyze albumin, reduces nitrates to nitrites.

Antigens.

H. capsulatum cells have weak antigenic properties which are linked to the polysaccharide component. Histoplasmin—allergen is a glycoprotein. It is obtained as a filtrate of the culture liquid after the growth phase of the fungus mycelium and is used for skin-allergy testing and serological tests.

Pathogenicity.

H. capsulatum spores are virulent for humans and animals. Factors of pathogenic fungi are some hydrolyses and cell wall polysaccharides.

Pathogenesis.

Conidia, trapped in the lungs through the respiratory tract, are captured by alveolar macrophages and faciatein certain conditions, and then spread throughout the body. The disease is often asymptomatic. Small inflammatory or granulomatous lesions in the lungs and spleen calcificate. More severe cases are accompanied by the development of pneumonia. And miliary, multiple nodular or parenchymal lesions resembling tuberculosis lesions from in the lungs.

Generalized form is characterized primarily by liver and spleen metastases in the gastrointestinal tract and sometimes the brain, the organs of vision. Parasite multiplies in the cells of the macrophage system. Generalized histoplasmosis is HIV-associated infections.

Immunity.

HRT develops in people infected with H. capsulatum. In histoplasmosis antibodies IgG and IgM are collected in serum. With progressive nature of the disease complement-antibodies that react as withcoccidioidin, so as withblastomitsine are revealed.

Ecology and epidemiology.

Histoplasmosis occurs everywhere. The pathogen is in the soil, especially contaminated with bird feces or defecations of bats. Fresh feces and defecations do not contain H. capsulatum, and only enrich the soil as a habitat of the pathogen.

COMPLICATIONS OF PEPTIC ULCER

Gorshkov K., Krivenko A. - the 3rd - year students Scientific leaders - Can. Med.Sc. MenshchikovaN.V., Katina O.I.

Ulcer complications include bleeding, perforation, penetration, stenosis and inflammation.

Bleeding

It occurs in 80% of cases mainly in the elderly and in patients receiving NSAIDs. The direct cause is tampering of the blood vessel at the site of ulceration.

Perforation

It is 7-8% of all complications. In men, this complication develops 10 times more often than in women.

The direct cause is intense exercise, intake of roughage, large doses of alcohol, stress. In the result of ulcers recess the stomach walls are destroyed (perforation) and stomach contents are poured into the abdominal cavity and retroperitoneal space.

Initially the inflammation in the form of fibrinous applications in the peritoneum appears only in the perforated holes, and then it becomes common, and not fibrinous but fibropurulent. Granulomas of foreign bodies form on the peritoneum and omentum.

Usually ulcers of the back wall of the stomach and the posterior wall of the duodenal bulb penetrate.

Penetration

It occurs in 1-1.5% of cases.

The direct cause is ulcer "having eaten" the wall of the stomach, "blunders" the other organ that adjoins directly to the wall of the stomach. In this

case, the contents of the stomach are not poured out, as the resulting hole is closed by the adjacent organ. Ulcer continues to grow and penetrates the adjacent organ which is adjacent to the stomach at the site of ulceration.

Stenosis

It is 6-15% of all complications.

The direct cause is a long course of peptic ulcer, frequent exacerbations, thus narrowing of an outlet part of the stomach or the duodenal bulb, which interferes the normal gastric emptying and evacuation of its contents into the duodenum. As a result, the stomach expands and the food masses are delayed.

Inflammation

The direct cause is that inflammatory process in peptic ulcer spreads to the surrounding organs. And there are adhesions between the stomach or duodenum and adjacent organs.

WHAT DO WE KNOW ABOUT GROWTH HORMONE?

Lyubitskiy G., Eroputko A. – the 2nd - year students Scientific leaders - Pavlova A.E., Katina O.I.

Somatotropin is synthesized in acidophil cells of anterior pituitary of hypophysis. Molecule of somatotropin is a chain of 191 amino acid residues. It has two disulfide bonds between cysteine residues. Growth hormone has species specificity. It differs from hormones of animals due to sequence of amino acid molecules.

Somatotropin is one of the main stimulants of growth on the level of tissues. Growth hormone stimulates the growing and proliferation of cartilage tissue, osteogenesis and another processes needed for normal growth and development of an organism. Also, somatotropin stimulates the growth of organs and its tissues. Another property of hormone is the influence for adipose, protein and carbohydrate metabolism.

Disruption of growth hormone synthesis is observed during tumors of hypophysis. Hypersecretion in growing organism causes gigantism and it becomes the case of acromegaly in adults. Pituitary dwarfism is the result of growth hormone insufficiency in a child.

STRIOPALLIDAL SYSTEM

Naumova D., Gamylin K. - the 2nd -year students Scientific leaders - Pavlova A.E., Katina O.I.

To morphofunctional characteristics the striopallidal system is divided into striatum and pallidum. The caudate nucleus integument represents the striatal system. The pale globe, black substance, red nucleus, subtalamic nucleuses form the pallidal system. There is a close connection between these systems. Striatal system is younger. For the first time it appeared at bird. And it is formed at person by the end of the prenatal period of development.

Pallidal system at fishes and striopallidal at birds are external motor centers defining the behavior of an animal. Distinctions of functional value of striatum and

the pallidum are defined by complication of nature of the movements in the course of a phylogenesis. Birds, considering their way of life, have to have more difficult motor apparatus that regulates the quality and the number of movements by striopallidal system.

Development and inclusion of motor systems in ontogenesis of a person has the same sequence. Myelinization of the strial passages finishes at the end of the 5th month of life. So in the first months pallidum is the highest motor center. With age many movements of a person become more and more habitual.

The striopallidal system is the basic tool in the development of motor automatism. At the adult they are selected and realized by the highest cortical centers of a pracsis.

MICROCIRCULATION OF AN EYEGLODE

Maltseva A.- the 2nd -year student Scientific leaders - Assoc. Prof. Seliverstov S.S., Katina O.I.

Microcirculation is carried out by the difficult system in the structural relation consisting of arterioles, precapillaries, post-capillaries, venules, and also lymphatic capillaries and also nervous conductors. It is microcirculation that provides an exchange of substances in all tissues and maintains constancy of internal medium, necessary for an organism.

DIABETES II TYPE

Pestryak N. - the 2nd-year student Scientific leaders - Feoktistova N.A., Katina O.I.

There are about 200 million patients with diabetes in the world. Thus at about 90% of them have diabetes II type. As a rule, diabetes II occurs in people over 45 years. The greatest percent of incidence of diabetes II type is observed among persons with obesity. The frequency of diabetes increases in 4 times at people with moderate degree of obesity and in 30 times at people with the expressed obesity.

AIDS AND HIV INFECTION AS SOCIAL DANGER

Pestryak N. - the 2nd - year student Scientific leaders - Prof. Vanina E.A., Katina O.I.

In the group of social dangers connected with diseases, the diseases transmitted mainly sexually occupy a special place. Today it is known that sexually transmitted diseases lead to serious consequences for health of the infected, are dangerous to society and demand long-term treatment. Sometimes they result in disability. AIDS is one of the major problems, arising to mankind at the end of the 20th century. Now more than 40 million HIV – positive people are officially registered in the world. In Russia the total number of the registered people with HIV is about 500 000. AIDS is among five main diseases claiming the greatest number of lives on the planet.

MICROCIRCULATION OF SKIN

Pestryak N. - the 2nd - year student Scientific leaders - Assoc. Prof. Seliverstov S.S., Katina O.I.

Microcirculation of skin – is unstable system of a transport blood flow which constantly adjusts to vital needs of the skin due to the involvement of regulatory mechanisms. Expressiveness of regulatory mechanisms is individual and depends on topological features of people. The microcirculation type reflects the vegetative status of an individual in skin and closely correlates with shifts in the central hemo dynamics (blood circulation).

Parameters of microcirculation of the skin can be used as diagnostic and predictive criteria in a cumulative assessment of the general physiological condition f an organism and health. Changes of microcirculation of the skin precede demonstration of clinical manifestations of pathological process.

The microvascular bed is a point on which transport function of cardiovascular system is directed. And the trans capillary exchange is provided making vitally necessary homeostasis.

NOSOCOMIAL INFECTIONS. CAUSES AND PREVENTION

Murashko S. - the 3rd- year student Scientific leaders - Prof. Korshunova N.V., Katina O.I.

Nosocomial infections (HAI) are one of the urgent problems of modern medicine. HAI - is any clinically recognizable infectious disease affecting the patient as a result of his hospitalization or hospital visits for treatment, as well as the hospital staff by virtue of its operations, regardless of whether these symptoms of the disease manifest or not during the hospital stay.

Over recent years, the factors contributing to increased incidence of nosocomial infections appeared: the work of health care facilities in limited resource (lack of medicines, antiseptics, detergents, disinfectants, medical instruments, laundry, sterilization equipment); significant growth in the number of antibiotic-resistant strains of hospital and disinfectants; difficulty of disinfection and sterilization of modern expensive medical equipment; the creation of large hospital complexes with peculiar ecology and intensive migration processes and presence of a large array of sources of infection; irrational use of antibiotics; increase in the population of highrisk groups (elderly, premature infants, patients with chronic diseases); insufficient competence of health workers, especially nurses, who have a major role in the prevention of nosocomial infections, and other causes.

According to official statistics, every year from 50 to 60 thousand HAI cases are recorded in the Russian Federation. However, the calculated data showed that the figure is 40-60 times higher. According to sample surveys up to 8% of the patients carry HAI in the Russian Federation i.e. about 2-2.5 million of people annually.

To prevent nosocomial infections architectural planning, disinfection, sanitation, sanitary and anti-epidemic measures should be carried out.

MICROCIRCULATION AT A CHRONIC STRESS

Zarubina A., Kuznecov V. - the 2nd - year students Scientific leaders –Assoc. Prof. Seliverstov S.S., Katina O.I.

The stress problem doesn't lose its relevance over the years, and becomes more and sharper due to the growth of negative influence of social factors on a health of a person. The wide prevalence of an emotional stress provokes the growth of cardiovascular (coronary insufficiency, myocardial infarction, arrhythmias, a hypertensive illness, atherosclerosis) and psychological diseases (neurosises, psychoses), and diseases of a gastrointestinal tract (gastritis, colitis, stomach ulcer). The violations arising at the level of microcirculation are an important link in the development of pathological process at a stress.

DEVELOPMENT OF ATRIOVENTRICULAR BLOCK DURING HYPOXIA

Kramarenko A. – the 3rd - year student Scientific leaders – Can. Med. Sc. Brash. A.A., Katina O.I.

The problem of arrhythmias in children is one of the most urgent, the frequency of detection increases. In the structure of morbidity atrioventricular block occupies a leading position among conduction disturbances.

Atrioventricular block (AVB) – is a dysfunction of the cardiac conduction, resulting in slowing or even cessation of the pulse from the atria to the ventricles. As a result, there is a failure of heart rate and blood hemodynamic instability.

Very often Morgagni syndrome (OV Morgagni, ital. Physician and anatomist; R. Adams, an Irish physician; W. Stokes, an Irish physician) arises when AVB - attack of unconsciousness, accompanied by a sharp pallor and cyanosis, respiratory failure and convulsions due to acute hypoxia of the brain, caused by a sudden drop in cardiac output.

Most often, it is caused by various forms of atrioventricular block. Seizure can occur at the point of transfer of incomplete atrioventricular block in full, as well as at the time of sinus rhythm or supraventricular arrhythmias, complete atrioventricular block. In such cases, the development of seizures is associated with delayed occurrence of ventricular automaticity (long preautomatical pause). With full cross blockade seizure occurs when a sharp deceleration pulses originating from a ventricle of heart located heterotopic hearth automatism, in particular in the development of socalled blockade output pulses from this chamber. Sometimes a sudden sharp decrease in cardiac output is a partial atrioventricular block with a high degree of conduct to the ventricles of each of the third, fourth or subsequent atrial impulses, as well as long preautomatical pause that precedes the occurrence of ventricular arrhythmias in sudden development of sinoatrial blockade of high degrees or complete suppression of sinus activity (stop). In most cases, the seizure occurs when the heart rate becomes less than 30 beats per 1 minute, although some patients retain consciousness even at significantly lower heart rate (12-20 in 1 min). And conversely, loss of consciousness in a patient with diffuse vascular lesions brain may develop at relatively frequent contractions of the heart (35-40 beats per 1 min). The cause of the seizure may be not only extremely rare, but the excessive rate of ventricular contractions of the heart (usually more than 200 beats per 1 min), which is observed in atrial flutter with conduct to the ventricles of each pulse occurring in the atria (atrial flutter 1:1) and in tachysystolic atrial fibrillation. Arrhythmias with a high heart rate tend to arise, if the patient has additional conductive paths between the atria and ventricles. Finally, complete loss of contractile function of the heart ventricles due to their atrial fibrillation or asystole sometimes leads to the development of a seizure.

MAMMARY GLAND - TARGET FOR SEX HORMONES

Farkhadova A., Georgieva Y. - the 5th year students Smirnova N., Epifantsev N., Gomonova N. - the 4th year students Scientific leaders – Can. Med. Sc., Assoc. Prof. Lysiak D.S., Katina O.I.

In the structure of morbidity the breast cancer takes one of the first places. Therefore, timely prevention and treatment of benign mammary dysplasia is needed. Mammary glands are part of the reproductive system of a woman's body. They are the target for sex steroids, prolactin, placental hormones, and other hormones of endocrine glands. Estrogens cause proliferation of alveolar epithelium, hyperplasia of stroma and lobules of the mammary gland. Progesterone prevents the development of cell proliferation, provides differentiation, and inhibits mitosis of epithelial cells. Relative giperestrogenia leads to the development of proliferative syndrome in the female reproductive system. There are uterine leiomyoma, endometriosis, endometrial hyperplasia and morphological changes in tissues of the breast.

The analysis of the 30 case histories of patients hospitalized in the gynecological department was made. 10 women had breast pathology and they formed the 1 group of patients. 2 group comprised 20 women without breast changes. In the group of women, with breast diseases the hormone – dependent pathology of female genital organs dominated. And it was met more often than in the 2 group of patients. The disturbances of menstrual cycle in women with breast diseases were found to be in 2 times more often. More medical abortions were made to women of the 1 group.

Hormonal contraception has a positive impact on the incidence of the mammary glands. Thus, prevention of abortion, timely correction of hormonal disorders and early diagnosis of benign neoplasm of mammary glands reduce the incidence of cancer.

PATHOGENESIS OF MYOCARDIAL HYPOXIA. HYPOXIA REFLECION IN THE ELECTROCARDIOGRAM

Zeinalov O. - the 3rd -year student Scientific leaders – Cand.Med.Sc. Brash A.A., Katina O.I.

Hypoxia depresses myocardial contractility in vitro but does not affect or even cannot improve the indices of myocardial performance in vivo. Possibly nervous system tone is associated through these changes. ST changes in the fetal ECG of rat can be defined with computational analysis and reducing of subjective interpretation. Myocardial hypoxia on ECG is usually shown with ST segment depression

(horizontal or aslant descending) and changes in wave T (symmetrical, inverted, high gabled or pseudo normal prong T).

MINOR RNA

Maltseva A., Omelich E. - the 2nd -year students Scientific leaders- Feoktistova N.A., Katina O.I.

Minor (small) RNA- are RNA molecules, often with a small molecular mass, located in various parts of a cell (membrane, cytoplasm, organellas, core, etc.). Their role is not studied completely. They are proved to help in maturing of ribosomal RNA, participate in transfer of proteins through a cell membrane and facilitate the reduplications of DNA molecules, etc.

THE EMERGENCIES CAUSED BY THE FIRES IN THE AMUR REGION

Maltseva A.-the 2nd year student Scientific leaders - Prof. Vanina E.A., Katina O.I.

Forest fires are the major factors defining a state and dynamics of forest fund of Russia, especially the areas of Siberia and the Far East. In 2014 forest fires in Russia occupied an area in 100 times bigger if compared to the last year. And the number of fires increased in 8 times.

The total area of the fires in the territory of the country since the beginning of the fire-dangerous period of 2011 made 1.37 million hectares. In the territory of the Amur region for 2013 209 natural fires on the total area of 47191 hectares were registered. 96 people died in the fires, 86 people were injured, and 131 persons were rescued.

The main reason for ignition of the woods in the territory of area is an anthropogenic factor -92% and lightning discharges -8%.

EBOLA. LABORATORY DIAGNOSIS

Vovk A., Gorohovsky I. – the 3rd - year students Scientific leaders - Dr.Med.Sc., Prof. Chubenko G.I., Katina O.I.

Ebola hemorrhagic fever is a particularly dangerous infectious disease of viral nature. It has a large number of strains (Zaire, Sudan, Renston) that differ in antigenic properties, on clinical manifestations, biovar and serovar. So there is different severity of the disease, special laboratory diagnosis and epidemiology. When conducting laboratory diagnostics, epidemiological history (leaving from the regions, the length of stay, contact with animals, and others) is considered.

A specific diagnosis is carried out with virological and serological methods. Research is conducted in special laboratories with I biosafety level. Ebola - virus can be isolated from the patients' blood or nasopharyngeal mucus during the first week of illness by infecting cell cultures (Vero, etc.), and at immunohistochemical examination of biopsy specimens of skin or internal organs. The methods of RT-PCR diagnostics are worked out. This method is widely used to characterize or to compare mRNA levels in different populations.

To improve the diagnosis of Ebola, FDA has authorized the use of experimental laboratory test called "Analysis DoDEZ1 PB RT-PCR" (polymerased chain reaction with reverse transcription real-time). This test is intended for use in people with symptoms of an infectious disease or at risk of infection.

Immunological diagnosis is based on the detection of antigens to antibodies in the early stages of the disease. They "attract attention" of the immune system and destroy them. For antibodies diagnostic scientists first isolate them (e.g., from the tobacco plant or mice organism), and then purify. Serological diagnosis is based on detection the Anti - Ebola – IgM ELISA in the early stages of the disease.

There are further prospects for the treatment of Ebola. All countries are working to develop a vaccine and antiviral drugs. "Triazavirin" is used in our country. According to the Minister of Health of Russia, Skvortsova V.I., "Triazavirin" is very effective in Marburg fever, which is a sister of Ebola. The effectiveness of the drug is 90%.

According to Skvortsova, the fever is not dangerous for citizens in the territory of Russia. Since May of this year, a lot is done to prevent the penetration of Ebola in Russia. Seven and a half thousand of flights are sanitary inspected in a month. Particular attention is given to everyone who comes from West Africa, including students of Russian universities.

EFFECT OF ULTRAVIOLET RADIATION ON THE HUMAN BODY

Naumova D. - the 2^{nd} - year student

Scientific leaders - Assoc. Prof. Miroshnichenko A.N., Katina O.I.

Ultraviolet radiation influences the human body with actions of physicochemical and biological nature. At a wavelength of 400 nm to 320 nm, they are characterized by a weak biological activity; from 320 to 280 nm they affect the skin; from 280 nm to 200 nm - they attack the tissue proteins and lipids. Ultraviolet rays are capable of causing photoelectric effect and have significant biological activity. Excess and deficiency of radiation is dangerous for the human body. Exposure of the skin of large doses of ultraviolet radiation causes skin diseases – e.g. dermatitis. The affected area is swollen, burning sensation and itching is felt. When exposed to high doses of ultraviolet radiation on the central nervous system the following symptoms of diseases are characterized: headache, nausea, dizziness. Ultraviolet rays with a wavelength of less than 0.32 microns, acting on the eye, cause a disease called electric opthalmia.

Ultraviolet radiation is characterized by double effect on the body: on the one hand there is the risk of overexposure and on the other - it is necessary for normal functioning of the human body, because ultraviolet rays are an important stimulator of basic biological processes.

It was established that under the influence of ultraviolet radiation more intensive removal of chemicals from the body and reducing of their toxic action is observed.

KOLTSOV N.K - THE GREAT. WORTHY NOBEL

Saidova Zh. –the 2nd - year student Scientific leaders – Prof. Gordienko E. N., Katina O. I.

Nikolay KonstantinovichKoltsov— is one of the founders of the Russian experimental biology. He made an invaluable contribution to development of physical and chemical biology, genetics, and cytology, biology of development and theory of evolution. Not the smaller role was played by him and as the organizer of science, having gathered around him a large number of talented scientists.

The main works are on comparative anatomy of vertebrata, experimental cytology, physical and chemical biology, genetics. He was the first who developed the hypothesis of a molecular structure and a matrix reproduction of chromosomes which anticipated basic provisions of modern molecular biology and genetics.

Koltsov headed the Institute of Experimental Biology (IEB) that was founded in Moscow in the summer of 1917. The institute of experimental biology became the central scientific institution on studying of cells, their structures, physical and chemical properties, and later the genetic.

Speaking about eugenics, the scientist studied the genetics of person and complex biosocial studying of man. From 1922 to 1925 N. K. Koltsov taught at Medicopedologist institute. From 1930 to 1933 he managed the laboratory of All-Union institute of animal husbandry.

In 1933 N. K. Koltsov was elected as the honorary member of the Edinburgh Royal society, in 1934 he was awarded the rank of the Honored worker of science of RSFSR, in 1935 - became the doctor of zoology and the full member of All-Union institute. In 1936 Koltsov published the collection of the works relating to the period of 1903-1935 under the general name "Organization of a Cell" where he submitted the original teoretiko-biological concept.

In the fall of 1940 N. K. Koltsov went to Leningrad to read the report "Chemistry and morphology" in an anniversary meeting of the Moscow society of testers of the nature. On December 2, 1940 he died in "Evropeyskaya" hotel from an extensive heart attack. His wife, Maria Poliyevktovna, wrote about N. K. Koltsov's death to Moscow and committed suicide.

THE PROBLEM OF DIABETES

Naumova D. - the 2nd - year student Scientific leaders - Egorshina E. V., Katina O.I.

Diabetes mellitus (DM) is an acute medical and social problem related to the priorities of the national health care systems of virtually all countries of the world, protected by regulatory enactments of WHO.

The urgency of the problem of diabetes is determined by prevalence, high mortality and early disability of patients.

The prevalence of diabetes in the Western countries is 2-5% of the population, while in developing one it reaches 10-15%. Every 15 years the number of pa-

tients doubles. If in 1994 there were an estimated 120.4 million of diabetics, by 2010 their number, according to forecasts, would be 239.3 million. In Russia diabetes affects at about 8 million people.

In the structure of morbidity diabetes II type dominated. It is 80-90% of the entire population of patients. The clinical manifestations of diabetes mellitus type I and II differ greatly. If diabetes I type debuts acutely with diabetic ketoacidosis, and such patients are hospitalized in specialized endocrinology department, the diabetes II type is often detected by chance during clinical examination, regular check-ups, etc. At the same time in at least 40% of cases they already suffer with the so-called late complications of varying severity: coronary heart disease, nephropathy and polyneuropathy.

Doctors say that the early detection of diabetes will allow patient to have a very high chance to avoid the further development of this disease. Patient should always follow the prescribed diet, to lead a healthy life, to give up bad habits such as smoking, watch his weight, and, of course, meet regularly with his doctor and follow his recommendations.

PATHOGENESIS OF HYPOXIA IN DIABETES

Vozzhenikov E. – the 3rd year student Scientific leaders – Cand.Med.Sc. Brash A.A., Katina O. I.

All known forms of hypoxia can develop in diabetes: respiratory, hemodynamic, primarily microcirculatory, hemic and tissue.

The occurrence of respiratory failure and hypoxemia is due to the development of microangiopathy of pulmonary vessels and impaired diffusion of oxygen from the alveoli into the blood.

A violation of the transport of oxygen in blood is the most important in the development of hypoxia.

The development of tissue hypoxia promotes the change in the basal structure of membrane and the disruption of its function that occurs at dysfunction of the respiratory enzymes under the influence of pronounced acidosis.

THE MECHANISM OF PLATELETS ACTIVATION

Poplavskaya A. - the 3rd - year student Scientific leaders - Cand.Med.Sc. Brash A.A., Katina O.I.

Platelets are a basis of primary hemostasis. At damage of a vascular wall platelets are activated at the expense of several factors, thus changing the form from discal to spherical and forming pseudopods and take the wrong form. There are some ways of platelets activation. The first includes a metabolism of arakhidonic acid and a tromboksine formation. The second is connected with a metabolism of phosphatidylinositols and formation of fosfatidic acid. The third is caused by release of a lisolecithin component of phospholipids of a plasmatic membrane of platelets - a factor of platelets activation.

Process of activation takes place in 3 stages: 1) interaction of an agregant with receptors of a plasmatic membrane and a signal transmission in a cell;

- 2) transformation of a signal with participation of secondary messengers that results in output of calcium ions in cytoplasm;
- 3) external manifestation of the answer of a cell includes aggregation (pasting) and reaction of release of chemicals from a cell. The spasm and violent strengthening of platelets aggregation of the damaged vessel are the result of chemicals release from platelets and cells of the damaged vessel. It further develops in formation of blood clot platelets and restriction of initial blood loss.

LEPTIN

Chernyavskaya Y., Sergeev I. – the 2nd- year students Scientific leaders – Assoc. Prof .Doroshenko G. K., Katina O. I.

Leptin is a peptide hormone that regulates energy metabolism. It refers to adipokines (hormones of adipose tissue). Leptin has anorectic effect (appetite suppressant). Reduce in the concentration of leptin leads to obesity. Leptin is considered to be one of the factors in the pathogenesis of non-insulin dependent diabetes mellitus (Type 2 di-abetes).

It is a protein composed of 167 amino acid residues. Leptin has a total molecular weight of 16 kDa and belongs to cytokines (signaling protein) formed by adipose tissue. The main physiological role of leptin is evident in the synthesis macroergs and rising in en-ergy consumption. Its mechanism of action is to transfer hypothalamus information about body weight and fat metabolism.

Despite the fact that leptin acts as a hormone that promotes weight loss in obese humans and animals, its concentration in blood is highly improved and the injection of exogenous leptin provide no clinical benefit. Probably, in this case, disturbances of any other components of the signaling pathway of the hormone are seen. And the body tries unsuccessfully to compensate this by increasing the level of its leptin secretion. Thus, leptin can be successfully applied only to treat the rare cases of obesity that arose as a result of gene OB mutation.

NANOPHYETUS.FLAT WORMS OF THE TREMATODA CLASS

Belyakova E., Moiseenko A. – the 1st - year students Scientific leaders – Laceeva T. I., Katina O. I.

Nanophyetosis was discovered in the Far East by Shabalova N. P. (1928). Its sizes are 0.5-1 mm.

Life cycle:

- 1. Orum.
- 2. Miracidium.
- 3. Intermediate host.
- 4. The metacercariae.
- 5. Additional host.
- 6. Metacercariae(muscles, internal organs).

7. The final hosts and Marita.

Distribution and epidemiology.

The indigenous people of the lower and middle Amur are affected bynanophyetus in 15.4% and in some areas up to 75%. High contamination of indigenous peoples of the Amur is due to eating raw fish. In domestic animals in the Amur region nanophyetosis is featured in cats, dogs and pigs. The main role in the transmission of thepathogen to humans and animals belongs to freshwater salmon. Infection occurs in spring and autumn.

Clinic and diagnostics.

Nanophyetus parasites in the lower third of the intestine, causing inflammation in its mucous membrane. In 1-3 weeks after infection symptoms of enteritis develop: pain around the abdomen, rumbling in palpation of the sigmoid and cecum, frequent liquid stools up to 6-8 times a day, nausea, vomiting. The main source of the disease in the Amur region was eating of whitefish species.

Prevention.

- correct heat conditioning of fish;
- complete denial from eating raw fish;
- avoid feeding pet with raw fish;
- protection of water areas from contamination with feces.

THE CAUSE OF HYPERCHOLESTEROLEMIA – PALMATIC ACID

Azadov Sh., Vasil'ev D., Tkacheva A. – the 1st - year students Scientific leaders – Assoc.Prof. Doroshenko G.K., Katina O.I.

As the title implies the article describes the high content of palmitic acid in the food is the cause of atherosclerosis.

Atherosclerosis is known to be a disease of the 21st century. The most common fatty acid in lipids of animals and plants is the palmitic one. People consume it in large quantities daily. As a consequence, the permeability of the plasma membrane reduces and the cells die. Consumption of large amounts of palmitic acid leads to obesity.

The normalization of the biological function of exotrophy is believed to be the only way of preventing atherosclerosis. Studies have proved the less palmitic acid is in the diet, the lower is the level of cholesterol in the blood.

It gives a detailed analysis of the effect of saturated fatty acids on the human body.

The paper is of great help to students and teachers of medical educational institutions and medical staff.

THROMBOXANES AND PROSTACYCLINS – BIOREGULATORS OF HEMOSTASIS

Barannikov S., Volodina I.- the 1st - year students Scientific leaders – Cand. Biol. Sc., Assoc. Prof. Doroshenko G.K., Katina O.I. The article deals with the hemostasis. Hemostasis is a complex of reactions referred to stop bleeding in injured vessels. The meaning of the hemostatic system is much more complex and wide. Hemostasis factors are involved in keeping of the liquid blood condition, regulation of transcapillary exchange, the resistance of the vascular wall. They influence the intensity of reparative processes.

Vascular-platelet hemostasis and blood clotting are taken to distinguish. It should be noted that there is a significant difference between them. Vascular-platelet hemostasis is the stop of bleeding in small vessels with low blood pressure. Their diameter does not exceed 100 mcm. Conventionally it is divided into three stages:

- 1) the temporary (primary) vasospasm;
- 2) formation of a platelet plug by adhesion (attachment to the damaged surface) and aggregation (adhesion between platelets);
 - 3) retraction (reduction and thickening) of platelet plug.

But the process of blood clotting is the fight against blood loss at injuries of large arteries and veins. The process of blood clotting can be divided into three phases. The first phase involves a complex of sequence reactions leading to the prothrombinase formation. In the second phase there is a transformation of prothrombin into thrombin. And fibrin turns into fibrinogen in the third phase.

The following conclusions draw a huge role of thromboxanes and prostacyclins in a blood clotting. Thromboxane constricts blood vessels, increases blood pressure and activates platelet aggregation. Prostacyclin prevents blood clots and promotes a vasodilatation. Opposite functions confirm that prostacyclin and thromboxanes are antagonists.

The article reports invaluable role of thromboxanes and prostacyclin in human life. It has a great interest for medical students.

PETER FRANTSEVICH LESGAFT

Barannikov S., Tkacheva A. – the 1st - year students Scientific leaders – Cand. Med. Sc. Piskun S.I., Katina O.I.

The article is connected with the works of Peter Francevich Lesgaft. A mention should be made, that his main merit is the system of physical education, based on a strictly scientific basis. In his view the function determines the shape and a healthy body is in direct relation to the active exercise. Peter Franzevich believed that the main anatomy idea was to clarify the general plan of the structural organization of the human body.

It is spoken in detail about his anatomical discoveries. The anatomist showed the structural features of the urogenital system in men and women, identified the lumbar triangle on the border of the broad abdominal muscles and long muscles of the back. As a tutor he taught students how to read the nature of motion in joints with the help of the articular surfaces form. The scientist gave a clear definition of simple and complex joints and one of the first classifications of arterial anastomoses. He explained the mechanism of the rectum mobility, suggested and substantiated the concept of the pelvic arch. Lesgaft developed the first exercise complexes and imple-

mented the system of physical education. He set the goal of all-round development of a healthy person.

Peter Frantcevich Lesgaft was known to be a great biologist, anatomist, anthropologist, physician, tutor and the founder of the physical education system.

The article is of great help to medical students, as the works of this great man retain their vitality till now.

SPONTANEOUS RECURENT KNOTTED SUPPURATIVE PANNICULITIS

Velchenko E. - the 3rd - year student Scientific leaders - Assoc. Prof. Volkov L.A., Katina O.I.

Spontaneous recurrent knotted suppurative panniculitis is a rare disease of inflammatory tissue. The main manifestations of the disease are fever, chills, headache, and weakness, muscle pain, followed by the development of painful knots in the tissue of various sizes. Allergic reactions, trauma, various infectious diseases can be the starting torque. Disease is defined to have acute, subacute and chronic forms. The disease begins imperceptibly to the patient, with the emergence of painful knots in the subcutaneous fat limbs, abdomen, and back. With an appropriate anti-inflammatory treatment sites can disappear without a trace, and in their place small atrophic scars are formed. Due to the rarity of this disease there are two observations. In most patients the disease is recurrent in nature. These patients are made a second course of anti-inflammatory therapy. Over the last 20 years in general surgery clinic

there were 2 women (38 and 59 years) treated with this disease. It localized in the subcutaneous tissue of the anterior abdominal wall, thigh and knee. They recovered following an anti-inflammatory treatment. Patients were observed for 2 years. Recur-

INFILTRATING PRO-CURRENT BREAST CANCER

Balykova A., Savostyanov T. - the 2nd - year students Scientific leader - Kozlova V. S., Katina O.I.

rence was not observed.

The infiltrating pro-current breast cancer is the most widespread form. It is met in 80% of all infiltrating cancers a mammary gland (from 40 to 75% in various series of supervision).

By definition of histologic classification of mammary gland tumors this group includes all infiltrating cancers of a mammary gland not belonging to any other categories. Tumor cells form different glandular trabecular, alveolar and solid structures. The epitelial component is fibrous strom expressiveness whose degree can also be various.

The course and the forecast of an infiltrating pro-current cancer in many cases depend on malignity degree.

THE PANCREAS

Shirokov .D – the 2nd - year student Scientific leaders - Kozlova V.S. Katina.O.I.

Relevance of the study of the pancreas is very important. If the doctor will know the structure, function, blood supply, lymphatic drainage and innervation of each body, it will be easier to cure his patient. There are diseases of the pancreas: pancreatitis, pancreatic diabetus. The study of this particular organ can bring remedy of complete healing from some illnesses.

MESENTERY MICROCIRCULATION OF RATS

Omelich E. - the 2nd - year student Scientific leaders – Assoc. Prof. Seliverstov S. S., Katina O. I.

According to literature — mesentery microcirculation of rats is the most widespread object for studying microcirculation. All fundamental researches of the microvascular course were bases on it.

Most of authors when studying the terminal vascular course of a mesentery estimate it on set of the following parameters: 1) quantity of the functioning vessels of different types (arterioles, capillaries, venules, arterio-venous anastomosis and distribution of a blood-flow between them; 2) character of a blood-flow in vessels, features of the movement of plasma and uniform elements in them; 3) activity and character of vasomotions; 4) linear speed of a blood-flow, measurement of diameters of a gleam of various vessels and some other indicators depending on a task and a research objective.

At biomicroscopy of an appendix mesentery arteriole of three orders, precapillaries, true capillaries, post-capillaries and venula of various caliber (from 17 to 60 microns) are strightly defined. Usually 12 — 18 periodically functioning capillaries are seen under review in norm. The blood-flow being in standard conditions (maintenance of a certain temperature and a constant irrigation of object) remains fast for a long time, laminar on character. It is hard to differ the uniform elements moving in an axial layer because of a high speed. In some capillaries the blood-flow is presented in the form of the movement of the separate erythrocytes divided among themselves by plasma layers.

SKIN

Tiku D., Danko K.– the 2nd - year students Scientific leaders – Kozlov V.S., Katina O.I.

Skin - is a complex organ that covers the surface of the body. It is one of the largest organs in the body. It consists of the epidermis, dermis and hypodermis. It performs a variety of functions: protective, immune, synthesizes vitamin D, deposits the blood and other.

Psoriasis is one of the most spread skin diseases. It is a chronic noninfectious disease of the skin. Illness appears in the form of scaly red patches (plaques), and severe itching. Psoriasis can be of 2 types:

Psoriasis type 1 –is inherited, typical for a young age, often affects the skin; Psoriasis type 2 –acquired, manifested after 40 years and more often affects the nails and joints.

The disease can manifest or worsen seasonally. Currently, it is considered to be multifactorial, but the causes of psoriasis still have not been found.

TELOMERASE

Podtoptannaya A., Chenchenko V. – the 2nd- year students Scientific leaders –Accoc. Prof. Doroshenko G. K., Katina O. I.

Telomerase is an enzyme that adds specific repetitive DNA sequences in the 3-end of the DNA chain at the telomeres, which are located at the ends of chromosomes in eukaryotic cells.

The Nobel Prize in Physiology and medicine was awarded to Elizabeth Blackburn, working in the United States for the opening of the protective mechanisms of the chromosomes in the 2009 year.

Telomerase associates the first few nucleotides template with the latest telomeres sequence on the chromosome, adds new repeating section (5 '-TTAGGG-3'), detaches, links the new 3 '-end of the telomeres to the pattern and repeats the whole process again.

After the activation of telomerase, some cells become immortal. Their chromosomes do not become less stable, regardless of the number of cell divisions, and the process of cell death does not start. Many cancer cells are considered to be immortal, because the activity of telomerase genes in them allows them to divide almost indefinitely. And that causes the formation of tumors.

ACTIVATORS OF COMMUNITY-ACQUIRED PNEUMONIA IN ADULTS

Baranov S., Mikhailov P. - the 3rd-year students

Scientific leaders - Med.Sc. Prof. Chubenko G.I., Can.Ped.Sc. Bibik I.A.

Pneumonia is an inflammatory condition of the lung affecting primarily the microscopic air sacs known as alveoli. It is usually caused by infection

with viruses or bacteria and less commonly other microorganisms, certain drugs and some conditions such as autoimmune diseases.

Community-acquired pneumonia (CAP) is pneumonia (any of several lung diseases) acquired infectiously in normal social contact (that is, in the community) as opposed to being acquired during hospitalization (hospital-acquired pneumonia). In community-acquired pneumonia, individuals who have not recently

been hospitalized develop an infection of the lungs (pneumonia). CAP is a common illness and can affect people of all ages. CAP often causes problems such as difficulty of breathing, fever, chest pains, and a cough. CAP occurs because the areas of

the lung that absorb oxygen (alveoli) from the atmosphere become filled with fluid and cannot work effectively.

Cause.

The full spectrum of microorganisms is responsible for CAP in adults. Several important groups of organisms are more common among people with certain <u>risk factors</u>. Identifying people at risk for these organisms is important for appropriate treatment

Viruses
Atypical organisms
Streptococcus pneumoniae
Haemophilus influenzae
Enteric Gram negative bacteria
Pseudomonas aeruginosa

OPPRESSION OF THE RESPIRATORY CENTRE UNDER THE INFLUENCE OF EXTREMELY LOW TEMPERATURES

Baranov S. - the 3rd-year student Scientific leaders - Can.Med.Sc. Brash A.A., Can.Ped.Sc. Bibik I.A.

Respiratory activity can be substantially affected by perturbations confined to the superficial areas of the ventrolateral surface of the medulla, the putative site of central chemoreceptors.

With cooling of the intermediate areas to 20 degrees C, tidal volume decreased 50%. The electrical activity of the diaphragm decreased less than the other muscles. Abdominal muscle activity was depressed as much as expiratory intercostal activity but reappeared with further cooling to 10 degrees C if cooling was prolonged. The results suggest that under the conditions of the experiments the rib cage musculature, and probably the abdominal muscles as well, are more responsive than the diaphragm to depression or excitation of chemo and thermosensitive elements in the superficial regions of the medulla.

REPRODUCTIVE FACTORS IN THE RISK OF FIBROCYSTIC BREAST IN THE AMUR REGION

Baranov S., Mikhailov P. - the 3rd-year students Scientific leaders - Can.Med.Sc. Dupliy N.A., Can.Ped.Sc. Bibik I.A.

Objective: to study the dynamics of risk factors of reproductive character in residents of the Amur region, having fibrocystic breast disease.

In order to study the dynamics of risk factors for mastitis in the Amur region during 25 years 100 women were examined, some statistic work was done. Over the past decade there was an increase of adverse factors of reproductive nature. It is known that the latter leads to mastopathy, thereby increasing the probability of developing of breast pathology. In this regard, women with gynecological diseases, burdened obstetric and gynecological history should be screened regularly, examined by a

breast physician, and their treatment should be complex, aimed at correcting not only the genital but extragenital pathology, as well as psycho-emotional condition.

PROBLEMS AND LONG-TERM RESULTS OF PLASTIC SURGERY OF NERVES OF FACE

K. Egorov - the 2nd-year student Scientific leader - PhD, Assoc. Prof. S.S. Seliverstov

The concept of "nerves of a person" includes various branches of the facial and trigeminal nerves. Plastic surgery of nerves of face is the main issue of this paper. There are different standpoints as for the date of plastic surgery of nerves of face after disease or injury. For example, some researchers recommend doing decompression of the nerve in 24-48 hours, others in 4-8 weeks. Some doctors believe that the seventh day is the most suitable for surgery.

In plastic surgery of nerves of face there are some problems. For example, nerve reinnervation method is most common in neurosurgery. But it has some drawbacks: different neurological disorders, additional movements of facial muscles and others. Consequences of plastic surgery of nerves of face are ambiguous, as the functions of the nerves recover to some extent, muscle weakness being revealed etc.

BILLROTH II GASTRECTOMY WITH HOFMEISTER-FINSTERER MODIFICATION

Baranov S., Mikhailov P. - the 3rd-year students Scientific leaders - Med.Sc.Piskun S.I., Can.Ped.Sc.Bibik I.A.

The Hofmeister–Finsterer operation is a type of posterior gastrectomy which is a modification of the Billroth II operation, devised by Franz von Hofmeister, based upon a procedure by Eugen Pólya. It was later refined by Hans Finstererand and became known as the Hofmeister–Finsterer gastrectomy.

The upper part of the cut end of the stomach is closed and the remaining lower portion is anastomosed with jejunum.

PERINATAL OUTCOMES IN PREGNANT WOMEN WITH ASTHMA IN THE AMUR REGION

Luchnikova T. - postgraduate of Department of Hospital Therapy Scientific leaders - ssoc.Prof., PhD Prikhodko O.B., Assoc.Prof. Pogrebnaya M.V., Prof., PhD Babtseva A.F., Prof., PhD Romantsova E.B.

Bronchial asthma (BA) in the last decade is one of the most urgent problems of pulmonology. The aim of the research is to study the state of health of children recently born to women with bronchial asthma. We analyzed 340 cases over the last 20 years (group 1). The comparison group includes 140 newborns of women who do not have chronic respiratory diseases (group 2). Pregnant women of group 1 showed greater incidence of complications than in the control group. Pregnancy with bronchial asthma caused the increase of diagnosed placental insufficiency, chronic intrau-

terine fetal hypoxia, and premature birth. Pregnancy complications are often observed in patients with uncontrolled course of asthma. Physical development of newborns in group 1 was lower than in group 2. The frequency of disharmonious development was more common in children of mothers with severe asthma (p <0.05), indicating the intrauterine fetal suffering. The prevailing diseases in newborns of group 1 include cerebral ischemia (65.2 %), localized inflammation of the skin (37.2%), post hypoxic cardiomyopathy (22%), intrauterine growth retardation (19.3 %), which differed significantly from the corresponding figures of group 2. The polyorganic character of system damage was found in 70% of group 1 infants, and only in 11% of group 2. Severity status of newborns in group 1 correlated with worsening of asthma during pregnancy, the frequency of birth of healthy children being significantly reduced. Thus, the perinatal outcomes in patients with asthma depend on the severity of the disease and the level of control during the gestation period. Babies born to mothers with asthma are characterized by high frequency of disharmonious development, greater polyorganic morbidity of systems, which necessitate preventive measures during the gestational period.

PINEAL BODY. WHAT IS IT?

Neverova, K. Om - the 2nd- year students Sciencific leaders – A.E. Pavlova, Cand. Ped. Sc. I.A. Bibik

The epiphysis also known as the pineal body, conarium or epiphysis cerebri exercises an endocrine function, is considered to be a part of photo-endocrine system, belongs to diencephalon. Epiphysis's function is insufficiently studied yet. Its secretory cells produce melatonin, a serotonin derived hormone, that is involved to the modulation of circadian rhythms (biorhythms "sleeping - waking") into the blood and probably effects all the pituitary-hypotalamic hormones and immune system. Adrenoglomerulotropin stimulates the aldosterone production, biosynthesis is accomplished by serotonin repair.

The epiphysis is a part of photo-endocrine system, that is why the light has an inhibitory influence on it, the darkness – stimulating.

Epiphysis's functions are the following: suppression of growth of hormone production, retardation of sexual maturation and behavior, deceleration of tumor growth, influence on sexual maturation and sexual behavior. In children it has bigger size than in adults.

Thus, we see that this gland is a part of endocrine system but still it remains a problematic organ.

The gland because of its location was considered by physicians of antiquity to be related to the ideation, many people believed it was "The eye of mind". Nowadays it is widely thought that epiphysis produces some substances like hormones and influences the other glands of internal secretion.

BRAIN AND CONSCIOUSNESS

N. Soyotova, I. Solovyova - the 2nd-year students Scientific leaders - Assoc. Prof. T.A. Batalova, Cand. Ped. Sc. I.A. Bibik

Consciousness is the most important function of a brain. Our life consists of series of impressions, thoughts and feelings. There are two main approaches to searching of brain mechanisms of consciousness.

One of them is an idea that subjective experience appears on the base of forward distribution of excitement from the primary zones of cerebral cortex of larger hemispheres of a brain to the structures of higher level to which, first of all, the frontal cerebral cortex belongs to. Other approach is based on the assumption that subjective experience results from the particular organization of processes of a brain and comparison in the zones of cerebral cortex of again got information which taken from memory. Now this hypothesis is confirmed by many experts, and for the first time it was formulated in the 1970s as a result of researches of brain mechanisms of feelings.

Synthesis of information includes a circular motion of excitement from the projective cerebral cortex to associative (temporal for visual stimuli), then to the area of a hippocampus and the motivational centers of the diencephalon with the subsequent return to the cerebral cortex. This cycle is defined as "a circle of feelings". It allows us to compare a sensory signal to the data taken from memory that supposedly is the base of transition of physiological process to the level of mental, subjective experience. The described concept received the name of a hypothesis of informational synthesis. The Corresponding Member of the Russian Academy of Sciences Alexey Ivanitsky and the American scientist Gerald Edelman were engaged in its research.

USE OF CORD BLOOD STEM CELLS IN CLINICAL PRACTICE

Yu. Krasnopeev – the 2nd-year student Scientific leader - D. A. Semenov

The work touches upon the question of the use of the main types of cells taken from the umbilical cord. In 2 main parts of the work the clinical trials of the cell use in the fight against oncological and other diseases of different etiology were described. The major results of clinical trials in children and adult patients are briefly presented in some tables. Besides, there are several parts dedicated to some difficulties and problems, connected with the use of cord blood stem cells and to general perspective trends of clinical use of cord blood cells.

THE CONTRIBUTION OF SCIENTISTS N.I. PIROGOV AND P.F. LESGAFT TO THE DEVELOPMENT OF PHYSICAL EDUCATION IN RUSSIA BASED ON ANATOMY

Yu. Krasnopeev, I. Kurilova- the 2nd- year students Scientific leader - L.G. Zherepa The great anatomist N.I. Pirogov proved individual, age, typical variability of the body and organs, differentiated the structure of the male and female body, emphasizing their sexual anatomical features. A lot of work was done by N.I. Pirogov on issues related to the musculoskeletal system, where he had re-stated the doctrine of bones, joints and muscles, paying great attention to the supporting elements. Having used a new method of studying, the reconstruction of joints according to the saw cuts of the frozen objects in various positions, N.I. Pirogov for the first time determined the exact relationship and interaction of the articular ends of the bones and of all auxiliary apparatuses and revealed the mechanism of motion in the joints. Finally, he pointed to the path of development of professional anatomy, which studies the impact of occupation and labor on the human body and its physical development

Outstanding anatomist P.F. Lesgaft became a successor of Pirogov's works in this field. His scientific approach to solving problems of upbringing of the young generation was manifested in the fact that he proclaimed the necessity of combining physical education with anatomical and physiological features of an organism of a child; he developed the first complexes of physical exercises and started to implement a wide system of physical education. It aimed at comprehensive development of a healthy person. For people to grow up healthy, it was necessary to improve hygienic conditions in the school, to ensure the correct mode for a student with alternation of mental practice, physical exercises and games. Health care of children was considered by P.F. Lesgaft to be in the first place. And the pursuit of physical perfection was recognized as the most important related task.

PITUITARY GLAND

N. Soyotova, A. Neverova – the 2nd- year students Scientific leaders – D.A. Semenov, Cand. Ped. Sc. I.A. Bibik

The pituitary gland, or hypophysis, is a gland of internal secretion directly effecting the work of circumferential endocrine glands and regulating their functions. It produces hormones influencing the growth, metabolism and fertility. The hypophysis is a central core in regulation and coordination of body's vegetative functions anatomically and functionally. It is bounded up with hypothalamus. Together they form unified neuroendocrinal complex maintaining the internal environment uniformity. The hypophysis or lower pituitary gland relates to the brain and hypothalamus. It's a mass of round or ovalary form and grayish-red colour. The pituitary gland measures approximately 12 mm in width (the transverse diameter, side to side) and 10 mm in length (the antero-posterior diameter, from front to back). Its weight is 0.5-0.66. The hypophysis consists of anterior pituitary (or adenohypophysis) and posterior pituitary (or neurohypophysis).

The adenohypophysis consists of three parts:1) distal, which is the largest part of the lobe (70-80% of the gland weight); 2) the pars tuberalis which is the upward extension of the pars lateralis and which covers the front and lateral sides of infundibulum; 3) the pars medialis located on the border with the posterior pituitary gland. The anterior pituitary of hypophysisis is composed of numerous epithelial columns

separated by a rich network of capillaries of sinusoidal type and by elements of cellular and reticular tissues. In the trabeculae two types of glandular cells (adenocytes) are distinguished: chromophobe and chromophile. The chromophobe adenocytes are located in the gland's centre. Their cytoplasm stains the dye poorly and contains the organelles in small amounts. The chromophile adenocytes are located on the trabecules' sides and contain a lot of secretory granules in the cytoplasm. Besides the posterior lobe the neurohypophysis includes the infundibular stalk also known as the infundibulum or pituitary stalk and median eminence of the tuber cinereum. The posterior pituitary is a nonstandard endocrine system constituent as it doesn't have the cells which release hormones into the blood. The posterior pituitary gland is in close anatomic and functional connection with the hypothalamus namely with the supraoptic and paraventricular nucleuses. This connection is carried out by the pituitary-hypothalamic tract formed by the nucleuses neurons' axons. The neurohypophysis is formed by the neuroglia of ependymal type and consists of the spindle-shaped cells: pituicytes, axons and terminals. In the posterior pituitary gland numerous hyaline formations can be found. These are accumulative neurosecretory bodies (Herring bodies) representing the distentions of axons and their terminals filled with the neurosecretory granules, mitochondrions and other constituents.

THE CASE OF CHRONIC GRANULOMATOUS CANDIDIASIS

Fomina V., Galaktionova S. - the 4th-year students Scientific leaders - Can.Med.Sc, Assoc.Prof. Melnichenko N.E, Volosenkova E.A.

Chronic granulomatous candidiasis as a special kind of chronic candidiasis, was more frequent in children with a variety of immune discorders. The disease occurs in patients with endocrine discorders, pyoderma, disseminated tuberculosis infection, trace elements.

deficiency the onset of granulomatous candidiasis occurs at the age of 3-6 months, although it may develop in the first few days or years of life. The clinical picture of the disease begins with the destruction of the mucous membranes. At first, there is a characteristic cheesy deposit in the mouth, then erosion appears on the tongue. Later process involves the skin. It occurs on any part of the body and has a variety of forms: small bumps on the face and chest; red spots on the trunk, limbs, face and head; granuloma (seal) with a diameter of 1-5 cm with thick crusts or growths as papillomas on the surface. Also there are affects of the nails. It is characterized by redness and thickening cuticle, excessive keratinization of the nail bed, which leads to its deformation and elation.

This case was described by M.K. Baltabaev, A.A. Kaybagarov and D.A. Sadykova - lecturers of dermatology of Kyrghyz-Russian Slavic University, named after B.N. Yeltsin, in Bishkek.

A case-report of a severe form of chronic granulomatous candidiasis in a six year old boy with involvement of the hair part of head, face, trunk, upper extremities and nails had been presented. The disease was accompanied by iron-deficient anemia and ascaridosis. Mucocutaneous candidiasis was successfully treated by antifungal, antihelminthal therapy.

BRONCHIAL ASTHMA IN PREGNANT WOMEN ACCORDING TO THE LEVEL OF DISEASE CONTROL

Murmilo E., Vorotilov S., Starostin I. – the 5th-year students Scientific leaders - Can.Med.Sc., MD Prikhodko O.B., Can.Med.Sc., MD Smorodina E.I., Volosenkova E.A.

Bronchial asthma is one of the most common diseases in the world today. According to various researchers, asthma affects about 300 million people all over the world, and by 2025 their number will increase by another 100 million. The clinical and functional features of asthma, outcomes of pregnancy, childbirth and newborns status in patients with asthma (clinical history data, external respiration function (ERF), Asthma Control Test) were studied. In 62.5% of patients under observation uncontrolled asthma was noted, 37.5% - had partially or completely controlled asthma. In general, in the controlled bronchial asthma during pregnancy there were better conditions for the development of the fetus, newborn and one year old child health than in the absence of the disease control.

ATHEROSCLEROSIS - HISTORICAL FLASHBACK AND THE PROBLEM OF THE XXI CENTURY

Gubchik D., Savchenko V. - the 2nd-year students Scientific leaders - Dr.Med.Sc., Prof. Gordienko E. N., Volosenkova E. A.

Atherosclerosis is known to mankind for more than 500 years. However, the most significant discoveries related to the disclosure of the pathogenetic mechanisms of atherogenesis, have occurred in the last 25 - 30 years. Enormous medical and social importance of atherosclerosis is determined by its pathogenetic role in the development of cardiovascular disease which is a major cause of death in most countries. Interest to the problem of atherosclerosis appeared in the XVIII century. So, in 1755 A. Haller introduces the term "atheroma"to describe vascular lesions, and in 1761 G. V. Morgagni and later J. Cruveilher (1829) described the pathological changes of the arteries in the form of the seal of their walls. In 1833 J. F.Lobstein introduced the concept of "arteriosclerosis". In 1892 R. Virchov proposed the term "endarteriitisdeformansnodosa", stressing the inflammatory nature of the disease. The term "atherosclerosis" was proposed in 1904 by F. Marchand. With the introduction of the term, after the first experimental studies of N. N. Anichkov and S. S. Khalatov and subsequent studies of N. N.Anichkov, there was an allocation of atherosclerosis in an independent form of the collective term

"arteriosclerosis". Cardiovascular diseases in the XX century took an epidemic form that swept all the advanced countries. At the moment, fundamental science has not found an effective rational therapy of the disease.

The problem of atherosclerosis is studied by all branches of medicine, including molecular biology and proteomics. A database for the study of the genomics of atherosclerosis is created, risk groups based on screening diagnostics are identified, control variants for the development of clusters carnersof atherosclerosis are provided. Of

course, there is a success. However, today this complex nosology remains a dangerous warning to the mankind.

BIOCHEMICAL CHANGES IN THE BLOOD IN ATHEROSCLEROSIS

Gubchik D., Savchenko V. - the 2nd-year students Scientific leaders - Dr.Med.Sc., Prof. Borodin E.A., VolosenkovaE. A.

Characteristic changes are increasing the number of total serum cholesterol, triglycerides, LDL and VLDL, atherogenic factor and decrease of HDL. The main research method is the biochemical blood analysis.

Determination of total cholesterol is carried out by a unified international method of Abel or Ilk. Norm of cholesterol is 2,6–5,3 mmol/l, triglycerides by 1,7 – 2,2 mmol/l. Definition of individual fractions is performed by precipitation and photometry, which are quite accurate and specific. An elevated content of apo-B in blood is associated with high level of LDL and is an important marker of atherosclerosis. Normally, the content of apo-B: in men – 0,60-1,38 g/l, in women – 0,52-1.29 g/l, LDL: in men – 2,02 – 4,79 mmol/l, in women – 1,92 – 4,51 mmol/l. Increase of these indicators means the development of atherosclerosis.

HDL is anti-atherogenic fraction, as it reduces the risk of atherosclerosis. Norm of HDL in the blood: inmen -0.72 - 1.63 mmol/l, in women -0.86 - 2.28 mmol/l. With a decrease in HDL one can tell about the minimum development of atherosclerosis and coronary heart disease.

Atherogenic coefficient shows the ratio of atherogenic and antiatherogenic fractions in the blood. To calculate it, it is necessary to divide the difference between total cholesterol and HDL in the value of HDL. Normallyit is below 3, in healthy men aged 40-60 years without clinical signs of atherosclerosis.

Cardiovascular diseases are the leading cause of death in most countries now. Atherosclerosis causes changes in the composition of blood, that has important clinical implication. Blood analysis reveals the development of atherosclerosis at an early stage and prevents its development.

PRIDE OF HOMELAND - ZILBER L. A. (BIOGRAPHIES OF THE GREAT NATURALISTS)

Gubchik D. - the 2nd-year student Scientific leaders - Naumenko V.A., Volosenkova E.A.

Zilber Lev Alexandrovich (1894-1966) is a man with a bright and bold talent. Lev Alexandrovich - is an experienced researcher, microbiologist and immunologist, assistant professor of the 1st Moscow University, author of the original monograph. Life of Lev Aleksandrovich embraced the most tragic period in the history of Russia, including the events of the Russian-Japanese war, the revolution of 1905, two revolutions of 1917, two world wars and civil wars, Stalinist terror of the 30-50s, the Gulag, the session of AUAASNL (1948), Pavlovsk session (1950), "doctors' Plot" (1952), the rampant of anti-Semitism, the struggle against cosmopolitanism.

The name of Zilber is related to studies of the nature of immunity and variability of bacteria, creating the first research center of virology in the USSR, the discovery of tick-borne encephalitis, as well as the viral nature of the study of amyotrophic lateral sclerosis, experimental development and the creation of the virus - and genetic theory of the origin of tumor and immunology of cancer. During his lifetime he was awarded the Order of Lenin and the Red Banner of Labor. He was posthumously awarded the USSR State Prize for the discovery of pathogenicity of chicken Rous sarcoma.

Children of Zilber became well-known scientists. L. L. Kiselev is a molecular biologist, Academician of RAS, F. L. Kiselevis a molecular biologist, an expert on carcinogenesis, corresponding member of the Academy of Medical Sciences.

PSYCHOVEGETATIVE PECULIARITIES OF ADOLESCENTS WITH BRONCHIAL ASTHMA

Timofeeva J., Ivanova A. – 5th-year students Scientific leaders – Can.Med.Sc. Chupak E.L., Volosenkova E.A.

Bronchial asthma refers to the classic psychosomatic diseases and very often has an anxiety disorder as its affective component. It also has a negative effect on the autonomic nervous system.

In children with BA, with a high frequency vegetative disorders occur as a predominance of parasympathetic nervous system and sympathetic division paradoxical reactivity. It is determined that an adequate level of adaptability of the organism depends on the timeliness, speed and direction of reflex activity of VNS

The aim of the research was to determine the emotional characteristics of adolescents suffering from bronchial asthma (BA), with the initial state of VNS.

106 patients with BA aged 12 - 17 years were surveyed. They were divided into certain groups. The control group consisted of 40 adolescents of the same age who had no asthma

In assessing the state of the emotional sphere of the examined patients parameters such as anxiety (reactive, personal) and the types of relationship to the disease were considered.

After conducting research, results were obtained that showed a close relationship of the nature of the vegetative regulation with peculiarities of the organization of the emotional sphere. Significant strain of regulatory mechanisms is the accompaniment of vegetative manifestations of the anxiety which became the steady personal characteristics leading to excess activation of ergotropic structures even at insignificant influence.

THE CLINICAL-AND-ANATOMICAL ASPECTS OF THE FEATURES OF PHYSIOLOGY OF THE HEARING IN CHILDREN

Chorny B., Pomiguyeva D. – the 1st-year students Scientific leaders - Pavlova A.E., Volosenkova E.A. Approximately from the 20th week of prenatal development the fetus reacts to sounds, the rhythm of ccrchanges, and in recent months of gestationmotional activity in reply to loud sounds changes as well. Many scientists adhere to data that the fetus hears sounds with frequency of a speech zone better. On this basis the conclusion about possible reaction of the child to speech of relatives (the mother, the father) is made. The hearing child reacts to sounds at once after the birth. It is considered that there is a further development of the auditoryanalyzer; the child learns to distinguish tones, to develop conditioned reflexes. Before the 4th month of life the hearing child wakens in reply to the unexpected loud sounds, shudders, cries. Moro's reflex is characteristic, it is shown by moving apart and bringing together hands and the stretching legsat a strong sound irritation. Approximately from the 8th month of life children usually do attempt to turn to a sound source, i. e. define its localization, gradually start to differentiate certain sounds and react to them even if they do not see sources. The attempts of speech answers e.i. "gulenie" appear. All these observations over the child are necessary for reference identification of a hearing disorder as relative deafness and deafness occur on the average in 0,3 % of newborns, and in groups of risk theirnumber is 5 times more.

FRANCIS CRICK

ZyabkinaA., Dmitrieva A. – the 5th-year students Scientific leaders – Can.Med.Sc Yutkina O.S., Volosenkova E.A.

Francis Harry Compton Crick was born on June 8, 1916, in Northampton, England, to Harry Crick and Annie Elizabeth Wilkins. Crick received education from the Mill Hill School and Northampton Grammar School, London. He studied physics at the University College, London and obtained a Bachelor of Science in 1937. In 1949, after getting a scholarship from the Medical Research Council, he started working for the Strangeways Research Laboratory. He then moved to the Cavendish Laboratory at Cambridge, where he shifted his research on the structure of proteins. In 1951, James Watson, an American biologist, joined the lab and both of them formed a strong working relationship. They believed that if a three-dimensional structure of the DNA could be determined, then the way the genes are passed on might also be revealed. Francis brought to the project his knowledge of X-ray diffraction, while Watson brought the knowledge of phage and bacterial genetics. They created a molecular model of DNA in 1953, which, over the next few years proved to fit all experimental evidence. This model demonstrated that DNA is a two-strand structure, and both the strands are intertwined like a twisted ladder. They published their work in the scientific journal Nature, in 1952.

Another group of scientists of the King's College had also been studying the structure of DNA, which was led by Maurice Wilkins. Therefore, Francis, Watson, and Wilkins shared the Nobel Prize in Physiology or Medicine in 1962 for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material. The trio was also presented the Lasker Foundation Award in 1960. Crick died of colon cancer on July 28, 2004, at the age of 88.

FACIAL PLASTIC OPERATIONS

Blokhina E., Velikanova A. - the 3rd-year students Scientific leaders – Can.Med.Sc., Assoc.Prof. Sergienko A.V., Volosenkova E.A.

Face lift is a very actual and widespread operation not only among older women, but also among children, teenagers and men. Often facial plasty is used in Developmental Disabilities (cleft lip, cleft palate) for defects, ulcers. Also plastic surgery is used in cosmetic purposes, to get rid of wrinkles, tighten facial oval and etc.

The main objective of plastic surgery is to remove the deformities or facial defects, that don't decorate it.

There are the following types of plastic surgery on the face: blepharoplasty, otoplasty, rhinoplasty, lip correction, face lift, lifting. Also, there are different techniques to perform these operations corresponding to each type. Facelift involves the removal of the omission of the cheeks, nasolabial fold decrease and restoration of normal contour of the chin area.

It is found that plastic surgery is a great achievement in medicine. People want to look more attractive and younger than their years, and now it is possible, thanks to new technologies. But there are a number of contraindications that must be considered in order to avoid deterioration of health in the pursuit for beauty.

THE STUDENTS EXCHANGE PROGRAM BETWEEN THE OSAKA MEDICAL COLLEGE AND THE AMUR STATE MEDICAL ACADEMY - 2014: SUMMER CLASSES FOR JAPANESE STUDENTS IN RUSSIA

Blokhina E. – the 3rd-year student

Scientific leaders - Prof. Borodin E.A., Volosenkova E.A.

From July 25 to August 8 this summer classes for the students of the Osaka Medical College (OMC) were held in Blagoveshchensk in the Amur State Medical Academy. Three Japanese students (Mr. KimikazuKanemoto, Mr. Mano Soshi, Mr. Junichi Kawai) took part in the Students Exchange Program. Study and cultural programs were organized for them.

Our guests attended classes in Therapy, Surgery, Obstetrics and Gynecology. They learned about methods of diagnostic and treatment which are used in our clinics. Japanese students visited the regional perinatal center. Studentswere surprised when they saw that women were placed in double rooms, because in Japan one ward is for 4 patients. Besides Japanese took part in performing the surgical operation as assistants and were deeply impressed by the procedures of baby delivery. Students said that our patients are very friendly, ready to understand inexperience of young doctors and students and help them. These classes were useful not only for Japanese students but also for us.

Cultural program was also interesting and intensive. We showed beautiful places of our city. Foreign students were acquainted with the Russian culture and traditions. There was a meeting in the center of Japanese culture at the Agrarian University – Japanese students looked at their native culture and saw there not only for their habitual things but found something new and interesting for them. In another day the

ship trip down the Amur river was organized. Japanese students also visited cafe, night club, bowling. Besides meeting with the rector of ASMA professor T. V. Zabolotskikh was organized for our friends. After all courses of different sciences we went to the Childrens Sanitary Camp "Vasilek". During our way Japanese were looking through the window and they were shocked because they had never seen such beautiful nature. We swam in the Zeya river, were insauna and swimming pool, played basketball and volleyball and had a dinner with Russian medical students and professors of ASMA. This day is amazing and unforgettable.

During these 14 days, that we spent together, we became good friends. On the last day we exchanged E-mails for further communication. We will miss our new friends.

DEMONSTRATIVE MEDICINE

Kazakov A. - the 2nd-year student Scientific leaders - and Sc. Nigey N.V., Volosenkova E.A.

Commonly used and the official definition on the demonstrative medicine was suggested by a Working group in 1993. Demonstrative medicine - is a branch of medicine based on proofs that involve search, comparison, and wide dissemination of proofs for the benefit of patients.

There are four main sections in demonstrative medicine:

- Demonstrative medical diagnostics,
- •Demonstrative 1 treatment
- Demonstrative organization and management of health,
- Demonstrative analysis of the medical literature.

Conclusion: Thus, demonstrative medicine aims to solve these important questions:

- Can we trust the results of a clinical study?
- What are the results? How important are they?
- Can we use these results to make decisions in the treatment of individual patients?

PREVENTION OF THROMBOSIS WITH THE DABIGATRAN DRUG AMONG PATIENTS WITH HEMATOGINIC THROMBOPHILIA

Osipova E. - the 5th-year student

Seientific leaders - Dr.Med.Sc., Assoc.Prof. Vojtsekhovsky V.V., Volosenkova E.A.

In the Amur region dabigatran (pradaksa) for the prevention of thrombosis is prescribed to 20 patients with hematoginic thrombophilia. These are the patients with clinically proven resistance to varfarin, its intolerance, with a hereditary deficiency of protein C and S. Duration of dabigatran usage for them is from three years to a few months. The dose is selected individually for every patient and ranges from 150 to 220 mg per day. Patients receiving dabigatran have the lengthened INR, thrombin, activated partial thromboplastin and prothrombin time. Dabigatran inhibits platelet aggregation induced by thrombin, and dose-dependently inhibits thrombosis

stimulated by tissue factor in plateletless plasma, and also reduces endogenous thrombin. However, there were not any hemorrhagic complications associated with the usage of dabigatran among these patients. Moreover, these 15 patients lived in remote areas of the region center and could not regularly monitor the coagulation indexes. 4 patients, while taking pradaksa in the dose of 220 mg had progressed patency disorder of the lower extremities veins due to the recurrency of previously diagnosed vascular pathology. But there were no life-threatening thrombotic complications. Analysis showed that these patients, besides hypercoagulation in the hemostasis plasma, also had platelet hyperaggregation. Addition of drugs with acetylsalicylic acid to the dabigatran therapy led to regression of vascular pathology of the lower extremities among these 4 patients.

ANATOMICAL AND PHYSIOLOGICAL FEATURES OF HYPOTHALAMUS

Chermyanina N., Maksimova R. – the 2nd-year students Scientific leaders - Pavlova A.E., Volosenkova E.A.

The physiology of a hypothalamus is very compound, now the important place is given for its studying. Scientists pay special attention to releasing-hormones which possess specific activity.

The hypothalamus regulates autonomous and visceral functions, coordinates nervous impulses which provide communication with a pituitary gland and other glands of endocrine system. Under its control there are functions of a circulation, respiration and all processes which depend on influence of vegetative nervous system. In hypothalamic area there is a regulation of a carbohydrate and water-salt metabolism, body temperature, a sleep, wakefulness, motor activity. In lateral part the center of appetite, in medial-saturation center are located. The pituitary gland is regulated by hypothalamus. Tubero-infundibular area with arcuate ventricular and dorsomedial nuclei and a median eminence belong to hypothalamus. In front the area of hypothalamus is limited by back edge of optic nerves, behind-back edge of mastoid bodies and a tire of mesencephalon, above-a hypothalamic sulcus, from sides-thalamus.

The hypothalamus is closely connected with the other separate parts of the brain that provide its integrative activity.

THE PHENOTYPE WITH MARFAN'S SYMPTOMS IN GIRL

Darchieva A. – the 6th-year student Scientific leaders – Can.Med.Sc. Yutkina O.S., Volosenkova E.A.

Very often doctors face the syndromes which are similar in their clinical manifestations to Marfan syndrome.

A 14 year old girl with complaints of headaches, dizziness, fatigue, increased blood pressure 130/70 mmHg, a sharp increase in body weight and growth over the last 4 years was hospitalized in the neurogical department of CH.

An objective examination revealed: height - 187 cm, weight - 100 kg,BMI = 28,6, disharmonious physical development due to excess of body weight; physical development corresponds to 18 years. Chronological age is 15 years.

According to clinico-morphological examination 26 dizembriogeneze stigmas are revealed.

Additional research methods and professional consultations were conducted, the following clinical diagnosis was made: Neurosis – like syndrome. Hypothalamic dysfunction. Goiter of the I-st degree. Constitutional high stature. Phenotype with Marfan's symptoms (mitral valve prolapse of the 1-st degree. Myopia of the 1-st degree., Right-sided thoracic scoliosis of the 1-st degree).

Thus a clinical case of phenotype with Marfan's symptoms in the 14- year old girl was diagnosed.

FEATURES OF THE COURSE OF WEGENER'S GRANULOMATOSIS

Malkova T., Serikova K. –t he 5th-year students Scientific leaders - Can.Med.Sc. Goryacheva S.A., Assoc.Prof., Dr.Med.Sc. Prik-hodko O.B., Volosenkova E.A.

Wegener's granulomatosisis a multisystemicautoimmune necrotizing vasculitis, whichcan develop at any age and affects men and women equally. The causes of the disease are unknown yet. Granulomatous inflammation often affects the sinuses, lungs and kidneys, but other organs can be involved too. The diagnosis of Wegener's granulomatosis is confirmed withhistological examination of tissuesanddetected in the blood of Antineutrophil cytoplasmic antibodies.

During the whole history of the rheumatological department in Amur State Regional Hospital 5 patients with this diagnosiswere observed. Due to the difficulties of diagnosis, and direct dependence of the disease prognosis on the time of treatment's initiation, a clinical case of generalized Wegener's granulomatosis is introduced. Patient B., 50 years old was hospitalizedin Amur State Regional Hospitalin a severe condition with symptoms of pain, intoxication, anemic and asthenic-vegetative syndromes. During examination infiltrations in lungs, diseases of upper airways, eyes, oral cavity, salivary glandswere revealed. The biopsy fromnasal mucosa confirmed Wegener's granulomatosis. Unfortunately, the late start of treatment and generalization of the process promoted the rapid progression of the disease. Despite thepathogenetic therapy(cyclophosphamide, prednisolone and later retuksimab), the phenomena of respiratory and renal failure developed, that's why the patient's death occurred.

DEVELOPMENT OF VARICOSITY

Tursunbaev Sh. – the 2nd-year student Scientific leaders – Feoktistova N.A., Volosenkova E.A.

Varicosity, or varix (from lat. varix — knot, swelling) —is permanent and irreversible expansion and lengthening of veins (the vessels carrying blood to heart) of the lower extremities with thinning of a venous wall and formation of "knots" as a

result of rough pathology of venous walls, and also insufficiency of their valves because of genetic defect.

The general characteristic of factors defining a disease: The most serious factor is gravitation force here, genetic predisposition, heredity, endocrine disturbances and hormonal influences.

Developing of a disease is influenced significantly by a way of life and character of work.

Flebostaz strengthens resistance of the venous end of the capillary course, lymphatic capillaries are overloaded, there is an expansion of lymphatic vessels, volume of the flowing away lymph increases.

In case of varicosity any kinds of physical culture are strictly forbidden. It is impossible to stand motionlessly for a long time. The raising of weights is strictly forbidden. Medicines should be taken strictly on doctor's orders.

NOOTROPICS IN SPORTS

Borodin P. – the 4th-year student Scientific leaders - Cand.Med.Sc. Anokhina R.A.

Nootropics are medicines that stimulate higher brain functions like learning and memory, enhance mental activity, increase the resistance of the brain to various damaging factors. Also, nootropics reduce the neurological deficits and enhance subcortical connection. The classical representative of this group of drugs is a piracetam. These medicines are used to treat psychoorganic diseases, acute vascular diseases, chronic alcoholism, epilepsy; to correct learning disabilities in children and adults, etc.

In sports, nootropics can be used:

- to increase the concentration of the athlete;
- for treatment of traumatic brain injuries;
- for treatment of vascular disorders in athletes;
- to treat dizziness;
- in rehabilitation treatment after the sports competitions.

How can nootropics affect on the body's endurance? It is known that physical overload during sports competitions and training can occur deep depression of neurotransmitters of the brain, which leads to decline of its functionality. Memory and concentrating ability will be decreased. Tired and overtrained athletes cannot do their best in sports because nerve centers are not able to send a synchronized signal to the muscles. That will lead to the decreasing of muscle strength, and speed reducing. The quality of the muscles is determined by its ability to contract thousand myofibrils at one moment, and much lesser depends on the width of the muscle. Nootropics can be used to affect on the quality of the nerve impulse and, due to that, to increase the muscle strength.

Phenotropil is a relatively new drug which has many pharmacological effects. Phenotropil has antiamnestic, analgesic, activating effects on the integrative activity of the brain; improves concentration and mental performance; increases the resistance of brain tissue to hypoxia and toxic agents. It is useful in high mental and physical stress, fatigue, hypokinesia and immobilization.

Instenon is a wide-spread drug of sportsmen. It consists of etamivan, hexobendine and etofillin. This drug increases bloodstream in the brain, myocardium, enhances resistance of organism to physical stress, improves microcirculation in muscles.

In spite of all their advantages, some nootropics are doping agents, and their using in competitions is prohibited.

ROLE OF PLATELET DENSE GRANULES

Lapanik A. - the 3rd-year student

Scientific leaders - Can.Med.Sc. Brash A.A., Volosenkova E.A.

Hyaloplasm platelets contains two types of pellets. Among them dense granules (elektronic and dense) and alpha-granules, are distinguished.

In dense corpuscles substances, causing primarily vascular responses and platelet aggregation: adenine nucleotides (ATP, ADP, AMP, c-AMP, GDP), serotonin, adrenaline, noradrenaline, dopamine, histamine, Ca2 + and others are stored. Releasing from storage pool ATP and ADP rapidly metabolize in plasma to AMP and adenosine; the latter has a direct coronary dilator action. ADP is an important physiological metabolite, providing primary hemostasis by stimulating platelet aggregation.

Platelets are able to secrete granule contents partially in reversible activation and in the process of trophic interactions with organ capillary network, and completely in the reaction of release associated with irreversible activation. After platelet degranulation cytoplasm is "devastated." In the non-activated platelets cytoplasm may look "devastated" in the case of the birth defect of filling granules, leading to the storage pool deficiency - a syndrome of "grey" platelets.

After secretion most of granule membranes, degraded, granules are not restored, and platelets lose their physiological activity. If they are in the bloodstream modified form facilitates their rapid elimination in the spleen.

The increased aggregation of platelets in the pulmonary capillaries, leads to release of the serotonin from the demaged cells granules. Serotonin is not inactivated by the pulmonary endotelium damage. Thus, the increased aggregation of platelets in the pulmonary capillaries causes an increase in pressure in the pulmonary arteries in some COPD patients, especially in the development of hypoxia, it is confirmed by the experimental works on an isolated lung.

HEART RHYTHM DISORDERS IN CHILDREN AND TEENAGERS WITH CONNECTIVE TISSUE DYSPLASIA

Bodnarchuk U., Dmitrieva A. - the 5th-year students Scientific leaders – Can.Med.Sc. Shanova O.V., Volosenkova E.A.

The aim of the work was a comprehensive evaluation of cardiac arrhythmias and cardial conduction desorder in children and teenagers with bronchopulmonary dis-

eases and connective tissue dysplasia (CTD). Study group comprised 44 patients with a diagnosis of asthma, which occured on a background of connective tissue dysplasia. Control group consisted of 21 children with a diagnosis of asthma without connective tissue dysplasia.

The study has found: If a child had four or more external signs of connective tissue dysplasia in the survey small anomalies of the heart were detected (91%). False chords of the left ventricle FCLV and mitral valve prolapse MVP were main manifestations of this anomalies. Signs of disregulation of the cardiac rhythm was observed in CTD of the heart more often than in patients without cardial dysplastic changes (p<0,05). Ventricular premature beats the syndrome of early ventricular repolarization and conduction disorder along the left pedicle of His bundle were closely connected with (FCLV); acceleration of AB conduction was observed in case of (MPV), nonspecific disorders of repolarization were associated with dilatation of the pulmonary artery trunk and combination of MPV with FCLV.

Among children who had a diagnosis of bronchial asthma and connective tissue dysplasia of the heart groups of risk for the development of possible complications were defined. These groups include children with heart valve prolapse with hemodynamically significant regurgitation, children with aneurysms of septum of the heart because of hemodynamic disturbances, children with FCLV and heart valve prolapse because of the possible development of heart rhythm disorders and conduction disturbances of the heart.

Patients with a diagnosis of bronchial asthma and connective tissue dysplasia need clinical supervision of cardiologist. Conduction of ultrasound examination of the heart in the dynamics and in the course of treatment is necessary for them.

ATHEROSCLEROSIS

Eroputko S. – the 2nd-year student Scientific leaders – Feoktistova N.A., Volosenkova E.A.

Atherosclerosis is a chronic disease of the arteries of elastic and muscular-elastic type, arising from of the lipid and protein metabolism disorder and is accompanied by the deposition of cholesterol and certain fractions of lipoproteins in the intima of the vessels. Deposits are formed as atheromatous plaques. Subsequent proliferation of connective tissue (sclerosis) in them, and calcification of the vascular wall lead to deformation and narrowing of the lumen until obturation (occlusion). Coronary heart disease, angina, myocardial infarction, stroke are diseases of the cardiovascular system, the terms have become not so much medical as domestic sound and are, according to the WHO, the cause of more than 50% of deaths due to atherosclerotic lesion of blood vessel walls (in the US, Germany and the UK). There are about 24 theories of atherosclerosis development, but not one of them can claim to universality. Effective prevention and treatment of atherosclerosis does not exist yet. One of the main theories of atherosclerosis is a cholesterol one (theory of Anichkov-Khalatov). There are some other theories such as thrombogenic theory, prostacyclin theory, lipoprotein theory. Thus, there are many theories of atherogenesis. In such cases in the medical literature such disease is called polyetiological. This means that its occurrence depends on many factors and the cause of atherosclerosis is still unknown. Atherosclerosis progresses slowly over many years, and often begins in childhood. Forecast for atherosclerosis depends on the period of the disease, and primary lesion of this or that organ. "Sudden Death", which is the subject of forensic medicine, is usually caused by atherosclerosis of the coronary arteries of the heart or brain vessels. Most often, the atherosclerosis leads to reduced efficiency and disability due to the development of heart failure and cerebral vascular sclerosis, as well as lesions of the main vessels of the lower limbs.

INTERNATIONAL PROJECT "HUMAN GENOME"

Eroputko S. – the 2nd-year student Scientific leaders – Prof. Gordienko E.N., Volosenkova E.A.

The origins of the great discoveries in molecular biology are in our Fatherland, A.A. Baev is an outstanding domestic biologist, biochemist. He is the initiator of the project "Human Genome". Baev as a first scientist in the Soviet Union and one of the first in the world undertook structural and functional study of nucleic acids, participated in the isolation and study of the human growth hormone. In 1967, he deciphered the primary structure of valine tRNA 1, 2 and 3. In the 1980s he founded and headed Special Scientific Council on the human genome. Since 1989 in the USA and USSR there are public research projects to study the human genome; Human Genome Organisation (HUGO) emerged later, the vice-president of which was academician A.D. Mirzabeckov during some years. Mirzabeckov's research interests for years have been focused on studies of tRNA, chromatin and DNA-protein complexes, as well as on the development of methods for studing the arrangement of proteins on DNA and identifying nucleotide interaction with amino acid residues in nucleosomes. L.L. Kiselev is an academician of RAS and the European Academy, a famous molecular biologist, Chairman of the Scientific Council of the Russian Scientific Program "Human Genome", chief editor of "Molecular Biology", the head of the Laboratory of the Institute of Molecular Biology of RAS (1936-2008). G.P. Georgiev is a Soviet and Russian scientist, biochemist and molecular biologist. He is the founder and director of the Institute of Biology of gene of RAS. He discovered the mobile genetic elements in animals. In 1999 as part of the Russian program 400 researchers worked approximately in 100 groups of 30 scientific institutions of RAS and RAMS, State Centers and Universities. For achievements in genomics 16 Russian scientists were awarded the Prize of Baev. We must know that we have the scientists to be proud of!

PSYCHOVEGETATIVE PECULIARITIES OFADOLESCENTS WITHBRONCHIAL ASTHMA

Timofeeva J., Ivanova A. – 5th-year students Scientific leaders – Can.Med.Sc. ChupakE.L., Volosenkova E.A. Bronchial asthma refers to the classic psychosomatic diseases and very often has an anxiety disorder as its affective component. It also has a negative effect on the autonomic nervous system.

In children with BA, with a high frequency vegetative disorders occur as a predominance of parasympathetic nervous system and sympathetic division paradoxical reactivity. It is determined that an adequate level of adaptability of the organism depends on the timeliness, speed and direction of reflex activity of VNS

The aim of the research was to determine the emotional characteristics of adolescents suffering from bronchial asthma (BA), with the initial state of VNS.

106 patients with BA aged 12 - 17 yearswere surveyed. They were divided into certain groups. The control group consisted of 40 adolescents of the same age who had no asthma

In assessing the state of the emotional sphere of the examined patients parameters such as anxiety (reactive, personal) and the types of relationship to the disease were considered

After conducting research, results were obtained that showed a close relationship of the nature of the vegetative regulation with peculiarities of the organization of the emotional sphere

ENVIRONMENTAL POLLUTION

Balashova Y., Rogozina V.- the 2nd-year students Scientific leaders – Dr..Biol.Sc., Assoc.Prof. Guba L.A., Volosenkova E.A.

Environmental pollution is one of the most acute problems of modern society. The Earth is so polluted at the moment that serious measures are required to prevent global disasters.

Air pollution is introduced by chemicals or other harmful materials emitted into the Earth's atmosphere. This type of pollution causes human illnesses and damages living organisms.

Water pollution is introduced by water bodies' contamination. Oceans, seas, rivers and lakes are full of pollutants which kill whole biological communities

Soil pollution is introduced by the presence of human-made chemicals in natural soil. This contamination is mainly caused by industrial and agricultural activity.

Radioactive pollution is introduced by undesired presence of radioactive substances in liquids, gases, human body, solids or on surfaces

Noise pollution is introduced by excessive noise, which harms the balance of human life.

Visual pollution is introduced by an aesthetic issue, which brings negative changes to the environment.

Light pollution is introduced by excessive artificial light. Street lamps or simply unnecessary lights around the houses can cause light pollution, as they use more energy than needed. It affects human health and sleep cycle.

Thermal pollution is introduced by worsening water quality and the increase of its temperature caused by human activity. For example, lakes warm up because of nearby manufacturing. This kind of contamination can seriously damage aquatic life.

PRION DISEASE

Kalaeva N., the 6th -year student Scientific leaders – Assoc.Prof. Soldatkin P.K., Volosenkova E.A.

Prion diseases – are a group of diseases caused by prions, - protein molecules, devoid of nucleic acid.

History of slow infections began in 1933, when the Icelandic farmers bought the sheep party in Germany. N. Sigurdson began to explore a previously unknown clinical picture of the disease of sheep and identified four main differences: unusually long (months and years) incubation period; slowly progressing nature of the disease; the singularity of affection of organs and tissues; inevitable death.

In 1982, an American biochemist Stanley Prusiner gradually purifying brain tissue of infected hamsters and at the same time strictly watching the preservation of the infectious ability, found that the infectivity is associated with the presence of low molecular weight protein that does not contain nucleic acid. For his discovery S. Prusiner was awarded the Nobel prize in 1997 (i.e., in 15 years). Infectious prion protein is not synthesized again, and is accumulated solely from the conversion of a normal cellular protein in infectious one. And infectious prion shows high resistance to ultraviolet light, ionizing radiation, digestive action of certain enzymes and elevated temperatures.

The reservoir and the sources of the pathogen – cattle. People can be infected by prions in two ways: a) hereditary transmission; b) transmission of the infectious agent by nutritional or iatrogenic means.

The classification. At the present time, a person knows two groups of diseases caused by prions: a) spongiform transmissible encephalopathy (disease of Creutzfeldt - Jakob disease, syndrome of Gerstmann - Straussler - Sheinker, syndrome of "fatal familial insomnia", a disease called Kuru); b) spongiform myositis with prion associated inclusions. Currently spongiform transmissible encephalopathies are the most studied diseases.

DIFFERENTIAL DIAGNOSIS OF LYELL'S SYNDROME AND STEVENS-JOHNSON SYNDROME

Kolnauz T. - the 4th-year student

Scientific leaders - Can.Med.Sc., Assoc.Prof. Melnichenko N.E., Volosenkova E.A.

Lyell's syndrome and Stevens-Johnson syndrome are among the most serious allergic pathologies. Lyell's syndrome (toxic epidermal necrolysis) –is the most severe variant of bullous allergic dermatitis. Toxic epidermal necrolysis is preceded by malaise with influenza-like symptoms, fever, pain in the limbs, and conjunctivitis. The disease begins abruptly with fever up to 39°C, in a few hours or days after taking the drug. Erythematous elements appear on the skin then almost simultaneously large bubbles appear on them, their area increases up to 10-15 cm in diameter in pressing. Nikolsky symptom is sharply positive. Over large areas of skin exfoliated epidermis is initially kept in a wrinkled form then moves easily, leaving a painful bleeding ero-

sion. The epidermis is peeled not simultaneously over the entire surface of the skin, but in separate sites. Bullous elements can localize on the mucous membranes of the mouth, nose, conjunctiva, genital organs, resembling Stevens-Johnson syndrome. Stevens – Johnson syndrome(malignant exudative erythema) is a very severe form of multiformeerythema, in which there are bubbles in the mucosa of the mouth, throat, eyes, genitals and other areas of the skin and mucous membranes. The disease begins suddenly with high fever and joint pains. Against the background of severe general condition on the lips, buccal mucosa, tongue, soft palate, posterior wall of the pharynx, the arches, larynx, skin blisters appear, then after their opening the bleeding erosions are formed.

RACIAL PECULIARITIES OF THE SKULL

Galyant A, Hertek K - the 2nd-year students Scientific leaders – Zherepa L.G., Volosenkova E.A

Modern races were formed in different geographical, climatic, geo-political and social conditions. Therefore; the skulls of members of different races have some differences. So smooth, tall with small steep forehead Bushmen skulls differ significantly from the skulls of indigenous Australians which are characterized by a pronounced relief, powerful jaws and sloping forehead. Dolichocranial form of the skull is indeed often found in Northern Europe.

No matter how the form of the skull differs these changes do not affect human mental abilities. Long, short and intermediate forms of skulls are found in all races, nationalities and are not an indication of any race.

Racists claim that the mixture of races leads to degeneration, cross-breeding (mixture of races) is a very long process in human development, leading to the emergence of new modern races such as South Siberian, the Urals, etc. The study of metis shows that there is no degeneracy among them. Thus, anatomical evidence to justify the inferiority of these people and talents of others does not exist.

STATUS OF LIPID PEROXIDATION IN DIABETES MELLITUS

Semdyankina J. – the 3rd-year student Scientific leaders – Can.Med.Sc. Brash A.A., Volosenkova E.A.

Diabetes mellitus (DM), as the most common metabolic disorder all over the world and one of the leading causes of death in developed countries, is considered to be a major threat to human health in the 21st century.

Different studies show that metabolic dysregulation through oxidative stress might have an important role in the pathogenesis of DM. Uncoupling of intracellular NADPH oxidase, the main signal cascade, results in the increased generation of intracellular active oxygen forms (ROS). Under chronic hyperglycemic state, oxidative stress develops in diabetics due to poor elimination of ROS from different tissues. It has been noted that the possible cause for this systemic prooxidant and antioxidant imbalance may be due to diminished activity of antioxidant defense system which is normally responsible for scavenging free radicals from the cells. Oxidation of com-

plex lipids in vivo is largely caused by ROS such as hydroxyl radical, which in its turn is synthesized by lipoxygenases as a response to cell injury, typically from hydrogen peroxide. The major goals of these damaging forms is the long chain of polyunsaturated fatty acids of cellular phospholipids, which are particularly susceptible to attack because of the arrangement of double and single bonds. The resultant lipid peroxide frequently decomposes to a radical, which further reacts with the most biologically important molecules like proteins and lipids. Further decomposition of these lipid peroxides produces toxic malondialdehyde (MDA), formed particularly from arachidonic acid. However, total thiols (–SH) that exist extra- as well as intracellularly in free (reduced glutathione) or bound (protein-bound) forms reduces highl reaction of superoxide radicals, and thus maintains the intracellular homeostasis. Obesity and metabolic syndrome are inseparably linked with T2DM and are known to mediate its complications via oxidative stress.

THE CHANGE OF PLATELETS' ACTIVITY UNDER THE INFLUENCE OF LOW TEMPERATURE

Telyakova A. – the 3rd-year student Scientific leaders – Can.Med.Sc. Brash A.A., Volosenkova E.A.

Platelets play a critical role in stimulating clot formation and treatment of vascular injury. The decrease in temperature correlates well with the decrease in platelet. Their amount decreases life-threatening thrombocytopenia (low platelet counts, generally $< 10-30 \times 10^3/\mu l$), but increases rapidly upon restoration of normal temperature(may be caused by a hysteresis effect of temperature increase). Apart from suppressing bacterial growth, cold storage will decrease platelet energy metabolism increasing the time, the suspension supports metabolic ATP regeneration. Furthermore, cold storage preserves better the platelets' capacity to aggregate and hide their granule contents for later stimulation. Several factors promoting platelet margination are revealed by computing and experimental methods. The increased hematocrit, platelet shape (spherical particles of margination are quickler). Lower flow rate, and increased expression of adhesion molecules are found as well. Among these factors hematocrit increased, flow rate decreased, and platelet shape changed to spherical at temperature<25°C after hypothermia. Changes in platelet shape are mediated by intracellular cytoskeleton, microtubule rearrangements and are reversible or partly reversible upon heating. Therefore, reversible platelet shape change might contribute to the storage-and-release mechanism mediated by platelet margination. At the molecular level hypothermia leads to mitochondrial injury and phosphatidylserine exposure(factors controlling platelet survival in vivo since inhibition of sugar loss (DANA) and inhibition of translocation). It improves recovery and survival of cold-stored platelets. Coolling reduces the closeness of antibody to a cell as well. Understanding the underlying mechanisms might lead to improved use for therapeutic aims, as well as potential cold storage of human platelets, extending their shelf

RETINOIDS

Dashieva D. Byankina N., Vysotskaya O. - the 4th-year students Scientific leaders - Assoc.Prof. Melnichenco N.E., Volosenkova E.A.

The use of retinoids solves a number of problems such as - reducing sebum production and inflammation of the skin.

Roaccutane A is prescribed in the calculation of 0.5-1.0 mg / kg of a person's body weight per day, it is taken in the same doses twice a day after meals for 12-16 weeks.

Retinol palmitate (vitamin A) is administered at least 300,000 IU per day. Retinoic ointment 0.1% and 0.05% is applied to the previously cleansed skin 1-2 times a day.

Aknekutan capsule 16 and 8 mg.

INFLUENCE OF ANESTHESIA ON THE FUNCTIONAL CONDITION OF SYSTEMS OF THE ORGANISM

Chelpanov V. – the 6th-year student Seientific leaders – Dr. Med. Sc. Pavlenko V.I., Volosenkova E.A.

Anesthesia changes a functional condition of an organism both during surgery and in the next postoperative period. Impact of anesthetics on the central nervous system (CNS) is carried out, in particular, through the change of size of the main exchange in the brain, the brain blood-flow and intra cranial pressure that is followed by the change of sympathetic or parasympathetic tone, ganglionary blockade, energy and temperature balance, etc. It involves disfunctions of other systems. Anesthesia influences the respiratory system, first of all, through CNS, namely changes a breath rhythm, its depth, a ratio of phases of inhalation and exhalation, an operating mode of respiratory muscles. All components of an anestheziologic aid- an artificial myoplegia, artificial ventilation of lungs, artificial hypotension, infusional therapy, and also the general and local anesthetics have impact on the blood circulatory system. Changes from cardiovascular system are estimated most often as changes of volume and distribution of blood in the vascular course. The functional condition of the liver changes under the influence of the aid components, but to an even greater degree under the influence of operation, the mode of ventilation, infusion, etc. Thus it is established that the anestheziologic aid has also positive impact on a condition of the liver and kidneys, protecting them from many factors of operational aggression — a trauma, hypoxia, hypercatecholaminemia etc. Methoxyflurane makes the exception. It is reported very often about its renal toxicity. Negative influence of anesthesia on endocrine and reninangiotenzine systems is noted. Muscular rigidity with a malignant hyperthermia is a dangerous complication of anesthesia and, it is possible, an operational stress. The general anesthesia has an impact on the immune system. It may be evident as the decrease of chemotoxic properties of leukocytes, an immunosuppression of a cellular link of immunity, decrease in level of immunoglobulins of classes A and G. Permanent oppression of cellular immunity in patients after operation with application of the general anesthesia can serve predictively as an adverse factor in development of infectious complications.

Thus, the anestheziologic aid and surgery change a functional condition of systems of an organism. The knowledge of these regularities allows to expect dangers and complications and, therefore, to prevent them or to be ready to them.

THERE IS NO LIFE WITHOUT OXYGEN

Belukhin V. - the 2nd-year student Scientific leaders - Can.Med.Sc., Assoc.Prof. Egorshina E.V., Volosenkova E.A.

Besides the full four-electron reduction of O2 molecules to water incomplete - onethree-electron reduction with the sequential formation of various active oxygen forms alway occurs in the mitochondrial respiratory chain in aerobic cells. Active oxygen forms play an important role in the regeneration process Isolation of active oxygen form is considered to be a normal process and the body has mechanisms for neutralizing them.

Oxidative stress resulting from an imbalance of pro - and antioxidant systems of the cell and reflected in the excessive formation of active oxygen forms in a cell, can cause damages of various structures.

REFLEXOTHERAPY

Orlova D., Timonova J. – the 1st-year students Scientific leaders - A.E. Pavlova, E.A. Volosenkova

Reflexotherapy is a science which foundations are based on bioenergy. There is a certain energetic system. China is considered to be birthplace of reflexotherapy. The first written mentions of the «Zheng chiu therapy» (point impact) refer to the fifth century BC. In Europe, this method was used in the seventeenth century A.D. In the East, this is the primary method of treatment. Indications for it are extensive. It is often combined with medicinal treatment. It is used to treat certain common ailments: back pain, migraines, stress and so on. At present impact on the reflex points and zones is made by various kinds of physical energy. The concept of reflexotherapy is collective by nature: it includes knowledge of the structure of the human body, methods and techniques of impact on the reflex zones and acupuncture points. Reflexotherapy is widely used in neurology, internal medicine, pediatrics, ophthalmology, otolaryngology, dentistry, obstetrics and gynecology, and so on.

Thus, this science, originated more than five thousand years ago and collected many experience of doctors in China, Japan, Korea and other countries of the East, has received a world recognition today.

MYOCARDIAL REGENERATION

Belyaeva Y. – the 2nd-year student Scientific leaders - Semenov D.A., Volosenkova E.A. Heart – is afibromuscular hollow organ providing blood flow through the blood vesselsby repeated rhythmic contractions. Embryonic development of the heart. The heart is a derivative of the mesoderm. It takes its origin from the union of two primordia, which merge to become isolated in the heart tube. Endocardium is formed from mesenchyme and myocardium and epicardium-from visceral leaf splahnotom. Physiological regeneration of myocardium. Physiological regeneration of myocardium is performed at the intracellular level, without increasing the number of cardiomyocytes. Cardiomyocytes are characterized by high wear rate of the structural components. Reparative regeneration of myocardium. Adult human heart is almost unable to restore muscle mass lost as a result of an extensive necrotic cardiomyocytes, even temporary cessation of coronary blood flow leads to apoptosis ofcardiomyocytesfollowed by the replacement of muscle scartissue.

VARICOSE VEINS.COMPRESSION THERAPY

Khuna Sh. – the 4th-year student Scientific leaders – Prof. Shimko V.V., Volosenkova E.A.

At modern time in the treatment of VV scientists use the compression therapy. And the aim of this method is a restoration of normal venous-outflow and elimination of a visible varicose with drugs: Fibro-Vein, Ethoxisclerol and specialaccessories. This procedure ensures excellent cosmetic effect, fast medico-social rehabilitation with the maintenance of normal life.

LUPUS ERYTHEMATOSUS

Rogozina V., Salomatova A.- the 2nd-year students Scientific leaders - Kozlova V.S., Volosenkova E.A.

Lupus erythematosus is a systemic autoimmune disease that can affect any part of the body.

Lupus has a wide range of symptoms which cover the body. The neurological symptoms include headaches, depression, cognitive dysfunction, mood disorder, cerebrovascular disease, polyneuropathy, anxiety disorder, psychosis, and in some extreme cases, may cause personality disorders.

Lupus erythematosus is incurable. Prognosis is typically worse for men and children than for women. It occurs due to the presence of two X - chromosomes in the female as opposed to one X - chromosome which present in males. The X- chromosome carries immunological related genes, which can mutate and contribute to the onset of lupus erythematosus. The Y-chromosome has no identified mutations associated with autoimmune disease.

Early mortality, within 5 years, is due to organ failure or overwhelming infections, both of which can be changed by early diagnosis and treatment.

ALFRED STURTEVANT – THE ORIGINATOR OF THE FIRST GENETIC MAP OF CHROMOSOMES

Zorina M. – the 5th-year student Scientific leaders – Can.Med.Sc. Yutkina O.S., Volosenkova E.A.

Alfred Henry Sturtevant (1891-1970) is an American geneticist, a member of the National Academy of Sciences of the USA.

Sturtevant was the first who substantiated the theory of linear arrangement of genes in the chromosomes, proposed a method of mapping genes in the chromosomes, in accordance with the frequency of occurrence of crossing-over between them. The scientist discoveredthe phenomenon of suppression (suppression of action of one gene by the action of another) (1920) and the effect of the position of the gene (gene expression change when it is moved to another part of the chromosome) (1925).

RECKLINGHAUSEN'S DISEASE - NEUROFIBROMATOSIS

Kravchuk E., Usik E. – the 5th-year students Scientific leaders – Can.Med.Sc. Yutkina O.S, Volosenkova E.A.

Friedrich Daniel von Reclinghausen (1833-1910) was a German pathologist born in Gutersloh, Westphalia. The most important scientific works are devoted to Neurofibromatosis, parathyroid osteodystrophy and fibrous osteitis.

Neurofibromatosis – is one of the most common hereditary diseases characterized by the appearance of tumors in a patient. Type of inheritance is autosomal dominant. The incidence of the disease in men and women is the same, approximately every 3.500 newborn has the disease. The risk of child inheriting this disease in the presence of NF1 in one parent is 50%, in both – 66.7%. Gene maps in chromosome 17.

SERGEY NIKOLAEVICH DAVIDENKOV – THE FOUNDER OF CLINICAL NEUROGENETICS

Sakhratulaeva S. – the 5th-year student Scientific leaders – Can.Med.Sc. Yutkina O.S, Volosenkova E.A.

Sergey NikolaevichDavidenkov is a Soviet medical scientist, a member of the Academy of Medical Sciences of the USSR, Honored Science Worker of the RSFSR. He is the founder of the Clinical Neurogenetics and author of this term (which is now usedthrough out the world). He is also the organizer of the first medical-genetic consultations in the world (Moscow, Leningrad, 1920 and 1934). The scientist proposed a classification of hereditary diseases of the nervous system, still used today. Sergey Nikolaevich has formulated several important directions in genetic research: 1.hereditary diseases of the nervous system; 2.issues of clinical polymorphism; 3.evolutionary and genetic problems in neurology; 4.medical and genetic consultation.

THROMBOLYTIC THERAPY OF PULMONARY EMBOLISM

Sakhratulaeva S., Ustarkhanova N. – the 5th-year students Scientific leaders – Can.Med.Sc. Kostrova I.V., Volosenkova E.A.

The goal of thrombolytic therapy is the most rapid restoration of blood flow in the occluded pulmonary vessels, decrease of pulmonary artery pressure and the load on the right ventricle.

Indications to thrombolytic therapy: 1.absolute; 2.relative;

Recommended thrombolytic for the treatment of pulmonary embolism and modes of their administration: 1. Streptokinase; 2.Urokinase; 3.Actylise.

VLADIMIR PAVLOVICH EFROIMSON. GENIUS AND GENETICS

Ustarkhanova N.. – the 5th-year student

Scientific leaders - Can.Med.Sc. Yutkina O.S., Volosenkova E.A.

Vladimir Pavlovich Efroimson (1908-1989) -is an outstanding scientist and a person in the highest sense of the word, but also a man of extraordinary destiny. He belonged to those who are in the darkest times had the ability to emit light of goodness, faith in reason and justice. VP Efroimson stated basic ideas about the genius of genetics. His works contain new, fruitful ideas. He offers a promising approachs to the development of age-old problem of genius, the pressing issues of therelationship ofpedagogy and genetics, higher forms of creative self-realization. VP Efroimson clearly shows the relationship between the expression of the genetic potential of the individual and the social conditions of heror hisdevelopment, emphasizes "the primacy of social factors in the development and realization of genius." But his main task is finding "a number of biological factors in the emergence of a potential genius." Taking into consideration the extreme complexity, multidimensionality of the problem of genius, the author offers his "analytical approach" to the subject, based on a careful study of the set of facts, their static processing and synthesis. This approach allows to convincingly show that some biological features which are common among geniuses are significantly more likely than among the general population. Highlighting these biological factors one can explain their role in the unusually high intellectual and creative activity.

ADRENAL GLAND

Bednik D., Balashova Y.–the 2nd-year students Scientific leaders – Kozlova V.S., Volosenkova E.A.

In mammals, the adrenal glands are endocrine glands that are located at the top of the kidneys.

The adrenal glands are chiefly responsible for releasing hormones in response to stress through the synthesis of corticosteroids such as cortisol and catecholamines such as adrenaline (epinephrine) and noradrenaline.

Each adrenal gland has two distinct structures, the outer adrenal cortex and the inner medulla, both of which produce hormones.

The adrenal gland secretes a number of different hormones which are metabolised by enzymes either within the gland or in other parts of the body.

Aldosterone's effects are on the distal convoluted tubule and collecting tubules of the kidney where it causes the increased reabsorption of sodium and increased excretion of both potassium and hydrogen ions.

Cortisol is the main glucocorticoid under normal conditions and its actions include mobilization of fats, proteins, and carbohydrates.

The adrenal glands are responsible for the majority of adrenaline circulating in the body, but only for a small amount of circulating noradrenaline.

MARSHAL WHO SUBJUGATED THE WORLD WITH A DISCOVERY GREAT AND HIS TEAM

Gracheva.D - the 1st-year student

Scientific leaders - Assoc.Prof. Gordienko E.N., Volosenkova E.A.

Marshall Warren Nirenberg was born in 1968. The American biochemist Marshal Nirenberg got an award for interpretation of a genetic code and its functioning in synthesis of proteins. He divided an award with Robert V. Halle and Har Gobind Korana. In 1959 Nirenberg started studying interactions between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA), and also production of proteins. In the early sixties Marshall U.Nirenberg managed to open the main triplet code for phenylalanine amino acid. Approximately in the same time Koran was engaged in interpretation of a genetic code. Scientists managed to synthesize chains of DNA and RNA, and to reveal the triplets serving as a signal to the beginning and the end of biosynthesis of specific protein. Marshall Warren Nirenberg was born on the 10 of April in 1927 in Brooklyn in a family of Jewish natives of the Russian Empire: Harry Edward Nirenberg and Minerva Bykovskaya. Since the childhood he was interested in zoology. After school he entered the university on faculty of zoology in Florida. He was the honourable doctor of university in Michigan, Yale university, Chicago university, university in Windsor (State of Ontario) and Harvard university, the member of the American Academy of art and science and National Academy of Sciences. He died on the 15 of January in 2010 in New York.

EXPERIMENTAL SURGICAL TREATMENTS CARRIED OUT THROUGH NATURAL OPENINGS ORGANISM

Vinohodova A., Koryukova T.- the 3rd-year students Scientific leaders - Can.Med.Sc. Zyusko A.S., Volosenkova E.A.

Traditional flexible endoscopy has been limited to the confines of the intestines lumen; however, recent developments connected withtransluminal access to the abdominal cavity structures hold the potential to reconstruet flexible endoscopy. Over the past few years various studies have detailed techniques that intentionally bring changes in the lumen and provide endoscopic access to the abdominal cavity for diagnostic and therapeutic procedures. Unlike standard surgical approaches, which require incisions to be made in the abdominal wall, natural orifice transluminal endo-

scopic surgery (NOTES) avoids the need for abdominal incisions and can offer specific advantages for a group of patients to choose. Animal models have been used to demonstrate the possible applications of NOTES, including transgastricperitoneoscopy, tubal ligation, gastrojejunostomy, partial hysterectomy, oophorectomy, and transcolonic exploration, liver biopsy and cholecystectomy. In this report important advances in NOTES are hidhlighted since the hazards and potential benefits associated with this innovative approach were first described and analyzed by means of this method of treatment.

THE PREVENTION OF OCCUPATION DISEASES BY NATURAL RESOURCES

Morozevich J., Uglanova E. - the 4th-year students Scientific leaders – Prof. Savinova T.A., Subacheva N.A.

An occupational disease is a health problem which is caused by exposure of health hazard on a workplace. The workplace health hazard can cause kinds of reactions in the body: immediate reactions, gradual reactions or delayed reactions.

Halotherapy is derived from the Greek halos, meaning "salt", is the therapy in which salt is used. Numerous forms of halotherapy have been known and used from millennia. One of the first mentions of spa resorts in Poland was dated from the twelfth century. They relate to bathing in mineral waters.

Balneotherapy is the treatment of diseases by bathing. While it is considered as different from hydrotherapy, there are some similaribies in practice and in main principles. Balneotherapy may involve hot or cold water, massage by moving water, relaxation, or stimulation. Many mineral waters at spas are rich in particular minerals such as silica, sulfur, selenium, and radium. Medicinal clays are also widely used, which practice is known as 'fangotherapy'.

The term "balneotherapy" is generally applied to everything which is related to spa treatment, including the drinking of waters and the use of hot baths and natural vapor baths, as well as of the various kinds of mud and sand which are used for hot applications. Common minerals which are found in spa waters are sodium, magnesium, calcium, and iron, as well as arsenic, lithium, potassium, manganese, bromine, and iodine.

Phytotherapy is the study of the use of extracts of natural origin as drugs or health-promoting agents. Phytotherapy drugs are differ from plant-derived medicines in standard pharmacology. While standard pharmacology isolates an active compound from a given plant, phytotherapy aims to preserve the complexity of substances from a given plant with relatively less processing.

Phytotherapy differ from homeopathy and anthroposophic medicine, and avoids mixing plant and synthetic bioactive substances. Traditional phytotherapy is a synonym for herbalism and regarded as alternative medicine in many fields of Western medicine. Although the medical and biological effects of many plant constituents such as alkaloids (morphine, atropine etc.) have been proven through clinical studies, there is debate about the efficacy and the place of phytotherapy in medical therapys.

COMPLICATIONS OF DIABETES MELLITUS

Morozevich J., Uglanova E. - the 4th-year students Scientific leaders – Tanchenko O.A., Subacheva N.A.,

The complications of diabetes mellitus are far less common and less severe in people who have well-controlled blood sugar levels.

Wider health problems accelerate the deleterious effects of diabetes. These include smoking, elevated cholesterol levels, obesity, high blood pressure, and lack of regular exercises.

Chronic elevation of blood glucose level leads to damage of blood vessels (angiopathy). The endothelial cells lining the blood vessels take in more glucose than normal, since they do not depend on insulin. Then they form more surface glycoproteins than normal, and so the basement membrane becomes thicker and weaker. In diabetes, complications are grouped in "microvascular disease" (due to damage of small blood vessels) and "macrovascular disease" (due to damage of the arteries). Examples of chronic complications

Diabetic nephropathy (nephropatia diabetica), also known as Kimmelstiel—Wilson syndrome, or nodular diabetic glomerulosclerosis and intercapillary glomerulonephritis, is a progressive kidney disease caused by angiopathy of capillaries in the kidney glomeruli. It is characterized by nephrotic syndrome and diffuse glomerulosclerosis. Kidney failure provoked by glomerulosclerosis leads to fluid filtration deficits and other disorders of kidney function. There is an increase in blood pressure (hypertension) and fluid retention in the body plus a reduced plasma oncotic pressure causing edema. Others complications may be arteriosclerosis of the renal artery and proteinuria.

Diabetic retinopathy, is the damage of the retina caused by complications of diabetes, which can eventually lead to blindness. Diabetic retinopathy often has no early warning signs. Even macular edema, which may cause vision loss more rapidly, may not have any warning signs for some time. In general, however, a person with macular edema is likely to have blurred vision, making it hard to do things like read or drive. In some cases, the vision will get better or worse during the day. Diabetic Neuropathy. There are four main types of diabetic neuropathy. Patient may have just one type or symptoms of several types. Most of them are developed gradually, and patient may not notice problems until considerable damage has occurred. The signs and symptoms of diabetic neuropathy are varied, depending on the type of neuropathy and which nerves are affected. Peripheral neuropathy is the most com-

mon form of diabetic neuropathy. In this case at first feet and legs are often affected, then hands and arms are. The autonomic nervous system controls heart, bladder, lungs, stomach, intestines, sex organs and eyes. Diabetes can affect the nerves in any of these areas. Radiculoplexus neuropathy affects nerves in the hips, buttocks or legs. It is also called as diabetic amyotrophy, femoral neuropathy, or proximal neuropathy, this condition is more common in people with type 2 diabetes and older adults. Mononeuropathy involves damage to a specific nerve. The nerve may be in the face, torso or leg. Mononeuropathy, which may also be called focal neuropathy, often comes on suddenly. It's most common in older adults.

HAIR TRANSPLANTATION: CURRENT CONCEPTS AND TECHNIQUES

Yermolenko V. – intern

Scientific leader - Can.Med.Sc. Korneyeva L.S.

Because of the changes in technique, hair transplantation can now be offered as a reasonable option to more male and female patients who are not responsive to medical treatment, or likely to get a benefit from it.

The basic building block of modern hair transplantation is the intact "follicular unit" (FU). Transplant sessions that consist exclusively of FU (FUT) are ideal for transplantation of areas that are totally alopecic, for individuals who do not want or are not suitable for high hair density objectives, and for those who are not ready to commit more than one part in any area.

"Repair" of esthetically unsatisfactory "old" hair transplantation is sometimes treated exclusively with FU, or a combination of FU with excisions of part or all of some grafts—or completely untreated alopecic areas. But many of these patients are treated best of all with combinations of these techniques and larger MUG. Planning of hair transplantation should therefore ideally include an allowance for future areas of involvement, by extending the grafting into areas were there is still hair bearing but one can be reasonably expected to lose hair.

Because the perfect prognosis of the degree of alopecia that will develop in any patient is impossible, expected reserve of donor blood of normal hair should be maintained as long as possible.

In most patients, the first donor strip is excised from the densest areas of the permanent zone—the areas that are also least likely to be affected by future hair loss. Whenever an area is being treated exclusively with FU, we would generally use a density of approximately 20–25 FU per 2sm per session. Studies showing different rates of hair survival with different FU densities have indicated that when one goes beyond these FU densities, the survival rates tend to drop to what we feel are unacceptable levels.

Modern techniques in hair transplantation are resultative for the great number of patients which have the rights for this type of surgery and the production of remarkably natural-looking results.

ACCIDENTAL FIND

Filippov A.- the 6th-year student Scientific leaders – Soldatkin P.K., Subacheva N.A.

Cytomegalovirus infection is a disease of viral etiology. It is characterized by gigantic cells formation (cytomegalovirus), lymphatic infiltrates in the offered organs, latent course in patient with reduced immune system and clinical manifestation against the background of immune deficiency with variety ways and means of transference and clinical manifestations that complicate the clinical and laboratory diagnosis of the tonsillitis.

As an example, an accidental find in a patient with an unusual course of angina is reported.

Patient A, at the of 1.6 years old was taken to the hospitals by ambulance at 6:10 in 01.16.2014. Preliminary diagnoses: were acute intestinal infection or catarrhal tonsillitis"

Complaints: on admission were diarrhea, fever, poor appetite, cough.

Anamnesis: illness began in 04.01.2014. During the day diarrhea was three times. The patient had the temperature up to 38 - 39.5 C. the patient was treated themselves by "Enterofuril", " anzinorm". Three days from the beginning of treatment diarrhea stopped. The temperature was between 39.0 - 39.5. Nurofen has provided short-term effect. 16.01.14 chills, temperature was 39.0 C. Mom called an ambulance and the child was taken to the Amur regional infectious diseases hospital.

The members of the family are all healthy. The child had often ARVI in anamnesis. Objectively: the state of moderate severity, the temperature is 38.7 C, the skin is pale and clean. Throat is moderately hyperemic, there is no scurf. Hypertrophy of tonsils is up to I stage. Submandibular lymphatic nodes on both sides are increased up to 1 cm, they are soft of consistence, painless. Tongue is wet, moderately is coated with white scurf. Breathing through the nose is difficult, breathing is hard, no crepitation. Respiration rate is 28/min. Heart sounds are regular, clear, pulse - 122/min. Abdomen is soft, painless, liver is 2 cm protruding from under the right costal arch, smooth, edgy, elastic consistenc , painless. There was no stool. Meningeal symptoms are negative.

Preliminary diagnosis: ARVI, AII

Basic appropriate therapy was administered.

Confirmation of the diagnosis:

- 1. Salmonella Entheritidis was isolated in the excrements.
- 2. Parainfluenza virus type I was detected in smears from the nose.

Characteristics of the child disease – against the background of solid stool, ill-defined catarrhal symptoms and relatively satisfactory condition almost daily observed the increase in body temperature up to 38.0 - 39,5C. regardless of the time of day.

Addition to the anamnesis: mother with baby had a rest in Ukraine this summer. The child became ill with quinsy. They were treated independently, and were not examined. Repeated quinsy was in September 2013. In December 2013 the newly case of quinsy was occurred, the child treated in infectious hospital. On discharge from the hospital, against the background of a satisfactory condition, periodic temperature was increased up to 38.5 - 39C.

The clinical analysis of blood revealed neutrophilia (58%), monocytosis (16%), mononuclear cells (3%). It was decided to examine the child EBV and CMV.

The diagnosis of CMV infection was confirmed by ELISA and PCR. Against the background of standard therapy by "Genferon" and " cyclovir" fever was stopped for three days. On the 13th day the child was discharged from the hospitals in satisfactory condition under the supervision of a pediatrician. It was recommended to continue "Genferon" 125000ME (1 sup.) per rectum, once, at night, a day for 1-2 months.

The child was observed by us after discharge (1/29/14),till May 2014. During our observation the increased temperature up to 37.2 C was noted only once. According to the recommendations, the child received "Genferon" within 1.5 months. At present the child's condition is satisfactory

EBOLA HAEMORRHAGIC FEVER - FIGURES AND FACTS

Rodina G., Guseinov E. – the 6th-year students Scientific leaders –Dr. Med.Sc. Pavlenko V.I., Subacheva N.A.

Ebola fever is an acute supposedly zoonotic disease of the viral haemorrhagic fevers group, occurring with severe hemorrhagic syndrome, and is characterized by high levels of mortality. Ebola refers to a specific dangerous viral infections.

The group of Filoviride includes 3 kinds of virus: Lloviu, Marburg and Ebola. It has been revealed into 5 types of virus: Zaire, Bundibugyo, Sudan, Reston and Tai Forest. The first three of them - Bundibugyo Ebola Zaire and Sudan - are associated with large outbreaks in Africa. The virus that caused the outbreak in West Africa in 2014refers to the form of Zaire.

Ebola is spread by the transmission from person to person through close contact (via damaged skin or mucosa) from the blood, secretions, organs or other body fluids of infected people, as well as surfaces and materials (such as bedding, clothing) contaminated such liquids.

The main facts:

- The disease is caused by the Ebola virus, formerly known as Ebola haemorrhagic fever is a severe, often fatal disease of humans.
- \bullet The average fatality rate is about 50%. During previous outbreaks fatality indices were from 25% to 90%.
- The first Ebola haemorrhagic fever outbreaks occurred in remote villages in Central Africa in the area of tropical rain forests, but the most recent outbreaks in West Africa which covered the major cities and rural areas.
- An important aspect in the successful control of outbreaks is the involvement of local communities. Quality control of outbreaks is based on a set of measures, namely, on the case management, surveillance and contact tracing, quality laboratory service, safe burial and social mobilization.
- Provision of early maintenance treatment with rehydration and symptomatic therapy improves survival of patients. While there is no licensed treatment with proven ability to neutralize the virus, however, a series of blood therapieshas been developed, immune and drug therapies.
- Currently there are no licensed vaccines against Ebola, but two potential vaccine candidate being evaluated.

EXPERIENCE OF CARRYING OUT THE SELECTION CORONAROGRAPHY AT PATIENTS WITH CORONARY HEART DISEASE ON THE BASIS OF THE HEART SURGERY OF THE AMUR STATE MEDICAL ACADEMY

Rodina G., Filippov A.– the 6th-year students Scientific leaders – Can.Med.Sc. Urazova G.E., Subacheva N.A.

Coronary heart disease in the last decades with firmnly occupies one of the leading places in the structure of appealability and mortality in cardiovascular diseases. According to the inspection of the Russian national selection, prevalence of stenocardia makes 3,3% cases in men and 7,05% - cases in women. The ischemic heart disease is one of the major risk factors of sudden cardiac death, and 2/3 cases of sudden death belong it cardiovascular diseases. In Russia among men of 35-64 years the lethality from coronary heart disease are 56,6% of total number of lethal outcomes in cardiovascular diseases, women of the same age have 40,4% of cases. The "Gold standard" in diagnosis of coronary heart disease allowing to resolve an issue in a choice of further tactics and volume of treatment is the selection coronarography. Coronarography is a radiopaque research technique which is the most precise and reliable way of diagnosis of coronary heart disease, allowing to specifythe character, the place and extent of narrowing of a coronary artery. The purpose of our research was the study of indexes of the selective coronarography in patients with coronary heart disease. Stable angina of exertion the functional class III.

BARBARA McCLINTOCK -NOBEL PRIZE LAUREATE

V liev L. . –the 5^{th} -year student Scientifics le ders – C n.Med.Sc.Yutkin O.S., Sub chev N. .

Barbara was an American scientist and one of the world's most prominent cytogeneticists. In 1931, along with the post graduate student Harriet Creighton, she proved the link between chromosomal crossover during meiosis, and the recombination of genetic traits. She published the first genetic map for corn in 1931, showing the order of three genes on chromosome 9. In 1944, she became the third woman who w s elected as a member of the prestigious National Academy of Sciences. In 1983, Barbara McClintock was awarded the Nobel Prize in Genetics for her work on mobile genetic elements. She also received the National Medal for Science, in 1971. Apart from this, she was the first woman-the President of the Genetics Society of America.

HAMILTON OTHANEL SMITH IS AN AMERICAN MICROBIOLOGIST AND NOBEL LAUREATE

Kalichava Ye. the 5th-year student Scientific lieders - Can.Med.Sc. YutkinaO.S, Subacheva N.A.

Hamilton Othanel Smith was an American microbiologist and Nobel laureate. In 1970, Smith and Kent W. Wilcox discovered the first type II restriction enzyme; it waslater called as HindII. Smith continued to discover DNA methylases that is con-

stituted the other half of the bacterial host restriction and modification systems. Helater became a leading figure in the nascent field of genomics, when in 1995 he and a team at The Institute for Genomic Research sequenced the first bacterial genome, that of Haemophilusinfluenzae. He played the key role in the sequencing of manyfirst's genomes at The Institute for Genomic Research, and in the sequencing of the human genome at Celera Genomics.

PHARMACOKINETICS

V liev L.,M ksimov E. – the 5th-year students Scientifics le ders – C n.Med.Sc. Kostrov I.V., Sub chev N. .

Pharmacokineticsdescribes the processes in the body on a specific drug after its administration. Every drug has a specific pharmacokinetic profile based on specific parameters such as age, sex, weight, body mass index, hepatic function, and renal function. The more a specific drug is studied in specific patient types (ex., elderly patients), gives thebetter understanding of the pharmacology of this drug in those patients. Is pharmacokinetics includes: absorption, distribution, metabolism, and elimination of drugs.

TO THE 100^{th} ANNIVERSARY OF CREATION OF THE BLOOD PRESSURE MEASUREMENT METHOD

Makarova A., Vyaznikova N. – the 4th-year students Scientific leaders – Can.Med.Sc. Sulima M.V., Subacheva N.A.

Every day thousands of physicians all over the world measure blood pressure by putting inflatable cuff on the patient's hand and listening the shoulder artery with the stethoscope. But not many knows that this method was introduced almost 100 years ago by Russian doctor and researcher Nicolay SergeevichKorotkov.

Nicolay SergeevichKorotkov was born in February 26, 1874.

In August, 1904 a wounded soldier with gun's bullet in shoulder joint with paralysis of right hand was admitted into the field hospital where Korotkov worked. The patient had a pulsing tumor in a depth of an axillary cavity. Korotkov began to explore it with a phonendoscope and diagnosed "an arterial aneurysm". Korotkov thought a lot of it. Was it possible to bind up the artery without risk for his patient. Would the artery be alive or it would mortified? Trying to solve this problem Nicolay Sergeevich began to auscultate the patients with aneurysm more and more often. He inspected 44 people and discovered sounds which were changing strictly regularly. During examination of the patients Nicolay SergeevichKorotkov little by little squeezed the artery of the patients until the whole disappearing of puls on the periphery simultaneously listening the sounds in a section of the vessel which was situated lower than the place of oppression. He found out that the completely compressed artery didn't make any sounds. Sounds appeared during gradual release of the artery that might be considered as the level of pressure.

In 1910 Korotkov defended the thesis.

In March 14, 1920 at the age of 46 Nicolay SergeevichKorotkov died, leaving not only a new method of diagnostic of function condition of cardiovascular system but an excellent example of men faithful for doctor's duty.

BRONCHIAL ASTHMA AND MICOGEN SENSITIZATION

Bondarovich K. – the 6th-year student Scientific leader - Assoc.Prof., MD Lazutkina E.L.

Fungi are widely spreaded. More than 200 of them may cause diseases, but most of them are conventional pathogenic. Among of allergens fungus are the second after Dermatophogoides. As it is known, nonpathogenic mould fungus may cause crossallergic reactions in sensitization to penicillin drug. Their sporulation is enhanced during wet weather.

Flooding in the Amur region began in July 2013 due to heavy rains. This was the reason of increasing the content of mouldy fungal spores in the houses at the flooded areas

The aim of the research was to study the features of bronchial asthma in patients from the flooded areas.

19 case histories of patients treated in the pulmonary department of the Amur Region Hospital and 12 patient cards from the center "Immunovital" were analyzed.

The age of patients ranged from 34 to 72 years.

Among them there were 20 women and 11 men.

All patients had a mixed form of BA among them there were.

70% cases with severe persistent and 30% cases with moderate persistent.

Drug allergy to penicillin was determined in 70% cases.

Exacerbation in all cases was associated with living in damp areas.

The comparison group was consisted of 15 patients with bronchial asthma representative by gender, age and severity from not flooded areas.

In anamnesis smoking was marked noted in 2 women and 3 men.

In sputum analysis a significant amount of leukocytes (more than 200 in sight) were revealed. When sowing Streptococcus pneumonia, Neisseria, Staphylococcus aureus were founded.

Data of allergy test were take into account in making diagnose. Skin prick-test was also performed with fungal antigens. Specific IgE were determined by ISSA. In the conclusion I'd like to say that during the study mycoses sensitization dominance in patients from the flooded areas of the Amur region was determinated.

INTERNET DEPENDENCE

Melnikova V., Koroteeva V. – the 4th-year student Scientific leaders – Brash N.G., Subacheva N.A.

Due to the increasing computerization and "Internetization" of the Russian society there was actual an problem of pathological use of the Internet, had been designated abroad still in the late eighties (Internet dependence, Internet addiction). The first, who faced with this problem, were psychotherapists and also the companies using

the Internet in their activity and having losses in a case ifemployes have a pathological attaction to the staying of linc..

According to Korolenko and Segal (1991), the addictive behavior is characterized by aspiration to the escape from reality by means of change of the mental state. I.e. instead of the problem solution "here and now" the person chooses addictive realization, reaching thereby more comfortable psychological state at the moment, postponing the available problems "for later". Elements of addictive behavior are inherented in a varying degree practically in any person (the use of alcoholic beverages, gamblings and so forth). The addiction problem (pathological dependence) begins when the aspiration of an escape from the reality is connected with the change of a mental state starts dominate in consciousness, becoming the central idea interfering in life, leading to a separation from reality. There is a process during which the person only doesn't solve problems, important for himself (for example, household, social), but also stops in the personal development.

GRETER SCHIZOPHRENIA

Pnyuhtin O., Tonkonogova M. the 4th-year students Scientific leaders - Brash N.G., Subacheva N.A.

Schizophrenia, which is combined with alcohol, is designated as schizophrenia Greterin practical psychiatric activities and psychiatric literature for more than 70 years. It is usually begins with delirium tremens, after the disappearance of which it is manifested by delusions of persecution and exposure. Alcohol alters the course of schizophrenia. In 1909, K. Greter described 11 patients with dementia praecox with alcoholic psychoses, among which cases of alcohol delirium were dominated and alcoholic paranoid cases were single ones. The author believed that alcohol intoxication contributed to the identification of dementia praecox, which E. Bleuler (1908) a year earlierhad called schizophrenia. According to K. Greter (1909), in the combination of early dementia and alcoholism, summation of psychopathologic inherent is occurred in both processes.

In general, alcoholism, in combination with schizophrenia is negative, because it is characterized by low-curable and extreme instability to therapeutic remissions. This impression is reinforced by the peculiarities of alcohol intoxication: patients retained the core of the personality, schizophrenic traits expressed mild, intact affective area, paranoiasimpulsive behavior, stereotypes, silliness, and other forms of absurd behavior that cause negative reaction of others and accelerate re-hospitalization. On the other hand, spontaneous long-term remission of alcoholism is often observed in patients with schizophrenia, which is coincided with the aggravation of hallucinatory-delusional disorders, or with the development of deep schizophrenic defect. Alcoholism causes strengthening, worsening and reviving of hallucinatory-delusional symptoms, accelerates the recurrence of the disease, makes more frequent the rate of hospitalization. Psychopathological disorders acquire atypical character of schizophrenia: concretion, objection; physical shade of Kandinsky - Cl ramb syndrome, true verbal hallucinations, visual hallucinations and delirious experienceare appeared. Softening, "blurring" of schizophrenia defect - due to greater sociability,

liveliness, patient's activity that is not typical to the patients with schizophreniawere noted.

Treatment of patients with schizophrenia combined with alcoholism begins with the relief of withdrawal symptoms or acute psychotic symptoms. Exogenous psychoses are stoped as well as acute alcoholic psychosis. Then asthenic disorders and affective disorders are eliminated. Commonly antidepressantsare used selection and dosage are determined by the peculiarities of mental status. Alcoholism treatment in these patients is extremely difficult. Its aim is to stabilize the maximum mental state by psychopharmacological drugs and detoxification, followed by rehabilitation. Possibilities of psychotherapy are limited due to contraindications to the use of several techniques (alcoholic coding, hypnosis) and low efficiency. Noncritical patients' attitude to his condition impedes the sensitizing therapy to alcohol, since the probability of resumption of drinking is remained very high. Prophylactic of drinking is the resumption as much as possible the complete elimination of endogenous symptoms, especially depression and anxiety and depressive disorders.

BRONCHOSCOPY AS A DIAGNOSTIC METHOD OF PNEUMOCONIOSIS AND DUST BRONCHITIS

Pnyuhtin O., Tonkonogova M. the 4th-year students Scientific leaders - Prof. Savinova T.A., Subacheva N.A.

The subject is actual because of the fact that working conditions can cause lung diseases. Harmful and adverse factors, which are presented in the working respirator-yarea: such as dust, allergens, irritating and toxic substances in the form of gases, smoke, fumes contribute to it.

Prolonged inhalation of dust, especially small, respirable fraction (up to 5 MK), leads to subsidence and accumulation of itinto the lungs. This may develop a chronic disease which was called pneumoconiosis, in 1866,by F.A. Zenker (from the Greek pneumon - pulmo, conia- dust). This term combines different types of dust-induced lung fibrosis because clinical signs of pneumoconiosis are similar to such diseases as sarcoidosis, Hodgkin's disease, tuberculosis, lung cancer and bronchitis, fungal pneumonia, alveolar proteins. In this case, the most reliable diagnostic sign is bronchoscopy.

There is endoscopic picture of dust bronchitis and speciesof mucosa of trachea and bronchiin the hypersecretionof hyperemia and edema of the diffuse nature. Excretory ducts of the bronchial glands is more evident. The kind and quality of secretionsare mucous lumps; pussy movable lumps on the walls of the bronchi, sometimes-glassy mucus often of foamy nature. The elasticity of the walls of the trachea and bronchi is increased. Mucosal bleeding during instrumental palpationis observed. The species and spurs, and mouths mobility of the segmental bronchi and subsegmental bronchiare strengthened. Species of vascular pattern are dystonia, the folded of mucosais moderately enhanced.

The picture of pneumoconiosis with roentgen signs include the species of mucous of trachea and brochi. It is pale, thinning with markedly bulging cartilaginous rings in the bronchial lumen and the "hollows" of interchondral spaces. Lots of dust pigmen-

tation of the mucous membrane called "Tattoo" are at all levels of the bronchial tree. Excretory ducts of bronchial glands are enlarged and are gaping, being arranged in groups, are clearly visible in the spurs of the segmental and subsegmentalbronchi reminding bronhonodulyarnye fistulas. The species and quality of the secretare absent orthere is scant mucous. The elasticity of the walls of the trachea and bronchi is normal. Mucosal bleeding during instrumental palpationis not expressed. Mouthslose their oval form, because of the deformation by the pressurefrom the outside. Respiratory mobilityis reduced. Estuary are expanded, you can easily explore the next generation of the bronchi. Spurs are flattened and thinned, reminding of membrane. The picture of vascular pattern is enhanced by the short "chopped off" large vessels, sometimes varicose changed. The pattern may be absent. Only garments of it is visible on the spurs' slopes in different parts of bronchial tree. The species and nature of folding mucosa: it may be normal or elevated or longitudinal. Dystonia of membranous wall of the trachea and bronchi, including segmental may be moderate or severe.

At the beginning of the XXI century, the progress in the field of medicine stepped on a high level of computerization and new technologies, which helps the doctor to put the diagnosis in the shortest possible time and with a minimum number of medical errors. Therefore, bronchoscopy study allows not only to confirm the diagnosis of dust bronchitis and pneumoconiosis, but also to conduct a differential diagnosis and prescribe an adequate timely therapy.

BIPOLAR DISORDER

Epifantsev N., Yashin D. - the 4th-year students Scientific leaders - Brash N.G., Subacheva N.A.

Mood is capable to be changed in wide range. But there are limits beyond which excessive gladness or excessive sadness must be considered as abnormal ones. Depression and mania belong to the states which are considered as outstanding states. Most people who experienced mania at least once in their live will have a depressive disorder in future. The alternation of maniacal and depression syndrome, is called asbipolar affective disorder. Some people, very rarely, show both mania and depression features at the same time.

The annual incidence of the bipolar disorders in the population among men is estimated between ten and fifteen per hundred thousand of cases.

PLANTS PROTECT

Epifantsev N., Yashin D. - the 4th-year students Scientific leaders - Anokhina R.A., Subacheva N.

Scientific-technological progress and economic activity, despite the benefits, imply negative effects. Salts of heavy metals, radiation and electromagnetic radiation, stress - all this are the real threat to human health.Radioactive pollution is a common threat to civilization. Radionuclides is accumulated in the soil, water and food. The most dangerous isotopes are such as I131 (for thyroid), Sr89 and Sr90 (for bones),

Csl37 (for muscles). Many medical plants enhance the organism resistance to the radionuclides effects and conduce to the clearance from them. Electromagnetic radiation. The abundance of electrical appliances and wiring conduces to generation of strong electromagnetic fields. Excessive electrical load has an irritating effect on human race and exhausts the nervous system. Heavy metals. Mercury, lead, cadmium and their salts occur in our lives more often than we think about it. Mercury is used in paper manufacturing, plastics synthesis. Along with industrial waste mercury vapor can get into the air. In human body mercury accumulates in the liver and kidneys, negatively affects on the genetic apparatus, causing abnormalities in chromosomes. Lead enters the body by inhalation of exhaust gases. Like other heavy metals, it is included in different ferments (enzymes) that lead to the functional disorder of the nervous system. Stress -is an important social problem of modern society. It consists of an adaptation period when physiological capabilities of mobilization occurs and misadaptation period, when the body's adaptation to the conditions of existence breaks down.Plants with firming of the central nervous system effect stimulate and prolong the process of mobilization: Astragalus, waterwort, mugwort, motherwort, valerian, Jacob's Ladder. Plants-adaptogens are also useful: St. John's wort, licorice, ginseng, eleuterococcus (Siberian ginseng). Thus, using medical plants is a simple, efficient and alternative protection from the costs of technological progress and economic activity.

SALVIA DIVINORUM: CLINICAL AND RESEARCH POTENTIAL

Chernik I., Lukashov I., Sidorov A. – the 4th-year students Scientific leaders - Dr.Med.Sc., Prof. Dorovskih V.A., Subacheva N.A

Salvia divinorum is a perennial Mexican herb from the labiate (mint) family (Epling & Jativa, 1962) that has a history of use chiefly for the initiation and facilitation of shamanic practice among such peoples as the Mazatec Indians of the Sierra Mazateca region of Oaxaca, Mexico, and possibly by earlier human civilizations (Johnson, 1939; Wasson, 1962; Ott, 1995).

Recent investigations have isolated the neoclerodane diterpenes Salvinorin A, B and C as the main constituents (Ortega, Blount & Manchand, 1982; Valdez et al., 2001; Roth et al., 2002), and the psychoactivity of this herb, identified by earlier investigators (Wasson, 1962), has been clearly delineated only recently (Siebert, 1994).

Although it is too early to draw definitive conclusions regarding the antidepressant potential of Salvia divinorum, initial results are promising, with the majority of patients reporting lasting benefits from their use of this herb. In addition to significantly reduced scores on quantitative measures of depression, some of the reported benefits of the herb include mood enhancement and increased feelings of relaxation and self-awareness.

Furthermore, this herb demonstrates a very broad and unique spectrum of psychoactivity, ranging from very mild 'mood-altering effects' to purportedly more profound experiences such as 1) 'becoming objects' (see Eliade, 1969); 2)

'psychospiritual experiences' (Hanes, 2001); and 3) 'out-of-body experiences' (Siebert, 1994).

DISORDERS OF CEREBRAL CIRCULATION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Baranov S., Mikhailov P. - the 3rd-year students Scientific leaders - Can.Med.Sc. Kvasnikova J.V., Can.Ped.Sc. Bibik I.A.

Chronic obstructive pulmonary disease (COPD) is a type of <u>obstructive lung</u> <u>disease</u> characterized by chronically poor airflow. It typically worsens over time. The main symptoms include <u>shortness of breath</u>, <u>cough</u>, and <u>sputum</u> production. Most people with chronic bronchitis have COPD.

The aim of the study was to examine the state of the blood flow in the major cerebral arteries and in COPD patients at different stages of formation of chronic pulmonary heart (CPH). To assess the state of the cerebral arteries (IHA) arterial duplex scanning was performed with «TOSHIBA» (Japan) and XD-11 XE «PHILIPS» (USA) apparatuses. The maximum (Vmax), minimum (Vmin), medium (TAMh) blood flow velocity, pulsation (PI) and resistive indices (RI) in the common carotid (CCA), internal carotid artery (ICA), vertebral (PA) and middle cerebral artery were analyzed.

Thus, as the disease progresses there is remodeling of the vascular system of the brain and reducing of blood flow in the extra- and intracranial arteries.

MORPHOFUNCTIONAL CHARACTERISTICS OF MICROVASCULATURE OF THE SKIN

Golovchenko G. – 2nd-year student Supervisor – Assoc.Prof. S.S. Seliverstov

The possibility of direct observation of human skin capillaries with a microscope after preliminary illumination with Vaseline oil was discovered by Lambard in 1912, that prompted the widespread use of this method, which later received the name of capillaroscopy. Then the famous studies of, for example, Miller (1922), P.E. Lukomsky (1927), A.I. Nesterov (1929), N.A. Skulsky (1930), V.G. Shtefko and M.F. Glagoleva (1930), V.I. Puzik and A.A. Kharkova (1948), and others appeared. In these works tentative density calculations of the functioning capillaries were presented. Krogh (1924) noted in his book "Anatomy and Physiology of Capillaries" that the skin metabolism is relatively low and a little choppy. But according to A.I.Nesterov's data (1929), capillary blood flow in the skin is characterized by very high individual variability. Original studies on the formation of capillary blood flow in ontogeny were performed by V.G. Shtefko, M.F. Glagoleva (1930), V.I. Puzik, A.A. Kharkova (1948). They showed that the formation of capillary loops occurs gradually, reaching a definitive form to 15 years.

Biomicroscopic study of capillaries in various areas of the skin indicates heteromorphisms of its vascularization.

ENDORPHINS

Schepina M. – the 1st-year student Scientific leaders – N.A. Feoctistova, Cand.Ped.Sc. I.A. Bibik

Endorphins are small neuropeptides that are produced by a body and act to reduce pain – hence.

Endorphins were discovered when scientists found sites where molecules such as morphine bind to nerve cells and reasoned that the body must use these sites to bind chemical compounds.

Endorphins are not considered to be neurotransmitter molecules, but are instead classified as neuromodulatory, that is, they modify the action of neurotransmitters through a number of effects associated with pain or pleasure.

The administration of exogenous endorphins (those prepared outside the body) stimulates the release of many other hormones including prolactin, adrenocorticotropic hormone (ACTH), and antidiuretic hormone.

CEREBROHYPOPHYSIAL NANISM (DWARFISM)

N. Soyotova, A. Neverova – the 2nd-year students Scientific leaders – A.E. Pavlova, Cand.Ped.Sc. I.A. Bibik

Nanism (Gr. "nanes" – dwarf, dwarfism) is the growth inhibition. Dwarfish is a stature which is 20% less than the norm for corresponding age or less than 130 cm for men and 120 for women.

In most cases the hypophysial nanism germination is coming from the failure of adenohypophysis's somatrophic function. The growth hormone production disorder occurs as a rule due to the initial hypothalamus damage.

Hypophysial dwarfs have an average birth height and weight. They keep growing 2-3 years, and then their growth slows sharply. Being adult dwarfs keep child body proportions. Usually they don't become sexually mature. Early facial skin senescence, rutidosis are common for nanism patients. It makes a child look like an old-aged. Dwarfs' mind is not disturbed but the working capacity is reduced. For patients with clinical presentations nanism is marked by sterility and lack of secondary sex characteristics.

Hypophysial nanism is diagnosed on the basis of specific anamnesis (sharp growth inhibition after the age of 2-3 years), delayed osteite formation, typical visible symptoms. Each cerebrohypophysial nanism case requires detailed differential diagnostics.

ANATOMY OF TONGUE. THE TONGUE AS AN INDICATOR OF THE CONDITION OF INTERNAL ORGANS.

Arshinskaya K., Goncharova D. – the 1st-year students Scientific leaders – L.G. Zherepa, I.A. Bibik From the early ages doctors tried to understand the internal condition of the body by external signs. The tongue can also tell us a lot. Show your tongue and you will reveal your health problems. This simple test will not let you miss illnesses.

The tongue is a muscular organ, made up of the striated muscle covered with a mucous membrane. According to the external appearance of the tongue one can reveal the internal condition of the body at the moment. You should just look at the size, shape, surface, edges, colour and dampness. Each zone reflects a definite organ.

Every morning when brushing your teeth you can massage you internal organs and clean them at the same time. You should just clean your tongue.

Start checking your tongue in the morning, before eating or brushing your teeth. Keep in mind, that some medicine so as some food can change the tongue's colour.

While having allergy, some mouth diseases, burns or injuries, the state of your tongue can be obviously changed but it doesn't reflect the internal condition of your body.

Remember, that self diagnosis is just the reason to go to a doctor, but not self treatment.

CONGENITAL MALFORMATIONS AND DEFORMITIES OF A MAN

Kunitsky E. – the 2nd-year student Scientific leaders – L.G. Zherepa, Cand.Ped.Sc. I.A Bibik

In recent years the number of genetic and teratogenic diseases involving abnormalities, and malformations has increased. The frequency of occurrence of congenital malformations among all born children is 2-3%.

All malformations are classified according to the prevalence in the body, the nature of damage to the structure of the body, etiological factor, depending on the location and time of exposure to teratogenic factors, the sequence of occurrence.

The causes of malformations are: genetic factors -10%, environmental factors -10%, the combined affects of genetic and teratogenic factors to 80% (V.A. Solovyev, A.F. Vinogradov - 1998). The malformations are thought by many authors to be most often caused by hereditary pathology, when great attention is paid to the change of DNA of a cell influenced by the external environment.

The Department of Anatomy has established a museum, where there are currently 43 preparation, demonstrating human deformities. Over the past three years our students made 9 preparations. These preparations are not just visual aids for students of pediatric and medical faculties, but they are also visual aids to help our students to promote healthy lifestyle among schoolchildren and students from other Universities.

HORMONE INVOLVED DURING COLD STRESS

Stepanov A. – the 1st-year student Scientific leader – N.A. Feoktistova Hormone irisin was initially discovered in 2002. The found hormone converts "white" fat into brown".

The hormone serves as a transmitter of information between various tissues of the body. Comparing the results of the research it can be determined that the hour cycling of moderate intensity produces the same amount of irisin that does trembling from cold for 10-15 min.

In May 2014 scientists from Florida University, including Dr. Li-Jun Yang, Shi-Wu and William Donelan, succeeded in synthesizing a stable form of the protein molecule of irisin, which has high potential for use. The authors suggest that the compound may be an effective treatment for obesity and type 2 diabetes.

On February 17, 2014 scientists from Aston University in the UK published the data of research showing that irisin slowed the aging process by lengthening telomeres.

Possible benefits of the hormone in metabolic diseases are studied.

DIABETES INSIPIDUS

D. Chistyakova, T. Trifonova – the 2nd-year students Sientific leaders – L. Etmanova, Assoc.Prof., Cand.Med.Sc. E.V. Egorshina, Cand.Ped.Sc. I.A. Bibik

Vasopressin, or a antidiuretic hormone (ADH) is a hormone of a hypothalamus which is collected in a back area of a hypophysis (in a neurohypophysis) and secreted into the blood. Secretion is increased in raising osmolarity of plasma of the blood and in reduction of volume of the extracellular liquid. Vasopressin increases water reabsorption by kidney, increasing the concentration of urine and reducing its volume. It also has a number of effects on the blood vessels and the brain.

In diabetes insipidus the reabsorption of water is decreased in collective tubules of kidneys. Pathogenesis of the disease depends on not identical secretion of vasopressin – ADH (diabetes insipidus of the central origin) or on the reduced reaction of the kidneys to the action of a hormone (a nephrogenic form, renal diabetes insipidus). Seldom the accelerated inactivation of vasopressin becomes the reason of diabetes insipidus. The course of diabetes becomes heavier because of the increased activity of vasopressin or because of sensitivity of the collective tubules in pregnancy. Patients with diabetes insipidus excrete a large number (>30ml/kg) of low-concentrated urine a day, suffer from thirst and drink much water (polydipsia). To diagnose the central and nephrogenic forms of diabetes insipidus desmopressin similar to vasopressin is used.

NECROSIS

D. Chistyakova, T. Trifonova – 2nd-year students Scientific leaders – Cand.Biol.Sc. T.L. Ogorodnikova, V.S. Kozlova, Cand.Ped.Sc. I.A. Bibil

Necrosis is a death of cells and tissues in a living organism, thus activity is stopped completely.

NECROTIC PROCESS PASSES A NUMBER OF STAGES:

Paranecrosis – reversible changes similar to necrotic.

Necrobiosis – irreversible dystrophic changes.

Death of cells.

Autolisis – decomposition of a dead substratum under the influence of hydrolytic enzymes and macrophages.

MICROSCOPIC SIGNS OF NECROSIS:

Changes of a nucleus (wrinkling of a nucleus, disintegration of a nucleus into basophilic fragments and others).

Changes of cytoplasm (plasmocoagulation, plasmorrhexis, plasmolysis).

Changes of intercellular substance.

The consistence, color and smell of fabric are changed in necrosis. Fabric may become dense and dry (mummification) or flabby and melted.

And it may be white and has white-yellow color. And sometimes it may be dark red when it is impregnated with the blood. During necrosis the skin, uterus often may become gray-green, black.

METASYMPATHETIC NERVOUS SYSTEM

D. Chistyakova, T. Trifonova – 2nd-year students Scientific leaders – Assoc.Prof., Cand.Med.Sc. G.E. Cherbicova, Cand.Med.Sc. A.V. Vodopyan, Cand.Ped.Sc. I.A. Bibik

The Metasympathetic Nervous System (MNS) is a part of autonomous nervous system, a complex of microganglionic formations and connecting them nerves located in the walls of the internal organs which possess contractile activity. The main effector apparatuses of walls of hollow visceral organs are: a smooth muscle, secretory epithelium, which is soaking up, and an excretory epithelium, a capillary meshwork, local endocrine and immune formations.

From the point of view of belonging to an organ it is offered to determine respectively enterometasympathetic, cardiometasympathetic, urethrometasympathetic, vesiculametasympathetic nervous systems. The metasympathetic nervous system provides transfer of excitement from extraorgan nervous system on the fabric of a body and is a mediator between sympathetic and parasympathetic nervous systems and fabric of a body. The metasympathetic nervous system regulates an organ blood-stream, and the heart beating and it is also directly connected with the organization of the regulating influences on such important function as membrane digestion, digestion motility and etc.

Thanks to existence in the metasympathetic nervous system of all components of reflex arches, the internal organs can work without participation of the central nervous system, thereby exempting the CNS from excessive information.

ANTIBIOTIC-ASSOCIATED DIARRHEA

Fefelov A. – the 5th year student Scientific leader – ass. Soldatkin P.K. The case of at least 3 episodes of unformed feces for two or more serial days on AB background therapy, and up to four-week period after the cancellation of antibiotic (in cases where exclude other causes of development).

AAD – condition that develops during taking antibiotics, while time of taking and dose of the drug do not matter - described cases of AAD even after a single dose. Frequency of AAD 2-30% from all people, who taking antibiotics, more than that, in case of AAD, connected with C. Dificile (up to 20% of all AAD) – there are deaths - up to 15-30%.

AAD makes up 20-45% of all intrahospital diarrhea. The frequency of this condition depends on the used antibiotics: amoxicillin / clavulanate 10-25%, cefixime - 15-20%, ampicillin and clindamycin - 5-10%, fluoroquinolones - 1-2%, co-trimoxazole - about 1%.

Antibiotic-associated diarrhea may be two types – idiopathic AAD and AAD, connected with C.Dificile.

There are a lot of clinical forms of AAD: spontaneously quickly passing diarrhea in patients receiving antibiotics; diarrhea medium gravity in patients after the irrational use of antibiotics; pseudomembranous colitis; diarrhea associated with methotrexate therapy and other cancer chemotherapeutic agents; non-specific inflammatory bowel disease (Crohn's disease or ulcerative colitis); occlusion or stenosis of the colon; cases of sudden infant death syndrome.

You can tell about idiopathic AAD when you can not identify the specific pathogen causing diarrhea; this is mild forms of the disease, not requiring specific therapy.

Pathogenesis of IAAD consists from 5 steps: enhancing motility (diarrhea hyperkinetic), Increasing the osmolality (hyperosmolar diarrhea), Increased secretion in the colon due to defect in deconjugation of bile acids, toxic diarrhea, changes in the composition and quantity of the normal intestinal microflora

Risk factors for idiopathic AAD - Under 5 years old and over 65 years, serious somatic diseases in anamnesis, chronic diseases of the digestive tract, noncompliance taking antibiotics (too short or long course, frequent change of antibiotics), high doses of antibiotics

Symptoms of IAAD - main and often the only symptom of idiopathic AAD is watery diarrhea, usually without fever and leukocytosis.

Prevention: The rational use of antibiotics. The use of probiotics proven effectiveness at appropriate doses from the first day of antibiotic therapy (especially in at-risk groups)

Conclusion: The AAD is a dangerous complication that can occur not only at wrong taking antibiotics or other cytotoxic drugs, but even when taking medicines prescribed by your doctor in properly dosed, so doctors should be very carefully with AAD, given the fact that there are cases of death to develop complications. Should be developed strict Measures for the prevention AAD, physicians should follow a cautious attitude to antibiotics and try to avoid using them wherever possible. It is necessary to carry out discussions with the population about inadmissibility of unauthorized use of antibiotics and the importance of medical advice.

NEUROPROTECTION IN THE NEWBORN INFANT

Kushnarev V., Fefelov A. – the 5th year s students Scientific leader – ass. Yutkina O.S

Causes of early brain injury include stroke, birth trauma, metabolic or genetic disorders, status epilepticus, and asphyxial events. Perinatal asphyxia presents as encephalopathy, or hypoxic ischemic encephalopathy, occurring in 3 to 5 in 1000 live births, while stroke studies conservatively estimate an incidence of 1 in 4000 live births. It is classically thought that hypoxic-ischemic (HI) injury leads to periventricular white matter damage in premature infants, while term infants develop cortical/subcortical lesions, but more recent evidence suggests that this distinction in injury type may not be so clear. While many suffering from perinatal brain injury die during early life, the majority of survivors exhibit neurological deficits that persist, such as cerebral palsy, mental retardation or epilepsy. Aside from hypothermia, no established therapies exist, and treatment and care for the sequelae of early brain injury requires significant resources. Even after maximal care, there is often little improvement in an individual's overall abilities, with long-term effects on the family, health care system, and society. A search for therapies that can prevent injury progression or enhance repair of the immature brain continues, with the goal of improving long-term motor and cognitive outcomes. Because the neonatal and adult brain do not respond to insults in the same manner, secondary to differences in gene regulation during hypoxia and altered susceptibility to oxidative stress and excitotoxicity, alternate therapies must be sought. Damage occurs via multiple pathways, and repair occurs over a period of days to weeks, if not months. While some therapies that manipulate injury pathways show promise, not all neonates will benefit from treatment. Damage may be so severe or prolonged that repair may not be possible, or survivors may be particularly devastated. The term "neuroprotection" is frequently used to describe the treatment response to brain injury, but should we think only about protecting neurons? Optimizing therapy for early brain injury requires capitalizing on multiple pathways that not only prevent cell death, but also enhance cell growth, differentiation, and long term integration into neural networks. In addition to neuronal damage, injury to non-neuronal cell types, such as oligodendrocytes and astrocytes, adversely affects development and results in long-term morbidity. By targeting the response to injury, the goal is to utilize selected pharmacotherapies to salvage cells that would otherwise die, protect cells from becoming injured or at risk for death by increasing tolerance, and also repair injured cells and enhance neurogenesis. Recent evidence suggests that therapies may be combined to enhance the protective and reparative processes, and thought must be given to the best time to administer these interventions. Clearly, because injury evolves over long periods of time with different mechanistic phases, therapies will also need to be administered over long periods of time, with different drugs aimed at these temporally evolving targets. To maximize the efficacy of post-injury treatment, we need to identify quickly those neonates that will benefit from these therapies. A variety of clinical predictors have been used to identify those at risk for hypoxic brain injury. These include low Apgar scores, cord blood or early arterial acidosis, and seizures or the presence of encephalopathy on examination. Cerebral function monitoring using bedside amplitude integrated EEG (aEEG) has provided an efficient means for identifying encephalopathy or prolonged seizure, but it does not replace full EEG. Brain imaging with magnetic resonance imaging (MRI), including newer techniques such as spectroscopy (MRS), diffusion weighted (DWI) and diffusion tensor imaging (DTI), and volumetric analyses, provides the most accurate assessment of injury. These techniques allow determination of the severity and evolution of brain injury, with specific injury patterns being associated with poor outcomes such as loss of gray/white differentiation, watershed injury, and thalamic or basal ganglia injury. However, early and sequential imaging in neonates is often not possible because of scanner availability or difficulty in transporting these critically ill patients. Biomarkers for oxidative stress and inflammation, or indicators of injury to other organ systems, are currently being studied but are of equivocal value in identifying early neonatal brain injury. There are some researches about determining of the content of interleukins (IL) 1, 6, 8, 10 and TNF- in cord blood of healthy newborns and children with perinatal hypoxic damage to the central nervous system (CNS) found a higher content and frequency of detection of proinflammatory interleukins in the umbilical cord blood of newborns with hypoxic injuries. Compared to adult levels of proinflammatory cytokines (IL-6, IL-8, TNF-) in newborns umbilical cord blood is higher, and the content of antiinflammatory cytokines (IL-10 and IL-18) has no difference, or even lower. The conclusions of such studies are interesting, since the identification of various biomarkers in the mother may indicate ischemia or other intrauterine fetal damage before their clinical manifestations, giving doctors time to rational therapy and prevention of complications. Necessary to identify the exact pattern in the difference in levels of cytokines in the blood of healthy children and children with hypoxic CNS lesions depending on additional factors (health of mothers, lifestyle, environment, etc.), And then with a favorable result of the research can be offered to diagnose possible intrauterine hypoxic fetal lesions and prevent them, resulting in a significant improvement in the quality of life of the newborn.

THE CLINICAL FEATURES AND EPIDEMIOLOGY OF VIRAL GASTROENTERITIS

Kushnarev V.A - the 5th year student Scientific leaders – ass. Soldatkin P.K, Kostina V.V

The etiological structure of acute intestinal infections in recent decades has changed. Currently, more and more studies show the dominant role of viruses. History of the study of viral diarrhea began in 1968 during the study of outbreaks of acute gastroenteritis in a school of Norfolk (USA), but only in 1972 A.Kapikian identified norovirus in the feces, as the causative agent of an outbreak. A year later, rotaviruses were identified by R.Bishop in the mucosa of duodeni of children with gastroenteritis. In 1975 were discovered astroviruses, adenoviruses and coronaviruses in the faeces of patients with acute diarrhea.

The clinical and epidemiological features of viral diarrhea are:

1. Acute onset of disease with rapidly progressive dehydration

- 2. Fast dissemination in different foci
- 3. The highly contagious and stability
- 4. Asymptomatic carriage and continues secretion into environment after convalescence.

Common cause of viral diarrhea in children are rotaviruses, reoviruses Norfolk, adenoviruses, astroviruses, calicivirus to 50-70% of cases. The incidence of rotavirus lesions of the gastrointestinal tract is 35-75% in the overall incidence of acute intestinal infection in different countries. The peak of the disease is the autumn and winter season.

Rotavirus is highly transmissible agents with the main transmission mechanism - the fecal-oral. However, the presence of catarrhal symptoms in 54-86% of children may contribute to the transmission of infection by airborne droplets. Spread of infection may contribute to the lack of specific clinical symptoms and do not necessarily viral examination for gastroenteritis and gastroenterocolitis in Russia.

Rotavirus infection is the type of acute gastroenteritis in 78% of cases of diarrhea in 97% abdominal pain 35% and 87% vomiting, bloating and rumbling in intestine 60% and 100% dehydration.

Role in the development of sporadic norovirus gastroenteritis in most areas of the world underestimated, which was due to the low sensitivity of available laboratory studies. Application for diagnostic polymerase chain reaction with reverse transcription showed that norovirus causes up to 12% of severe gastroenteritis in children under 5 years of age worldwide, ranking second in frequency of occurrence, after rotavirus. Official registration of norovirus infection in Russia is conducted since 2009. The clinical features of norovirus gastroenteritis are acute onset with repeated vomiting up to 9 times a day, symptoms of moderate intoxication, increased body temperature to 37,5° C lesion of the gastrointestinal tract by type of gastroenteritis with a leading syndrome gastritis and diarrhea up to 6 times per day.

A significant portion of acute diarrhea is caused by adenovirus 40 and 41th serotypes. Because tropism to the gastrointestinal tract, these two serotypes are called "enteric" adenoviruses. Ratio adenoviral infection is from 2 to 38%. More pronounced catarrhal phenomena, compared with rotavirus and norovirus lesions. Improving methods of laboratory diagnosis allows deciphering the etiology and ways of transmission, to determine further treatment policy



DEUTSCHE ABTEILUNG

DIE GEGENWARTIGE CHIRURGISCHE BEHANDLUNG DER TROPHISCHEN GESCHWUREN BEI CHRONISCHER VENENINSUFFIZIENZ

Nagiew.M. – der Student des 3.Studienjahres Wissenschaftliche Leiter: K.m.W. Sjusko A.S., Tkatschjowa N.A.

Das Ziel: Das Werten der Ergebnissen der endoskopischen subfaszialen Dissektion der perforanten Venen bei den lang nicht heilenden und wiederkehrenden Geschwuren der unteren Gliedmassen bei den Patienten mit der chronischen Veneninsuffizienz.

Die Materialien und die Methoden: die Ergebnisse der chirurgischen Behandlung werden bei 48 Patienten analysiert mit lang nicht heilenden und wiederkehrenden trophischen Geschwuren bei der chronischen Veneninsuffizienz. Das Alter der Kranken betrug 43 – 74 Jahre, es waren 12 Manner, 36 Frauen. Alle Patienten hatten trophische Geschwuren am Unterschenkel. Durch die Ultraschalluntersuchung wurde identifizierte gemischte veno-venose Reset bestimmt, dabei die insolventen perforanten Venen sich unmittelbar in der Zone der trophischen Storungen lokalisieren. 14 Patienten hatten die Krampfadern, und 34 Kranken hatten die postthrombotische Erkrankung.

Alle Patienten bekamen die chirurgische Behandlung, die Krossektomie enthalten, die endoskopische subfasziale Dissektion der Perforansvenen und die Stripping der grossen subcutanealen Venen. Die endoskopische Stufe der Operation haben mit der Hilfe des videoendoskopischen Komplexes durchgefuhrt, die fur laparoskopischen Operationen verwendet wurde.

Die Ergebnisse: die durchschnittliche Dauer des Krankenhausaufenthaltes wurde zweimal reduziert. Alle Patienten hatten die haltbare Heilung der trophischen Geschwuren innerhalb von 10 - 14 Tagen nach der chirurgischen Behandlung. Es gab keine Komplikationen in der Zone des operativen Eingriffes in der fruheren postoperativen Phase.

Die Besprechung: die Verwendung der endoskopischen Technik erlaubt die einmomentale Operation fur die Beseitigung des pathologischen venosen Ruckflusses bei der Vorhanden der trophischen Geschwuren durchzufuhren, das fuhrt zu einer deutlichen Verringerung der Dauer des Krankenhausaufenthaltes.

Die Schlussfolgerungen: chirurgische Behandlung indizierte fur Patienten mit den lang nicht heilenden und wiederkehrenden trophischen Geschwuren auf dem Hintergrund der chronischen Veneninsuffizienz, dabei die endoskopische subfasziale Dissektion der perforanten Venen die Auswahloperation ist.

X-HISTIOZYTOSE DER LUNGEN

Sokolenko L.S- die Ordinatorin, Sjomina T.-die Studentin des 5. Studienjahres Wissenschaffliche Leiter: D.m.W. Pri hodko O.B., K.m.W. Smorodina E.I., Tkatschjowa N.A.

X- Hystiozytose(Granulomatose) der Lungen ist eine Erkrankung der unbekannten Atiologie (retikulohistotzytaren Systeme), wird durch die Proliferation

von Histiozyten, bildung der Granulomen in den Lungen gekennzeichnet . Die Pathogenese ist wenig bekannt. Mogliche Werte der autoimmunen Mechanismen sind nicht ausgeschlossen. Granulomatose aus Langerhanshen Zellen ist die Krankheit, bei deren die monoklonale positive Langerhans- Zellen die Bronchiolen und alveolaren Interstizien infiltrieren.

Das charakteristische pathologische Merkmal ist die Bildung der Granulomen und systematische Schadigung von Organen und Geweben. Granulome werden am haufigsten in der Lungen und Knochen nachgewiesen. Die wichtige Zelle der Granulome sind Histiozyten, die aus Knochenmarks hervorkommen. Es gibt akuten Form (der Erkrankung Alt- Legger- Siwe) und primare chronische Form (der Erkrankung nach Heud- Schjuller- Christschen). Typische Symptome sind Atemnot, Husten ohne Aswurf, Mudigkeit, Scherzen in der Brust, plotzliche Spontapneumothorax. Oft entwickelt sich keine klinische Erkrankung bei 15% von Patienten und wird bei Rontgenographie des Thorax erkannt. Haufigsten extrapulmonalen Manfestationen sind Knocheschmerzeh, Hautausschlag, Polyurie aufgrund von Diabetes insipidus. Aber diese Symptome sind sehr selten.

Die Diagnose der pulmonalen X-histiozytose.

X-Histiozitozen kann man aufgrund der Daten der Anamese, der objektiven Uberprufung und Rontgenographie des Torax leicht verdachtigen. Die Bestatigung der Erkrankung wird bei Computertomographie der hohen Losung, Lungenspiegelung mit der Ausfuhrung Gewebenetnahme erzeugt. Die wichtigsten diagnostschen Kriterien der primaren chronichen Form konnen beruck sichtigt werden: rezidivirende Pneumothorax, restiriktive und obstruktive Luftstorung, die Moglichkeit systematischer Zerstorung von Organen und Geweben, die Bildung von "Wabenlunge" und histiozytare Granulom in der biobtate Lungengewebe.

ETHISCHE PROBLEME DER LEIHMUTTERSCHAFT

Safonowa Ja.-die Studentin des 2, Studienjahres

Wissenschaftliche Leiter: Timoschenko T.W., Tkatschjowa N.A.

In der Geschichte der Menschheit eines der wichtigsten Ziele der Ehe und das Leben sind Kinder. Aber nicht alle Menschen haben die Freude an der Vaterschaft und Mutterschaft, so wie in Ubereinstimmung mit der medizinischen Statistik 20 % der Paare keine Natürliche Fahigkeit zur Geburt haben jetzt ist die Durchfuhrung der Operationen mit kunstlicher Befruchtung und Einnistung des Embryos gab die Moglichkeit, die Ehegatten Hoffnung, Eltern zu werden.

Allerdings verursacht die Anwendung dieser Methoden Reproduktionen betrachtliche Menge der Probleme der ethischen, medizinischen und rechtlichen Natur.

Die Gegner der Leihmutterschaft der Charakter in Erster Linie dazu gehort die Kirche, glauben, dass es fur die Umsetzung die Vernachlassigung der tiefsten emotionalen Bindung fuhrt, die die Verbindung zwischen Mutter und Kind wahrend der Schwangerschaft bestimmt.

Zur Losung des Problems der Leihmutterschaft hat die muslimische Religion. So wie in den muslimische Landern wo die Polygamie beherrscht, als Leinmutter sein kann .

Auch die Praxis des zu ersetzenden Mutterschaft wird kritisiert und auch fur die Moglichkeit der Kommerce . Über das Verbot des Einsatzes der Leihmutterschaft fur kommerzielle Zwecke geht es in der Brussel Erklarung der Weltgesundheitassotiation.

Russland gehört zu den wenigen glucklichen Landern, wo die Leihmutterschaft gesetzlich erlaubt ist. Rechtliche Aspekte der Leihmutterschaft werden nach Zivilgesetzbuch der Russischen Foderation, Grundlagen der Gesetzgebung der Russischen Foderation über den Schutz der Gesundheit der Burger reguliert. Die Umsetzung der medizinischen Komponenten der Leihmutterschaft werden durch die 67. Verordnung des Gesundheitsministeriums der Russischen Foderation geregelt.

Im Allgemeinen hat die Verbreitung der Leihmutterschaft und erwachsende auf Ihrer Grundlage Industrie eine ganze Reihe von Widerspruchen: juristischen, medizinischen, religiosen und moralischen Charakter. Das Verfahren selbst hat ein zweifelhafter Charakter, ist von potenziellen Konflikten zwischen den beteiligten Leihmutterschaft, voll wobei sie im wesentlichen schwierigsten Charakter haben. Die Einfuhrung und Verbreitung der Leihmutterschaft ist eine Form der Ausbeutung von Frauen und sinkt den Status der Mutterschaft im allgemeinen. Die Technologie der Leihmutterschaft, in sich zu viel Gelb, werkehren befindet sich in einen tiefen Konflikt mit dem Status und der Rechte der ungeborenen Menschen.

ERKRANKUNG VON DEM KATARAKTA UND GLAUKOM DER BEVÖLKERUNG DES URGEBIETS

Tschurin W. – der Internist.

Wissenschaftliche Leiter: D.m.W Wydrow A. S., Tkatschjowa N. A.

Hauptsächliche Anlasse der Blindheit in der Welt sind Katarakt, Trachom und Glaukom. Unter der Bevolkerung der ganzen Welt wird die Zahl der bejagten Leuten fortschrittlich zunimmt. Der Kampf mit Blindheit von Glaukom ist eine Aufgabe der modernen Augenheilkunde. Obgleich Glaukom ein aus hauptsachlichen globalen Anlassen der Blindheit, ist die Abwesenheit der einheitlichen Bestimmung der Erkrankung in seinigen diversen Ausgestaltungen fuhrt zu das, daß Organisatoren des Gesungheitswesens beleibte Information uber epidemiologischen Situation nach dieser Erkrankung nicht angeordnet hat. Ein standiger Factor ist das Mißverhaltniss zwischen klinischen und epidemiologischen Klinikangaben der Diagnostik des Glaukoms. Dabei wird Ansteigen ausgebreiteter des primären offen - eckiger Glaukoms beobachtet. Diese Tendenz wird wenigstens teilweise durch Ansteigen der Diagnostik der Moglichkeiten erklart. In letzten Jahrzehnte steigt in der Welt insgesamten, und in Rußlandauch, fortschrittliche Zunehmen der ranhheiten. Glaukom hat nicht nur beachtenswerte medizinische, sondern auch große soziale Bedeutung, als Pathologie die zu irreversibler Blindheit fuhrt, deshalb das Studium der Epidemiologie des Glaukoms im Rußland eine aktualle Aufgabe der Augenheilkunde Das Ziel der Durchforschung ist Beurlaubung des Niveaus und Dynamik der Morbiditat von Glaukom und Katarakt in Amurgebiet in Periode 1990-2012. In 1999-

2012 Jahren war gemeine Morbiditat von Glaukom in Amurgebiet auf 95% erholt

primare Morbiditat auf 75%. Die gemeine Morbidität von Glaukom der Stadtbevölkerung des Gebiets war auf 140% erhoht, landwirtschaftliche Bevölkerung auf 78%. Die primäre Morbidität der Stadtbevölkerung des Gebiets wuchs auf 330% auf, landwirtschliche Bevölkerung auf 70%. Das schnellste Tempo des Ansteigens der Morbidität war bei Stadtbevölkerung des Amurgebiets bermerkt, aber doch in landwirtschaflichem Gegend wurde stehende Tendenz zur Erhohung der Morbidität von Glaukom bemerkt. Im Laufte 1990-2012 Jahren wurde Amurgebiet bedeutende Verschliemmerung der epidemiologischen Situation von Glaukom bemerkt

Also, Problem der Morbidität von Glaukom im Amurgebiet bleibt aktuell, trotz hochen Niveau der Diagnostik und Kur der Patienten. Dynamik der allgemeinen und primären Morbidität von Glaukom der Bevölkerung des Amurgebiets hat "aggressive" Charakter. Es wurde Zusammenhang zwirschen Erkvankungsnivea und okologische Charakteristik bemerkt.

MISSBRAUCH IN DER PSYCHIATRIE

Bondarik N. die Studentin des 3.Studienjahres Wissenschaftliche Leiter: Timoschenko T.W., Tkatschowa N.A.

Mißbrauch in der Psychiatrie ist meist ens mit der Ankundigung verbunden, der gesunden Menschen, als psychisch Erkranken. Dies kann als Schaden «eingebildeten Kranken», und zu Ihrem nutzen (aber in der Regel nachteilig fur die Gesellschaft) auftreten. Die «klassische» Art der psychiatrischen Mißbrauch gilt als Anerkennung der Person arbeitsunfahig mit dem Ziel ihre, Vermogen (dieses Thema spielte in vielen literarischen Werken) zu ubernehmen. In totalitaren Gesellschaften haben oft, als psychisch kranke Menschen solche Menschen erklart, die sich «peinlich» die Behorden, fur die Blicke (Dissidenten) In der kanadischen Provinz Quebec existierte in den Jahren 1940-60 unter der Leitung von Premiere Provinz von Maurice Duplessis und der romisch-katholischen Kirche die Praxis der langjahrigen gewalttatigen «Behandlung» von tausend heimlosen Kinder, die als «geistig Behinderte» gilten, ohne Mitteilung an Eltern. Zusatzlich wurden zur Behandlung mit Hilfe der Substanz Chlorpromazin, die Kinder zu einer Hausmeister Arbeit gezwungen. Eine Gruppe von etwa 3000 uberlebenden, die sich selbst als Waisen Duplessis nennen, versuchte zur Antwort die Regierung, die Kirche und das Kollegium der Arzte in Quebec rufen. Einige von Opfer entdeckten falsche Kopien seiner Patientenakte. Im Jahre 2001 verzeichnete die Regierung von Quebec von einer umfassenden Untersuchung der Praxis.

Es gibt jedoch auch Falle, wenn ein kranker Mensch als gesunder gilt, aber in solchen Fallen gibt es «Opfer» in der Regel nicht, und Mißbrauch wird nicht verzeichnet. Einige Psychiater, die Zugang zu den psychotropen Mitteln haben, verbrauchen selbst es oder illegal versorgen Sie Suchtigen.

DIE EINWIRKUNG DER KOPFOHREN AUF DAS GEHOR

Damdyn-ool A – die Studentin des 1. Studienjahres. Wissenschaftliche Leiter - Pawlowa A.Je., Tkatschjowa N.A.

Das standige Abhoren der lauten Musik mit der Kopfohren der StraBe,in dem Sportsal, in Transort und uberall, Unvermeidlich fuhrt zur Senkung des Gehors. Die lautlichen Wellen geraten ins Ohr durch den Gehorkanal mit Hilfe des Trommelfelles und werden in die Schwingungen umgewandelt und in die Schnecke ubergeben, die sich im inneren Ohr befindet. Diese Schwingungen, die nervosen Impulse seinerseits umgeformt haben, werden vom Gebirt wahrgenommen. Die Natur hat den Mechanismus vorgesehen, der vor der Beschadigung das innere Ohr schutzt: bei der Einwirkung niedriger der hochfrequenten Laute verkurzen sich zwei Muskeln, und das Trommelfell anstrengent, mit Hilfe der Gehorknoche haben den Zugang der gefahrlichen Schwingungen in dem inneren Ohr uberdeckt. Wenn die lauten Laute eine lange Zeit nicht aufhoren, werden auch Muskeln ermudet und schutzen inneres Ohr nicht. Es fuhrt zu den Beschadigungen der Nervenzellen der Schnecke, die fur die Sendung der Impulse ins Gehirn verantwortlich sind. Die Arzte meinen, daB die leistenste Lauten, die das Ohr empfangt kann, ist es 10-15 dB. Das Flustern wird in 20 bewertet, das gewohnliche Gesprach – 30-35 dB. Der Schrei mit dem Niveau des lautlichen Drucks in 60 dB bringt zum Unbehagen schon, und nach der Gegenwart sind fur das Gehor die Laute von der Kraft von 90 dB gefahrlich. Mit anderen Wortern: ein beliebiger Pfaffe ist das Rock-konzert mit dem Niveau 100-120 dB ein ernster Test fur die Ohren. Solchen lautlichen Druck mit der Leichtigkeit kann man in beliebigen modernen Kopfhorern eireichen.

LEBERZIRRHOSE

Schiwtschenko N. – Studentin des 4. Studienjahres. Wissensaftliche Leiter: K.m.W. Sulima M.W.; Tkatschjowa N. A.

Leberzirrhose ist ein chronisch progressive Prozess in der Leber, der durch eine signifikante Abnahme in der Zahl der funktionierenden Hepatozyten, Knotchen und Entwicklung von Leberinsuffizienz und portale Hypertension gekennzeichnet wird. Die Ursachen der Krankheit sind chronische virale Lebererkrankungen und akute Erkrankungen (Hepatitis B, C, D), alkoholische Lebererkrankung und Leberschadigung aufgrund von Drogenkonsum , Gallenerkrankung, Autoimmunlebererkrankungen , Autoimmunhepatitis, primare biliare Zirrhose, Stoffwechselstorungen , Nasya, angeborene Storungen des Fettstoffwechsels im Korper, Galaktosamie und Morbus Wilson - Konowalov. Oft mit Leberzirrhose entwickeln sich Komplikationen: portale Hypertension, Blutungen aus Osophagusvarizen oder Hamorrhoiden, Leberversagen mit dem Ergebnis in Leberkoma, Enzephalopathie, sekundare bakterielle Infektion (schwere Lungenentzundung, Sepsis, Peritonitis), der Übergang zu einer Zirrhose

DIE ERFORSCHUNG UND BEHANDLUNG DES HERZKREISLAUFSSUSTEMS

Korowkina D. – die Studentin des 2, Studienjahres Wissenschaftliche Leiter: Schulga I.S.; Tkatschjowa N.A.

Garwej behauptete, dass das Herz wie die Pumpe arbeitet, die das Blut in die Blutgefä e vordert. Es existiert zwei Kreisläufe: im großen Kreis geht das Blut vom Herz zum Kopf, zur Oberfläche des Körpers, zu allen Organen. In kleinem bewegt sie sich zwischen dem Herz und den Lungen und wird mit dem Sauerstoff gesättigt.

In 17 Jahrhundert hat der italienische Physiologe M.Malpigis unter dem Mikroskop den Blutkreislauf in den Kapillaren zum ersten Mal gesehen und hat als ihre Haargefä e genannt.

In 18 Jahrhundert war die Größe des Blutdrucks bestimmt

In 1865 hat das russische Gelehrte Jh. Sutygin die labormässigen Forschungen nach der Konservierung des Blutes und der Belebung der ausgebluteten Hunde vom Transfusion des nicht gerinnenten Blutes der Siebentagesaufbewahrung zum ersten Mal durchgeführt.

DIE ANOMALIEN DER HALTUNG

Garifullina A. – die Studentin des 1. Studienjahres Wissenschftliche Leiter: Pawlowa A.Je; Tkatschjowa N.A.

Die Haltung ist die Position des Kopf es und Oberkorper des Menschen, die unter dem Einfluss der Schwerkraft gebildet wird, w er steht, sitzt und geht.

Die richtige Korperhaltung wird als habituelle Haltung entspannt stehenden Person mit der Fahigkeit, ohne zusatzliche aktive Stress geradeaus Korper und Kopf halten, bezeichnet. Eine Person mit einer korrekten Haltung hat abgesenkte Schultern, seine Brust ist raus, Bauch ist versteckt, die Beine in den Kniegelenken sind entfaltet. Die Haltung wird im Prozess des Wachstums und der Entwicklung des Kindes erzeugt. Die Art der Haltung ist stark von der Wirbelsaule abhangt sie gibt die vertikale Position des Korpers, unterstutzt die Schwere des Kopfes und oberen Extremitaten des Korpers.

Ursachen der falsche Korperhaltung.

Defekte der Haltung und Krummung der Wirbelsaule kann bereits im
Sauglingsalter auftreten. Die Ursachen fur die Verletzung der Korperhaltung, gibtes
zu viel. Einige von ihnen hangen von dem Zustand der Gesundheit und korperlicher
Entwicklung des Kindes, andere von seiner Umwelt ab. Unter allen Faktoren und

Ursachen spillt eine wichtige Rolle in der Ausbildung einer guten Haltung die Ernahrung. Vitamin und Mineralsalz mangel beeintrachtigt den Zustand der Skelettmuskulatur des Kindes und pradisponiert zur Entwicklung von schlechten Haltung. Solche Stellungen fuhren zur Bildung von falchen Korperhaltung.

175 JAHRE DER ZELLTHEORIE

Maxjuta D. - der Student des 1. Studienjahres Wissenschaftliche Leiter: Prof. Gordienko E.N., Tkatschjowa N.A.

Was wird in jedem Organismus versteckt? Ob er zuvor von Zellen bestand hatte? Wie wurde es geandert? Die Antwort hat der deutsche Wissenschaftler gegeben: T. Schwann, der die Zelltheorie der Struktur der tierischen Geweben erstellt. Schwann stolperte über diese Entdeckung Schleiden. Schleiden gab in die Schwanns Hande eines guten Kompass - Kern. Schwann hat die gleiche Technik angewandt: ersten Blick auf den Kern der Zellen, und dann aut ihre Schale. In Rekordzeit - nur in ein Jahr - beendete Schwann seine titanische Arbeit und im Jahre 1839 veröffentlichte die Ergebnisse in "Mikroskopische Untersuchungen in Ubereinstimmung mit der Struktur und dem Wachstum der Tiere und Pflanzen", wo er die grundlegenden Bestimmungen der Zelltheorie formuliert hat. rie ist von eine grundlhegender Bedeutung fur die Biologie, Theorie in der Mitte des XIX Jahrhunderts die Grundlage für das Verstandnis der natürlichen Welt und für Entwiklung des Evolutions Lehren bereitgestellt hat. Matthias Jakob Schleidens und Theodors Schwanns Theorie wurde auf einer Reihe von Studien über die Zelle (1838) basiert. Rudolf Virchow hat spater (1858) seine wichtige Position hinzugefugt (jede Zelle aus einer anderen Zelle kommt) und hat die Zelltheorie formuliert.

Schleiden und Schwannfassten derzeitigen Kenntnissen der Zelle zussammen und haben nachgewiesen, dass die Zelle die Grundeinheit jeden Organismus ist. Die Zellen von Tieren, Pflanzen und Bakterien haben eine ahnliche Struktur. Spater waren diese Erkenntnisse als Grundlage fur den Nachweis der Einheit der Organismen. T. Schwann und Schleiden M. haben in die Wissenschaft ein grundlegendes Verstandnis der Zelle eingefuhrt: ohne Zelle gibt es kein Leben. Die Zelltheorie wurde jedes Mal bearbeitet und hinzugefugt.

MERKMALE IMMUNITAET MUETTERLICHEN ORGANISMUS WAEHREND DER SCHWANGERSCHAFT

Gorenkowa A.- die Studentin des 2. Studienjahres Wisenschaftliche Leiter — Kozlowa W.S., Tkatschjowa N.A.

Während der Schwangerschaft werden in Immunsystem morphologische und funktionelle Veränderungen der Mutter an dem ersten Drittel der Schwangerschaft gerichtet, vor allem auf die Schaffung von Bedingungen für die Implantation des Embryos, das Wachstum und die Reifung der Plazenta, fötalen Organogenese in der Zukunft - für das Wachstum und die Entwicklung des Fötus und in allen Perioden der fötalen Entwicklung - für verhindern Ablehnung des Embryos und Fötus, und somit zur Erhaltung und Schwangerschaft bis zur Entbindung für eine Zeit charakteristisch für die einzelnen Arten.

In den Körper der Mutter während der normalen Schwangerschaft sind zusätzliche Mechanismen der Regulation des Immunstatus, einzuschliessen was Hemmung der zellulären Mechanismen und (in geringerem Ausmaß) die humorale Immunität zur führt .Schwangerschaft wird durch eine temporäre Thymusinvolution begleitet Teilweise atrofiert Thymus wegen kortikalen Lymphozyten (wie in Stresssituationen) nicht zerstört; Zustand des Thymus-Lymphozyten, in Gehirn bleibt nicht wesentlich normal. Thymusatrophie Zustand anhält für 3 Wochen. nach der Entbindung. Es hat sich gezeigt,daß verursachen eine vorübergehende Thymusinvolution sind Kortikosteroide, Steroidhormone, Eierstock- Trophoblasten und andere Faktoren.Beim Menschen wird gezeigt, dass in den Lymphknoten Trockenlegung der Uterus und Schwangerschaft steigt in der Milz-Lymphozyten-suppressor die jede Zytotoxizität allogener Lymphozyten und schwächt ihre Fähigkeit, schwächt ruft Reaktion "Transplantate gegen Spender".

So wird in Frauen arbeiteten evolutionär adaptive Mechanismen gestate ermöglichen allogenen Fötus.Gebildet, wenn der Immunstatus der Schwangerschaft, gekennzeichnet durch einen Zustand der vorübergehenden Immunschwäche hauptsächlich Unterdrückung der mütterlichen Immunaktivität auf dezidualen trophoblastic-Ebene, die zur normalen Schwangerschaft.

ICHTHYOSE

Schiwtschenko N. – Studentin des 4. Studienjahres. Wissensaftliche Leiter: K.m.W. Melnitschenko N. A.; Tkatschjowa N.A.

Ichthyose ist eine Hautkrankheit, die als vererbte Dermatose Verletzung der Keratinisation und manifestiert sich in Form von Schuppen auf der Haut, Fischschuppen ahneln. Der Hauptgrund der Ichthyose ist eine Genmutation deren Biochemie ist noch nicht entziffert. Verletzung der Proteinstoffwechsel im Blut. Wenn es Aminosauren und die Storung des Fettstoffwechsels gibt, die sich in Cholesterin steigerung außern, sind der wichtigste Ausdruck der Genmutation, die zu Ichthyose fuhrt. Alle Stoffwechselvorgange werden reduziert, die korpereigene Warmeregulierung wird verletzt und die Aktivitat der Enzyme in den oxidativen Prozessen der Hautatmung umgekehrt verstarkt. Bei Patienten mit einer genetischen Mutation, die die Ursache der Ichthyose ist, wird allmahlich erwachsen oder erscheint sofort verminderte Aktivitat der Schilddruse, Nebennieren und Geschlechtsdrusen, erhoht das Defizit der humoralen und zellularen Immunitat. Storungen der Absorption von Vitamin A zusammen mit reduzierten Funktionen der Schweißdrusen und fuhrt zu Verletzungen der Keratinisation der der Haut, in Hyperkeratose, so wie die ubermaßige Produktion von Keratin umstrukturiert ist, was gemeinsam mit der Abschwung des Prozess es der Ausgrenzung der keratinisierenden Schicht der Epidermis und ist die Ursache der Ichthyose. Die Ichthyose zwischen Skalen sind Aminosaure-Komplexe, die Flocken so fest zementieren, deshalb sind die Schyppen so fest zueinander befestigt, daß ihre Trennung aus dem Korper stark schmerzhafte Wirkung hat. Nach dem Krankheitsbild wird die Ichthyose unterscheidet: vulgare, X-chromosomal, Lamellare, fetale (Harlequin Fetus), ichtyosemorhpe Erythrodermia von Brok (kongenitale Form), Lineare umgibiege, Epidermolytische Ichthyose.

ANTIVITAMINE. IHRE BIOLOGISCHE ROLLE

Sojan D – die Studentin des 2. Studienjahres Wissenschaftliche Lieter: K. m. W. Egorschina E. W., Tkatschjowa N. A.

Antivitamine ist die Gruppe von organischen Verbindungen, die biologische Aktivitat von Vitaminen drucken. Diese Verbindungen sind als die Vitamine in der chemischen Struktur ahnlich, aber sie haben entgegengesetzte biologische Wirkung. Bei der Einnahme enthalten Antivitaminen anstelle von Vitaminen in Stoffwechselreaktionen und hemmen oder zu unterbrechen ihren normalen Verlauf. Dies fuhrt zu Vitaminmangel, auch dann, wenn das entsprechende Vitamin ausreichende Nahrung zugefuhrt oder in dem Korper ausgebildet ist. Antivitamine sind fur fast allen Vitamine bekannt. Beispielsweise Antivitamin zu Vitamin B1 (Thiamin) ist Pyrithiamin, Polyneuritis Phanomene verursacht. Antivitamine wurden auch in Lebensmitteln nachgewiesen.

Es gibt zwei Arten von Antivitamine: Unspezifische behindern das Eindringen von Vitaminen in die Zelle einer oder anderer Weise, umfasst diese Gruppe Enzyme, die Thiamin (Thiaminase, Askorbinaza u. a.) zu zerstoren, und Stoffe, die Komplexe mit den Vitaminen bilden das ihre Adsorbtion verhindert (z.B. Avidin). Spezifische, die Umsetzung der Stoffwechselfunktionen (in der Sruktur ahnlih und nehmen im Bezug zu Vitaminen biologisch aktiven Molekulen) behindern. Antivitamine dieser Gruppe sind in der Theorie und Praxis der Medizin wichtig, da sie als Antikofermente wirken und konnen zu Antimetaboliten klassifiziert werden. Zum Beispiel hat Albuminfraktion von rohem Eiweiss, die hat Avidin genannt wurde, die Eingenschaft mit dem Vitamin H zu verknupt, dabei entsteht biologisch unaktive Substanz, die nicht absorbiert wird und wird als Biotin-Avidin genannt. Diese Substanz ist nicht im Wasser loslich, und kann somit nicht. Also, ist Avidin als Antivitamin zu Biotin. Als Andere Bespiele dienen verschiedene Vitaminase, die bestiminte Vitamine zerstforen und verspalten. Thermolabile Ferment Thiaminase zerstort Vitamin B1. Antivitamine der 2. Gruppe konnen bedeutende Wirkung auf Stoffwechsel im Organismus als Analoge von Vitaminen wirken.

N.I. PIROGOW ALS BEGRUNDER DER KLINISCHEN ANATOMIE

Nagiew M. – Student des 3. Studienjahres Wissenschaftliche Leiter – Dozent Piskun S.I., Tkatschjowa N.A.

Nikolai Iwanowitsch Pirogow ist der Begrunder der klinischen Anatomie. Er wurde in die Familie des Kassierer am 25. November im 1810 in Moskau geboren. Die Grundschulbildung hat er zu Hause erhalt. Im 1812 bezog er in die Pansion Krjashewa. Weiter wurde er zur Aufnahme in die Universitat von Professor E.O.Muchin vorbereitet. Seit 14 Jahre machte er das Abitur auf die medizinische Fakultat der Moskauer Universitat, die mit der Auszeichnung beendet hatte. Weiter setzte er sein Studium an der Dorpater Universitat. Hier hat in der chirurgischen Klinik 5 Jahre gearbeitet, und im 1832 Jahre hat Pirogow die Doktorarbeit zum Thema "Die Ligation der Bauchaorta" geschrieben. Er hat die transperitoneale und extraperitoneale Methoden des Zugang zu der Aorta geboten.

Auf die Suche der wirksame Methode des Studiums entschied Pirogov die anatomische Erforschung auf gefrorenen Leichen anwenden, und auf die Grundlage diesen Erforschungen hat er zum ersten Mal des anatomischen Atlas unter dem Titel "Die Topographische Anatomie, illustrierende Schnitten, begleitende durch den gefrorenen Korper in drei Richtungen" herausgegeben. Dieser Atlas und die von Pirogow bietende Methodik wurden als die Grundlage der ganze Entwicklung der operativen Chirurgie. Im 1846 Jahre wurde nach seinem Projekt in die Medizinische Chirurgische Akademie in Russland das anatomische Institut geschaffen, das sich die Studenten und Arzten mit der Klinischen Anatomie beschaftigen erlaubt, sich in der Erzeugung der Operation uben und die experimentelle Beobachtung durchfuhren. Das grosse Verdienst hat Pirogow in der Ausarbeitung der Fragen der Anasthesie. Im 1847 Jahre nach der Entdeckung von U.Morton der Athernarkose hat Pirogow die experimentelle Erforschung herausgegeben, die zum Studium des Einflusses des Ather auf den Organismus des Tieres gewidmet war. Er hat die Reihe von neuen Methoden der Athernarkose und die Gerate fur Atheresierung geschaffen. Pirogow war zu dem Direktor des Instrumentenbetrieb ernannt. Im 1853 Jahre wahrend des Krimkrieges war er nach Sewastopol für die Hilfe in der wirkenden Armee gefahren.

Hat die Grundlagen der Militarischen Feld Medizin eben Pirogov gelegt. Somit erlaubte Genie Nikolai Iwanowitsch Pirogow die anatomische Kentnisse der Anfragen der praktischen Chirurgie unterordnet und die Anatomie als klinische Disziplin machen.

DIE NAHRUNG DER KINDER

Seren-ool A. - die Studentin des 2. Studienjahres Wissenschaftliche Leiter: K.m.W. Egorschina E.W., Tkatschjowa N.A.

Zur Zeit ist die Probleme der Satigkeit der Nahrung mit notwendingen Elementen aktuell. Sehr wichtig ist die vollwertige Ernahrung im Kindesalter, wenn der wachsende Organismus an mehreren Elementen fur die Entwicklung fordert. Das Erlernen der Notwendigkeit an Minerallen, Vitaminen ist die Hauptaufgabe der Arzte.

Die Ernahrung der Kinder muB man vollstandig den Bedarf an plastischen und energiereichen Stoffen gewahrleisten. Quntitativer Mangel und qualitative Unvollwertigkeit werden gleich negativ auf korperliche und neuropsychische Entwicklung der Kinder wirken.

Fur das normale Wachstum des Kindes fordert man verschiedene EiweiBe, Kohlenhydrate, Fetten, Vitamine und Minerallstoffen.

Die falsche Nahrung: gerauchelte Narungsmittel. Jetzt werden diese Produkte nicht durch Rauch, sondern durch spezielle Stoffe gemacht. Es enthalt chemische Stoffe, die sehr schadlich fur Gesudheit sind.

Tschipse ist schadliche Kost. Sie werden mit nahrungszusatzlichen Stoffen gemacht, die viel Salz gehalten. Wurst, Wurstchen sind fur unseren Korper schadlich, besonders gebraute Wurstchen. Die Getranke mit Kohlensaure sind vollig chemische Stoffe, die Farbe enthalten.

Bon- bons und andere Sussigkeiten sind mit chemischen Stoffen gemacht. Sie en-

thalten Zucker in groBem Menge.

IRISDIAGNOSTIK

Dadaschewa S. – die Studentin des 2. Studienjahres Wiesenschafliche Leiter: Ambrosjewa N. P., Tkaschjowa N. A.

Das Auge sind Spiegel der Seele, Zugang zum Innersten des Menschen durch Irisdiagnostik.

Die Irisdiagnostik ist die Kunst, mittels derer es sich ermoglichen laßt, aus der Farbe, der Dichtigkeit und den mannigfaltigen Zeichen der Regenbogenhaut den korperlichen und auch den geistigen Zustand eines Menschen zu ergrunden.

Die Irisdiagnostik entwickelte sich zwar uber mehrere hundert Jahre, aber die erste irisdiagnostische Karte wurde erst am Beginn des neunzehnten Jahrhunderts von dem ungarischen Arzt Ignatz von Pezcely geschaffen, der fur den Vater der Irisdiagnostik gehalten wird.

Uber seine Kindheit wurde geschrieben, daß er eines Tages im Garten eine Eule entdeckte, die ein gebrochenes Bein hatte. Er nahm sie mit zu sich und begann sich um sie zu kummern. Er bemerkte, daß sie in einem Auge einen schwarzen Strich hatte, aber als ihr Bein gesund wurde, tauchte anstatt des schwarzen Strichs ein weißes Zeichen auf. Dieses Ereignis loste in ihm ein lebenslanges Interesse an der Erforschung der Iridologie aus.

Obwohl die topographische Karte von Pezcely immer noch ihre Gultigkeit hat, wurde dieses Diagnoseverfahren immer weiter entwickelt. Im Rahmen der praktisch-empirischen Erfahrungsmedizin richtet sie sich hauptsachlich auf die Therapie.

Durch bessere technische Moglichkeiten (Irismikroskope, Irisphotograpie) und intensiver Forschung ist die Aussagekraft von Iriszeichen und Topographie immer weiter vervollstandigt und prazisiert worden.

Das gesamte Auge - nicht nur die Iris (deshalb spreche ich lieber uber Augendiagnose und nicht nur uber Irisdiagnostik) - gibt uns Auskunft uber den Zustand der Organe, des Bewegungsapparates einschließlich der Wirbelsaule, des Nervensystems, der Gewebsflussigkeiten, der Lymphe, des Blutes und allgemein uber die (besonders wichtig fur die Homoopathie) "Konstitution" und Krankheitsdisposition des Patienten. Das wird ermoglicht durch die Iristopographie und der Kenntnis uber die Zeichen, Formen und Phanomene, die auftreten konnen, sowie durch die eingelagerten Farbpigmente.

NOBELPREISTRAGER DES 2014.JAHNES IM GEBIET DER PHYSIOLOGIE UND MEDIZIN

Dashy-Dawaa A. - die Studentin des 2. Studienjahres. Wissenchaftlichte Leiter: Wodopian A.W, Tkatschjowa N.A

Der Nobelpreis in Physiologie und Medizin ist hochste Auszeichnung fur wissenschaftlihe Leistungen in den Naturwissenschaften, die jahrlich von der Nobel-Komitee in Stockholm verliehen. Der erste Sieger war Emil von Behring.

Im Jahre 2014 wurde der Preis an einen amerikanischen Neurobiologe John O. Kifi

und norwegische Forscher Mary Britt und Edward Moser fur die Eroffnung von zwei Klassen der Nervenzellen ausgezeichnet, die uns in Raume zu orientieren helten. Preis wurde fur die Hirnforschung und Zelleroffnung, die fur Positionsgsystem verantwortlich sind. Dieses System ist eine Art "interner GPS", das uns im Raum zu navigieren ermoglicht . Wissenschaftler haben festgestellt, dass jede Zelle des menschlichen Korpers eine Art der Werke ist, die Molekule im Korper proroduziert und expromisiert. Diese Molekule bewegen sich im Korper in besonderen Luftblaschen.

DIABETES MELLITUS DES I. TYPS BEI KINDERN

Namtschykai Tsch. – die Studentin des 2. Studienjahres. Wissenschaftliche Leiter: K.m.W. Egoschina E.W., Tkatschjowa N.A.

Der I. Typ des Diabetes wird oft als Insulinabhangige Krankheit bezeinchnet. Bei dieser Krankheit hat die Bauchspeicheldruse kein Insulin produziert. Er gibt keine Insulin, die Kanale fur den Durchtritt von Glucose in die Zellen des Korpers sind geschlossen. Die Zellen beginnen zu hungern, und das Blut wird dagegen ubersattigten mit Glucose. Die einzige Losung in dieser Situation: man muss Insulin regelmassig spritzen. Der I. Typ des Diabetes bei Kindern kann auf dem Hintergrund der chronischen Pankreatitis oder einer Stressituation fur den Korper des Babys auftreten.

Der I. Typ des Diabetes mellitus ist bisher unheilbar. Ohne Insulin sind bei diese schnell zu schwere Behinderungen und dann der Tod einzutreten. Ursachen von I Typ des Diabetes bei Kindern.

Die Schadigung der Bauchspeicheldruse kann viele Grunde haben, aber oft die Krankheit entwickelt sich auf dem Hintergrund der viralen Infektion oder die Verwendung von Milch.

Komplikationen:

- 1.Der Mangel an Insulinersatz durch pharmakologischen Stoffen fuhrt zu honen Blutzuckerspiegel und kann zu Ketoazidose fuhren.
- 2. Diabetische Nierenschaden (diabetiche Nephropathie).
- 3. Diabetische Retinopathie, und Angiopathie, die zur Entstehung der Infektionen und Ulkuskrankheit fuhrt.
- 4.Atherosklerose wird duch Zuckerkrankheit entstehen. Es fuhrt zu Blutkreislaufzestorung, Insulte und Herzkrankheiten.



SECTION du FRANCAIS et du LATIN

ASPECTS MODERNES DU TRAITEMENT PHARMACOLOGIQUE DU SYNDROME NEUROMETABOLIQUE-ENDOCRINIEN

Kihner N. – et-te de la 5-eme annee

Les dirigeants scientifiques - Skatchkova O.V., Nasarkina S. I.

Le syndrome neurometabolique-endocrinien est caracterise par la fonction hormonale des glandes surrenales et les ovaires sur un fond de prise de poids progressive et symptomes diencephaliques qui developpent après l'accouchement, l'avortement, les neuroinfections, le stress. A la base de tout cela nous voyons l'insulinoresistance, l'hyperandrogenie.

L'importance dans le succes du traitement est la detection precoce de la maladie au stade des troubles fonctionnels, avant de la formation des ovaires polycystiques. On se forme l'insuffisance de la deuxieme phase du cycle, puis c'est une anovulation et les troubles menstruels par le type de la hemorrhagie uterine, l'anomenorrhee, l'oligomenorrhee et de la sterilite.

Le traitement est difficile, parce que le retablissement de la fonction menstruelle on peut realiser après la normalisation du poids du corps et des troubles metaboliques. La diminution du poids du corps a la base de la reduction de l'alimentation et de la therapie medicamenteuse, conduit a la restauration du cycle menstruel ovulatoire et de la fertilite.

La therapie medicamenteuse du syndrome neurometabolique-endocrinien comprend les prescriptions des remedes de la classe des biguanides dans la detection de l'intolerance a rapport du glucose de la metformine. Leur effet est de reduire la glycemie et l'hemoglobine glyquee.

L'inhibiteur des lipases gastriques et pancreatiques a une longue action specifique, empeche le fractionnement et l'absorption des graisses de la nourriture.

La nomination des regulateurs de metabolism des neurotransmetteurs dans le systeme nerveux central: des medicaments de l'action adrenergique (diphenine, chlorocon), c'est une action serotoninergique du peritole; l'echange daphaminergique est normalise par le parlodelum.

On prescrit les gestagenes pres de l'oligoamenorhee du 16 a 25-me jour du cycle (duphaston, utrojestan), qui brise le "cercle vicieux" de l'anovulation, et favorise la proliferation des cellules du tissue adipeux.

Les diuretiques de potassium "verochpiron" a l'action hypotensive et antiandrogene.

En general, la fonction menstruelle et la fertilite se sont retablies chez les femmes après la diminution de la masse du corps a la base de la diete avec la therapie medicale.

L' EFFECTIVITE DU MEDICAMENT «LOCRENE» A LA HYPERTONIE ARTERIELLE

J. Tschegortsova, E. Bronnikova, A. Mitschenko, G. Alieva – et-tes de la 6-eme annee.

Les dirigeants scientifiques – ass. de prof. O.J.Lakotsenina, L.I. Chpiltchouk.

Le traitement de la hypertension arterielle (HTA) presente le probleme complexe pour le medecin.

A l'heure actuelle il y a beaucoup de medecaments etant doue des proprieties hypotoniques. Les Beta-bloquants selectifs sont plus efficaces. Locrene (Betaxolole) est un des representant de ce groupe qui assure l'effet hypotonique de longue duree chez les maladies avec la HTA et avec la pathologie cardio-vasculaire differente.

Le but de la recherche: etudier l'effectivite du medicament «Locrene» au traitement des patients avec la HTA en conditions a l'hopital du jour.

Le groupe de la recherché est compose de 107 malades, 28% des hommes et 72% des femmes. Les criteres du choix des patients sont: l'age apte au travail, la maladie hypertonique verifiee du I-II degree. Les maladies recevaient Locrene en dose journalienne de 10 a 20 mg.pendant 11 jours en dependance du niveau de la tension arterielle. Le groupe de controle est compose de 20 malades comparables d'après les parametres etudies. Ils recevaient la therapie hypotonique par des medicaments des autres groupes. L'effet therapeutique de Locrene est controle par la voie de l'evaluation du statut clinique, d'enregistrement de la tension arterielle, de la mesure de la frequence des contractions cardiaques jusqu'a et après avoir pris le medicament. L'effet economique est calcule en vertu de la duree de l'invalidite provisoire

De ce fait le traitement chez 70% malades a ete atteindu le niveau de but de la tension arterielle a la 4-6 journee de l'observation. Dans le groupe de controle l'effet therapeutique est enregistre a la 8-9 journee. Le traitement par Locrene de la tension arterielle n'est pas atteindu le niveau de but en 18% cas , mais l'insuffisance de l'effet (le manque de la diminution certaine de la tension systolique ou diastolique) est marque en 12% cas. La diminution certaine de la frequence des contractions cardiaques de 76,5±3,2 a 62,4±1,9 battements en minute est marque chez 67% patients. La diminution significative de la frequence des contractions cardiaques a 60 battements en minute est observe chez 20% patients. Les crises hypertonique ne sont pas marques pendant l'observation dans le groupe de recherche, dans le groupe de controle – 2 cas exiges de la therapie urgente. Le delai moyen de l'invalidite provisoire en groupe observe est plus petit en 1,5 jours, qu'en groupe de controle. L'effet economique est compose 50502,00 roubles d'apres les donnes de la section economique de la polyclinique N.4.

Ainsi l'usage du medicament Locrene au traitement complexe de la maladie hypertonique en conditions de l'hopital du jour ameliore le cours clinique de la maladie, raccourcit les delais de l'invalidite provisoire et mene a l'effet economique.

HEPATITE «C», SES SYMPTOMES ET LE TRAITEMENT

Glouchakova D., Oorjak M. – et-tes de la 3-eme annee. Les dirigeants scientifiques – prof. Tchoubenko G.I., Nasarkina S. I.

L'hepatite est une maladie infectieuse transmissible par le sang et due au virus de l'hepatite C (VHC ou HCV en anglais), qui s'attaque au foie. L'infection se caracterise par une inflammation du foie (l'hepatite) qui est souvent asymptomatique, mais qui peut evoluer vers une hepatite chronique et plus tar d'une cirrhose

(fibrose cicatricielle du foie) et un cancer du foie.

Le virus de l'hepatite C (VHC) se transmet par contact de sang a sang. Il n'existe aucun vaccin disponible contre l'hepatite C, en revanche il est possible d'en guerir a 98 % grace a des nouveaux medicaments americains ("le Sovaldi" du laboratoire americain Gilead, le "Daclatasvir" et le "Sofosbuvir" qui ont un taux de guerison a 98%). Les symptomes de l'infection peuvent etre controles medicalement et, chez une certaine proportion des patients, le virus peut etre rendu indetectable par l'administration de medicaments anti-viraux au long cours. Bien que la prise en charge medicale precoce soit utile, les personnes atteintes d'une infection par le VHC ne presentent souvent que des symptomes benins et, par consequent, ne sont pas demandeuses d'un traitement. On estime que 150 a 200 millions de personnes dans le monde sont infectees par le virus de l'hepatite C essentiellement par la transfusion de sang qui n'a pas ete soumis a un depistage et la realization d'aiguilles et de seringues non steriles.

Virologie. Le virus de l'hepatite C (VHC) est un petit virus a ARN d'environ (60 nanometres de diametre), enveloppe et contenu dans une capside proteique icosa-edrique. Son genome est un ARN monocatenaire lineaire de polarite positive. Il existe 6 grands genotypes du virus de l'hepatite C, qui sont indiques par un nombre (par exemple, le genotype 1, le genotype 2, etc.).

Le virus a ete classe dans la famille des Flaviviridae qui se compose de trois genres: 1) *les Flavivirus* responsables d'arboviroses; 2) *les Pestivirus*, qui ont des pathologies uniquement chez l'animal; 3) *le VHC* (virus de l'hepatite C), qui est le seul membre connu du genre des *Hepacivirus*.

Signes et symptomes. Le virus peut rester plusieurs annees a l'état latent. Le patient est alors ce qu'on appelle *un porteur sain*, c'est-a-dire qu'il n'a aucun symptome, mais peut transmettre la maladie. Le danger est que de nombreux patients sont infectes par le virus sans le savoir, et peuvent donc contaminer leurs proches. D'ou l'importance du depistage en cas de risque couru.

Hepatite C aigu . Apres la contamination et une phase d'incubation d'environ 7 semaines survient la phase aigu de l'infection. La phase de l'hepatite C aigu designe la periode allant du debut de l'infection jusqu'aux 6 premiers mois. Cette phase est asymptomatique (sans symptome) dans 60 a 70% des cas. Chez une minorite de patients on retrouve des symptoms non specifiques, tels qu'une perte de l'appetit, un etat de fatigue, des douleurs abdominales, un etat pseudo grippal, un prurit ou un ictere. La duree des symptomes est, en regle generale, inferieure a 3 mois.

Hepatite C chronique. L'hepatite C chronique est definie par une infection persistant depuis plus de 6 mois. Cliniquement, cette maladie est souvent asymptomatique et generalement de decouverte fortuite.

Serologie. Les tests pour l'hepatite C commencent par des tests serologiques, des tests sanguins permettant de detecter les anticorps anti-VHC. Ces derniers apparaissent vers la sixieme semaine après la contamination.

Traitement anti-viral. Le traitement de reference est une combinaison d'interferon alpha pegylee (peginterferon alfa) et d'un medicament antiviral "La Ribavirine' pendant une duree 12 semaines, ou selon le genotype du virus qui peut atteindre 12 a 24 semaines. Cette duree peut etre prolongee jusqu'a un an et demi

dans les formes avec fibrose evoluee. Cette combinaison est utilisable desormais des l'age de trois ans. La forme pegylee permet l'administration par injection hebdomadaire, ce que ne permet pas la forme simple, avec une efficacite superieure.

LES TROUBLES SCHIZOTYPIQUES DE LA PERSONNALITE

Semis-ool N., Kouoular S., Tonkonogova M. – et-tes de la 4-eme annee Les dirigeants scientifiques – Brach N.G., Nasarkina S. I.

La schizophrenie faible ou lente est une maladie endogene lente, les symptomes productifs et negatives de la schizophrenie sont expremes mollement.

Les troubles schizotypiques evoluent au niveau subpsychotique et sa forme clinique presente les manifestations de la maladie psychotique.

Classification par des variantes de la schizophrenie faible.

La version nevrotique d'après les manifestations cliniques ressemble a un nevrose. Le malade a des absessions sans psychogene. On voit le desaccord entre la portee des situations psychotraumatique et la force des reactions maladives. En cas de la predominance des manifestations hysteriques on fait l'attention spontanee a l'origine des symptomes hysteriques. La structure de la personne n'est pas presentee par comportement du patient. Les epreuves obsedantes contrairement la nevrose, se caracterisent par le caractere desirable, par l'absurdite, par l'isolement de la realite.

La version psychopathique, qui ressemble dans ses manifestations avec des troubles de la psychopathie. Les troubles de la personnalite schizopathique modifie la structure du patient. Les troubles emotionnels sont caracterises par une augmentation de la separation, la durete, les sautés d'humeur non motives, l'affaiblissement ou la perte des liens familiaux et sociaux. La parole devient bien circonstancielle, parfois avec des signes d'ataxie, mais sans dissociation pronounce. Les interets des patients perdent la direction realiste. Il y a des cas des activites d'orientation appropries, l'acquisition de traits parfois paranoique. Il existe une tendance a la reflexion, a l'introspection. Le comportement montre des signes asociaux, l'excentricite avec des desinhibition, les dedains par des normes ethiques.

Dans des troubles schizophreniques on distingue trois stades du developpement de la maladie: la phase prodromique, la phase des troubles exprimes et la phase de la stabilisation.

La phase prodromique est caracterisee par la presence generalement des symptomes positifs, typiques par l'état frontalier, sans aucun signe de declin intellectual et social, de la capacite de la croissance professionnelle. Ces troubles ne sont pas souvent consideres par les patients et leurs proches comme une manifestation de la maladie et ne servent pas comme la cause de chercher l'aide medicale.

Dans l'etape des troubles exprimes les symptomes positifs de phase prodermique sont formes dans les syndromes, on identifie les troubles negatifs peu profonds.

Dans la phase de la stabilisation se produit la plupart de l'amotrtissement des symptomes positifs avec la formation de changement persistant en arriere-plan afectif, la presence de troubles negatives et changement de personnalite en autisation.

Dans le developpement de la maladie les symptomes peuvent devenir plus complexes et se stabiliser. Les exces du comportement, instabils et affectifs, sont remplaces par des troubles emotionnels dysthymiques, du caractere depressif. Les patients deviennent trompeurs, enclins au vagabondage. Ils peuvent partir de la maison, attacher aux narcotiques, a l'alcool, a l'infraction de la loi. Cette dynamique est observe plus souvent pendant des troubles schizophreniques continues.

En general, les troubles schizotypiques sont suffisamment favorables. La plupart des patients continuent a travailler. Tout cela leur permet de maintenir le temps durable une adaptation du patient sans soutien social du medecin.

L'IDENTIFICATION DES TROUBLES DU SOMMEIL CHEZ LES ETUDIANTS DE LA 4-EME ANNEE

Tonkonogova M., Pnuchtin O. – et-ts de la 4-eme annee Les dirigeants scientifiques – Karnaoukh V.N., Nasarkina S. I.

L'un des aspects des plus importants d'une telle direction de la medecine comme la "medecine du sommeil" est un diagnostic et un developpement des methodes de corrections des troubles respiratoires chez les patients pendant la nuit. Tout cela a determine l'interet des medecins-pneumologues a ce probleme. Les resultats de nombreux travaux, effectues par des chercheurs, a permis de faire la formation finale en 1976, comme la presentation du syndrome pathologique des arrets de la respiration pendant la nuit.

Nous avons decide d'etudier: quelle qualite du sommeil est observee chez les etudiants de la 4-eme annee de l'Academie de medecine d'Etat Amourskaia. Nous avons pris a la base un test de questionnaire de pittsbourg sur le recensement de la qualite du sommeil (PSQI), l'indice de la severite de l'insomnie (ISI), l'echelle du jugement porte sur soi-meme de Spilberger. Sous l'inquietude personnelle on comprend la caracteristique individuelle durable, refletant la predisposition du sujet a l'anxiete et caracterisant par la presence chez lui la tendance a percevoir "un eventail" assez large des situations menacantes et repondant a une certaine reaction. L'anxiete reactive ou de situation comme l'état est caracterise par les emotions subjectivement supportees. L'inquietude du developpement bas indique l'état normal des affaires, mais on peut parler de ce que la personne doit provoquer beaucoup de'implications emotionnelle dans les differentes situations et il ne faut pas controler ses sentiments. L'anxiete du developpement moyen dit que l'affaire d'un examine est plus ou moins en etat tranquile, bien qu'il existe des cas quand on apparait une inquietude qui ne peut pas argumenter par les circonstances. L'anxiete du developpement haut parle de ce que la personne eprouve l'inquietude mal fondee et qui lui empeche et elle doit se deberasser de cette inquietude après des analyses des causes de son origine.

Les resultats de cette etude montrent: 72,5% des etudiants interroges de la 4-eme annee ont le sommeil bon (PSQI) et 27,5% ont le mauvais sommeil. Selon l'Indice de la severite de l'insomnie (ISI), c.-t.-d. 72,5% ont une norme, et les troubles legers se rencontre chez 25% des personnes interrogees et 2,5% des personnes interrogees ont les troubles moderes du sommeil. Sur l'echelle de Spilberger (l'inquietude reactive) on observe l'inquietude reactive faible chez 80% des personnes interrogees, l'inquietude reactive moderes – chez 15% des etudiants, et

l'inquietude personnelle haute – chez 5% des etudiants interroges. L'inquietude personnelle: 5% des etudiants ont l'inquietude personnelle faible, 80% des interroges ont l'inquietude personnelle moderes et 15% des etudiants ont l'inquietude personnelle haute.

D'après des resultats obtenus dans ce travail on peut faire la conclusion que nos etudiants ont les problemes su sommeil, lies avec des troubles de l'endormissement, la duree et la qualite du sommeil. Pour la prevention des troubles du sommeil il faut observer le regime de travail et de repos, une bonne alimentation, l'aeration des lieux avant le sommeil. Le repas doit etre jusqu'a trois heures avant du sommeil. En automne, en hiver, au printemps on recommande prendre des vitamines.

LA REGENERATION DU PANCREAS

Gourtsieva A., Pachkevitch E.. – et-tes de la 2-eme annee Les dirigeants scientifiques – Cemenov D.A., Nasarkina S. I.

Chez les adultes, la regeneration physiologique des cellules acineuses et des cellules des ilots pancreatiques se produit principalement par des voies du renouvelement intracellulaire des organelles. L'activite mitotique des cellules est basse en raison de la specialisation haute. Apres la resection d'une partie ou des lesions de l'organe on observe une augmentation legere du niveau de l'activite des cellules acineuses, des conduits avec la formation des acinus nouveaux.

Cependant la forme principale de la regeneration de la partie exocrinienne de la glande est une hypertrophie de regeneration. La renovation de la partie endocrinienne du pancreas se passe pour le compte de l'activite proliferative des ilots pancreatiques et des cellules canalaires par la transformation insulaire.

La regeneration physiologique du pancreas est caracterisee par la renovation lente de la composition cellulaire. L'indice d'activite de proliferation des glandes exocriniennes est bas, celui indique que le processus de la regeneration prend plus de 500 jours.

A la regeneration de reparation la restauration de la structure et de la fonction du pancreas se passe avec l'augmentation du niveau de la proliferation comme dans la zone de la regeneration et aussi au loin des lesions de la glande. Le facteur determine de la restauration des fonctions de la glande sont les processus de la hypertrophie regenerative des parties du parenchyme exocrinien. Les ilots pancreatiques de la partie endocrinienne sont caracterises par la reproduction cellulaire faible. La renovation de la population des cellules se passé a 103 jours.

La regeneration de reparation dans les phases initiales a la division mitotique des ilots pancreatiques, qui presente un composant important du processus de la reparation, mais elle porte le caractere de courte duree. Le total de ce processus est une formation des ilots pancreatiques en resultat de la reorganisation acineuse et insulaire.

LES GLANDES DE L' ESTOMAC

Savelieva Ch., Terentieva E. – et-tes de la 2-eme annee Les dirigeants scientifiques – Cemenov D.A., Nasarkina S. I. Les glandes de l'estomac ce sont des glandes de la secretion exterieure, qui secretent le suc gastrique pour la digestion des aliments. La muqueuse qui recouvre a l'interieur la cavite de l'estomac et de la partie de la cavite est couverte d'une couche d'epitalium cylindrique. La muqueuse forme de nombreux plis. Les plis de l'estomac ont une direction differente dans ses parties. Le long de la petite courbure sont situes les plis longitudinaux, dans le domaine du fond et du corps de l'estomac sont situes les plis transversales, obliques et longitudinaux. Tous ces plis augmentent beaucoup la surface de l'estomac. Toute la surface de la muqueuse ont les champs de l'estomac. Sur la surface des champs gastrique se trouvent les fosses gastriques, qui representent les embouchures de nombreuses glandes de l'estomac. Les glandes de l'estomac se divisent en glandes cardiales, pyloriques et propres.

Les glandes propres de l'estomac. C'est une vue predominante des glandes gastriques. Au total, leur nombre presente 35 millions. Chaque glande se compose de 3 types des cellules: essentielles, revetuees et muqueuses. Les cellules essentielles secretent les ferments digestifs – la chymosine, qui decompose les proteines de lait et la proteine, qui decompose toutes les autres proteines. Les cellules muqueuses tapissent les parties initiales des cols des glandes. Les cellules revetues sont grsndes et simples. Ces cellules secretent l'acide chlorhydrique, une grande partie de l'eau du suc gastrique et la proteine. Les cellules revetues se trouvent en general dans les glandes essentielles de la coupole et du corps de l'estomac.

Les glandes pyloriques de l'estomac. Les glandes pyloriques sont situees pres de l'endroit de la transition de l'estomac dans l'intestin grele. Leur nombre presente 3,5 millions. Ce sont des glandes ramifies, qui ont quelques branches finales avec des eclaircies larges. Elles se composent de cellules endocriniennes et muqueuses.

Les glandes cardiaques de l'estomac. Ces glandes en nombre de 1-2 millions se trouvent a l'entrée dans l'estomac. Elles, comme des glandes pyloriques, sont ramifies et se composent de cellules endocriniennes et muqueuses. Elles doivent ramolir la nouriture, la preparer a la digestion.

Les glandes endocriniennes. Trois types de glandes, qui ont ete ecrites cidessus, sont des glandes endocriniennes. Elles ont les canaux par lesquels se forment le secret, qui entre a l'exterieur. Mais il y a encore les glandes endocriniennes qui secretent les substances dans le sang ou dans la lymphe. Les cellules endocriniennes entrent dans la composition des glandes endocriniennes de l'estomac. Mais comme les fonctions et les buts sont radicalement differentes, on les distinguent a un groupe isole, appele comme les glandes endocriniennes de l'estomac.

LE THYMUS EST UNE FABRIQUE DE l'IMMUNITE

Pachkevitch E., Gourtsieva A. – et-tes de la 2-eme annee Les dirigeants scientifiques – Egorchina E.V., Nasarkina S. I.

Le thymus, c'est un des organes essentiels de l'immunogenese, c'est-a-dire de la formation de l'immunite. Le thymus remplit la fonction immunologique, la fonction de l'hematopoese et realise l'activite endocrinienne. Ce fait dernier permet de l'ajouter non seulemet aux organes du systeme d'immunite, mais aussi aux organes

de la secretion interne.

Le thymus se forme plus tot que les autres organes du systeme d'immunite. Sa masse des nouveau-nes presente 13 grammes. Les enfants de l'age de 6 a 15 ans ont la plus grande masse, pres de 30 grammes. La periode de la taille intensive de l'organisme est liee avec l'activite du thymus. Les petits lymphocytes (les thymocytes) se trouve au thymus. Le role determine du thymus dans la formation du systeme d'mmunition est devenu clair grace a des experiences, faites par le savant australien D. Miller en 1961.

Le thymus se trouve dans la partie superieure du mediastin avant le pericarde, forme par l'arc de l'aorte et par la veine cave superieure et par la veine cephalo-humerale. Dans le thymus on souligne le lobe droit et le lobe gauche, la disposition desquels a donne le nom de l'organe.

Le thymus prend part dans deux formes de la reaction immunitaire: dans les reaction du type humoral, c'est une production des anticorps, et dans les reactions du type cellulaire, c'est une rejection du tissu transplant, qui se passent avec la participation des classes differantes des lymphocytes. Les lymphocytes-B sont responsables pour la production des anticorps, les lymphocytes-T sont responsables pour la reaction de la rejection. Les lymphocytes B et T sont formes par la transformation differente des cellules de troncs de la moelle osseuse. Dans le thymus la formation des cellules de troncs de la moelle osseuse des lymphocytes-T sont formes par les facteurs hormonaux (le thymosine et thymopoete), ce sont les hormones, qui assurent la differenciation des lynphocytes-T et qui jouent le role determine dans les reactions cellulaires immunes. Les lymphocytes (les thymocytes), les macrophages, les granulocytes, et les cellules plasmotiques se sont rapportees aux cellules du thymus.

LE SYNDROME METABOLIQUE COMME LA COMPLICATION DU DIABETE SUCRE

Terentieva E., Savelieva Ch. – et-tes de la 2-eme annee Les dirigeants scientifiques – Egorchina E.V., Nasarkina S. I.

Le syndrome metabolique, qu'est-ce que c'est? Ce syndrome se developpe dans le traitement par des neuroleptiques: le patient recoit une obesite, une hyperlipedemie et une resistance a l'insuline, ce qui conduit a l'appatition de diabete et des maladies cardiovasculaires.

Les facteurs de risque. C'est un age de 45 ans, la presence de l'obesite, la dyslipidemia ou la hypertension, la sedentarite, on a note chez un patient une augmentation de l'appetit dans les cas de l'anxiete ou de la depression et une activite dans la reception des neuroleptiques.

Le diagnostique de syndrome metabolique. On marque l'obesite abdominale, l'insulinoresistance et l'hyperinsulinemie, l'hypertension, l'hypertriglyceridemia, l'augmentation de la cholesterine de la lipoproteine de la densite basse et diminution de la cholesterine de la lipoproteine de la densite haute.

La complication. Le diabete sucre est accompagne des complications. Ce sont la retinopathie, la nephropathie, les maladies cardiovasculaires, les maladies des vaisseaux periferiques. Le cercle des comlications du diabete est tres large.

Le traitement. Si le patient a une obesite developpee quelle ne peut pas etre corrigee, il faut reduire la dose de neuroleptiques ou changer des antipsychotiques l'un a l'autre. Dans le cas de l'impossibilite de donner une alternative adequate a la prise du medicament, le medecin doit informer le patient et discuter avec lui les risques et les avantages de la poursuite, la continuite du traitement et le changement de la dose des neuroleptiques. Pour prevenir le developpement des cas perilleux a la vie, lies avec le diabete (acidose et coma), il est necessaire de comprendre et commencer le traitement du diabete en developpement.

La conclusion. A present le syndrome metabolique reste un des plus actuels problemes de l'époque contemporaine. Cependant il faut preter attention au fait que la cle du succes devient la prevention precoce et le traitement adequat. Mais il faut aussi se rappeler sur la maitrise de soi et des mesures de vie et de l'alimentation.

L'HISTOIRE DE L'ANATOMIE

Teoutschakova A., Zoubkova D. – et-tes de la 1-ere annee Les dirigeants scientifiques – Sergienko A.V., Nasarkina S. I.

L'histoire de l'anatomie, etant la partie de l'histoire de la medecine, est une histoire de la lutte des representations materialistes sur la structure du corps de l'homme. Les sources de l'anatomie vont aux temps prehistoriques. Le role considerable dans le developpement de l'anatomie etait joue par les succes atteints a l'Egypte Ancien en rapport avec le culte de l'embaumement des corps des morts, les donnees aussi precieuses dans le domaine de l'anatomie etaient recues en Grece Antique. Le plus grand medecin de l'antiquite Hippocrate (460-377 avant J.C.), que l'on appelle comme le pere de la medecine, a formule la doctrine sur quatre types principaux de la constitution et le temperament, et a decrit les certains os de la calotte cranienne.

Ce sont Andre Vesaly et Leanardo de Vinci, qui ont apporte une grande contribution dans l'anatomie. Le celebre savant italien et le peintre connu de l'époque de la Renaissance Leonardo de Vinci (1452 – 1519) a disseque 30 cadavres des gens. Il a fait de nombreuses esquisses des os, des muscles, du coeur t d'autres organs du corps et il a fait par ecrit les explications vers ces dessins. L.de Vinci a etudie les formes et les proportions du corps de l'homme. C'est lui qui a propose la classification des muscles, en expliquant leur fonction du point de vue des lois de la mecanique.

Le fondateur de l'anatomie scientifique etait Andre Vesaly (1514 – 1564), professeur de l'Universite de Paduan, qui a ecrit le grand travail "De la structure du corps humain" sur la base des observations personnelles, faites a la dissection des cadavres. Les recherches scientifiques et le travail de Vesaly ont predetermine le developpement de l'anatomie. A XVI – XVII siècles ses eleves et ses disciples ont fait beaucoup de decouvertes anatomiques, les precisions et les corrections. Ils ont decrit en detail les plusieurs organs du corps humain.

L'anatomiste hollandais F. Ruich (1638-1731) a perfectionne la methode de l'embaumement des cadavres, il produisait l'injection des masses colorees aux vaisseaux sanguins. Il a cree pour ce temps une grande collection des preparations d'anatomie, y compris les preparations presentant les defauts du developpement et

les anomalies.

Pendant de XVII-XVIII siècles les decouvertes recentes apparaissent non seulement dans le domaine de l'anatomie, mais aussi elles commencent a apparaitre dans une serie de nouvelles disciplines: l'histologie, l'embryologie, et un peu plus tard dans l'anatomie comparative et topographique, dans l'antropologie.

La place considerable dans le developpement de l'anatomie appartient a E. O. Moukhin (1766-1850), qui pendant beuacoup d'annees enseignait l'anatomie et a ecrit le manuel "Cours de l'anatomie".

A XX siècle beaucoup de celebres savants et chercheurs, tels que V.N. Tonkov (1872-1954), V.A. Dolgo-Sabourov (1890-1960), V.N. Chevkounenko (1872-1952), V.P. Vorobiev (1876-1937), D.A. Jdanov (1908-1971) et d'autres elaboraient avec succes les directions fonctionnelles et experimentales dans l'anatomie

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