

**Ministry of Public Health and Social Development of Russian
Federation**

Amur State Medical Academy

Students Scientific Society



21

**ABSTRACTS
21th SCIENTIFIC STUDENTS
CONFERENCE IN FOREIGN
LANGUAGES**

19

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Section of the English Language



KIMONO

Hasegawa Y. 4th-year student, Osaka Medical College, Osaka, Japan

An introduction to Japanese kimonos. Kimonos are very internationally well-known traditional Japanese clothing, and are very visually attractive. Here the procedure of how to wear a kimono is demonstrated, and various types of kimonos are briefly introduced. Though most kimonos are expensive, you may realize that they are actually economical & even ecological.

JAPANESE FOOD

Goto Y. -2nd-year student, Osaka Medical College, Osaka, Japan

Sushi is one of the most famous Japanese foods, but the Sushi foreign people know is usually a restaurant cuisine. You may be surprised to see there are many other kinds of Sushi we enjoy at home. Another food introduced here is much less known. Osechi, is a set of special foods for the New Year, and every household gets busy preparing Osechi at the end of the year. An Osechi set varies depending on the region and the family's preference, so the Osechi set shown here is just an example. A Japanese dessert 'Daifuku' (sweet bean paste wrapped in soft rice cake) and 'Parfait' an adaptation of a French dessert are also introduced.

FACTORS OF CARDIOVASCULAR RISK IN PEOPLE OF SOME ETHNIC GROUPS LIVING IN THE AMUR REGION

Maslenikova K. - the 5th year student

Scientific leaders - CMSc. Vakhnenko Yu. V., Dorovskikh I.E., Yegorova V. D.

30 natives of the Amur region (group 1) and the same number of other ethnic groups- emigrants from the Central Asia and the Northern Caucasus (group 2) living in our region for 10-20 years were examined in the cardio-surgical center of the Amur State Medical Academy. Patients of the center, aged 40-45 suffering from ischemic heart disease and hypertension were included into this groups. During the examination there were registered the following indices: cholesterol level, triglycerides, lipoproteins of high density, echography data, characterizing the state of aorta and its valve, data of duplex scanning of the main arteries of the head on the neck, characterizing the state of intima-media. The level of cholesterol in ZPNP and triglycerides in patients of the 2nd group exceeded such in the first clinical group by 1,6 mml and ($p<0,01$) relatively, but the level of cholesterol in LPVP in the 1st group was by 0,48 ($p<0,05$) lower than in the 2nd group. During echography 76% of the people of the 2nd group and 51% of those had the signs of atherosclerotic lesion of the aorta, mitral and aortal valves, namely the consolidation of aorta walls and designated valves, the presence of calcinates in the aorta wall and the extension of its ascending part.

Besides the aorta lesions the number of patients during laboratory analyses and ultra sound investigation of the liver the signs of fatty hepatosis with the changing of bilirubin, transaminases and thymol probe of the various degrees of expres-

siveness were revealed. At this the given condition in patients of the 2nd group was revealed significantly more frequently ($p < 0,01$). Thus the relative density of patients with dyslipidemia and its clinical manifestation in the 2nd group was authentically higher than in the 1st group, at that the above mentioned changes in the ethnic groups were more expressed.

Results of the research allow to suggest that representatives of ethnic groups who moved to the Amur region from the republics and later from the states of the Central Asia and the Northern Caucasus belong to the category of the elevated risk factor in the development of cardiovascular diseases and consequently they must be under dispensary supervision and must be thoroughly examined by cardiologists and functional diagnosticians for the timely correction of pathological changes including hypolipidemic means. In addition to it, it is necessary to improve the measures of the primary prophylaxis of dyslipidemia and arteriosclerosis in the definite groups of population in the region taking into account findings of the sociological examination.

MICROCIRCULATORY BED OF MESOMETRIUM OF PREGNANT WHITE RATS

Kim E. – the 2-nd year student

Davydova E. – the 2-nd year student.

Scientific leaders - Professor Gordienko E.N., Ass. Professor Seliverstov S. S., Ambroseva N.P.

Simulation of pathological pregnancy in an experiment on white rats at present is widely used in medical practice worldwide. At the same time information on microcirculatory bed of mesometrium of white rats presented in the literature is not sufficient and contradictory.

In order to study the microcirculatory bed of mesometrium a research of 20 pregnant females outbred white rats (*Rattus norvegicus*) order Rodencia, family Muridae, at the age of 3-4 months, with a body weight - 250-280 gramms was carried out. The studies were conducted in compliance with the Health Ministry Order 267 from 19.06.2003 "About Rules of Laboratory Practice".

PSYCHOEMOTIONAL BURNOUT SYNDROME IN SURGEONS AND ANESTHESIOLOGISTS

Levchuk D. - the 5th-year student

Scientific leaders – Anikin S.V., Burmistrova A.A.

The first description of the psychoemotional burnout syndrome (PEBS) included the following characteristics: refusal from the career growth, decrease in interest to life and work, insomnia, headache, excessive use of medicines. Also it was observed that people with this syndrome had infringement of professional ethical principles and labor discipline infringement.

The purpose of the research is to study PEBS in surgeons and anesthesiologists. Work was being done from November 2010 to March 2011. 50 doctors took part in the research: the surgeons and the anesthesiologists–resuscitators working in the

Amur Regional Clinical Hospital and in the Amur Regional Children's Clinical Hospital. The age of the examined doctors is from 24 to 70 years old. The research was conducted with the help of special methods such as MBI and Lasher's colour test.

As a result of the conducted research PEBS was detected by three scales: emotional deficiency – EE, depersonalization - DP, an interest for professional activity – PA.

Thus, the conducted research has shown the high prevalence of the syndrome of psychoemotional burnout to a lesser extent in anesthesiologists-resuscitators in comparison with surgeons, that is caused by the high prevalence of emotional pressure, extreme conditions of work (especially at night) and the high degree of responsibility for the patients lives. It is necessary for the doctors of the investigated specialties to be examined by a psychotherapist. Certainly, the development of the syndrome of psychoemotional burnout is defined not only by working conditions, but also by a psychotype of a doctor, residing conditions, family environment and so on.

EPIDEMIOLOGY AND RISK FACTORS OF CONGENITAL HEART DISEASES IN THE AMUR REGION

Moiseenko A.- the 5-th year student

Scientific leaders-CMSc Urazova G.E., CMSc Vakhnenko Y.V., Yegorova V.D.

Actuality. Congenital anomalies of system of blood circulation differ the big variability, in some cases they are difficultly diagnosed and represent one of the main forms of the developmental anomalies. The share of congenital heart anomalies (CHA) in 2010 made up more than 45 % of all anomalies among adult population in the Amur region. Indices of primary disease are 3 times higher and more then the average level in the country. They are higher in patients aged 18 and elder ones. In 2010 the number of teenagers with firstly time established diagnosis CHA in comparison with 2009 in Russia insignificantly decreased. However in some regions, including the Amur region it, was marked that the disease increased by 1,5 and more. Aim of the work: to study epidemiology and to establish possible risk factors of the Occurrence of CHA in the Amur region.

Material and methods: We observed 160 children with CHA who underwent treatment in cardio surgical center of the Amur State Medical Academy. The anamnesis, the data of clinical examination, an electrocardiogram, echography, a X-Ray examination of the thorax in three projections with the contrasted esophagus in these patients were received.

Results: the lifted archival data of patients with CHA from 2005 to 2010 allowed to find out that the given pathology occurred among the population of the Amur region from 0,03 (Akrharinsky area) to 0,3 (Selemdzhinsky area) cases per 1000 of the population. The considerable rate of CHA during the period from 2009 to 2010, due to the increase of combined and difficult cases. Among all patients with CHA, septum defects made up 48,8 % in which the defect of an interventricular septum (6 4 , 2 %) prevailed. CHA in girls occurs by 2,1 times oftener than in boys. 19,4% out of 60% defects with enrichment of a small circle of blood circulation are difficult. In the structure of

CHA septum defects (more than 40 %) prevailed and among them there were DAVS - 59,3 %. Taking into consideration the fact that CHA are formed in the result of 53% of errors in embryogenesis during 3-8 weeks of pregnancy special attention was paid to risk factors of the I trimester of pregnancy.

According to our data, about 18 % of women had a virus infection, 8,5 % of them suffered from chronic alcoholism, 42 % of women had toxicosis during the I half of pregnancy, 25 % of pregnancy proceeded with the threat of interruption. Only 12,5 % of women hadn't pregnancy pathology when 53% of women had two and more risk factors of a birth of the child with CHA.

Professional harm - vibration, contact to gasoline, oils, chronic alcoholism are risk factors from the father's side. So, in 23 % of fathers of children with CHA professional vibration was marked, 17 % have contact to oils, gasoline, 7 % suffered from chronic alcoholism.

Conclusion: We marked the increase of the number of patients with combined and difficult defects, in the Amur Region.

INFLUENCE OF LASER THERAPY ON THE IMMUNOLOGICAL STATUS IN PATIENTS WITH DIABETIC FOOT SYNDROME

Tagirova K. - the 4-th year student

Byram-Zade N., Golova A. - the 5-th year students

Scientific leaders – Prof. Shimko V.V., CMSc. Reshetnikova L.K., Kostina V.V.

It is obvious that the problem of treatment with diabetes mellitus complicated with diabetic foot became actual. For this purpose there are different methods of treatment among which laser therapy attracts attention to many scientists and therapists.

The object of this investigation is to examine the laser light impact on the immune system in patients with diabetic foot syndrome according to the immunological monitoring of humoral and cell chains of the immunity.

In this research we presented results of the investigation of the immunological status in 38 patients with complicated diabetes mellitus during the dynamic treatment. All patients were divided into two groups comparable in terms of severity of main and concomitant pathology. 20 patients had traditional surgical and conservative treatment (first group). 18 patients had complex treatment with laser therapy (second group). The age of the patients was $50 \pm 3,8$ years old. Duration of the disease was $8 \pm 1,7$ years.

We made comparative analysis of immunogrammes of patients in both groups. The secondary immune insufficiency was detected in all patients before the treatment. The most typical characteristic of the patients with complicated diabetes mellitus was combined type of immune abnormalities, which included simultaneous growth of deficiency of cell, humoral and phagocytal chains of the immunity.

Immunological monitoring of patients in the first group after the treatment determined reliable decrease of T-lymphocytes (CD3+), T-helpers (CD4+) and to a considerable degree T-suppressors/cytotoxic cells (CD8+), increase of IRI, unreli-

able increase of B-lymphocytes (CD 19+), decrease of the amount Ig A, increase of Ig M, G, i.e. normalization of mentioned indexes haven't occurred, however, there were changes typical of autoimmune syndrome.

In the second group after laser therapy in the complex treatment in contrast to indexes before treatment there was reliable increase of CD3+, CD4+, CD8+, CD16+; decrease of IRI, however only CD 16 became normal. Consequently cytotoxic activity of lymphocytes was increased. Correlation of the amount of Immunoglobulins maintained, however amount of Ig G normalized. There were no changes that characterized autoimmune process.

Thus, monitoring of the immune status enable us to draw a conclusion that application of laser light stimulates the activity of immune competent cells and leads to reliable positive clinical effect.

FEATURES OF TREATMENT OF DIABETES 2 TYPE

Solodukhina K. , Nuriev E. – the 4-th year students
Scientific leaders – Strunina Y. Z., Kostina V.V.

Progressing of prevalence of a diabetes 2 type on globe has got the character of "not infectious epidemic" and under forecasts of experts of the World Health Organization, the quantity 2 type sick persons of diabetes should double from 1997 up to 2025 from up 143 to 380 million persons. Death rate from cardio – vascular diseases of patients with a diabetes 2 type is 3 times higher, than in the population in a whole. Thus in 80 % of cases a cause of death is atherosclerotic defeat of coronary, cerebral and peripheral vessels. Hyperglycemia now considers the reason of such expressed defeat of a vascular channel. Numerous researches allow to draw a conclusion that glucose is the same risk factor for development of an atherosclerosis and sharp cardio – vascular death rate, as well as level of the general cholesterol and arterial pressure.

Materials and methods

56 patients with 2 type diabetes were included in to complex research at the age from 35 till 60 years with duration of disease from 11 months till 15 years. A heart attack, sharp infringement of brain blood circulation in the anamnesis were in 9 patients (11,8 %). Indicators of glycemical profile, a fatty spectrum were defined. Hemoglobin 1 defined a method of affine chromatography with the use of micro columns and standard sets "the Diabetes - the test".

Results and discussions.

It is necessary to notice that at examination of the given group of patients, vascular complications of various degree of expressiveness are found out in all patients. Diabetic neuropatia is revealed at 20 patients (35,7 %) at examination of an eye bottom diabetic unproliferatinum retynopatia is revealed in 5 patients (8,9 %), preproliferatinum – in 3 (5,35 %), in 3 persons (3,9 %) the stage of retynopatia is revealed proliferatinum. In 4 patients (7,14 %) the syndrome of diabetic foot is diagnosed. The diabetic cataract is revealed in 6 persons (10,7 %). 9 patients (16,07 %) in the anamnesis there was an ischemic heart trouble and in 11 (19,64 %) an arterial hyper-

tensia. In investigated group the average index increase there was an of systolic pressure up to $162,3 + 2,7$ mm hg, diastolic –up to $108,2 + 2,7$ mm hg. The average index of glycemia was on an empty stomach $9,37 + 1,39$ mmol/l, postprandialis glycemiae - $12,54 + 2,91$ mmol/l. Haemoglobin 1 was equal to $10,37 + 2,27$ %. Average indexes of the general cholesterol, threegliceridi are authentically increased accordingly to $5,21 + 1,03$ mmol/l and $2,83 + 0,97$ mmol/l. From all group sick persons 20 (40,6 %) received therapy with sugarlowering tablets of sulfonilmochevini (Gliklazid, Glikvidon, Glibenklamid) and biguanidi (Metformin). 18 patients (32,14 %) were on combined sugarlowering therapy: reception of sugarlowering tablets preparations with insulin of average duration of action (Protafan, Monotard) or with insulin of long action (Lantus, Levemir). Basis – bolis insulin therapy was done in 18 patients (32,1 %).

Conclusions

Thus, the approach to treatment of each patient with 2 type of diabetes should be individual, taking into account indicators of haemoglobin 1 , glycemiae on an empty stomach. For the purpose of prevention of occurrence and development of late complications at 2 type of diabetes at patients with unsatisfactory indemnification of a carbohydrate exchange it is expediently the appointment insulin therapy.

APPLICATION OF URSODEOXYCHOLIC ACID AT NONALCOHOL-INDUCED STEATOHEPATITIS

Prilipko L. – the 4-th year student

Scientific leaders – C.M.S.c. Sulima M.V., Kostina V.V.

Article presents pathogenic mechanisms of the most important lesions of liver - alcoholic and non-alcoholic steatohepatitis in pathogenesis of which the leading part belongs to accumulation of fat in cells of the organ and enhancement of lipid peroxidation processes with developments of necrosis of hepatic cells.

At assessment of management approach of steatohepatitis patients main etiological factors and background diseases are taken into account.

Corticosteroids are drugs of choice at treatment of severe decompensated forms of alcoholic liver disease, that reduce level of circulating proinflammatory cytokines and promote histological improvement with a short period. UDCA has antiapoptotic, cytoprotective, immunomodulating, anti-oxidative effect, so it can be used as pathogenic therapy at alcohol-induced and non-alcoholic steatohepatitis. Potential of combination of glucocorticoids with anti-oxidative agent, including UDCA, that is especially promising for clinical practice, continues to be studied as well. Prescription of UDCA is recommended at cholestatic variant of acute alcoholic hepatitis for essential decrease of pruritus and improvement of biochemical scores. Cytoprotective effective of UDCA allows to apply it at severe steatosis in absence of inflammation, especially if the patient continues to consume alcohol.

THROMBOSES AND THROMBOPHLEBITISES OF LOWER EXTREMITIES

Zotova G., Filippov A.E. – 3^d-year students.
Scientific leaders – C.M.Sc.Dubyaga Ye. V., Posokhova A. A.

Venous thrombosis is an acute disease caused by coagulability in the lumen of a vein that leads to violation of its permeability.

One should distinguish the concepts “thrombophlebitis” and “phlebothrombosis”. The inflammation of a vein’s wall due to the general or local infection is called phlebitis, phlebothrombosis develops due to the change of coagulative characteristics of blood, damage of a vascular wall, delay of blood flow etc. Infringements of structure of a venous wall, delay of speed of blood flow, increase of coagulative characteristics of blood (triad of Virkhov) and change of size of electrostatic potential between blood and an internal wall (Z potential) are of great importance in the pathogeny of thrombogenesis.

Nowadays the problem of treatment of patients with thrombophlebitises and thromboses of veins of lower extremities is actual. It is connected with the primary appearance of diseases at the able-bodied age, frequent disability of a patient especially after thrombosis of deep veins due to the development of postthrombophlebitic syndrome, risk of a lethal outcome in the development of thromboembolism of pulmonary artery.

THE POSITION OF BIOLOGY IN RUSSIA IN THE XXI CENTURY

Fefelov A. – the 2nd year student
Scientific leaders – Professor Gordienko E.N., Gritcenko S.N.

Biology in our world is the base of the most part of sciences. People all over the world understand that and try to pay more time to biology, especially at schools, where pupils have 3-4 biology lessons a week.

But as for our country...Time our government may give to biology lessons, is given to physical training and bases of the safety live. The level of tobacco and alcohol abuse among young people is very high. There are a lot of venereal diseases and abortion among the youth...And a dangerously high death rate...All this in my opinion is due to lack of knowledge, especially in biology, one of the most important sciences in the XXI century.

DRUG THERAPY COMBINED WITH LASER IRRADIATION IN THE TREATMENT OF PATIENTS WITH DIABETIC FOOT SYNDROM

Bairam-zade N.R. – the 5th year student
Scientific leaders – Prof. Shimko V.V., Yegorova V.D.

«Diabetic Foot» - is a combination of expressed diabetic polyneuropathy and osteoarthropathy of the food with the significant trophic disorders (trophic ulcers, dry or wet gangrene). Polyneuropathy, vascular insufficiency, addition of infection are of great importance in the development of «diabetic foot».

The therapeutic program of «diabetic foot» included:

- ◆ Thorough compensation of diabetes mellitus;
- ◆ Drug therapy by hyperlipoproteinemia;
- ◆ Antiagregate therapy;
- ◆ Treatment by angioprotectors;
- ◆ Treatment by nicotinic acid (it activates fibrinolysis, possesses vasodilative activity), the drug is injected intramuscularly in the dose of 2 ml of 1% solution once a day during 20 days;
- ◆ Treatment of neuroangiopathy, including physiotherapy;
- ◆ Intensive rational antiinfective therapy, disintoxication, passive and active immunization, enzymotherapy, ultraviolet and laser irradiation of blood, immunomodulating therapy (thymalin, T-activin) during the development of suppurative necrotic processes, in the case of the effect absence and in the development of gangrene amputation should be performed;
- ◆ While applying low intensive laser influence there were observed the following effects:
 - ◆ Improvement of rheological properties of blood and microcirculation;
 - ◆ Regulation of hemostatic blood potential;
 - ◆ Vasodialative activity;
 - ◆ Anti-inflammatory action;
 - ◆ Normalization of ion composition and proteolytic blood properties;
 - ◆ Normalization of the relationship between lipidperoxidation of antioxidant protection;

The aim of the work was to estimate the intravenous and local laser influence in the treatment of «diabetic foot» syndrome.

69 patients with this syndrome were studied. The patients were divided into 2 groups: the 1st group (23 patients) were applied drug therapy. The 2nd group (46 patients) received additional sessions of intravenous laser irradiation of blood with the device «Mulat» (Moscow, tecnic production) by the power of 2-2,5 mvt, using disposable illumination. Treatment sessions lasted 10 days, illumination each of 25 minutes' duration. Trophic ulcers were irradiated with the apparatus APS («Polironik» production) using the wave length of 630 nm and the power of 10-12 mvt/cm, the time of exposure 13 min. In the 1st group the average age made up 58,5 years, the average duration of the ulcer before the treatment was 5,5 months. In the 2nd group these parameters made up 68 years and 6 months relatively.

Results: In the 1st group the healing of the ulcer was marked in 11 patients and in 23 (47,8%) the healing of those made up 2-3 months. In the 2nd group the complete healing was marked in 39 patients out of 46 (80,5%) on the average in 1,9 months.

Conclusion: The complex treatment of «diabetic foot» at the ulcer- necrotic stage with the application of drug therapy in combination with laser irradiation to improve the process of healing of trophic ulcer in 80,5 % of patients in shorter time.

THE DEVELOPMENT AND ANOMALIES OF THE EXTERNAL NOSE,

NASAL CAVITY AND FACE

Matsuy V., Krapivina O. – the 2nd year students.

Scientific leaders – Ass. Zherepa L.G., Yegorova V. D.

Respiratory and digestive systems develop from the primary gut. Respiratory organs arise as a result of the formation in the fourth week of the fetal development sacculiform protrusion of the ventral wall of the entodermal foregut tube. It is the source of the development of the epithelial lining and glands of the respiratory organs.

The development of the nose and nasal cavity begins with the thickening of the ectoderm of the nasal or olfactory placodes. Deepening, they become the olfactory pits (the future nostrils). Further deepening of the pits leads to the thinning of the tissue between the nasal and oral cavities and the formation of nasal-oral membrane. After its breakdowns there formed choanae, opening into the pharynx. External nose is formed simultaneously with the development of the oral cavity from the nasal processes. The nasal bridge develops from the middle nasal processes; the septum of the nose develops from the lateral nasal processes.

There are the following anomalies of the development of the face, external nose and of the nasal cavity:

- 1) Choanal atresia in which breast-feeding is impossible;
- 2) The nose as a button without the nostrils;
- 3) The absence of paranasal sinuses or they are very large;
- 4) The occult and opened forms of the median cleft face;
- 5) The bicornous nose ("the dog's nose");
- 6) The oblique facial cleft (coloboma) in the result of the non - accretion of the lateral nasal processes with the maxillary processes;
- 7) Premaxillary agenesis (the absence of the nose, palate and of the olfactory cortex);
- 8) Frontonasal dysplasia (lid – mouth slits, lid - nasal slits);
- 9) Cyclopia in combination with a double or single tubular nose;
- 10) Micrognathia is combined with dystopia of the floor of the auricle.

Sinuses of Dura Mater and Their Clinical Significance

Zorina M., Nagrebelnaya V. – the 2nd year students

Scientific leaders – ass. Zherepa L.J., Yegorova V.D.

Sinuses of Dura mater represent canals (splitting lining with epithelium) in which venous blood flows out from the brain, eye bell, internal ear, bones into the skull and cerebral membranes. From sinuses blood flows into the internal jugular vein. Venous sinuses participate in the outflow of cerebrospinal fluid.

Sinuses in their structure differ from veins, they have the triangular form in the transverse incision. Sinuses of Dura mater are rigid tubes which do not fall and do not widen. Hydrodynamic stabilization is the main reason of appearing such variant of venous vessels in the skull. Due to the rigidity of walls how much blood enters the sinuses, how much blood flows out simultaneously from the opposite end of the cranial cavity into cranial vein.

According to V.I. Koshev and his coauthors (2006) there exists cranial pial pump throbbing venous outflow from the cranial cavity, synchronizing with the arterial blood wave. This pump cannot exist without sinuses of Dura mater.

Besides this the disturbance of cordial rhythm leads to the disturbance of the blood supply of the brain and as a result of it insults.

Sinuses of Dura mater are the following:

Transversal sinus;

Superior sagittal sinus;

Inferior sagittal sinus;

Occipital sinus;

Straight sinus;

Confluence of sinuses;

Sigmoid sinus;

Superior stone sinus;

Inferior stone sinus.

SPORTS NUTRITION

Borodin P.– the 1-st year student

Scientific leader–professor Borodin E.A.

What is the difference of the nutrition of sportsman from the nutrition of an ordinary person? The daily meal of the latter should be balanced by the main components - carbohydrates, fats and proteins, should contain enough minerals and microelements, water and it's calorie content should be equal to daily energy expenditures. The meal of sportsman should also fit those demands, but beside this should provide enough nutrients to attain desired purposes. The main purpose of the sportsmen is to increase muscle mass. It is especially important for those involved in bodybuilding and athletics. Bodybuilding or dietary supplements may be used to replace meals, enhance weight gain, promote weight loss or improve athletic performance. Among the most widely used are vitamin supplements, protein, branched-chain amino acids, glutamine, essential fatty acids, meal replacement products, creatine, weight loss products and testosterone boosters. Athletes in ancient Greece were advised to consume large quantities of meat and wine. Eugene Sandow - widely considered to be the first modern bodybuilder in the West - advocated the use of dietary control to enhance muscle growth. Earle Liederman, advocated the use of "beef juice" as a way to enhance muscle recovery. Irvin P. Johnson began to popularize and market egg-based protein powders marketed specifically at bodybuilders and physical aesthetes. Bodybuilders often supplement their diets with a powdered form of protein. The powder is mixed with water, milk or juice. Protein powder is generally consumed immediately before and after exercising, or in place of a meal. Some types of protein are to be taken directly before and after a workout, while others are to be taken before going to bed. Protein supplements come in various forms: ready to drink shakes, bars, bites, oats, gels and powders. Whey protein contains high levels of all the essential amino acids and branched-chain amino acids. It also has the highest content of the amino acid cysteine. For Bodybuilders whey protein provides amino acid used

to aid in muscle recovery. Whey protein is derived from the process of making cheese from milk. There are three types of whey protein: whey concentrate, whey isolate, and whey hydrolysate.

Soy protein Soybeans contain isoflavones, a type of phytoestrogen. Egg-white protein is a lactose- and dairy-free protein. Amino acids are the building blocks of protein; the body breaks consumed protein into amino acids in the stomach and intestines. There are three branched-chain amino acids: leucine, isoleucine, and valine. Each has numerous benefits on various biological processes in the body. Unlike other amino acids, branched-chain amino acids are metabolised in the muscle and have an anabolic/anti-catabolic effect on it. Glutamine is the most abundant amino acid found in human muscle and is commonly found in supplements. Serum glutamine is used by the body to counteract the acidosis that results from exercise. It is also argued that a deficiency may lead to a weakened immune system and wasting of muscle tissue. The essential fatty acids (linolenic, linoleic and arachidonic acids) may be especially important to supplement because they don't synthesize in the body, but are required for various functions. Fatty fish, such as fresh salmon and trout are rich in essential fatty acids and fish oils can also be taken in supplement form. Creatine is an organic acid naturally occurring in the body that supplies energy to muscle cells for short bursts of energy (as required in lifting weights). A number of scientific studies have shown that creatine can improve strength, energy, muscle mass, and recovery times. In addition, recent studies have also shown that creatine improves brain function and reduces mental fatigue. Unlike steroids or other performance-enhancing drugs, creatine can be found naturally in many common foods such as herring, salmon, and beef. Creatine increases drawing water into muscle cells, making them larger. A thermogenic is a broad term for any supplement that the manufacturer claims will cause thermogenesis, resulting in increased body temperature, increased metabolic rate, and consequently an increased rate in the burning of body fat and weight loss. Until 2004 almost every product found in this supplement category comprised the ephedrine, caffeine and aspirin. There are several naturally occurring plants and vitamins as well as synthetic chemicals that supplement companies claim may produce an increase in testosterone levels. However, the effectiveness of many of these products is questionable due to a lack of valid scientific testing, and especially due to evidence that they are ineffective. Meal replacement products are either pre-packaged powdered drink mixes or edible bars designed to replace prepared meals. Meal replacement products are generally high in protein, low in fat, have a low to moderate amount of carbohydrates, and contain a wide array of vitamins and minerals.

The majority of meal replacement products use whey protein, casein, soy protein, and/or egg albumin as protein sources.

YOGA - THE HARMONY OF SOUL AND BODY

Budain T.B.- 2 course

Scientific supervisor - Borodin E.A.

Yoga, as energy practice is multi-faceted methods of development of non-physical, fine energy structures of the human beings.

Yoga is always starting with the physical body. It is this stage and has received the name - hatha yoga.

The next stage - this is raja yoga. In her practice exercises for the management of flows of subtle energies in systems of non-physical centres and channels are made by the volitional efforts on the subtle level.

Concluding equipment high-capacity yoga combined in section budhi yoga. This is, as I may say, clean technology yoga of consciousness.

In all correctly using the methods of yoga people is clearly the sequence of the acquirement of new sensations. At first, feeling light vibration and electrization of the skin. Further, in the arms and legs, back and stomach from a general feeling of "vibration force field" on the skin appear localized slightly in the depth beneath the skin impressions buzzing energy plumes. These impressions will eventually begin to go beyond the boundaries of the physical body, cover significant amounts of power "cocoon around the body, at the same time it begins to clearly manifest a deep glow of the internal volume of subtle structures.

In process of mastering the methods of work with the structures of subtle energy and development of their capabilities, one day there comes a moment when control the flows of energy it becomes possible purely volitional efforts, without the help of mobilizing the stress of the muscle groups of the physical body. So begins the approaches to the methods of raja yoga.

All forms of yoga directed his attention to the revival and the regulation of human energy, which is the very essence of consciousness.

CLASSICAL PHYSICS AND MODERN TRENDS IN BIOENERGETICS

Fefelov A. - 2nd year students

Scientific leader - Prof. Borodin E.A.

For this time we can see that the level of modern physics is very high, and that's why physics can say true/false about different things, especially about scientific research.

As for our country - most important committee in this way is a committee of RAS, which have to fight with pseudo-science and falsification in scientific research.

Everybody know about ATP, which our organism always use as an energy value and this fact have a lot of scientific confirmation. But is it true, that our organism have only this kind of energy?

How we can explain Chinese native medicine? In China, the country with the population over 1,4 billions people and several thousand years history the methods of Traditional Chinese Medicine are widespread. From the point of view of western science it is impossible to explain the mechanisms of action of these methods. Phys-

ics and classical bioenergetics can't help us. Is Traditional Chinese Medicine a falsification and pseudo-science? No, it seems to be effective. Can we believe in the oriental understanding of the life energy? Does it energy really exists? Let's try to understand that.

**SOME FUNCTIONAL INDICES OF CARDIO - VASCULAR SYSTEM
ACTIVITY IN SPORTSMEN OF HIGHER SPORTS SKILL TRAINING IN
SHARP CONTINENTAL CLIMATE**

Zhdanova R., Detusheva . – the 5th year students

Kapustyansky . – the 6th year student

Scientific leaders: CMSc. Vakhnenko Yu.V., Yegorova V. D.

In recent years the attention of the state and the interest of young people to sports has increased. Amur sportsmen take an active part in competitions of the regional and Russian levels, and of the international ones as well. The rational organization of trainings and correct tactics of sports doctors have to consolidate mechanisms of valuable long-term adaptation to physical and emotional stress warning “the stage of exhaustion” of the general adaptable syndrome (Selye, 1950).

The wrong organization of sports may lead to the formation of overstrain of myocardium and to the development of myocardium dystrophy to what still the founders of sport medicine G.F.Lang and G.Y.Dembo pointed out in early days of coming into being sports medicine. The frequency of sport myocardium dystrophy has increased in the parallel with the growth of the intensity of training and competitive loads.

In this connection on the base of inter-regional cardio-surgical center of ASMA the complex study of some indices of functional state of cardio-vascular system of 30 sportsmen of the first rank and candidate-members of masters of sports aged 18-25 training at school of Olympic Reserve within 8-10 years was performed. The majority of them did not complain of heart work.

In 36% of the examined sportsmen the electrocardiogram parameters did not deviate from the norm. In other cases the decrease of amplitude and flattening of T-wave with different frequency were revealed in standard leads, left chest leads and in extremity leads; hypertrophy signs in the left ventricle; SERV; incomplete blockade of the right limb of His bundle were revealed too. Solitary supraventricular and ventricular extrasystoles were revealed in two sportsmen. The disturbance of repolarization processes of the myocardium in the anterior and lateral walls of the left ventricle was registered in one case.

More essential information on the functional condition of cardio-vascular system was received during daily Holter's monitoring. There were no deviations from the norm in 12% of cases. In the significant number of patients there were revealed the following changes with the different frequency: sinus arrhythmia, bradycardia, episodes of migration of rhythm leader from auricles to the atrioventricular node, episodes of sino-atrial and atrio-ventricular blockades of the I-II degrees. Solitary and pairs supraventricular and ventricular extrasystoles in the number not more than 200 a day were seldom revealed. The ischemia signs of myocardium are found

out in one surveyed in reply to physical activity. In addition to this the mild apnea syndrome in the dream was revealed in two cases, the middle syndrome was revealed in one case.

During bicycle ergometer there were no ischemic changes of ST segment in all examined sportsmen. Besides this in the majority of them the signs of migration of rhythm leader seen on the ordinary ECG were leveled during the physical load. The tolerance to physical load in the absolute majority of sportsmen was high and only in one case it was characterized as "middle one".

Thus, the complex research of cardiovascular system of sportsmen allowed to reveal the certain changes of its functional condition demanding the detailed analysis and dynamic supervision. It is caused by that only early diagnostics of pathological changes and their timely pharmacological correction allow to return the sportsman to intensive exercises for a long time and to avoid the occurrence of chronic diseases of heart and severe cardiovascular accidents.

STOMACH CANCER

Avchelupova A. - 2-nd year student
Scientific leader - Pavlova A.E.

Stomach cancer is a malignant tumor caused by the damage of the mucous membrane of the stomach. It is one of the most common cancers. It can appear in any part of the stomach and spread to the organs, particularly to the esophagus, lungs and liver. Because of stomach cancer in the world about 800,000 people die each year. There are many factors contributing to the development of stomach cancer, such as wrong diet, environmental factors, smoking, infectious and genetic diseases.

It is proved that the frequency of cancer depends on the ascorbic acid deficiency, excessive use of salt and pickled, refried, smoked food, spicy foods, animal fats. Among the causes of stomach cancer is alcohol.

Treatment of cancer is as following. At present the main and almost the only method of radical treatment of stomach cancer is surgery. Resection of the stomach provides the following improvements: eliminating the cause of pain, dysphagia and bleeding, decreasing the number of the tumour cells in the body, increasing life expectancy and relieving the patient's condition. Radiation exposure and chemotherapy are auxiliary.

PECULIARITIES OF TREATMENT OF PATIENTS WITH COMMUNITY-ACQUIRED PNEUMONIA IN INFLUENZA A (H1N1) 2009 CONDITIONS

Shevel L. – the 4th year student
Scientific leaders – Vdovina O.B., Cand. Ped. Sc. Bibik I.A

Pneumonia is one of the widely-spread and potentially dangerous acute infectious diseases of distal airways. In 5-15% of cases of all community-acquired pneumonia is virus infection. The most important among them is flu virus. Flu epidemic takes place practically every year chiefly in winter. In spite of the efforts of

practitioners, microbiologists a flu sick rate, complications after it and the level of mortality are very high.

Since October 2009 the sick rate of community-acquired pneumonia has sharply increased in Blagoveshchensk. The outbreak of disease was connected with the pandemic flu A (H1N1).

This flu was caused by a new strain of virus and was immediately spread to many countries all over the world, including Russia.

The aim of the work is to study the peculiarities of treatment of patients with community-acquired pneumonia in flu epidemic conditions.

Materials and methods

We make a retrospective analysis of thirty-two medical histories of patients with the diagnosis of community-acquired pneumonia being under treatment in the Far Eastern Scientific Center of Physiology and Pathology of Respiration of Siberian Branch of Medical Science during the flu period A (H1N1) in October-November 2009. The peculiarities of these patients' treatment have been examined.

To all patients with community-acquired pneumonia antibiotic therapy was immediately appointed. Combination of cephalosporin of the IIIrd – IVth generation (cefatoxime, ceftazidime, ceftriaxone, maksitsef) and macrolids of the IIIrd generation (claritomylin) were prescribed to all patients as this combination of drugs is the most effective in the treatment of community-acquired pneumonia, since it practically influences on all known range of typical and atypical agents of community-acquired pneumonia.

In the ineffectiveness of this combination of drugs antibiotic therapy was changed and preparations of group of respiratory fluorinolons (levofloxacin, moxifloxacin) were used.

Conclusions

During flu epidemic there has been the outbreak of community-acquired pneumonia.

The largest group of patients was the patients at the age of 30-49.

The timely commenced combined antibiotic therapy with the use of cephalosporin of the IIIrd – IVth generation and macrolids of the IIIrd generations in combination with antiviral preparations has been highly effective in the treatment of community-acquired pneumonia during the flu epidemic.

MARFAN'S SYNDROME. THE INTERESTING CASE FROM THE PRACTICE

Popova V. – the 5th year student

Kapustinsky M. – the 6th year student

Scientific leaders – CMSc Vakhnenko Yu. V., Yegorova V.D.

A patient with Marfan's syndrome, one of the most widely spread autosomal – dominant hereditary diseases of connective tissue was observed in the cardio-surgical center of the Amur State Medical Academy. The spread of the pathology in the world makes up 1 case per 5000 of people. Marfan's syndrome is the result of gene mutation coding the formation of the protein – fibrillin which is the structural component of connective tissue, responsible for its contraction and elasticity.

Anomalies of fibrillin cause the lesion of aorta wall, ligamentous apparatus of different organs. The lesion of the ascending part of the aorta in Marfan's syndrome is quite often the cause of death of the adults from the aorta rupture.

Patient K., aged 38 was examined and treated in the cardio-surgical center of ASMA. On admission to the center he suffered from dyspnea during the moderate physical load from pressing pains in the heart, intermissions, headaches on the background of increasing of blood pressure to 160/50 mm. Hg. and from legs edema. Before admission to the clinic he with the diagnosis "Hypertension" was under supervision of doctors in his residency for many years.

At the examination his height (204 cm), his asthenic constitution, high palate, uneven teeth, deep-seated eyes, altitude myopia drew the doctor's attention. Besides this there were hypermobility of elbow, wrist, metatarsophalangeal joints of hands, keeled chest and thoracic scoliosis. Arachnodactyly, positive forms of a "thumb" and a "wrist" were defined. Visible pulsation of carotic artery, abdominal aorta, intensive developed superior beat were determined. The left heart lorder is determined in the VI intercostal space on the 1,5 cm to the outside of the left midclavicular line. The vascular bundle was widened to the 7 cm mainly to the right side. The first heart sound on the top and over the xiphoid process of the chest was weak. The systolic sound was heard in these points. The second heart sound over the aorta was sharply weak. The loud diastolic sound was heard. There was the accent of the 2nd sound over the pulmonary artery. The heart rate was 88 beats per minute. BP was 160/50 mm Hg. There were edemas of the legs. The diagnosis of Marfan's syndrome was made according to the presence of the following syndromes: hypermobility of joints, arachnodactyly, attitude myopia associated with above mentioned phenotype signs. Taking into account the clinical picture it was suggested about the presence aneurismal expansion of the ascending aorta and aortal insufficiency and it was confirmed in the result of echography. The patient received conservative treatment, including – adrenoblocators, diuretics, ascorbic acid, preparations containing glucosamine sulfate, chondroitin sulfate, amber acid, vitamin – mineral complexes. The positive effect of the treatment was temporal. To prevent the aortic aneurism rupture and to correct the aortic insufficiency the patient was directed to the scientific Research Institute of Pathology of blood Circulation named after Meshalkin in Novosibirsk, where the combined operation, worked out by Bentall: the replacement of aortic valve and ascending part of the aorta by valvar conduct with the subsequent reimplantation of aortal valve prosthesis was performed.

In 6 month after the operation the patient felt better: signs of heart insufficiency became less expressed, BP stabilized.

Thus, the timely, correct diagnostics of the given, relatively rare disease and its cardiac displays allowed to work out the correct tactics of the conservative and surgical treatment of the patient and this is of course improved the prognosis of his life and significantly improved the life quality.

GENOMS OF CELLULAR SYSTEMS – VARIANTS OF PHENOTYPING AND DOOM?!

Bekker A. – the 2nd year student

Scientific leaders – prof. Gordienko E.N., Yegorova V.D.

Today the study of the section «The General Genetics» in Higher Medical School assumes the obligatory mastering of concepts, knowledge of which is necessary both for basic sciences and clinics. The most important one among them is “GENOME”. Its detalization is of great interest on the example of the severe hereditary disease – mucoviscidosis - monogenous autosomal disease with the regressive type of inheritance, with the attempt to transform it from the molecular genetics to the concrete nosology and to variants of its clinical forms. According to pathogenetic classification belongs to membranous mutations with multiple display. The gene is localized in 7th pair of chromosomes, the shoulder of q.31.2, and codes the huge transmembranous protein CFTR of transporting chlorine ions, consisting of 1480 amino-acid residue, grouped in 2 repeating motives, divided into a large chain called « regulatory domain». There were identified about 1000 mutations of this gene, the sequence of which is the disturbance of its structure and function, the disturbance of physical and chemical properties, the change of character of exocrine glands both monocellular and multicellular, the difficulty of the secret evacuation.

Among this variety there were typed several classes of mutations, defining variants of the clinical picture: the 1st class – the disturbance of protein product, the 2nd class – the disturbance of processing, the 3rd class – the disturbance of transcription regulation, the 4th class – the disturbance of chlorine ion transport, the 5th class – the decrease of synthesis of normally functioning protein. The great majority of them proves to be at the level of epithelial derivatives of the endodermal germ as a part of the internal organs causing the polymorphous clinical picture of the disease with a lesion of the bronchial tree, exocrine parts of the pancreas, large intestine and of the mesodermal germ – epithelium of ejaculatory a canals.

In this connection using the term “GENOM” we have to specify not only and not so much variants of mutations, but the participation in their expression epigenomous factors at the levels: tissue – intertissue - organic – systemic and special clinical picture of of the given patient. The picture of structural injuries of the epithelium is traditional: its death, the replacement by the connective tissue, the development of the progressing fibrosis, the variant of the primary male sterility. is one of the first hereditary diseases dealing with the genodiagnostics, with the searching of the mutant gene with the help of oligonucleotide probes and genotherapy as well. Unfortunately in Russia the problem of the modern perinatal diagnostics of is solved worse than in the developed countries and as well as in the reproductive diagnostics and the life-span. The acquaintance with the problem of clinical genetics according to literature data gives possibilities not only to deepen the study of the material, but also to translate the theoretical knowledge into the applied knowledge, using the advanced interdisciplinary complex of medical education.

BINOCULAR VISION

Dyuldina E.-the 2-nd year student
Scientific leader - Pavlova A.E.

Binocular vision is vision in which both eyes are used together. The fixation reflex concerning with attracting the eye on an object appears in the second month of life. Binocular vision appears at the end of the third-fourth month of life, when children fix objects by both eyes, in other words binocularly. It is the plane binocular vision. Binocular vision is possible in the case of having orthophoria (absolute muscular balance of eyes) or heterophoria (latent squint). The absence of binocular vision is displayed by squinting or special methods. The recovery of binocular vision is realized by means of operation.

FUNCTIONS OF FACIAL MUSCLES

Shevcova D. ,Kravchuk E. – the 2-nd year students
Scientific leaders - Zherepa LG., Cand. Ped. Sc. Bibik I.A.

Reduction of the facial muscles causes the wrinkling skin, defining facial expression. In children and young people these folds are smoothed out after the contraction of the muscles, and in adults and the elderly on the site of folds wrinkles appear. Wrinkles appearing in underfeeding disappear with the restoration of adequate nutrition, and it happens faster in younger people.

Pantomime is the ability to express the feelings, emotions and sometimes even thoughts with the movements of the trunk and extremities. Its section is facial expression – the ability to express the same thing by changing the grimaces of the face. It is extremely important for a doctor as it is often the only way to assess the patient's condition.

In all about 50 muscles are involved in facial expression. They interact in various ways.

The more signals are received from the central nervous system, the more muscles are involved in facial expression. The expressiveness of the face is manifestation of feelings, mood, and thoughts. Plasticity of the face depends on the individual characteristics of the facial muscles. Actors have the greatest ability to mimic volitional control. Masklike faces may appear because of muscle innervations disorders and hypoplasia of emotional nervous activity. Not only stress leaves traces on the face, but also positive emotions – eustresses. A person's face acquires the corresponding expression. The definition of this expression is the task of physicians, psychologists, artists, and criminalists. A man and his facial expression have grown up together. That is why on the face of a man we can judge of the moral status of the individual, his intellect. Thus, originality of the facial expression of a person is a result of his sociality.

CHRONIC FATIGUE SYNDROME

Nevedomskaya N. – the 4th year student

Scientific leaders –Cand. Med. Sc. Pavlenko V.I., Cand. Ped. Sc. Bibik I.A

"The art of concerned in preserving
healthy bodies in combat row"

Ibn Sina

The term "chronic fatigue syndrome" appeared in 1984 in the U.S., but the phenomenon of rapid and prolonged fatigue, physical weakness, weakness, as the leading feature of ailments has been known since the beginning of the century.

One should distinguish chronic fatigue syndrome (CFS) from simple fatigue, which is not a disease, but just a natural reaction to overwork, a signal that a man sorely needs a rest. But CFS is unfounded, strongly expressed, exhausting the body general fatigue that does not pass after a rest, prevents a person to live in his usual pace. CFS is cleverly disguised as other diseases, so to recognize the insidious disease is very difficult.

Thus, the main diagnostic criterion of CFS is constant tiredness with the reduced capacity for work on the background of health, lasting at least 6 months and which is not associated with any other diseases.

CFS symptoms appear immediately. Most often CFS begins with flu-like condition (such as SARS): fever, sore throat, swollen lymph nodes, and headaches. Then, quickly, within a few hours or days, unexplained generalized muscle weakness, tenderness of some muscles, polyarthralgia (pain in the joints), exhaustion after exercises which are not reversed themselves during the day appear. Advanced syndrome includes sleep disturbance, loss of memory and intellect, depressive phenomena and the altered states of consciousness that are not secondary, but are included in the structure of the syndrome.

Immunological studies are carried out to assign the appropriate immune correction. For example, in patients the decrease of the number of killer cells (NK cells) or their functional activities are observed. Some scientists suggest that in the CFS there are certain changes in the T-cells and their products - cytokines. But these hypotheses are still in need of a serious confirmation.

Duration of CFS varies. In some patients recovery occurs quickly, in just a few months, others experience a progressive deterioration, lasting for years. The disease happens to have cyclical character with periods of remission, relapse. The state in CFS may turn out so unusual that quick healing in some people are tempted to be treated non-traditionally and not in the hospital. Don't do this.

Feeling an inexplicable fatigue that persists after sleep or rest, do not do self-diagnosis and self-treatment.

Among the assigned multivitamins and minerals are vitamins B12, C, A, selenium, germanium, zinc, iron, adenosine monophosphate, L-tryptophan, magnesium sulfate, and others. For the treatment of chronic fatigue syndrome in the United States herbal preparations containing garlic extract, echinacea, bromelain, ginkgo are used.

DEONTOLOGY AT THE DEPARTMENT OF NORMAL ANATOMY

Kozlov A. the 1-th year student

Scientific leaders-ass. Zherepa L.G., Korneva O.A.

The study of any branch of medicine, including anatomy, is not possible without taking into note medical ethics and deontology - the science of the physician's duty, the behavior of health workers, including students, among themselves, with teachers, with patients with cadaveric material. The teaching process is carried out in specific terms the department of normal anatomy, which has certain requirements for the discipline and appearance of students in accordance with professional clothing of physicians.

Training is conducted on preparations of human remains, therefore, it is required a special respect for them both during the workshops, and in self-training. Familiarities are excluded in the use of preparations. Also, it should be known that neither osseous nor wet preparations of various organs and human body parts should not be taken out of the classrooms of the department, being necessarily covered only with the shroud and with the feet a head of the body. In the presence of cadaveric remains are excluded talking on incidental themes, food intake, activities of other subjects.

It is necessary to be sensitive to the appearance of discomfort for some students, keeping in mind that they are a normal reaction of the human body to the mortuary atmosphere.

MEANING OF HYPOTHALAMUS

Anshukov I., Tyutyunnikov D., - the 2-nd year students

Scientific leaders – C.M.Sc. Semyonov D.A. Korneva O.A.

Hypothalamus or hypothalamic area of the diencephalon is the highest center of integration and regulation of vegetative functions. It has been involved in the correlation of various physical functions and regulation of the gastrointestinal tract, sleep and wakefulness, water and salt, fat and carbohydrate metabolism, body temperature and homeostasis. One of the most important functions of the hypothalamus is associated with regulation of the endocrine system.

The structure of the hypothalamus. The hypothalamus is a phylogenetically ancient formation of the brain and is already well developed in lower vertebrates. It forms the bottom of the third ventricle and lies between the optic crossing and posterior margin of the mammillary bodies. The structure of the hypothalamus is gray tuber, median eminence and posterior funnel nerves or pituitary. In front it is bordered on the preoptic area, which some authors also include in a system of hypothalamus.

Connections of the hypothalamus. Hypothalamic area has extensive contacts with various parts of the central nervous system, including the brain stem reticular formation, pituitary, etc. Among the pathways of the hypothalamus are distinguished efferent, afferent and connections within hypothalamus.

ASPIRIN IS PLATELET INHIBITOR

Schekochihina O. - the 2nd year student

Scientific leaders - Cand. Med. Sc. Brush A.A., Korneva O.A.

The number one killer in the worldwide, cardiovascular disease is responsible for approximately 30% of all deaths. Research has now shown that atherosclerotic plaques develop over time. When a plaque ruptures, however, it exposes the arterial extracellular matrix and initiates platelet aggregation or atherothrombosis. At the same time, tissue factor produced by macrophage-derived foam cells also initiates the blood system's coagulation cascade. These events are responsible for clot propagation and can cause clinical disease, ranging from stroke to myocardial infarction (MI).

Today, platelet inhibitors are an integral part of the prevention and treatment regimen for acute vascular events. There are three major classes of platelet inhibitors: aspirin; the thienopyridine derivatives, including clopidogrel (Plavix); and GP IIb/IIIa receptor antagonists. Because the GP IIb/IIIa antagonists are only available in intravenous forms, they are not used for long-term treatment of patients outside the hospital setting. On the other hand, aspirin and clopidogrel are commonly taken by patients to reduce the long-term risk of heart disease.

Aspirin (acetylsalicylic acid) has a long history as an analgesic to relieve minor aches and pains. This inexpensive and widely available drug also reduces the risk of a first MI in men and stroke in women. In patients at high risk for vascular disease, it has been associated with up to a 25% reduction in death related to vascular causes, MI, and stroke. Aspirin is also indicated as part of a regimen for the secondary prevention of cardiovascular events in patients with a history of coronary artery disease, cerebrovascular disease, or peripheral vascular disease.

IMPLANT SURGERY KERATOPLASTY

Schekochihina O. - the 2nd year student

Scientific leaders - Cand. Med. Sc. Sayapina I. Yu., Korneva O.A.

The cornea is the transparent convex front part of the eye. The cornea is a powerful refracting surface, providing two thirds of the optical power of the eye. Looking like the peephole it is allowed to see the world around us.

The cornea has normally a lucid and mirror surface. When the cornea becomes cloudy or warped surface, it begins to break the normal input of luminous rays into the eye. It may be unsuccessful surgical interventions, traumata, burns, infectious diseases, the after effects of chemotherapy and others reasons, inevitably leading to a distortion of images on the retina and loss of sight. So in the world goes blind every year about 10 million people. The best treatment of corneal disease is often corneal transplantation - keratoplasty. The achievements of modern implants help to restore sight with a corneal transplant from donors, but because of their lack about 1.5 million people worldwide lose their sight a year.

Attempts to use in clinical practice, the cornea of synthetic materials were not effective, but now scientists around the world make a real break in ophthalmology.

Artificial cornea is created and a number of successful operations of its transplantation has already held. Also, modern technology allows eye surgeons to replace only a portion of the cornea, leaving healthy tissue unharmed.

GAMMA-KNIFE RADIOSURGERY

Schekochihina O. - the 2nd year student

Scientific leaders - Acc. Prof. Labzin V. I., Korneva O.A.

The Gamma Knife is an important invention of our time. Surgical treatment is associated with hospitalization, risks of postoperative complications, the increase of neurological deficiency and reduction of quality of life. The recurrence rate of tumors is ranged from 10 to 50%. The combination of surgical removal of metastases, followed by whole brain irradiation reduces the rate of recurrences, but usually is accompanied by acute post radial reactions. A Gamma Knife solves all these problems. The radiation focused on the tumor or other brain damage is used as a knife. Tumor cells lose, above all, the ability to divide, to reproduce, so the tumor stops growing. At present such invention is very important, because intervention is bloodless and the patient can often leave the hospital on the day of operation. Gamma Knife is a stationary radiosurgical unit in which radiation sources are fixed in a protective helmet in diameter of hemisphere. The Gamma Knife is considered to be the "gold standard" in radiosurgery and it is used to treat many pathologies of the brain. Planning the operation, the patient is performed an MRI, and then, using cross-sectional images of the brain it is determined what dose at what point should act. The goal is to stop the tumor and to keep healthy tissue. Once carried out the calculations automatically activates the "gamma knife" in the right direction, and the desired power for the necessary time.

ANTHOPOLOGY OF SLEEP

Tikhonov A.- the 2-nd year student

Scientific leaders – Pavlova A.E., Korneva O.A.

The research of Maria Manaseina (1843-1903) played the great role in the anthropology of sleep. In 1870's she researched the importance of sleep using puppies. The modern ideas about the nature of sleep emerged in the second part of XX century, after the methods of recording the brain bioelectrical activities (Electroencephalography, EEG), skeletal muscles activities (Electromyography, ENG) and eye activities (Electrooculography, EOG) appeared. The discovery of the Rapid eye movement sleep, or REM sleep, in 1950, was the major achievement in this field. The scientists working in this field were Nathaniel Kleitman, William Charles Dement (USA), Michel Jouvet (France). NREM sleep (Non-rapid eye movement sleep) lasts 80-90 min. Stage N1. Behavior: a sleepy slumber dreams, absurd or hallucinogenic. Muscle activity is reduced, the eyes make slow movements. Intuitive ideas, that contribute to the successful solution of the problem, can appear. Stage N2. Shallow sleep. The reduction of tonic muscle activity. Heart rate slows, body temperature drops, the eyes are stationary. Stage 3. Slow-wave

sleep. Stage 4. Deep-wave sleep. It's very difficult to wake a person, 80% of dreams take place. This is the stage in which parasomnias such as night terrors, nocturnal enuresis, sleepwalking, and somniloquy occur, but the person doesn't remember this. REM sleep (Rapid eye movement sleep) is the 5th stage. The scientists suggest that it provides the functions of psychological defense, the information processing and information exchange between the conscious and subconscious. Blind people dream of sounds and sensations. They don't have rapid eye movement. Horses and other herbivorous ungulates can sleep while standing, but must necessarily lie down for REM sleep (which causes muscular atony) for short periods. Cats sleep about 16 hours a day. Some aquatic mammals and some birds can sleep with one half of the brain while the other half is awake, so-called unihemispheric slow-wave sleep. This ability is due to they need to maintain breathing – they need to swim to the surface from time to time to type some air. However, killer whales and some dolphins do not sleep during the first month of life. The birds have a function of unilateral sleep that may help to protect themselves from predators. The migratory birds have an interesting mechanism that allows them to sleep during long flights: every 10-15 minutes a bird flies into the center of the flock and slightly waves its wings. It floats on air currents, which are made by the whole flock. Then the birds interchange.

ANATOMICAL FEATURES OF X-RAY OF THE THORAX OF NEWBORNS WITH CONGENITAL PNEUMOTHORAX

Kozlenko A. – the 2-th year student

Scientific leaders- CMSc. Shakalo Y.A., Yegorova V.D.

There are a lot of problems of infants health nowadays. One of the major problems is diseases of respiratory system of newborns with the congenital pneumothorax. Our research work gives real opportunity to prognosticate these diseases and help to prevent them.

We had investigated radiological pictures of the thorax of newborns in a direct projection of two control groups. There are twenty pictures of healthy newborns and forty pictures of newborns with the congenital pneumothorax. We had measured intercostal distances in three projective lines and we had established the asymmetry of these distances in children with the congenital pneumothorax. Mathematicians from the Amur State University helped us to make relations of sizes of intercostal distances and to make some conclusions.

So, thanks to our research we can prognosticate respiratory insufficiency of newborns and prevent them.

STEM CELLS - THEIR STUDY AND APPLICATION IN MEDICINE

Panko A.V.-the 2-nd year student

Scientific leaders- Prof. Krasavina N.P., CMSc. Semyonov D.A., Kostina V.V.

The actuality of the stem cells in the clinic today is very great. It is known that stem cell treatment gives great results in the defeat of a stroke, liver cirrhosis, diabetes and a whole kind of diseases.

Stem cells are unique cells that have the ability to rapidly reproduce and maturation of hematopoietic cellular elements of the nervous and cardiovascular system, endocrine organs, bone, cartilage and muscular tissue.

According to the source of selection there are several types of stem cells: embryonic stem cells and tissue stem cells of differentiated tissues (somatic stem cells). In the adult human primary source of production of stem cells is red bone marrow.

The most versatile are embryonic stem cells, which take a very early stage of fetal development of the part. Normally, they give the onset to three germ layers of the later embryo and finally to all organs and tissues.

To get a line of embryonic stem cells from the blastocyst, the inner cell mass is selected and placed in the Petri dish with the cells of nursing. A few days later in a cup formed by a colony of cells that can be attributed to embryonic stem if they are corresponded to two conditions: positive for standardized tests and have the ability to self-maintenance.

Every athlete wants to be the best, to set new sports records. Athletic championship, giving the victory hard and regular strenuous exercise can only be in excellent condition of the whole body, with the active cell renewal, strong saturation of stem cells. Unfortunately, the sport is closely linked with injuries. Athletes regularly receive different injuries, the treatment of which takes a long time, followed by a prolonged period of recovery. Stem cells are perfectly added the procedures of Sports Medicine, reduce the period of rehabilitation and repeatedly reinforce the quality of recovery.

It is necessary and possible to help the body to cope with their own daily exercises. One of the easiest and most natural ways to help the body - take care of their own health in advance, for which there is a simple and effective way - put your stem cells in stem cell bank.

CANNABINOIDE AND THEIR RECEPTORS

Sibileva D. -- the 2-nd year student

Scientific leaders – Prof. Cherbikova G. Eu., Kostina V. V.

The researchers found in the brain entirely new signaling system. Thus, understanding of the mechanisms of its activity may lead to new treatments for anxiety, pain, nausea, obesity, brain injuries and many other violations.

In 1964-Raphael Mechoulam of the Hebrew University from Jerusalem founds that there was a connection that was similar to the pharmacological effects with marijuana, delta-9-tetrahydrocannabinol (THC). The researchers had to identify the receptors that it binded THC.

In 1988, Allyn Howlett has marked one of the radiolabeled chemical derivatives of THC, which was introduced into rats and found that it interacted with the molecular structures of the brain, which were called cannabinoids receptors. (CB1)

In 1992, Mechoulam showed that the brain produced a fatty acid that it could bind with receptors CB1 mimic all known effects of marijuana-anandamid (ananda-bliss).

The discovery of cannabinoids receptors allows the developing of pharmacological agents that are useful to reproduce the effects of marihuana with minimum harmful manifestation.

DIFERENT PHENOTYPES OF CORPUS COLLOSUM

Fomina M.- the 2-nd year student

Scientific leaders –Pavlova A. Eu., Kostina V. V.

Corpus collosum(CC) is a plexus of the nervous fiber in the brain connecting right and left hemispheres. It is divided into four parts: rostrum, genu, truncus and splenium.

If the normal development of the CC is violated by any reason, than the following anomalies can occur as the product because of result of the violation:

The first one is a CC agenesis which is a full absence of the CC.

The second one is a CC hypogenesis which is a partial development of the CC.

The third one is a CC dysgenesis. In this case CC has abnormal shape.

And the fourth one is a CC hypoplasia. It happens when CC is formed but it has a volume deficit because of the not enough quantity of the commissural axus that participate in its formation.

Anomalies of the CC happens among the patients with a classical lissencephaly. The most frequently CC hypogenesis occurs with rostrum absence and splenium reduction. In some cases the full agenesis can occur mostly among the patients with microcephaly.

MODERN METHODS OF RADIAL DIAGNOSTICS AS THE NEWEST METHODS OF ANATOMIC RESEARCH

Poroshin A., Levashova M. – the 1st year students

Scientific leaders – Pavlova A.E., Kostina V.V.

In 1995 the world celebrated the one hundred anniversary of radio-diagnosis which was based on the capabilities of organism's tissues to skip ionizing radiations. Modern digital radio-diagnosis apparatus allow to combine high quality of images with the necessary dose of ionizing radiation. Computer technologies allowed to extend substantially diagnostic possibilities, because of which distribution of ultrasonic diagnostics (USD) radio-computer tomography(RCT) , magneto-resonance tomography(MRT) and other modern methods of research are generalized by a concept «Radial diagnostics». General for them is high-quality and quantitative interpretation and processing of images, the getting of which is connected with the use of computer technologies. It allows to provide long-term information, its easy producibility and transmission in networks for any man.

The newest methods of inspection got wide spreading for diagnostics of diseases of central nervous system, diseases of internals, motor apparatus, otorhinolaryngological diseases, diseases of small pelvis, etc .An angiography which enables to execute little invasion surgical interferences develops dynamically.

The given findings allow to say about position of organ, its sizes, function, blood supply, presence of pathological changes. It allows deeply to study the function of organs and systems.

Thus radial diagnostics firmly enter the life, promotes the accumulation of knowledge for development of algorithms of inspection of patients with different pathology, introduction in practice of standards of providing of medicare.

NUTRITION AND EYE HEALTH

Loskutnikova M. A.-the 2-nd year students

Scientific leaders – ass. Pavlova A. Ye., Posokhova A.A.

Eating well is an essential aspect of healthy living. It helps to prevent illness and also promotes healthy growth of body tissues, including the eyes, by providing a valuable source of nutrients that are essential for good eye health.

What is good?

Antioxidants such as vitamin C, E and beta-carotene have been shown in clinical research to protect the eye from the development of pathology.

Dark green leafy vegetables are rich in these vitamins and the darker the leaves, the more nutrients the vegetables usually contain. Such vegetables should be eaten regularly.

Lutein and other antioxidants that can prevent free-radical damage to the macula (the central part of the retina) which is responsible for fine and colour vision. Again, they can be found naturally in dark green leafy vegetables.

Vitamin A maintains healthy cells in vital structures of the eye and plays an important role in converting light into nerve signals in the part of the eye called the retina.

A deficiency in vitamin A can lead to gradual changes in the eye. The first sign of a visual problem is finding it difficult to adjust to seeing in the dark.

If vitamin A deficiency is prolonged, it can lead to changes in the cornea and conjunctiva, and this is a major cause of blindness in developing countries.

Preformed vitamin A occurs only in foods of animal origin. Fruits and vegetables that contain certain carotenoids also provide vitamin A. Carotenoids are plant pigments, responsible for the red, orange, and yellow colour of fruits and vegetables.

What is bad?

Smoking increases the risk of cataract and age-related macular degeneration.

Smoking can aggravate diabetes-related sight problems and also thyroid eye disease.

Cigarette smoking increases free radicals which accelerate ageing and exacerbate wear and tear. Passive smoking is almost as harmful as smoking yourself.

Excessive alcohol consumption has detrimental effects not only on general health but also on the eyes. There is an eye condition called toxic amblyopia, or tobacco-alcohol amblyopia, in which excessive smoking and drinking along with poor nutrition are believed to be the contributing factors.

Salt and sugar are two potential health hazards if consumed in excess. Increased salt intake for prolonged period is known to cause systemic hypertension which in turn is associated with vascular diseases affecting the kidney, brain, heart and eye.

Obesity and diabetes can affect a person if the diet contains high sugar intake. Diabetes can cause serious damage to the eye and lead to diabetic retinopathy. Blood vessels in the retina of the eye can bleed and leak in diabetic retinopathy.

ASYMMETRY OF HEMISPHERES

Koryakin M. – the 2nd-year student

Scientific leaders – ass. Pavlova A.Ye., Posokhova A.A.

Anatomical differences of two hemispheres of the brain are thoroughly studied in right-handers. It turned out that a number of structures of the left hemisphere is characterized by large size compared to the symmetrical divisions of the right one. And especially expressed neuroanatomical asymmetry is found in the auditory cortex. Similar differences are also typical for the back part of the postcentral gyri. Neuroanatomical differences of the brain of right-handers are typical not only for “speech” zones, but also spread to other structures – visual, associative posterior (parietal), dimensions of which are greater in the right hemisphere than in the left one. But the cortical areas of intermodal associative zones are localized more in the right hemisphere. These features create the prerequisites for unequal functional possibilities of hemispheres: short-axon connections, especially in the primary projection areas of the cortex prevail in the left hemisphere, while in the right connections between the areas are interregional. Consequently, in the right-handers the left hemisphere has structural bases for the “local” processing of the stimulus, while the right has wider possibilities for processing complex information. Thus, there are two basic features in neuroanatomical asymmetry of right-handers’ brain: the sensory and motor areas are more representative in the left hemisphere, while association areas are typical for the right one, the predominance of connections within the cortex is observed in the left hemisphere; of the right between the cortical connections. The described differences are the basis for differentiated role of the cerebral hemispheres in using cognitive strategies. A leading role in decision of linguistic, verbal tasks belongs to the left hemisphere: psychomotor activity, speech and based on it thinking and memory is provided by it. The right predominates in the solution of spatial-constructive tasks, is responsible for psychosensory sphere: perception of the world and oneself in it, emotional experiences, remembering the events in the form of sensory images with an accurate reflection of time and space in which the events took place, and formed their image in the mind. In analyzing the abilities of each hemisphere to perform the functions of another it was established that in right-handers lesion of the left in the early stages of ontogeny does not lead to aphasia, and the speech is developing thanks to keeping of the right hemisphere. A lack of distinct correlation between the side of a brain injury and the onset of localized disorders is typical for left-handers that is indicative of more diffuse than in right-handers the representation of verbal and constructive functions. On the one hand, signs of functional connectivity of the right hemisphere with diencephalic and possibly limbic structures are revealed in left-handers and right-handers, on the other hand, less specificity of hemispheres and the formation of these bonds in relation of stem structures is manifested. The features of the brain of left-handers described above are

likely to constitute the physiological basis of repeatedly noted in literature and unordinary features typical for them, making non-standard solutions, including creative activities.

IMMUNE-FERMENTAL ANALYSIS

Baldanova A. – a 3^d-year student

Scientific leaders – C.M.Sc. Yusan N.V., Posokhova A.A.

The method of immune-fermental analysis is used to determine immunoglobulins, antigens and hormones. It has a high sensitivity and specificity that makes up 90%. Venous blood serum taken on an empty stomach is used as the material for research. The main advantage of this method is the possibility of determination the infection and observation of dynamics of the process's development on which the level of antibodies indicates. The disadvantage is that being a non-direct methods of diagnostics, it lets to determine the immune answer of an organism on a pathogen but not the pathogen itself.

The mechanism of reaction

The immune reaction of an antigen with an antibody underlies the immune-fermental analysis and addition of a fermental mark to antibodies allows to take into account the result of reaction of antigen-antibody by the appearance of fermental activity or by the change of its level. The mechanism of reaction can be presented as follows:

The first reaction takes place between the Ig (Ab) being determine and the purified antigen of a pathogen (Ag), fixed to the surface of holes of immunologic plane-table.

The second immunologic reaction is performed to reveal the formed immune complexes in which the bound specific Ig takes the part of antigen and as antibodies to it a conjugate representing Ig (Ab) to the corresponding Ig of a man, marked by the ferment – peroxidase (K).

Then a fermentative reaction takes place. A colorless substance – chromogen which forms a colored substance during the reaction serves as the substrate of the give reaction. The intensity of the color in the hole depends on the amount of immunoglobulins in the sanple.

After the stop of reaction the calculation of results with the use of special devices is carried out. The measurement of optic density in each cell is performed, the more it is, the more amount of specific antibodies is contained in the sample.

PECULIARITIES OF THE COURSE OF EXTRA-HOSPITAL PNEUMONIA DURING THE EPIDEMICS OF FLU A (H1N1) IN BLAGOVESHCHENSK

Baldanova A. – the 3d-year student

Scientific leaders – C.M.Sc. Sundukova Ye.A., Posokhova A.A.

The aim of our investigation was the study of peculiarities of the course of extra-hospital pneumonia during the epidemics of flu A (H1N1). We analyzed 813 case histories from October till December in 2009, extra-hospital pneumonia of mild degree of severity was diagnosed in 87,5% (711 patients), the severe course was in

12,5% (102 patients). 179 case histories were analyzed during the same period of 2008, extra-hospital pneumonia of mild degree of severity was observed in 81,6% (146 patients), the severe course – in 18,4% (33 patients). The age of the examined patients varied from 18 to 93 years. Persons aged to 50 years (71,4%) prevailed during the epidemics of the flu A (H1N1) in 2009 among the patients with extra-hospital pneumonia of the mild degree of severity, in 2008 this index made up 49,7%. The severe course of extra-hospital pneumonia was observed in persons of elderly and senile age made 35,3% in 2009, 21,3% in 2008.

CYTOKINES: GENERAL INFORMATION

Zotova G. – a 3^d-year student.

Scientific leaders – C.M.Sc. Yusan N. V., Posokhova A. A.

All cells of immune system have certain functions and work in accurately coordinated interaction which is provided by special biologically active substances cytokines - regulators of immune reactions. Specific proteins with the help of which different cells of immune system can exchange the information with each other and carry out coordination of actions were called cytokines.

Cytokines are an important element at interaction of different lymphocytes between themselves and with phagocytes. By means of cytokines T-helpers help to coordinate work of different cells involved in immune reaction.

Studying the levels of cytokines allows to receive the information about the functional activity of various types immunocompetent cells; about the severity of inflammatory process, its change to system level and the prognosis; about correlation of processes of activation T-helpers of the 1st, and the 2nd types that is very important in differential diagnostics of a number of infectious and immunopathological processes; about a stage of development of some allergic and autoimmune diseases.

SEPTIC ENDOCARDITIS

Maslova Ye. – a 3d-year student

Scientific leaders: cand. of med. sc. Dubyaga Ye. V., Posokhova A.A.

Septic (bacterial) endocarditis is a special form of a sepsis for which septic defeat of a heart's valves is typical.

Etiology and pathogenesis.

Nowadays white and golden staphylococcus, green streptococcus became the most frequent pathogens of bacterial endocarditis. The importance of Gram-negative pathogens and also pathogenic fungi increases.

Classification.

Acute, subacute and chronic septic endocarditis are picked out proceeding from the character of the course of the disease. The duration of the acute septic endocarditis makes up about 2 weeks, subacute – up to 3 months, slow – many months and years. Subacute and slow forms prevail at present, acute almost disappeared.

Depending on presence or absence of background disease septic endocarditis (especially subacute and slow) is divided into two kinds:

developing on the changed valves - secondary septic endocarditis (especially subacute and slow) is observed in 70 – 80% of cases and mainly against a background of a rheumatic heart disease;
 appearing on intact valves – primary septic endocarditis is marked in 20-30 % of case.

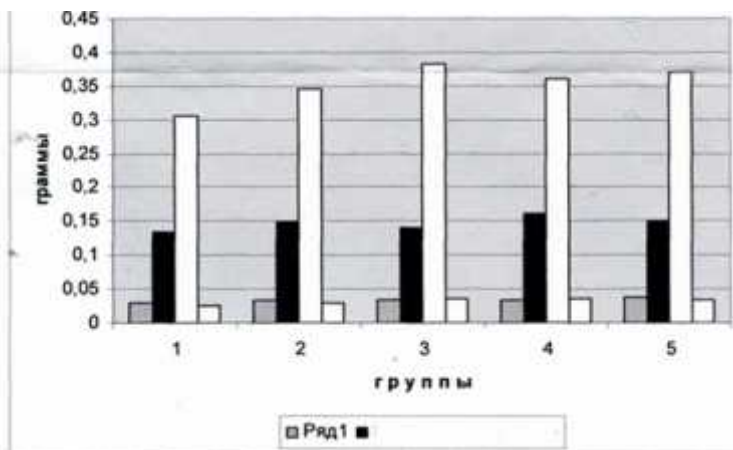
RELATIONSHIPS OF THE ABSOLUTE WEIGHT OF THE INTERNAL ORGANS OF fetus OF THE WHITE RATS 17-21 DAYS PREGNANCIES and in INJECTION OF “LAVITOL”

Fedorova E., Melnikova V. - 1-st year students.

Scientific leaders: Ass. prof. Seliverstov S.S., Professor Tseluyko S.S., Kostina V. V.

Experiments are carried out on 100 mature outbred females white of the rats (*Rattus norvegicus*) of the Rodencia, family Of Muridae without pedigree, at the age of 4-5 months, with the mass of body - 197,0-280,0 (222,3±11,09) gram. The substance of dihydroquertsin of “Lavitol” was dissolved in 1% of starch mucus on the distilled water, and then the obtained suspension was introduced in to rats intragastrically with the aid of the probe on an empty stomach in the morning hours. Animals were divided into 5 groups of 20 rats in each. Intact group - 1, control one, with the introduction of 1% starch - group - 2. Substance dihydroquertsin introduced once at the doses of 75 mg/kg - group - 3- from 6 on 16 the days of the pregnancy; 1500 mg/kg - group - 4- from 6 through 16 days of pregnancy; 75 mg/kg - group - 5- from; 6 on 19 the days of pregnancy. The weighing of the organs of fetus was conducted on 17-21 days of pregnancy (see diagram).

Relationships of the absolute weight of heart, lungs, liver and kidneys of the fetuses of rats



Graph. Diagram of the relationships of the absolute weight of the internal organs of fetus of all five investigated groups: row 1- weight of heart; a row is 2nd the weight of lungs; a row 3- the weight of the liver; row 4- weight of two kidneys.

It is established that reliable differences in the weight of the investigated organs in all five studied groups it is not revealed. The preparation of “Lavitol” does not have a negative effect on development and mass of heart, lungs, liver and kidneys of fetus for the duration of their entire development.

THE PLACE OF PHYSICAL CULTURE IN THE SYSTEM OF FORMS AND METHODS OF EDUCATION OF A FUTURE DOCTOR

Kushnaryov V. - the 3-rd year student

Scientific leaders – ass. Gordeeva N.V, ass.Volosenkova Ye.A.

It is well known that physical education is a part of the common culture of the whole complex of achievements of society in the cause of creation and the use of special means of physical development of people. Physical culture is necessary for a cultured man to be considered a highly cultured person.

Medical student is a carrier of culture of health, which he must introduce widely and everywhere. The system of physical training of medical students includes health strengthening and tempering promoting good physical development and improvement of efficiency of the organism.

It plays an important role in creating the future of a doctor, because it leads to will training, courage, perseverance, discipline, the development of communication skills, and cultural behavior. In addition, physical training aims and expands the existing concepts about physical culture as an effective mean of rehabilitation and prophylaxis of disorders of homeostasis of the body, enhancing its reactivity.

In the students included into the systematic physical training and sport and showing in them a fairly high activity, certain stereotype of the daily routine is formed, the confidence of behavior increases. They show higher emotional stability, self-control, they are more optimistic and energetic; among them there are more persistent, determined people who can lead the team.

The students of this group have greater sense of duty, integrity, and self-discipline. Training of those qualities is necessary for the doctor's work, which requires constant train the display of ingenuity, self-control. It's necessary to carry out physical education at the higher educational establishment during the whole period of training and implement it in various forms, which are interrelated, add each other and represent a single process of the students' physical education. It underlines well-grounded positive influence of systematic physical training and sport activities on characteristic features of personality of a future doctor.

MEDICAL AND ADAPTOGENIC ACTIVITY OF CURCUMIN

Kushnaryov V. - the 3-rd year student

Scientific leaders – Ass. professor R.A Anokhina, ass.Volosenkova Ye.A.

First, medical effects of curcumin were described in 21st century by Aggarwal BB, Akiyama etc. Curcumin is extracted from the dried root of the rhizome Cur-

cuma Longa. Curcumin is an orange-yellow crystalline powder. It belongs to polyphenol. It is soluble in ethyl alcohol and ether.

Curcumin can reduce inflammation, neurodegeneration, including Alzheimer's disease, It has antioxidant activity and improves cognitive abilities in elderly people. It is effective in reducing amyloid plaque burden, insoluble β -amyloid peptide and carbonyls (Baum L etc). Also curcumin stimulates organism at physical training.

Curcumin antagonizes many steps in the inflammatory stages, including interleukin (IL)-1, phospho-c-Jun NH₂-terminal kinase (pJNK), reactive oxygen species, reduction of activity of nitric-oxide synthase (iNOS)-mediated production of reactive nitric oxide species, and lipid peroxidation products. Unlike α -tocopherol, which is a poor scavenger for NO-related oxidation, curcumin exerts potent antioxidant activity for NO-related radical generation. In contrast to nonsteroidal anti-inflammatory drugs which adverse side effects include gastrointestinal ulceration and liver or kidney toxicity, curcumin seems to be relatively safe. (Chan et al., 1998).

Investigation of application curcumin in clinics only begins, but India has wide practice of application of this substance, in particular doctors Sundaram C, Malani N, Ichikawa H.

THE ANOMALIES OF THE CORPUS CALLOSUM.

Malkova T., Serikova K.-second year-students, 215 gr.

Scientific leaders- Pavlova A.E., Volosenkova E.A.

The corpus callosum is a part of the white matter composed of nerve fibers and myelin, and the most important commissure, which provides communication between hemispheres of the brain, and takes part in the function of consciousness.

Abnormalities of the corpus callosum is a great problem in pediatric neurology, because there are many difficulties in prenatal diagnosis and symptoms can vary widely. The diagnosis is usually made on the basis of MRT (magnetic resonance tomography) findings.

Abnormalities of the corpus callosum form during the 5th to 16th week of pregnancy. There is no single cause of the anomaly origin, and many different factors can influence on the development, including:

Prenatal infections or viruses (for example, rubella)

Chromosomal (genetic) abnormalities (for example, trisomy 8 and 18, Andermann syndrome, and Aicardi syndrome)

Toxic influence on a fetus (for example, Fetal Alcohol Syndrome)

Blockade on the way of the growth of the corpus callosum (for example, cysts)

In the United States the number of corpus callosum anomalies is 1:4,000 newborns, in Taiwan 1:1,000, in France -1 case per 7,000 births, in Russia there is no such statistics.

There are some types of disorders of corpus callosum: hypogenesis (partial formation), dysgenesis (malformation), hypoplasia (underdevelopment), Probst bun-

dle (fibers are longitudinally located within one hemisphere), agenesis-the most severe anomaly

Symptoms of the above mentioned anomalies vary greatly among individuals. However, some characteristics are common: vision impairments, low muscle tone (hypotonia), poor motor coordination, low perception of pain, and difficulties in chewing and swallowing. Laboratory research has demonstrated that individuals with agenesis have disturbed transmission of information from one hemisphere to the other. They also had some cognitive disabilities (difficulties in complex problem solving) and problems with intercourse, even when their Intelligence Quotient is normal. The unusual social behavior in childhood is often misdiagnosed as Asperger syndrome or other forms of autism. In some cases the anomaly of the corpus callosum is partially compensated by the enlarged anterior commissure of the brain. If the corpus callosum does not form before the birth, it will never form. If there are some corpus callosum nerves crossing between the hemispheres at birth, they can continue to develop, but new fibers and nerves won't appear, all brain connections are organized according to this saved nerves. While disorders of corpus callosum cannot be cured, they can be compensated. Corrective training from early childhood will help the individual to compensate the deficiency, using the abilities of the brain as much as possible. Treatment may include occupational therapy, logopedia, social and professional training, individual school training as well as medical interventions for the treatment of complications such as seizures. Consultations of neuropsychologists, children's psychiatrists, psychologists, physicians are necessary for the concrete evaluations and recommendations.

HEALING PROPERTIES OF WAX MOTH LARVAE EXTRACT

Paliy A. - the 3rd year student

Scientific leaders- ass. Professor Anokhina R.A, ass. Volosenkova Ye. A.

In the XVII century in folk medicine wax moth larvae were used in the treatment of tuberculosis and other diseases. In 1899, Mechnikov I.I. paid attention to the healing properties of the extract taken from the wax moth larvae. He supposed that the waxy substances which are contained in the cell wall of mycobacterium of tuberculosis and give it great stability can be destroyed by digestive enzymes of the wax moth larvae.

The wax moth larvae feed wax-containing bee products, parasitizing in the beehive and destroying honeycombs. It is possible due to digestive enzymes of wax moth larvae (lipase and tseraza), which can break down the wax and simple components. As a result, microorganisms lose their protection and become harmless.

THE "SPANISH" FLU

Bondarovich K.A. – the 3d year student.

Scientific leader – Professor Chubenko G. I., Gricenko S. N.

The 1918 flu pandemic was an influenza pandemic, and the first of the two pandemics involving H1N1 influenza virus. It was an unusually severe and deadly

pandemic that spread across the world. Historical and epidemiological data are inadequate to identify the geographic origin.

Tissue samples from frozen victims were used to reproduce the virus for study. This research concluded, among other things, that the virus kills through a cytokine storm (overreaction of the body's immune system), which perhaps explains its unusually severe nature and the concentrated age profile of its victims. The strong immune system reactions of young adults ravaged the body, whereas those of the weaker immune systems of children and middle-aged adults resulted in fewer deaths. A large factor in the worldwide occurrence of this flu was increased travel. Modern transportation systems made it easier for soldiers, sailors, and civilian travelers to spread the disease.

An effort to recreate the 1918 flu strain (a subtype of avian strain H1N1) was a collaboration among the Armed Forces Institute of Pathology, Southeast Poultry Research Laboratory and Mount Sinai School of Medicine in New York City; the effort resulted in the announcement that the group had successfully determined the virus's genetic sequence, using historic tissue samples recovered by pathologist Johan Hultin from a female flu victim buried in the Alaskan permafrost and samples preserved from American soldiers.

HUMAN PAPILLOMAVIRUS (HPV)

Krivopusk S. – the 3rd year student

Scientific leader – Prof. Chubenko G. I., Gritcenko S. N.

Human papillomavirus (HPV) is a member of the papillomavirus family of viruses that is capable of infecting humans. Like all papillomaviruses, HPVs establish productive infections only in keratinocytes of the skin or mucous membranes.

While the majority of the nearly 200 known types of HPV cause no symptoms in most people, some types can cause warts (verrucae), while others can – in a minority of cases – lead to cancers of the cervix, vulva, vagina, and anus in women or cancers of the anus and penis in men. It can also cause cancers of the head and neck (tongue, tonsils and throat). More than 30 to 40 types of HPV are typically transmitted through sexual contact and infect the anogenital region. Some sexually transmitted HPV types may cause genital warts. Persistent infection with "high-risk" HPV types — different from the ones that cause skin warts — may progress to pre-cancerous lesions and invasive cancer. HPV infection is a cause of nearly all cases of cervical cancer.

HPV infections in that area are transmitted primarily via sexual activity. Types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, and 59 are "high-risk" sexually transmitted HPVs and may lead to the development of cervical intraepithelial neoplasia (CIN), vulvar intraepithelial neoplasia (VIN), penile intraepithelial neoplasia (PIN), and/or anal intraepithelial neoplasia (AIN).

ANATOMY OF THE HUMAN BODY AND ITS SIGNIFICANCE

Kulakova ., Kanaschenko L.- the second year students.

Scientific leaders – Zherepa L.G., Gritsenko S.N.

Anatomy of the human body is a science about the origin and development, external forms and internal structure of the human body. Anatomy is an ancient science having gone a long way of development. It comes from a Greek term «anatemno» - which means “to cut”.

From Vesalius, Aristotle, Halen, Avicenna to our contemporaries there are a lot of names to bow our heads. According to V.V. Kuprianov: «Anatomy requires a hand of an artist, a head of a hero and patience of an angel».

Anatomy is a basis of medicine, study of subjects of medical education begins with it. This is the first stage, which develops medical thinking. Practical application of knowledge in Anatomy is boundless. Doctors of all times and nations understood perfectly well all significance of this science as a basis of theoretical and practical medicine.

Anatomy is closely connected with other sciences, which branch from it. They are comparative anatomy, physiology, embryology and histology. There are some kinds of Anatomy: age Anatomy, Anatomy of children, topographical Anatomy, clinical Anatomy, plastic Anatomy for artists and sculptors, sports Anatomy, normal and pathological Anatomy, systematical Anatomy. There is also cosmic Anatomy. It studies changes, which take place in the human body at long intensive cosmic activity.

The task of any of these sciences is study of form, position of organs and their interrelation taking into account age, sex and other peculiarities, rules of construction of the human body on the whole and its constituent parts. Anatomists are interested in historic development of the human body.

RARE CASES OF FRONTAL ENCEPHALOCELE

Bereza K.-the 2d year student

Scientific leaders-Ambrosjeva N. P., Gritcenko S. N.

A case of encephalocele at female fetus born to 29 year-old mother was described by us. Delivery was artificially induced at 33d week of pregnancy. The fetus was stillborn, its weight was 2250 gr.

The mother works at furniture manufacturing workshop under hazardous conditions. Rash was observed on the lip at 5th -6th weeks of pregnancy. As pregnancy was taking its normal course the mother refused from her gynecologist's regular examinations. The first supersonic scanning was made at 30th week of pregnancy.

Abortion was strongly recommended.

At the fetus examination a large rounded formation of 7*4,5 cm in the range of forehead was detected. At supersonic scanning it was found that the given formation consisted of the brain substance covered by membranes. There were no cerebral cavities inside. Osseous defect of 4*3 between eyes was found nasal arches were compressed. Other fetus development abnormalities were not detected.

TRANSOSSEOUS OSTEOSYNTHESIS UNSTABLE PELVIC DAMAGE

Yuryev E., Sadykova K. – the 5th year students

Scientific leaders – Prof. Borozda I. V., Ganzhurov N. A., Yegorova V. D.

The number of patients with severe unstable pelvic ring injuries, are steadily increasing each year, not only in Russia but also worldwide.

The treatment of unstable pelvic injuries to this day is a challenge for trauma - podiatrist. Indeed, despite the large number of metal structures and methods of surgery, the numbers of poor patients outcomes in this group remain relatively high even in specialized clinics. During the period from 2008 to 2010 there were treated 12 patients (main group) with unstable pelvic lesions (type C by AO).

In order to predict the severity of associated injuries and optimization of preoperative treatment in all patients in this group we used computer software to support decision-making the diagnosis and treatment of injuries of the pelvis.

All victims were the of the main group were operated on using the original technology: devices for the reduction and stabilization of posterior pelvic part in fractures of the sacrum and sacral ruptures - sacral joints and the method transosseous osteosynthesis of an unstable pelvic injury. Patients in a comparison group (21 patients) in the period from 2000 to 2007 osteosynthesis was carried out by external fixation rods and spokes – the core structure with a closed external frame.

The study of treatment results of patients included the assessment of restoration of anatomic relationships of the pelvic bones using radiographic parameters of their own methodology for assessing CT data (it was based on methodology of I.L. Shlykov (2004)), and functional status of patients according Majeed (1989) and long-term period (2-3 years) after the treatment. Evaluation of results of treatment had three grades: good, satisfactory and poor. Results of the study were processed statistically using the software package «STATISTICA v5, 0."

Analyzing the results of treatment of patients in the studied groups, it should be noted that the number of good results in the studied group (10 or 83.3%) was higher than in the comparison group (14 or 66.7%) $p < 0.05$. The reducing of the number of satisfactory results from the main group (2 or 16.7%) relative to the comparison group (6 or 28.6%) as well as the absence of bad results is illustrated in improved treatment outcomes of patients using the technologies developed. Application of the proposed technology can improve the results of treatment of patients with unstable fractures of the pelvic bones by improving the management and stability of fixation.

PERSPECTIVE OF ANTIOXIDANT THERAPY IN TREATMENT PATIENT WITH PELVIC INJURED BY REAMBERIN

Yuryev E., Saidova O., Davidova E. – the 5th year students

Scientific leaders – Dmsc. Borozda I. V., Ganzhurov N. A., Yegorova V. D.

In patients with pelvic injuries in the acute period of traumatic disease of the immediate task is to save the life of the victim. The vast majority of injuries involving a

violation of the stability of the pelvic ring, lead to the development of hypovolemia and standard defensive reaction - traumatic shock.

Infusion therapy is an important component of patients in critical conditions. The main objectives of fluid therapy in the practice of medicine critical conditions are: correction of the volume and rheological properties of blood, biochemical, and colloid osmotic adjustment of blood and tissue fluid, detoxification, drug administration, parenteral nutrition, etc.

To solve these problems, various infusion medium. Among the means of fluid replacement solution "Reamberin" holds a special place due to the inclusion of succinic acid in balanced polyionic solution that has defined its basic properties and metabolic energy corrector. Name of the product - "Reamberin" - comes from the word "amber".

Based on experimental and clinical study drug "Reamberin" (balanced polyionic solution with the addition of sodium succinate 1.5%) it was revealed that he has disintoxicational, antihypoxic, antioxidant, hepato-, nephro- and cardioprotective effects.

The main pharmacological effect of the drug due to the ability efforts → Lebanese compensatory activation of aerobic glycolysis, reduce the degree of inhibition of oxidative processes in the Krebs cycle in the mitochondrial respiratory chain of cells with increased intracellular fund makroenergeticheskikh compounds adenosine triphosphate (ATP) and creatine phosphate (CP) and the stabilization of hepatocytes, cardiomyocytes and other cells the body.

"Reamberin" activates antioxidant enzyme system and inhibits lipid peroxidation in the ischemic organs, exerting effects on the membrane-cells in the brain, myocardium, liver and kidneys. The drug helps the process of reparative regeneration of hepatocytes, which is manifested in the decline in blood marker enzymes of liver damage.

Thus, the "Reamberin" has antihypoxic and antioxidant action, by providing a positive effect on aerobic processes in the cell, reducing the production of free radicals and restoring the energy potential of the cells.

The drug activates the enzymatic processes of the Krebs cycle and promotes the utilization of fatty acids and glucose by cells, normalizes acid-base balance and blood gas composition, has a mild diuretic effect. This allows us to predict the positive effect of the drug "Reamberin" infusion therapy in patients with severe traumatic disorders, which are injuries of the pelvis.

BRONCHOALVEOLAR LAVAGE: INDICATIONS AND APPLICATIONS

Dukhovny E. A. – the 5th year student

Scientific leaders – Dukhovnaya N. I., pediatrician; Yegorova V. D.

Bronchoalveolar lavage is a diagnostic procedure used to recover cellular and non-cellular components of the epithelial lining fluid from the alveolar and bronchial airspaces. Two types of the procedure have been described: bronchoscopic and non-bronchoscopic bronchoalveolar lavage.

The preferred site for bronchoscopic bronchoalveolar lavage is the middle lobe or the lingula. Gentle manual or mechanical aspiration is applied in order to collect the lavage specimen in the collection trap, while the tip of the flexible bronchoscope is maintained wedged in the bronchus of the selected lavage site. The parameters measured in bronchoalveolar lavage fluid include the percentage of the instilled normal saline that is recovered as well as various bronchoalveolar lavage fluid cellular and non-cellular components.

Bronchoalveolar lavage is performed for diagnostic, therapeutic and research purposes. The most common indication for bronchoalveolar lavage is the investigation of lower respiratory tract infection. In chronic interstitial lung disease, bronchoalveolar lavage may have an important role in reaching a specific diagnosis and monitoring patients during treatment and follow-up services. Bronchoalveolar lavage is still considered to be the gold standard for diagnosing chronic pulmonary aspiration.

In general, bronchoalveolar lavage is a well-tolerated and safe procedure; however, in some cases cough, transient wheezing and pulmonary infiltrates have been observed, which usually disappeared without treatment within 24 hours.

PECULIARITIES OF INTERSEMIOTIC TRANSLATION

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The phenomenon of intersemiotic translation represents a special creative domain of language procedures and practices. It involves a radical change of habits of interpretations and new forms of sign manipulation. The phenomenon was defined by Roman Jakobson as “transmutation of signs” - “an interpretation of verbal signs by means of signs of non verbal sign systems”. Scientists single out three types of translation: intra-linguistic, a translation in which the target and source language are the same; interlinguistic, a translation between two different languages; and intersemiotic, a translation between two different types of sign systems.

Intersemiotic translation is a transfer of the content not by means of the same or other natural (“verbal”) language, but by means of any non-verbal semiotic system, such as dance, music, cinema etc. Despite its theoretical relevance, and in spite of the frequency in which it is practiced, the phenomenon remains virtually unexplored.

For Gorlee, creative sign transmutation involves the ‘reconstruction’ of an artwork into a distinct semiotic system, creating a sophisticated collection of interconnected signs. The modalities of translation proposed by Jakobson are related to the notion of translation in an ‘extra-linguistic horizon’. This leads us to a general acceptance of translations of texts of all kinds, taking away from the term its exclusive allusion to linguistic material.

In intersemiotic translation, like in any kind of translation, instead of pretend that it is possible to translate everything, against the evidence, it is advisable to take the loss into account from the beginning and, consequently, to work out a translation

strategy that rationally enables us to decide what are the most distinctive components of the text and, conversely, those that can be sacrificed in favor of the translatability of another aspect of the text. Clüver states that a translated text is inevitably not equivalent to the text of the original and, at the same time, it contains something more or something less with respect to the text. Clüver wrote "Any translation will inevitably offer both less and more than the source text. A translator's success will depend on the decisions made as to what may be sacrificed".

When we translate one text into another, the series of decisions must be made. Sometimes even the translator is unaware of his own choices, because he made them irrationally: he approached the translation, if you can accept the expression, without consciousness. At the beginning and at the end of the translation process we have a text. If we do not analyze thoroughly its differences, what was lost in the passage from the original may escape our notice. Denotative, connotative aspects, images, sounds, rhythms, syntactic structures, lexical coherence and so on: some of these components may not be found in the translated text, but this is not necessarily apparent.

Conversely, when one of the two texts in an intersemiotic translation is not verbal, the choice between the parts to be translated and those that must be sacrificed is far more apparent. Indeed, the intersemiotic translator, willing or not, is forced to divide the original text into parts. It does not matter how: denotation/connotation, expression/content, dialogues/descriptions, etc. Then he must disassemble the text the original into these parts, find a translating element for each of them, and reassemble them recreating the coherence and cohesion, which is the essence of a text.

Let us take filmic translation for instance. Torop expressed an interesting opinion about it: "The main difference between film and literary work lies in the fact that literature is fixed in a written form, while in a film the image (representation) is supported by the sound, in form of music or words". Text of cinema is the main element of filmic translation. Text of cinema includes linguistic and nonlinguistic semiotic systems operating with signs of all kinds. In linguistic system two components can be single out: the written component (titles and labels that are a part of the world of the film) and the oral one (speech of actors, narration, songs, etc.). Nonlinguistic system includes sounds (natural and technical noise, music) and video (images of characters, movement, landscape, special effects). All these elements are organized in a special way to form a unity. Actually, the text of cinema is created with the help of cinematographic codes, which include light, plan, plot, art space and installation. Each of these cinematographic codes can become a part of the director's language, through which the audience will get a certain information.

When we deal with the filmic translation of a novel, the author of the screenplay may decide to take the dialogues of the textual original and to use them exactly as they are in the film. This is what happened in most of Nick Dear's film version of "Pride and Prejudice" made for the BBC. But, there are other aspects of the text of the original that can, however, be rendered in various ways. Let us go on about the Austen's film version. In the text, when Elizabeth Bennet receives a letter, the narrator obviously recounts it, whereas in the film we can see the actress, Jennifer Ehle, open the envelope, and read the letter. Part of the text is read in voice-over (by the

actress herself), while other parts serve as a sound background for other scenes (basically, we have a flash-forward of the images with respect to the sound). Other parts are seen from the sender's point of view as he writes them, as it happens with a letter from Darcy, with a quick flashback.

In conclusion, intersemiotic translation implies a sort of subdivision of the original into various elements and the identification of components able to translate said elements within the coherence of the translated text.

CHESS AND LIFE

Yuryev E.– the 5th year student

Scientific leaders – **Acc. Prof.** Mironov F. S., Yegorova V. D.

Everyone who plays chess uses ideas from chess in their life to some degree. Arguably, there are a lot of good ideas in chess which may be useful in real life for chessplayers and non-chessplayers alike.

The outcome of a chess game depends on the player's decisions during the game. Chess teaches people to take responsibility for their actions, as they should be in real life. Chess teaches us not to be impulsive, to consider the consequences of our actions. In chess players often analyse a game afterwards to replay the interesting moments and see what they can learn. This is sometimes called a postmortem. In life it is possible at the end of the day to review the day's events and see what could be learned from them. How did the day go? What things went well, what could have gone better, how were interactions with other people? Chess players use various principles to help them make decisions. These principles can be applied to real life in various ways.

In real life an 'opponent' might be your counterpart in a zero-sum game. It might even be a friend or it may be a nonentity such as the weather or an organization of people.

In most situations it's best to assume the opponent will make the best move. This means you are prepared for the worst possible thing that would happen. In real life it is easy to assume the other will play a bad move. Chess teaches us to examine all possible likelihoods, priority given to the most likely outcomes. For example, rather than assuming that tomorrow's weather will be the most likely, take all contingencies into account.

Chess players like to improve their rating. It can be watched to watch your rating go up, to be able to do things that you couldn't do before and change your ranking relative to other people.

In chess initiative is very important. In chess, in a complicated position where there is no clearly best move, one should play the most harmonious aesthetic move. I feel aesthetics and feeling are underrated in aiding decision making in errors such as medicine etc. In chess, seeing is more important than thinking. If perception is so important in an intellectual game like chess, then what to say about life?

In chess, although there is a fixed number of possibilities in each situation, there are trillions of possibilities as you look deeper in the situation. What to say of life when there are almost infinite possibilities?

In chess, material is important, but there is danger in being too materialistic. Chess theory has sometimes held incorrectly that a move is best in a situation, sometimes for decades. There are many examples of this in other fields. Chess involves using the left and the right brains. The role of the right brain in other activities is underestimated. Or to put it another way, chess involves logic, but it is also a highly intuitive game.

As an exercise you may like to explore real life situations in which there are the following well known chess concepts and ideas. In some cases some imagination will be useful. Analogies might be relatively specific or very abstract. You may wish to do an experiment with other chess concepts. And don't forget to have fun.

ANTIBIOTIC-ASSOCIATED DIARRHEA

Spiridonova T. T. – the 3rd year student

Scientific leader – Prof. Chubenko G. I., Posokhova A. A.

The term antibiotic-associated diarrhea refers to a benign, self-limited diarrhea following the use of antimicrobials. Typically, no pathogens are identified and the diarrhea is caused by changes in the composition and function of the intestinal flora. Most patients respond to supportive measures and discontinuation of antibiotics. On the other hand, *C. difficile* diarrhea refers to a wide spectrum of diarrheal illnesses caused by the potent toxins produced by this organism, including cases of severe colitis with or without the presence of pseudomembranes.

The occurrence of AAD varies greatly and is influenced by a number of factors, including nosocomial outbreaks, patterns of antimicrobial use, and individual susceptibility. It is estimated that 10% to 15% of all hospitalized patients treated with antibiotics will develop AAD. Most important, twice as many will become asymptomatic carriers. Risk factors include compromised immune status, advanced age, abdominal surgery, comorbidity, types and prolonged use of antibiotics, and the length of hospitalization.

All groups of antibiotics may cause AAD, but those with broad-spectrum coverage—in particular cephalosporins, extended-coverage penicillins, and clindamycin—are the most common culprits. *C. difficile* diarrhea is largely a nosocomial disease and is the most frequent cause of diarrhea in hospitalized patients.

C. difficile, an anaerobic gram-positive rod, accounts for 15% to 20% of all AAD cases. In particular, this organism can be isolated in a great number of AAD cases with evidence of colitis and in all those with pseudomembranes.

Both *C. difficile* toxins A and B exhibit potent enterotoxic and cytotoxic effects that are responsible for the clinical manifestations. The mechanism of action is by toxin binding on intestinal receptors, leading to disruption of the cellular skeleton and intracellular junctions. Protein synthesis and cell division are inhibited. Important inflammatory mediators will attract neutrophils and monocytes, increasing capillary permeability, tissue necrosis, hemorrhage, and edema.

ROENTGENOLOGIC CHARACTERISTICS OF THE EPIDURAL SPACE OF THE CERVICAL PART OF THE SPINAL CORD

Kim E. – 2-nd year students

Scientific leader: C.M.Sc Shakalo Yu. A.

Actuality. Making the main part of paramedulla apparatus, the epidural space of the cervical part of spinal cord provides an adaptive regulation of cerebral blood circulation, and liquorodynamics and is responsible for the appearance of pain syndromes and neurological symptoms. In clinical practice, it is widely used for diagnostic epidurography. At present it is examined with the help of the method of magnetic nuclear resonance. All these techniques are quite informative, if the anatomy of the epidural space and in particular pathways of spread of injected liquids determined by the construction of connective stroma are well investigated. Decisive importance on the spread of injected solutions. Age-related conveisions of its walls influence on, in the epidural space has its connective stroma.

PANCREAS

Chan Men Khak – 2nd-year student

Scientific leader: Prof. Tseluiko S.S.

Pancreas - gland digestive system, with its exocrine and endocrine functions. The endocrine part consists of pancreatic islets (islets of Langerhans), located among the pancreatic acini and separated from them by hardly distinguishable connective layer. The endocrine (incretory) function of the pancreas lies in the production of a number of polypeptide hormones entering the blood, it is carried out by cells of pancreatic islets. The physiological significance of insulin is in regulation of carbohydrate metabolism and maintaining a level of glucose in blood by its reduction. Glucagon has the opposite effect. Its main physiological role is regulation of glucose by increasing level in blood, besides, it influences on metabolic processes in the body.

INFLUENZA VIRUS

Yegorova I. – the 3-rd year student

Scientific leaders – CMSc.Yusan N. V., Kostina V. V.

Despite the recent advances of medical science, the flu is a virtually uncontrollable global infection, causing huge economic and social damage. Influenza pandemics occur about 3 times a century killing up to 20% of the world population. However, in the interpandemic period 500 million (10-20% of the population) come down with the flu or acute respiratory infection. In 3-5 million cases, the infection is severe or complicated and leads to hundreds of thousands of deaths.

The virion of influenza A and B viruses is a globular particle (about 100 nm in diameter), which has two glycoproteins on its surface: hemagglutinin [HA] and neuraminidase [NA], which determine their specificity. Various combinations of influ-

enza A and B viruses result in a variety of subtypes (> 50), circulating mainly among birds, including waterfowl, as well as domestic and wild animals.

The influenza A and B virus genomes are constituted by 8 segments, each encoding one (in some cases 2) viral protein. The influenza C virus genome contains 7 segments, one of which encodes surface glycoprotein (HE), which combines the functions of HA and NA epidemically relevant influenza A and B viruses.

The main cause of influenza epidemics and pandemics is a change in the nucleotide sequence of the HA and NA genes. There are 2 types of variability:

Antigenic drift - a mechanism for variation by viruses that involves the accumulation of mutations within the antibody-binding sites so that the resulting viruses cannot be inhibited well by antibodies against previous strains making it easier for them to spread throughout a partially immune population.

Antigenic shift (seen only with influenza A viruses) - a sudden shift in the antigenicity of a virus resulting from the recombination of the genomes of two viral strains.

According to the research all epidemics and pandemics since 1889 were caused by viruses A (H1N1), A (H2N2) and A (H3N2). Thus, in the 20th century there were three significant pandemics: "Spanish" flu in 1918 (H1N1), "Asian" flu in 1957 (H2N2), "Hong Kong" in 1968 (H3N2), and epidemics almost every year.

Among the last influenza outbreaks the one which is worth mentioning is "swine" flu outbreak in 1976 among soldiers in New Jersey (USA), caused by influenza virus A (H1N1), antigenically related to the virus in 1918. Given the fact, that the infection was transmitted from person to person and was similar to the "Spanish" flu, vaccine (150 million doses) was developed within 9.5 months. However, vaccination was soon discontinued on account of serious vaccine-related complications (including Guillain - Barre syndrome) and the disappearance of the pathogen from the circulation in humans, which indicates the need for a balanced approach to urgent mass usage of new vaccines.

Nowadays, the public attention is drawn to the new strain of influenza A virus (H1N1) sw - A (H1N1) / California/04/09, first isolated from a sick person in late March-April 2009 in California and Mexico. Later, the virus spread to other U.S. states and then to other continents, which resulted in World Health Organization (WHO) announcing the IV phase of pandemic.

Current epidemiological situation of influenza in the world is very different from that which took place in the last century. It was earlier believed that epidemic virus subtypes successively replace each other however, in the last decades the simultaneous circulation of several types and subtypes of influenza A (H1N1), A (H3N2), and B, as well as their antigenic variants has been noticed.

Most flu epidemics in the past 10 years, except for three seasons (2000-2001, 2001-2002, 2007-2008) have been associated with active circulation of influenza virus A (H3N2). In contrast, influenza virus A (H1N1) was largely the cause of sporadic outbreaks of disease or local epidemics.

A distinctive feature of the modern epidemics of influenza B is a prolonged co-circulation of several antigenic variants of the virus, stemming from two evolutionary lines: Victorian and Yamagatskaya.

Furthermore contrary to the notion of winter seasonality of influenza in 2005-2009 sickness rate increase was recorded in the spring months. For instance, virus A (H1N1) / California/04/09 began in March.

The number of influenza cases is determined by the degree of novelty of the virus and the level of population immunity. Therefore, circulation of drift variants of the pathogen leads to a significant increase in the number of sick children. Meanwhile, circulation of shift variants of influenza A virus results in pandemics that have specific features: the spring-summer primary wave, the global spread within 1-2 years, affection of all age groups, gradual replacement of the previous virus, increased sickness rate with a high frequency of severe and complicated forms of infection.

ANOMALIES OF THE KIDNEY

Rybakova Mariya 215

Scientific leaders: Pavlova A. Ye. Volosenkova Ye. A/

Malformations are persistent morphological changes in an organ or an organism as a whole, which differ from variations of norm and occur antenatally as a result of the impaired development of an embryo or fetus, sometimes - after birth due to disturbances of the further formation of organs. These changes cause the appropriate dysfunctions.

One of the main causes of malformation are mutations. They take place constantly (spontaneous mutations) in the body under the influence of natural background of radiations and of the processes of tissue metabolism. Further exposure of the body ionizing radiation or chemical mutagens results in mutations. Mutations may be genic, chromosomal and genomic. The first ones are new molecular state of the gene. About 13% of malformations are linked with the mutation of single genes.

The causes of diseases.

The causes of congenital malformations in general and of the nervous system in particular, are different. They can be associated with mutations, and also with their combined effect. G. I. Lazyuk (1982) determines the following causes of the congenital malformations:

1) endogenous (internal) factors:

- a) "overripeness" of the genital cells;
- b) The effect of age of parents;
- c) endocrine diseases;

2) exogenous (external) factors:

- a) physical – radiation and mechanical impacts;
- b) Chemical - medicines, chemicals used in industry in households, hypoxia, malnutrition, metabolic disorders;
- c) biological - viral diseases, etc.

Malformations of the genitourinary system is one of the largest groups of congenital anomalies, including: kidney failure (organs, cleansing the blood and forming the urine) and the disturbances of such organs as the ureters (channels leading from the kidneys to the bladder), the bladder (the organ that contains urine) the urethra (the

canal through which urine is released from the bladder), as well as male and female genitals. The male genitalia are - penis, prostate and testicles. The female genitalia - vagina, uterus, fallopian tubes, ovaries.

nomalies of the kidney

nomalies of the quantity:

- Aplasia (agenesis) of the kidneys.
- Accessory kidney

nomalies of the amount:

- hypoplasia
- nomalies of the location:
 - The lumbar dystopia
 - The Iliac dystopia of the kidney
 - The pelvic kidney dystopia
 - The Crossed-dystopia of the kidney.

Anomalies of interrelations (fusion):

- Horseshoe kidney

nomalies of the structure:

- Dysplasia of the kidneys.
- Rudimentary bud
- Multikistosis of the kidney
- Spongy kidney.

INFORMATIVE APPROACH TO THE STUDY OF DISEASES

Mirkina A. – a 3d-year student

Scientific leaders: ass.prof. Maksimenko V.A., Matytsyn A.P., Posokhova A.A.

It became evident today that the nature of diseases must be considered with the use of informative approach as it is connected not only with the damage of executive cellular apparatus but also with the violation of the informative process: signalization, reception, connections and control of cellular programs and also with the state of the latter. Nowadays informative principle began to penetrate more actively into Biology and medicine, quite often opening in this absolutely unknown sides of the before studied phenomena. Thus, it is the informative approach allowed to establish that the death of a cell in the action of pathogenic factors may be carried out according to definite programs laid in the genetic apparatus of cells. Modern investigations testify that the presence of these programs and their realization is the most important side of the development of pathologic process. Endogenous mechanisms of the development of pathologic processes have a character of universal generally-biological appropriateness, they are realized in all without except tissues, organs and systems of an organism.

The informative process is realized in the form of signals and presents the phenomena of formation, transformation, keeping and using the signals. In this connection the question about methods which may be used for the investigation of informative constituent influencing on the biological object of irritants and visualization

of informative reorganization taking place in the alive organism seems important. The review of scientific literature undertaken by us in this direction points out that one of such methods is the method of crystallography of biological fluids of the investigated organism. This method does not demand interference in the organism and visualizes the processes occurring on molecular level. The structure of formed crystals of the fluid carries an integrative information about the state of biological objects which may be used for diagnostics of concrete forms of pathology and determination of the efficiency of treatment.

SYSTEMIC EFFECTS IN PATIENT WITH COPD

Sheglova D. – the 3-rd year student

Scientific leaders – Ass. Prof. Loskutova N. N., Kostina V. V.

Chronic obstructive pulmonary disease – one of the leading causes of morbidity and mortality in the world. According to the recommendation of American Thoracic Society and European Respiratory Society: COPD – disease that preventable and treatable, is characterized by not fully reversible bronchial obstruction. Restriction of respiratory tract progressing and associated with a inflammatory respiratory tract arisen under the influence harmful participle or gases. COPD is characterized not only at damages the lung but also systemic manifestation. The main systemic manifestation of COPD are cachexia, dysfunction of skeletal muscle, anemia and defects of cardiovascular system. The basis of these manifestation are such as hypoxemia, smoking, sedentary lifestyle and systemic inflammation.

Systemic inflammation

The COPD is characterized by chronic inflammation of the respiratory tract. In the early stages of diseases, inflammation may be reversible but during the time it becomes chronic, persistent after quitting smoking. The main location of inflammation is a small respiratory tracts, but active inflammation is the same in the large bronchi, Lung tissue and lungs blood vessels. The exact mechanisms of systemic inflammation in COPD have not been studied.

Reduced nutritional status

“Unexplained” reduction of weight is observed in 10-15% patients with mild and moderate stages of COPD, and in 50% patients – with severe stages. The main reason of cachexia is reduction of muscle mass, while decrease of fat mass is less important.

Dysfunction of skeletal mass

Dysfunction of skeletal mass is often observed in patients with COPD, also the more often with emphysematous COPD. Dysfunction of skeletal mass is characterized by functional (decrease of power and hardness of muscle, modification in activity of fermentational system) and anatomic (atrophy, violation in correlation myofibrils) modification, which lead to decrease of capacity for work. Dysfunction of skeletal mass wilt of 2 phenoments: muscle atrophy (mitochondrial disorders, loss of contractive proteins), dysfunctional of the remaining muscle. The main causes of Dysfunction of skeletal mass in patients with COPD – a sedentary lifestyle, systemic inflammation, oxidative stress, low nutrient status, hypoxemia.

Anemia

The main cause of Anemia in patients with COPD is systemic inflammation. Possible mechanism of Anemia is shortening time of life of red blood cells, impaired mobilization and utilization of iron, impaired bone marrow response to erythropoietin. The development of Anemia in patients with COPD is influenced by concomitant diseases (gastric ulcer), smoking, drugs which reduce the proliferation of red, blood cells.

Cardiovascular effects

Cardiovascular diseases observed in 50% patients with COPD. The cause of association Cardiovascular diseases with COPD may be general risk factors such as smoking, vascular endothelial Dysfunction and medication that increase the activity of nervous system

COPD therapy taking into account the presence of systemic effects

Pathogenesis of systemic effects in COPD is insufficiently studied, but based on already existing knowledge can give some recommendation: for example to eliminate hypoxemia use special drugs carry out rehabilitation and respiratory oxygen therapy. Also use anti-inflammatory medication – especially inhalant corticosteroids. COPD therapy must be direct not only to lung disorders but also to correct the systemic manifestation.

ALBINISM - GENOME EVOLUTION, FENOMICS AND THE PATIENT'S PROBLEMS

Pokrashenko V. - the 2nd year student

Scientific leaders – prof.

The following aspects of albinism: a phylogenetic (evolution of the pigment system at invertebrates, vertebrates), ontogenetic (neural origin of pigment cells, the mechanism of their migration), histological (especially topography, structure, life cycle of melanocytes in the skin, in cooperation with the epidermal cells) - a genetic; social and reproductive forecasts are presented and discussed. The evolution of living organisms is impossible without the amazing pigment connections, including melanin. Pigmentary system of organisms is not just paint the living but it is hardly the basic way of protection of life . The wise nature has allocated the majority of living organisms the planet by universal protective mechanism, which remains unchanged for hundreds of millions of years. Melanin dots and lines on the colors as navigation devices, point out vector flight to pollinating insects. Octopuses and cuttlefish, fleeing from his pursuers, throw out from their ink sacs pigment as "smoke" of the veil. Difficult process of melanocytes ontogenesis - the derivatives of the neural crest are marked it makes these cells be unique in structure and have cyto-biochemical properties. The work of the genome of these cells is associated not only with a single gene but urol the clusters involved in the formation of melanosomes and melanin synthesis from promelanina.

The highest concentration of melanin was detected in the liver, gonads and skin and in all members of the subtype Vertebrata. Virtually in all tissues promelanin is a regulator of the intensity of oxidative processes which respond to the impact of

external and internal factors of extreme. Interestingly, in the biochemical defense system promelanin is compared graphically with the "molecular vacuum cleaner", and attack utilizing cell toxins and free radicals. It's "remains are polymerized" into melanin, virtually completing the execution of an important homeostatic role. Received melanin is derived by cells into the extracellular space, then into keratinocytes, continuing to "collect" free radicals and toxic products of natural metabolic processes to ensure the normal response of health. The fate melanin fuel is interesting, it is removed in the process of molting or shedding dead skin layers of the skin. Types of mutations: such as are studied: missense, nonsense, frame shift and shift others. Based on recent data of genomics there presented models – variants of fermentopathy, including different types of inheritance: autosomal recessive, autosomal dominant and X-linked recessive variant. Clinical types of gene activity are also various and not fully understood, as well as genokorreksiya of severe pathology. However, the main participants discussed by us - people with albinism show remarkable resistance, hard work, focus on the future, that is everything that makes be humans. Pigment metabolism, as a universal regulatory protective mechanism may be a sufficient factor to prevent the development of hereditary cancer and many other diseases, because of me environmental, human factors, causing more significant damage biota on the planet and species Homo sapiens sapiens.

DURATION OF PREGNANCY AND CHILDBIRTH IN WOMEN WITH CONGENITAL ANOMALIES OF DEVELOPMENT OF THE UTERUS AND THE VAGINA.ASPECT OF FORMATION OF PLACENTARY INSUFFICIENCY

Bova E., Zasukhina A. – the 4th year students

Scientific leaders - Grigorieva J.V., Gavrilov A.S., Kostina V.V.

There is marked an increase in the incidence of congenital malformations (CM) of the uterus and vagina (according to various authors are 4-6.5% of all congenital anomalies, CMs uterus and vagina are 3.2% of the entire gynecological pathology) and reproductive disorders in this pathology. Increased frequency CM uterus and vagina associated with exposure as teratogenic factors, and improved methods of diagnosis of this pathology: ultrasonography, matnitnoresonance imaging.

Congenital anomalies of the uterus and vagina are combined with malformations of other organs and systems often. Duration of pregnancy in women with a uterus and vagina CMs, most often is complicated by the threat of interruption in the first trimester. And pregnancy is complicated by a violation of placentation, chronic renal failure, which increases the risk of neonatal morbidity.

THE FOURTH WEEK OF EMBRYONIC LIFE

Grivtsova ., Makogon K. - 1-st year students

Scioutifi Leaders: Pavlova A.Eu., Kostina V.V.

The fourth week of embryonic life - a period when the fetus has the form of sandwich panel, begins to bend in the transverse and longitudinal directions. Em-

bryonic shield becomes convex, and its edge is separated from the amnion deep groove - Trunk fold. As a result, the yolk sac is divided into two parts. The outer part, and in the future continues to be a yolk sac, and its interior part into a primary gut endoderm of the embryo - anlage digestive tract.

Yolk sac endoderm gives rise to another bubble - allantois (primary bladder), growing into the mesoderm of the stem. Allantois in man does not achieve great development and its main role is to carry out developing it from the extraembryonic mesoderm of blood vessels from the body of the embryo to the chorion and back, as well as in the formation of rudimentary development of the bladder and prostate. In the future turns into the umbilical stalk canal, which connects the fetus to the placenta.

The fourth week is characterized by the beginning of differentiation of tissues of the embryo, the active development of extraembryonic structures, placenta and membranes of the child. The development of the fetus on the 4th week is characterized by three main layers of cells that will form the basis for the appearance of all organs and tissues of the child. Total defined layer 3 at the end of this week, curled into a tube, the embryo looks like a small cylinder, which is already possible to distinguish between the head end, and you can already discern the beginnings of a child's face and eyes. There are already the beginnings of the lungs, intestines, liver, esophagus, and even pancreatic and thyroid glands, and at this early period the embryo begins to develop the vestibular apparatus. There are already, and the vessels, the heart is made, it still does not beat yet.

By the end of the fourth week in the body of the embryo there are emerging all the germs that are sources of organs and systems:

The ectoderm gives rise to the epithelium of the skin of the body and appendages of the skin epithelium, the epithelium of the initial and terminal parts of the digestive tube, anterior pituitary, some formation of the sense organs (eg, lens). From the derived from ectoderm (neural tube) there is developing nervous system (ie brain and spinal cord), perceiving sensory apparatus, a number of endocrine glands (neurohypophysis, pineal gland).

Endoderm forms the epithelium of the digestive and respiratory systems. Its derivatives are the major digestive glands (liver and pancreas), and endocrine glands such as the thyroid and parathyroid.

Chord in the formation of the solid skeleton is reduced and for the most part remains in the form of fragments in the intervertebral disc (nucleus pulposus).

RESEARCH OF EFFICIENCY OF USING IN COMPLEX THERAPY L-KARNITINE AND WIFERONE AT CHILDREN WHO ARE ILL AN ACUTE PNEUMONIA

Skolubovich A. – the 5-th year student

Scientific leaders – Shanova O.V.

Presence of a background pathology demands carrying out of adequate therapy of those who arrives in a hospital with a pneumonia.

The special importance in a solution of a problem is got by questions of increase of reserve possibilities of an organism and search of effective and safe preparations.

The basic group and comparison group was made by children of the first year of life (lowered food I-II of degree). Children with the pneumonia diagnosis have been divided into three groups. The first group - children receiving therapy L-Karnitini, 2 group - L-Karnitin and Wiferon, 3 group - the correction specified above wasn't spent.

Groups were comparable under the basic characteristics: to a sex, age, severity level, a clinical current of a pneumonia, biochemical indicators, presence of an accompanying or background pathology, and also spent therapy. Dynamics of inflammatory process of lungs estimated in a complex taking into account a clinical picture, dynamics of body temperature, laboratory indicators. Thus, researches have confirmed efficiency of application of the above-stated preparations at treatment of a pneumonia at children. It has allowed to change a current of inflammatory process that promoted improvement, leading to faster liquidation of symptoms.

LASER TREATMENT OF GLAUCOMA

Vikhreva D.- the 5th year student

Scientific leaders – D.M.Cs. prof. Shtilerman A.L., C.M.Sc. Mikhalsky E.A.

Laser radiation in glaucoma surgery has been using since the 70s of last century. Glaucoma laser treatments are a form of surgery where a small powerful beam of light is used to open the drainage channels of the eye to decrease the eye pressure. The major advantages of laser surgery over conventional surgery for glaucoma include: less bleeding; less injury to tissues; recovery of intraocular fluids in natural waterways; don't require general anesthesia; the minimal period of rehabilitation. The disadvantages of laser treatment for glaucoma include: the emergence of "reactive syndrome", characterized by increased intraocular pressure (IOP) in the first hours after the laser intervention; the laser can damage the cells posterior corneal epithelium, capsule of lens, vessels of the iris; blockage of the drainage angle when the cornea and the iris stick together. The main disadvantage of laser surgery for glaucoma is that it may not always lower eye pressure.

There are several different forms of glaucoma laser surgery: **laser trabeculoplasty, laser cyclophotocoagulation, laser iridotomy, laser goniotomy, laser trabekulopunktura.**

Trabeculoplasty uses a laser to burn tissue from the trabecular meshwork, a structure within the eye that controls the flow of fluid. This procedure increases the aqueous outflow in the area surrounding the laser spot, relieving pressure within the

eye. This type of glaucoma laser surgery is used to treat patients with open-angle glaucoma, also for patients who use more than 2 antihypertensive drugs to achieve a tolerant IOP, patients who can't observe the regime of using the medicament. Laser trabeculoplasty is a drawing of a series of burns on the inner surface of the trabeculae. Coagulates applied to the front or middle third of the trabeculae during the 120-180-270-300 degree circle trabeculae (excluding the upper sector) for 1-3 sessions.

In an iridotomy, a laser is used to create a hole in the iris to enhance the drainage passages blocked by a part of the iris. Iridotomy is conducted in the area from 10 to 2 hours in order to avoid light scattering after operation. This type of glaucoma laser surgery is performed on the eye to treat angle closure glaucoma, also to flat iris, iridovitrealny block. Laser iridectomy does not apply to congenital or acquired corneal cloudiness, edema of the cornea, paralytic mydriasis.

Laser goniotomy. The intervention is carried out along the circumference of the iris (360) leaving the coagulum between 2 spot diameter and avoiding visible radial vessels.

Laser trabekulopunktura is the activation of the outflow of intraocular fluid.

Cyclophotocoagulation uses a laser to burn ciliary tissue, which decreases the production of fluid in the eye. Coagulates are applied at 1.5 - 3 mm from the limbus in the area of projection of the ciliary processes.

Now days laser surgery has become important in the treatment of different eye problems and diseases.

AS IT BEGAN OR DELUSIONS OF SCIENTISTS

Yusibov S.- the second year student

Timofeyeva Y- the second year student

Scientific leaders-ass. Jerepa L.G., Volosenkova E.A

At the end of the 19th century French doctor France Glenar noticed that if earlier our far ancestors walked on 4 feet then the position of organs of the digestive system in the human body must go badly with our existing vertical gait. The operation was recommended to the patients complaining of the stomach aches. The purpose of the operation was to bring modifications into the configuration of the gastrointestinal tract. After this operation the patients, problems were aggravated.

At the beginning of the 19th century I.I. Mechnikov believed that the digestive system of a person which had developed at the previous stages of his evolution was badly adapted for a diet of the civilized person. Inspired by the ideas of Mechnikov English surgeon Ulyam Lain performed the operation on the "correction of an error of the nature" by changing the point of junction of the small intestine with the large intestine and then he removed the whole large intestine. Lain performed over thousand of such operations and left "a great number of victims"

"Rudimental organs"

At the beginning of the 19th century the list included 180 organs. If it was not possible to scientists to define the organ function they considered it as a rudiment. To such organs the scientists referred in particular the thymus (gland), the epiphysis, the tonsils, the knee meniscuses, the semilunar fold in an eye corner, the coccyx, the

appendix, the scalp, the ear muscles, the wisdom teeth, the subscapular muscle, the pyramidal muscle Yacobson's organ, the spleen, the gall bladder, the little finger.

"These organs are useless or the terrible statistics "

In the USA in the thirties the tonsils and the adenoids were removed in more than a half of children .Later , American doctor- pediatrist confessed that among one million inhabitants of the USA 999000 didn't need it. However, the matter was done. The conclusion is before removing any organ it is necessary to investigate its function. After all if this organ was created by the nature, it means that it is necessary.

HYPOTENSIVE THERAPY IN PATIENTS WITH DIABETES

Kristina Komusidi - 5th year student

Scientific Supervisor Tkachenko O.A.

Diabetes is one of the diseases with the largest growing factor. According to the latest prognosis the number of the diabetes cases will reach 239,4 million by the year 2010. It has been noted that diabetes occurrence doubles each 10-15 years, thus the WHO has calculated that the number of diabetes patients will grow by 122% within the next 20 years (from 135 to 300 mln people).

It is a fact that 70-80% patients with diabetes also suffer from arterial hypertension, which bears a considerable threat of premature disability and early death. Hypertension makes the risk of myocardial infarction increases by 3-5 times, the risk of acute cerebrovascular accident increases by 3-4 times, blindness happens 10-20 times more often and lower limbs gangrene occurs 20 times more often if a patient suffers from hypertension.

It is important to consider pathogenetic mechanisms and the clinical progression of hypertension when assigning treatment drugs to diabetes patients as well as the possible drug repercussion at insulin resistance, carbohydrate and lipid metabolism. The main target of the hypertension therapy in diabetes patients is to lower the risk of acute and delayed cardiovascular and nephric complications, and mortality. Nowadays we have several classes of drugs proven to have positive influence on diabetes patients: angiotensin-converting enzyme inhibitors (ACE), diuretics, beta-blockers, calcium channel blockers, imidasoline receptor antagonists, angiotensin II receptor blockers (ARB).

ACE are the drug of choice when treating hypertension in diabetes patients since they have proven to be organ protective and neutral to the recipient's metabolism.

The major ACE advantage is that they are neutral to carbohydrate and lipid metabolism, and at the same time they boost tissue sensitivity to insulin; a number of researchers have proven that ACE can have direct hypocholesterol impact on the system. Prolonged calcium channel blockers are also welcomed since they have no negative effect on carbohydrate and lipid metabolism. Mostly non-dihydropyridinic calcium antagonists are used (verapamile group) since they demonstrate major cardio- and renoprotective attributes seconding only ACE in this aspect.

Definitely selective beta-blockers, such as metoprolol, are a good choice with diabetes patients since the drug stimulates the body to produce nitrogen oxide which is known as an effective vasodilator.

It is reasonable to treat diabetes patients with pronounced hypertension with imidazoline receptor antagonists since they tend to improve tissue sensitivity to insulin and enhance carbohydrate metabolism demonstrating cardioprotective qualities at the same time. In the last decade a relatively new drug angiotensin II receptor blockers (ARB) has marched forward and has been proven to have a positive influence on the renine-angiotensin-aldosterone system (RAAS).

When administered, ARB simultaneously stimulates angiotensin II receptors and blocks AT1 receptor which provides additive vasodilating effect. Bradykinin is intact and that allows to avoid many side effects. Prescribing diuretics to diabetes patients is justified by the fact that sodium retention and hypervolemia majorly constitute the reasons for hypertension. In the last few years new effective drugs, thiazide diuretics, such as indapamide have been discovered. Indapamide in fact acts as a hypotensive due to its vasodilative effect rather than an actual diuretic. Therefore it has no negative impact at carbohydrate and lipid metabolism or kidney functions when used long-term.

38 diabetes patients took part in the research. Monotherapy included: ACE inhibitors with 26 people (68.4%), calcium channel blockers - 8 people (21%), thiozidediurethics - 21 people (55.3%), ARB - 9 people (24%). There was also combine treatment applied to 16 patients (42%) which included: ACA inhibitors and thiozide diuretics for 12 people; ARB and thiozide diuretics for 6 people, ACA inhibitors and calcium channel blockers and thiozide diuretics derivatives for 7 people.

The research result have proven that timely correction of the haemodynamic stress among patients with diabetes allows to substantially lower premature disability and mortality due to cardiovascular crashes.

MACULAR DEGENERATION

Sakhratulaeva S., Ustarkhanova - the 2nd year student.

Scientific leaders – Sayapina I.Y., Volasenkova E.A

The macula is the central area of the retina, which provides the most detailed central vision.

Age-related macular degeneration (AMD) is a medical condition which usually affects older adults and results in a loss of vision in the center of the visual field (the macula) because of damage to the retina. It occurs in “dry” and “wet” forms. It is a major cause of blindness and visual impairment in older adults (>50 years). Macular degeneration can make it difficult or impossible to read or recognize faces, although enough peripheral vision remains to allow other activities of daily life.

Age-related macular degeneration begins with characteristic yellow deposits (drusen) in the macula, between the retinal pigment epithelium and the underlying choroid. Most people with these early changes (referred to as age-related maculopathy) have good vision. People with drusen can go on to develop advanced AMD. The risk is considerably higher when the drusen are large and numerous and associated with

disturbance in the pigmented cell layer under the macula. Recent research suggests that large and soft drusen are related to elevated cholesterol deposits and may respond to cholesterol-lowering agents.

Macular degeneration by itself will not lead to total blindness. For that matter, only a very small number of people with visual impairment are totally blind. The area of the macula comprises only about 2.1% of the retina, and the remaining 97.9% (the peripheral field) remains unaffected by the disease. Interestingly, even though the macula provides such a small fraction of the visual field, almost half of the visual cortex is devoted to processing macular information.

There is a loss of contrast sensitivity, so that contours, shadows, and color vision are less vivid. The loss in contrast sensitivity can be quickly and easily measured by a contrast sensitivity test performed either at home or by an eye specialist. Symptoms with a very different etiology and different treatment can be caused by Epiretinal membrane or macular pucker or leaking blood vessels in the eye.

Fluorescein angiography allows for the identification and localization of abnormal vascular processes. Optical coherence tomography is now used by most ophthalmologists in the diagnosis and the follow-up evaluation of the response to treatment by using either Avastin or Lucentis, which are injected into the vitreous of the eye at various intervals.

ANALYSIS OF THE MORBIDITY OF THE PHYSICIANS OF AMUR REGION

Pedic I.A.

Keywords: medical workers, disease, invalidity

One of the major factors, which determine the health of the population as well as the social and economic development of a society is the health of physicians themselves. According to the data of both domestic and foreign literature the morbidity of physicians exceeds that among the population of able-bodied age as a whole.

The purpose. An estimation of disease of doctors by studying and comparison of its various kinds: on negotiability, with time disability, by results of additional prophylactic medical examination, with the help a method.

Materials and methods. Statistical retrospective analysis of the registration and report medical documentation: a medical card of the outpatient (Form 025/u) in number of 520; the form of statistical supervision 16-BN «Data on the reasons of temporal invalidity» for 2007, 2008 and 2009 years., the form 1-DD «Data on a course of carrying out of additional prophylactic medical examination of working citizens» and the sociological analysis by a questionnaire method.

Results. The particularities of development of diseases in various age and professional groups are analyzed. The general morbidity and morbidity with temporal invalidity of physicians exceed similar indicators among adult population of the Amur Region, but is authentic below morbidity according to self-registration. Cardiovascular, respiratory, urino-genital and gastrointestinal diseases bring the greatest contribution to the morbidity of physicians. Higher morbidity is characteristic for the

physicians of out-patient clinics than for the physicians of hospitals according to self-registration. The structure of diseases is authentically various depending on age and profession of physicians that allows to establish age and professional risks of development of diseases with transition in a chronic pathology.

The conclusion. Indicators of disease of physicians according to self-registration exceed the similar data registered in the registration-report medical documentation that testifies to low activity of physicians at the address for medical aid and high risk of development of chronic form of diseases and professional diseases.

IMMUNOFAN INFLUENCE ON SOME OF THE ENDOGENOUS INTOXICATION SYNDROME CHARACTERISTICS OF PATIENTS WITH MAMMARY CANCER AGAINST A SPECIAL TREATMENT

Executor: student of 517 studying group Bratukhina E.A.

Supervisor: Candidate of Medicine, associate professor Lysenko O.V.

Endogenous intoxication syndrome is found in almost every patient with malignant tumor and is aggravated on the stages of chemo radiation therapy. Expressed clinical signs of the syndrome (asthenovegetative, dyspepsial disorders) negatively influence not only general state of patients' health reducing the quality of their lives, they also restrict the terms of special treatment stages. It's also established that prolonged intensive intoxication causes detectable changes of the patients' immune statuses. Immune modulation improves these characteristics. One of the most prospective methods of immune modulation is the Imunofan usage. The results of using this peptide medicine in the complex therapy for oncological patients has shown the achievement of two positive effects: oxidation-antioxidation status adjustment and immune system stimulation. Discovered properties of the original peptide medicine attribute it to a new class of biological active compounds – peptide immune oxide reductants. This medicine upgrades side effects of chemo radiation influence and improves the patients' health. Purpose of the research: to estimate the influence of Imunofan on some characteristics of endogenous intoxication and the mammary gland cancer patients' immune system on the stages of special treatment. According to the demand of oncological patients treatment, the appointment of therapeutic intervention comes from the quality of life characteristics. At the first stage of our research we have examined the main symptoms signs according to the subjective evaluation results of a patient. Research has shown that the health of the patients can be determined by such symptoms as general weakness (3,1+-0,2), ache (2,1+-0,1), muscular weakness (2,1+-0,07), cough (1,6+-0,07), labored breathing (1,4+- ,06), dyspnoea (1,3+-0,03), temperature rise (0,9+-0,06), appetite loss (0,9+-0,07), etc. Syndrome symptoms allocation has shown that the main position in mammary gland cancer development take such syndromes as endogenous intoxication (100%; n=56), dyspeptic disorders (76,7%; n=42) and polyneuropathy (n=32). The results of calculation the average value of intoxication leucocytic index also has shown intoxication at the main position - 2,07+-0,43. The evaluation of the patients immune status has shown the presence of the expressed infringements in all the cells of the immune system. Breach by T-cell component appeared as significant reduce of the average

($<0,01$) and the relative ($P<0,05$) values of T-helpers/inductors (CD4+) of immunoregulation index. The reduce of the average and the relative values of NK (CD16+) was also found. The relative and the average values of B-lymphocytes (CD22+) in comparison tended to increase, this correlated with humoral component tension, which came out as hyper products IgA and IgG and also with the significant increase of all CEC classes. The analysis of all gathered data led to the conclusion that patients with mammary gland cancer have expressed cell disorders (specific and unspecific) and humoral immunity. Humoral immunity's pathogenesis (more likely) is caused by endogenous processes (tumor and toxigenic immunosuppression). Immunofan research has shown that after the 2nd and the 3rd injection the patients of the main group against a chemo radiation treatment had noticed health improvement. Such symptoms as general and muscular weakness, fatigue, nausea were progressively reducing. On the 19th day of the treatment the positive dynamic of these symptoms was at it's highest level, which is significantly ($P<0,01$) differed from the reference group's characteristics. However, the 10 day-course effect didn't persist for a long time. At the average 3 weeks after the treatment intoxication symptoms came appeared again but but were poorly expressed. Intoxication leucocytic index values changes during these periods reflected general clinical dynamic.

Immunological research which was done on the 30th day of examination (table 3), despite that intoxication symptoms appeared again, has discovered some stabilization of the characteristics. In comparison with the reference group it also has found the loss of continuing inhibition of T-cell and phagocytic components of the immunity. This dynamic led to the conclusion that Immunofan has immunity stimulation effect and effect of modification the side effects from chemo radiation influence, which appeared in the immunological characteristics stabilization. Immunofan reduces the intensiveness of the toxic influence of cytostatics on the liver tissue and stimulates antioxidative system. This leads to the reduce of lipids peroxidation level and the stabilization of cell membranes. Using Immunofan for onkological patients helps to eliminate the increase of vegetovascular reactions, prevents dramatic inhibition of hematopoiesis and the immune, ensures successful and full implementation of the specific chemotherapy. It also helps to get optimal pharmacoeconomical effect and significantly reduce the duration of the recovery period between polychemotherapy courses. Hereby, the results of patients' subjective evaluation of the endotoxiosis main symptoms (general and muscular weakness, etc.) have revealed more valuable significant dynamics of symptoms regression among all the patients of the main group, which took Immunofan. Laboratory data (intoxication leucocytic index, ESR) matched with clinical observations.

COMPARATIVE CHARACTERISTICS OF PHYSICAL DEVELOPMENT OF PUPILS OF THE 10TH GRADES OF BLAGOVESHCHENSK

Pershuta V., Semina T. -the 2th year student
Supervisor: N.P.Ambroseva, S.N.Gritsenko

In order to study different types of somatic constitution we examined 46 pupils (16 year old pupils born in 1995) of the 10th grades of secondary school 11 of

Blagoveschensk (24 boys and 22 girls). Comparative analysis of physical development with pupils of this school born in 1991 according to the data of 2006 was conducted (Gertcenberger A. E.). Height, weight and chest circumference were taken into account, Index of Pine was calculated.

According to our data 73,5 % of pupils of the 10th grade are of asthenic body type which is 3,5 % higher than data of 2006.

3% are hypersthénics (2% less as compared with 2006), the remaining 23,5 % of pupils can be referred to an intermediate body type.

Among girls the number of persons with asthenic body type is gradually increasing 62 % (while in the year 2006 it was 55 %), 4 % is a hypersthénic body type (5 % as compared with 2006), 34 % - mesomorphic type (40 % in 2006).

At the boys the figures are almost same with ones in 2006. Asthenic constitution predominates (82 % in the current year, 80 % five years ago). The rest 18 % is a mesomorphic type.

Thus, pupils of the current school year are characterized by a low rate of fatty, muscular and bone tissues development.



DEUTSCHE ABTEILUNG



LIMBISCHES SYSTEM

Wissenschaftliche Leiter: A.W. Wodopian, N.A. Tkatschjowa.
Student des 2. Studienjahres: A.S.Lisogub.

Es stellt eine geschlossene Kette dar : Hypothalamus – vor der ventraler Kern des Thalamus – Gurtgyrus - Hippokampus mamillare Kerne des Hypothalamus. Alle diese bestandteile hat D. Peipez dargestellt. Er hat emotionale Verwirrungen bei den Kranken mit betroffenem Hippocampus und Gurtgyrus studiert. Das limbische System kontrolliert die meisten physiologischen Veränderungen, die starke Emotionen begleiten.

Die Nervensignale, die von allen Sensorsystemen ausgehen, gehen durch Nervenwege des Hirnstamms nach Hirnrinde eine oder einige limbische Strukturen – Mandel, Hippokampus, teilweise durch Hypothalamus. Die Signale, die aus Rinde ausgehen, gehen auch durch diese Strukturen.

Deshalb wird dem Individuum Verhalten eine emotionale Bedeutung gegeben. Die Rolle des Hypothalamus ist gross, als in der Entwicklung der Motivationsverhalten, auch in Entwicklung der Emotionen, die mit ihm verbunden ist. Hypothalamus, wo sich die Doppelzentren befinden, die das Anlassen und Haupttypen des angeborenen Verhaltens regulieren, wird als vollziehendes System betrachtet, in dem vegetative und motorische Erscheinungen der Motivation integriert werden. Die Teile des Hypothalamus wie periventriculäre Zone und perifornikale Teil rufen starke Reaktionen des Schutztyps hervor, die mit natürlichen Erscheinungen des emotionalen Verhaltens nicht ähnlich sind. Auch befindet sich im Thalamus die Vergnügungskerne, deren Reiz führte darauf, dass das Versuchstier bereit ist seeständig Reiz mit dem Ziel der Vergnügungsdauer hervorgerufen kann.

HAUTLYMPHOME

Die Wissenschaftliche Leiter: D.M.W., W.W. Woizechowskij., N.A. Tkatschowa.
Die Studentin des 6. Studienjahres: E.A. Nikischina.

Die Hautlymphome sind klinisch und morphologisch ungleichartige Tumorgruppe, die sich durch bosartige Proliferation der Lymphozyten in der Haut entwickeln. Im Russland fehlen die epidemiologische und statistische Befunde über bosartigen Lymphome, doch die Zahl solcher Kranken wächst. Der Befunde des Nationalinstituts des Krebs in USA nach, wird die Zahl der Kranken mit T-zellige Lymphome verdoppelt, ungefähr 100 000 Fälle pro Jahr.

T-Lymphome vertreten häufig, B-zellige Tumoren betragen 25%, unklassifizierte – 10% von allen Hamoblastosen. Die allgemeine Klassifikation fehlt. Die meisten Klassifikationen der Tumoren der lymphoiden Gewebe werden auf ihren morphologischen und immunologischen Besonderheiten gegründet. Die bosartige Lymphome der Haut werden geteilt: die primäre (T-zellige, B-zellige, unklassifizierte) und die sekundäre. Die ersten werden nach klinischen Zeichen in Stadien (I-III Stufen) und Grade der Malignität (niedrige, höhere) geteilt. Die Ätiologie der bosartigen Lymphomen ist noch nicht bestimmt.

Für bösartigen Lymphome der Haut sind gekennzeichnet: polymorphe Ausschläge; Jucken verschiedenen Erscheinungsgrades; die Veränderung der Blutbildformel, die Heranziehung in den pathologischen Prozessen der inneren Organe (in späteren Stufen).

T-zelliges Lymphom (Sesarie-syndrome) sind mit stufigem Tumorprozess gekennzeichnet. Im Anfangsstadium haben die Ausschläge unspezifischen Charakter, sie mochten mit einfacher Dermatose (mit hautschmierflussem Erzkzem, mit der Rosenflechte, atopischer Hautentzündung, schieblicher Parapsoriasis, roter Glattflechte ähnlich sein.

Häufig gibt es palmoplantare Hyperkeratose mit tiefen Strunden. Die fleckige Elemente infiltrieren und werden als infiltrative Blechplatte. Die Therapie bei bösartigen Hautlymphomen hängt von der klinisch – immunologischen Charakteristik des Tumors, vom Charakter und Ausprägung der Gewebeantwort auf Proliferation der Tumorzellen, Generalisationszeichen, allgemeinem Zustand und Alter des Kranken ab. Die Leitstelle bei der Behandlung gehört der Chemotherapie und hängt von Malignität und bösartigen Lymphome.

HISTOPHYSIOLOGIE DES DUNNDARMS

Schischneva W. – Studentin des 1. Studienjahres

Wissenschaftliche Leiter: W.S. Kozłowa, A.O. Kornewa

Die Aktualität dieser Arbeit besteht darin, dass man die Aufmerksamkeit auf die mit dem Verdauungssystem verdundenden Fragen schenken muss. Die Krankenuntersuchungen zeugen davon, dass die Bevölkerung ihre Krankheiten zum größten Teil mit der Ernährung verbindet. Unsere Gesellschaft gebraucht Alkohol und auch scharfes Essen. Darum ist meine Aufgabe die Histophysiologie des Dünndarms in der Norm und bei der Pathologie zu untersuchen. Ziel der Arbeit: Eine besondere Aufmerksamkeit auf die mit der Verdauung verbundenen Fragen schenken.

ERGEBNISSE DER ALLRUSSISCHEN UNTERSUCHUNG “VORWARDS” IN DER FERNÖSTLICHEN REGION

E. Pendjurowa – Studentin des 6. Studienjahres

Wissenschaftliche Leiter – O.N. Siwjakowa, O.A. Kornewa.

2010 wurde im ganzen Territorium der Russischen Federation die Untersuchung “Vorwärts” (Führung der Patienten mit Vorhofflimmern: persönliche Bevorzugung oder internationale und nationale Empfehlungen) durchgeführt. Unter der Leitung des Lehrstuhls für Kardiologie der russischen medizinischen Akademie der postgradualen Ausbildung (Moskau) wurde bei Unterstützung des Professors Bunin Ju.A. eine 34 Fragen enthaltende Frageliste ausgearbeitet. In diese Frageliste wurden die Fragen über die Zahl der Patienten mit dem Rhythmusstörungssyndrom, einschliesslich Vorhofflimmern; ursächliche Faktoren der Vorhofflimmern; Vorhandensein der kombinierten Herzpathologie darunter der komplizierten chronischen

Herzinsuffizienz mit der erhaltenen oder nicht erhaltenen Fraktion des linken Vorhofs auswurfes und andere eingetragen.

Ziel dieser Untersuchung ist die Analyse der Taktik bei der Führung der Patienten mit Vorhofflimmern in den therapeutisch-prophylaktischen Einrichtungen des Fernen Ostens und zwar: des Amurer Gebiets, der Region Chabarowsk, der Region Primorje in Rahmen der allrussischen Untersuchung "Vorwärts". 54 Ärzte aus den therapeutisch-prophylaktischen Einrichtungen, davon 17 Ärzte (4 Therapeute und 13 Kardiologen) im Amurer Gebiet, 17 Kardiologen in der Region Chabarowsk, 20 Ärzte (18 Kardiologen, 2 Arrhythmologen) in der Region Primorje wurden befragt. Man muss darauf hinweisen, dass es bevorzugt die Ärzte der Gebiets- und Regionszentren, d.h. Blagoweschtschensk, Chabarowsk und Wladiwostok befragt wurden.

Ergebnisse der Untersuchung: 77% der Patienten der ganzen fernöstlichen Region haben die ischämische Herzkrankheit bei dem Vorhandensein der arteriellen Hypertension und chronischen Herzinsuffizienz. Ideopatisches Vorhofflimmern tritt im Amurer Gebiet in 25,8 % der Fällen, in der Region Chabarowsk- 17%, in der Region Primorje – 26,1% auf. Bei der Führung der Patienten mit Vorhofflimmern ist die Wiederherstellung und Erhaltung des Sinusrhythmus bevorzugt. Zur Vermeidung von Rezidiven gebrauchen die Ärzte in der Region Primorje Propafenon und Allapinin. Die Ärzte der Region Chabarowsk und des Amurer Gebiets verwenden in dieser Situation Propafenon und Amiodaron. Die Nebenwirkungen werden gegen Amiodaron und Etazisin registriert. Bei der Verwendung von Etazisin wurde von den Ärzten seine Proarrhythmogener Wirkung am häufigsten festgestellt. Der Meinung der Ärzte nach beeinflussen die Therapiewirkungslosigkeit und die Nebenwirkungen die Wechsel der verwendeten Antiarrhythmika.

Schlussfolgerungen:

1. Weite Verwendung von Allapinin zur Vorhofflimmernvorbeugung ist bei den Kranken, die keine chronische Herzinsuffizienz haben, von den Ärzten der Region Primorje nicht motiviert, weil Allapinin nur in Russland verwendet wird.
2. Die häufigste Nebenwirkung von Amiodaron ist die Funktionsstörung der Schilddrüse, was damit verbunden ist, dass unsere Region wegen Jodmangel endemisch nach Kropf ist.

ZUSAMMENHANG DER KENNZIFFERN VON DER KÖRPER-UND GESCHLECHTSENTWICKLUNG BEI DEN FRAUEN DES FERTILITÄTSAALTERS

Kozlik A. – Studentin des 1. Studienjahres.

Wissenschaftliche Leiter: I. N. Gorikow, O. A. Kornewa.

In der Literatur gibt es Information über die Körper und Geschlechtentwicklung der Frauen. Es gibt aber nur eine geringere Anzahl der Publikationen, in denen auf den Charakter der Korrelationsbeziehungen von den Kennziffern der Körper und Geschlechtentwicklung bei der postnatalen Ontogenese hingewiesen wird.

Wir haben solchen Zusammenhang bei 81 Frauen im Alter von 18 – 24 Jahren untersucht. In der Arbeit werden folgende anthropometrische Kennziffern verwendet: Körperhöhe, Körpermasse, Brustumfang, Beckengröße, Kettle – Index und Pinje – Index. Unter der untersuchten Frauen haben wir 2 Gruppen gestellt. In der ersten Gruppe waren Frauen mit der Körperhöhe von 144 – 159 cm und in der zweiten 160 – 175 cm. Chronische somatische und gynäkologische Erkrankungen werden bei der Befragung ausgeschlossen. Bei der statistischen Bearbeitung des Materials werden Student – Kriterium, Pearson χ^2 – Kriterium und Korrelationsanalyse verwendet.

PSYCHOTRAINING

Die wissenschaftliche Leiter: a.w wodopijan, n.a. tkatschjowa

Die Studentin des 2. Studienjahres: t. Sjomina

Psychotraining- ist eine Methode der aktiven Ausbildung, die auf Entwicklung der sozialen Einstellung gerichtet ist. Sie wird oft benutzt, wenn gewünschte Ergebnisse, nicht nur die Erwerbung der neuen Information ist, sondern auch die Anwendung der ergebnen Kenntnissen in Praxis. Die Training kann man von Einstellung der verschiedenen Paradigmen betrachten:

-als eigenartige Form der Dressur, bei der positive Befestigung nötige Muster der Verhalten gebildet werden und bei der negative- ungewünschte “abwischen” werden.

-als Training, im Ergebnis deren die Fähigkeiten und Fertigkeiten gebildet werden.

-als Forme des aktiven Lehren, deren Ziel die Übergabe der Kenntnissen, Entwicklung einigen Fertigkeiten ist.

-als Suche nach der Lösungsweise der eigenen psychologischen Problemem Psychotraining ist wichtige Stufe in der Kraftleitung mit seiner Willenverstärkung. Sie schliesst in sich ein: - Psychologieumbau;- Ableisten der Aufmerksamkonzentration; - Entwicklung der optisch- räumliche Einbildungskraft;

Beherrschung der tiefen Erschlaffung des Muskelsystems. Beim Psychologieumbau muss man sich seines Denken von Unglaublickeit last in seine eigene psychologischen Fähigkeiten befreien und mit Yoga über Prana und magnettes Denken kennenlernen. Weiterhin erlernen sie Wissenschaft populäre Publikationen nach Bioenergie- und Biorythmiefrage. Man muss den Zusammenhang zwischen altertümlichen östlichen Lehren und modernen Entdeckungen bauen, Haben sie eine Möglichkeit, schalten Sie auf ernste wissenschaftliche Publikation, um. Überzeugen Sie, das die Weltanschauung der altertümlichen Menschen reale Erscheinungen der materiellen Welt wiedergespiegelt werden, obwohl es ungewöhnliche Betrachtungen für uns sind. Die tiefe Erschlaffung des Muskelsystems spielt wichtige Rolle in Psychotraining, weil sie dem Menschen Selbstkontrolle und Ruhe gibt, stellt schnelle Wiederherstellung der Kräfte sicher und gewährleistet Energiebedarf.

Die Konzentration ist Flexibilität des Verstandes der äusseren Objekt oder inneren Punkt. Sie Es gibt die Konzentration ohne Objekt nicht.

Die Meditation ist Nachdenken an höheren abstrakten Ideen in dem Zustand der tiefen Konzentration. Sie ist innere Arbeit, die auf Selbstverbesserung durch tiefen Nachdenken gerichtet ist.

ALTERSSPEZIFISCHE BESONDERHEITEN DES FUßES

Schiwtschenko N. S. – Studentin des 1. Studienjahres.

Wissenschaftliche Leiter – K.m.W. Schatochin N. W., Kornewa O. A.

Wachstum und Entwicklung des Fußes.

Bei der Geburt ist die Größe des Fußes eines Kindes etwa 7,5 cm. Im zweiten und dritten Lebensjahr wachsen die Kinderfüße bis zu 2-3 Größe pro Jahr. Im Schulalter wächst der Fuß mit der Geschwindigkeit von 1-2 Größe pro Jahr. Der Unterschied zwischen der Größe von Kinderschuhen ist 6,6 Millimeter. Das Wachstum des Fußes ist gewöhnlich bis zu 15 Jahren zu Ende und ihre Länge ist in der Regel 23-26 cm. Die Beine der Mädchen hören auf früher zu wachsen, zwischen 11 und 14 Jahre, bei Jungen später - bis zu 18 Jahren.

Füße der Kinder wachsen von Tag zu Tag. Alles, was mit den Proportionen des Fußes eines Kindes, seiner Form und Struktur verbunden ist, verändert sich auch ständig. Für jede dieser Perioden der Entwicklung sind eigene Modelle der Schuhe notwendig, der verschiedene Altersbesonderheiten der Entwicklung berücksichtigen.

DIABETISCHER FUSS

Afanasjewa Ja.-Studentin des 3. Studienjahres

Wissenschaftliche Leiter: Prof.Jartsew W.G.,K.M.W.Menschikowa N.V.,Kornewa O.A

Der diabetische Fuss ist eine häufige Folgekomplikation des Diabetes mellitus, bei der pathologische Veränderungen der Krankenfüsse in Form der eitrigen- nekrotischen Prozesse, Geschwüre und Knochen-Gelenk-Verletzungen entwickelt werden. Führend bei der Entwicklung sind Störungen und Ausfälle der für Bein und Fuss zuständigen Nerven.

Die Folge des diabetischen Fuss-Syndroms ist eine Amputation. Etwa 8-10% der Diabetikern sind betroffen und 40-50% von ihnen kann man der Risikogruppe zuschreiben. Das Syndrom tritt 10mal häufiger bei den Patienten mit Diabetes Typ 2 auf.

Die Amputationshäufigkeit kann man durch Diagnostik, Dispersairebetreuung, Behandlung auf 3 mal reduzieren. Etwa 80% der Fällen gehören zur Risikogruppe.

Zu den Kriterien zählt man: periphere Neuropathie, fehlende Fusspulse, Deformität des Fusses.

GESCHLECHTSTRENNUNG, VERHALTENSASPEKT

Die studentin des ii. Studienjahres: e. Sytschewskaja.

Wissenschaftliche leiter: a.w. wodopijan, a.n. tkatschjowa.

Gender, von Latein "genus", ist soziale Geschlecht, die das Verhalten des Menschen in der Gesellschaft bestimmt. Das ist Verhalten, das die Beziehung mit anderen Leuten : mit Freunden, Kollegen, Mitschulern, Eltern, zuferlässigen Passanten, bestimmt. In der Psychologie und Sexologie wird die Bezeichnung "Gender" in weiterer Sinne verwendet, die irgendeine psychische oder verhaltensmäßige Eigenschaften versteht, die mit männlichen oder weiblichen assoziiert werden. Genderstereotypengehalt bilden einige Gruppe, gendermarkierten Eigenschaften, die mit Tätigkeit und Aktivität verbunden sind. Den Männern haben solche Eigenschaften wie: Unternehmungsgeist, Entschlossenheit, Hartnäckigkeit, Zielbestrebung, Nonkonformismus, Abenteuerbegierde, Mutigkeit, Selbstkontrolle, Überzeugung in seinen Kräften, Originellbestrebung, Fähigkeit Busineß zu tun, der Frauen-Teilnahmslosigkeit, Unentschlossenheit, Achtsamkeit, Sorge um Normwahrung, Konformismus. Die männliche Eigenschaften sind: die Bestrebung zur Führung, Hochnasigkeit, herrischer Charakter, Kraft, Sachlichkeit, Entschlossenheit, Realität. Die weibliche Eigenschaften sind: Ergebenheit, Hilflosigkeit, Abhängigkeit, Verantwortungslosigkeit, Schwäche, Glaubigkeit in Überlegenheit der Männer, Voreingenommenheit, Unobjektivität. Die männliche emotionale Charakteristik: Gelassenheit, Zurückhaltung; die Fähigkeit die rationeller emotioneller Beweisgründe zu trennen, wird der weiblichen Emotionalität, Empfänglichkeit, Suggestionsempfänglichkeit, Empfindlichkeit, Mitleid gegenübergestellt. Die Charakteristiken, die mit dem Prozess interpersonlicher Wechselwirkung verbunden sind; also positive weibliche: Opferbereitschaft, Herzgüte, Sorgsamkeit, Freundlichkeit, Sanftmut, herzliches Entgegenkommen, Taktgefühl, Zartheit, Liebe zur Kinder; auch negative: Heimtücke, Zanksucht, Schlaueit usw; männliche: Geradheit und korrelierte mit ihr Taktlosigkeit, Hast, Selbstbeherrschung, Gerechtigkeit, Egoismus, Gefühllosigkeit, Brutalität. Die sozialen Rollen der Männer und Frauen wird sich der Stereotypation untergezogen. Die Männlichkeit wird traditionell mit gesellschaftlicher Sphäre und die Weiblichkeit mit der privaten Sphäre (d.h. Familie, Haus, Erziehung der Kinder) verbunden. Der Mann wird als Arbeiter und Bürger gehalten und die Frau als Mutter und Frau.

ORGANISMUSZUSTAND BEI DEN EMOTIONEN

Die Studentin des 2. Studienjahres: E. Osinnaja.

Wissenschaftliche Leiter: E. Ph. Kiritschenko, N. A. Tkatschjowa.

Man unterscheidet innere und äußere Erscheinungsform der Emotionen. Die innere sind mit den vegetativen Reaktionen verbunden und werden mit den Veränderungen der Atmung, Herzschlag, Darmbewegung, Schweißabsonderung begleitet. Sie sind ungesteuerte Komponenten der Emotionen. Die äußeren Emotionen sind Verhaltensreaktionen, die mit Hilfe der Skelettmuskulatur realisiert werden. Sie sind mit Veränderungen der Hautfarbe (Errotung bei der Verwirrung, Erbleichen bei der Angst), ausdrucksvollen Körperbewegungen (Pantomimik), Mimik darunter, mit der Stimme des Menschen (man kann die Stimmung, Unruhe nach dem Timbre verstehen). Die äußere Emotionsbekundung kann der Mensch willkürlich nehmen, weil sie steuerbare Emotionskomponente sind. Für den Arzt stellt der Zustand des

Kranken eine wichtige Information über seine Gesundheit dar, die Emotion kann auf Behandlung bedeutend beeinflussen. Bei heutigem Kenntnisstand ist die Klassifikation der Emotionen unmöglich (vor allem der höheren Emotionen). Der Begründer der wissenschaftlichen Psychologie Wilhelm Wundt schlug die Emotionen nach 3 Richtungen charakterisieren. Aus der Verbindung der grundlegenden Emotionen entstehen solche komplexe emotionale Zustände, wie z.B. Unsicherheit, die in sich als Angst, Zorn, Schuld auch Interesse haben. Zu den komplexen emotionalen Seelenzuständen schreiben wir auch die Liebe und Feindseligkeit zu. Emotionenliste zu betrachten, möchten wir eine interessante Besonderheit auffinden: zu irgendeiner positiven Emotion, die wie als angenehm verleben, können wir entsprechende oder gegenüberliegende Emotion auffinden. Die Emotionen regen den Organismus zur Tätigkeit an. Beim Menschen mobilisieren sie nicht nur körperliche, sondern auch intellektuelle Ressourcen. Sie verstärken Aufmerksamkeit, erhöhen Empfindlichkeit der Auswertung, verschärfen Denktätigkeit, erleichtern die Einprägung der großen Informationsvolumen. Es sei betont, dass bei stark ausgeprägten Emotionen die Empfindlichkeit der Sensorsystemen niedergehen kann, z.B. schmerzhaftes, die negative Emotionen bei den Studenten während Prüfungen sinken die Analysatorempfindlichkeit. Die Emotionen beeinflussen auf den Gesundheitszustand des Menschen. Die positive Emotionen wirken dabei wohltuend. I. P. Pawlow bewerkte, dass positive Emotionen den Menschen gesund machen, die negative schädigen dem Organismus.

MORPHOLOGISCHE FORMEN DES MAGENKREBS

Rasdobreeva Ju. – Studentin des 3. Studienjahres

Wissenschaftliche Leiter: K. m. W. N.W. Menschtschikowa, O.A. Kornewa

Magenkrebs ist eine bösartige Geschwulst der Magenschleimhaut. Der Häufigkeitsspitzen für Magenkrebs liegt jenseits des 50. Lebensjahr. Männer leiden an Magenkrebs häufiger als die Frauen.

Die Geschwulst kann in jedem Magenabschnitt entstehen. Allmählich wachsend, verbreitet sich die Neubildung auf den ganzen Magen.

Am häufigsten befindet sich der Krebs im antralen Magenabschnitt. Bösartige Neubildung kann exophytisch oder endophytisch wachsen. Von den Besonderheiten des Wachstums unabhängig, setzt sich der Zentralabschnitt der Geschwulst nicht selten einer Ulzeration aus. Zu den häufigen histologischen Formen gehört das Adenokarzinom verschiedener Reife (hochdifferenziertes, massig- und niedrigdifferenziertes). Andere Krebsformen sind nicht differenziert. Das sind Skirrus, Schleimhaut-, solider, kleinzelliger Krebs. Die Effektivität der chirurgischen Behandlung beim Magenkrebs bleibt wegen der späten Krankheitserkennung noch niedrig. Zur Heilung kann nur die Operation führen, die im Frühstadium durchgeführt wird. Früherkennung der vorklinischen und früheren Krebsformen führt zur Verbesserung der chirurgischen Behandlung. Hauptvorkrebsprozesse sind chronische Entzündungen der Magenschleimhaut, chronisches Magen- und Zwölffingerdarmgeschwür, Polypen des Magens.

DIE PHYSIOLOGISCHE ROLLE DES STICKOXYDES IN HERZ-KREISLAUFSYSTEM

Wissenschaftliche Leiter: G. E. Tscherbikowa, N. A. Tkatschjowa.

Der Student des II. Studienjahres E. Rachimow.

Bis 80. Jahren war es bekannt, dass das Stickoxyd hochtoxisches Gas ist, das sich in Zigarettenrauch und im Smog befindet. Es wird Stickoxyd zerstört und ruft saurehaltiger Regen hervor. Aber jedoch beginnen die Untersuchungen der biologischen Rolle des Stickoxydes wird bestimmt, dass diese Verbindung eine der wichtigsten Molekel im Organismus ist. Das Stickoxyd reguliert Blutgerinnung, die Funktion der Herzkontraktion, Gefasstonus und arterielle Druck. Die wichtigste Quelle und Stellebildung des Stickoxydes im menschlichen Organismus ist Endothelium. Es produziert ständig kleine Portionen des Stickoxydes und bei verschiedenen Auswirkungen wie z.B. mechanischen, chemischen, bakteriellen oder virenartigen wird Stickoxydsynthese bedeutend erhöht. Vor allem ist Stickoxyd das mächtige gefässerweitende Agens. Diese Eigenschaft lässt den Mechanismus der Handlung des verbreitetsten und effektivsten Arzneimittels, das bei der Behandlung der koronaren Arterien spasmen (Nitroglycerine) gebraucht wird. Beim Zerspalten des Präparats wird Stickoxyd gebildet, das zur Herzgefässerweiterung führt und nimmt deshalb Schmerzempfindlichkeit ab. Grosse Bedeutung spielt Stickoxyd in der Regulation der Hirnkreiszirkulation. Es gibt einigen Stickoxydquellen zur Regulation der Hirngefässlicht. Das sind Gefässendothelium, Neurone und Astrozyte. Die Neuronaktivierung in irgendeinem Hirnabschnitt führt zur Neuroneaufregung, die Stickoxyd synthetisieren und das aus den Zellen ausgeschiedene Gas führt zu lokaler Gefässerweiterung im Reizgebiet. Mit dem Stickoxyd verbinden auch die Entwicklung des septischen Schocks, wenn die grosse Zahl der Mikroben, die im Blut kreisen, aktivieren Gassynthese im Endothelium. Das führt zur starken und langwierigen Erweiterung der kleinen Gefässe. Dadurch sinkt der arterielle Druck sehr bedeutend, der schwer zu behandeln sind. Hyperproduktion des Stickoxydes in Gefässwand ruft durch den Sturz der Gefässresistenz potentiell letale Hypotensie hervor. Das geschah beim septischen Schock und vielen Organbetreffen des Menschen und kann zu Gefässkollaps führen. Das im Endothelium gebildete Stickoxyd wirkt auf Zusammenwirkung der Blutzellen mit dem Endothelium. Gas verhindert das Kleben der Leukozyten und Blutplättchen zum Endothelium. Solche Wirkung kann grosse Bedeutung in früheren Stadien der Thrombentwicklung und bei der Entwicklung der atherosklerotischen Schädigungen der Gefässwand. Die Teilnahme des Stickoxydes an der Entstehung der Atherosklerose kann auch darin sein, dass Stickoxyd die Rolle als antigrosse Faktor erfüllt, der Proliferation der glattmuskulösen Gefässwände verhindert, die an der Pathogenese der Krankheit teilgenommen haben. Stickoxyd ist also eine merkwürdige Substanz nach seinen physiologischen Funktionen, deren Anwendung in Therapie weiter entwickelt, wird.

DIE ROLLE DES MAGENDARMKANALS BEI DER REGULATION DER INSULINSEKRETION

Wissenschaftlichen Leiter: G. K. Doroschenko, N. A. Tkatschjowa.

Die Studenten des II. Studienjahres: O. Pawljuk.

Grosse Aufmerksamkeit ruft das Studium der Hormonsrolle des Verdauungskanals in der Regulation der Insulinsekretion und Glukosehomeostase im Organismus des Menschen hervor. In diesem Zusammenhang ist es betont, dass Literatur, die Information über die Rolle solchen Hormonen im Verdauungskanal enthält, wie glukogonartiges Peptide-1 (GAP-1) und glukoseabhängiges insulinotropes Polypeptid oder ingibierte Peptide (GAIP). Diese Hormone werden als Inkretine bezeichnet.

Inkretine sind peptide Hormone, die in Dunndarm produziert sind und wichtige Effekte bestimmen, die auf Regulation der Glukosekonzentration gerichtet sind; die Steigerung der glukosenabhängigen Insulinsekretion einschliessen.

Eine bestimmte Interesse rufen die Angaben hervor, dass sich Wirkungseffekt GAP-1 durch massstabe Verstärkung aussert, die Sekretionsausbruch ähnlich ist. Die Einführung GAP-1 wirkt jedoch auf die Häufigkeit und Amplitude der Pulssekretion des Insulins. Ausserdem gibt es Beweisen dafür, dass GAP-1 als eine Substanz wirkt, die die Empfindlichkeit B-Zellen in Glukose erhöht. GAP-1 kann also der ATF-Bildung in Mitochondrien mitwirken, Vorkurzem war bewiesen, dass GAP-1 B-Zellen Apoptose inhibieren kann. In diesem Zusammenhang wird die normale Zahl der B-Zellen durch Gleichgewicht der Prozesses Apoptose und Proliferation gehalten, diese Daten haben ein grosses Gewicht und bei pathologischen Zuständen effektiv zu sein können. Das ist mit verstärkter Apoptose der B-Zellen verbunden. Es ist vermutet, dass GAP-1 fähig ist, die Bildung der neuen B-Zellen (Neogenese) bei den Patienten mit Zuckerkrankheit des II. Typs und ungenügender Zahl der funktionierenden Zellen stimulieren kann.

Eine Interesse haben die Daten, die das Studium der GAIP und GAP-Sekretion bei der Zuckerkrankheit des II. Typs betreffen. Bei der Toff-Nielsen-Untersuchung haben also entdeckt, dass GAP-Niveau beim Nuchter (bei den Kranken mit Zuckerkrankheit) normalen Daten nah sind.

Gleichzeitig waren bedeutende Überschreitungen dieses Aterohormons bei dieser Erkrankung bemerkt. Sprechend über Verletzung der Inkretineffekte bei Zuckerkrankheit, so muss man betont, dass bei dieser Krankheit die GAP-1-Sekretion auf 20-30% herabgesetzt wird, die Insulin-stimulierende Wirkung wird dabei bewahrt. Die GAP-Sekretion verändert sich dabei nicht, aber wird die Herabsetzung der stimulierenden Wirkung auf B-Zellen der Bauchspeicheldrüse bemerkt.

Als Ergebnis der langjährigen Untersuchungen, die «Eli Lilly» und «Amilin Pharmation» zusammenführen, war Exenadine geschaffen, das exogene funktionelle Analoge GAP-1 ist, Exenadine wird bei Zuckerkrankheit des II. Typs als zusätzliche Therapie zu Methformine verordnen kann. Inkretin Mimetike werden ihre Stelle über Arzneimittel finden.



**SECTION du
FRANCAIS
et du LATIN**



LE GRAND SAVANT RUSSE ELIE METCHNIKOV

J. Tschegortsova, E. Bronnikova – et-tes de la 3-me annee
Les dirigeants scientifiques - N.V. Jussan, S.I. Nasarkina

Le grand savant russe E. E. Metchnikov est ne le 16 mai 1845 en Russie, dans un village du gouvernement de Kharkov. Il a reçu son instruction d'abord au gymnase de Kharkov et ensuite a la faculte des sciences naturelles de l'Universite de cette ville. Apres deux annees d'etudes universitaires, il a passe ses examens de licence (candidat) et il est parti aussitot a l'etranger pour completer son instruction scientifique. D'abord il faisait ses etudes sur faune marine a Heligoland (la Germanie). Ensuite il a continue ses recherches zoologiques a l'Universite de Giessen, sous la direction de Leuckart, puis a l'Universite de Goettingen et a l'Academie de Munich. En outre, il travaillait a Naples (l'Italie) ou il a prepare les theses de doctorat.

En 1867 E. Metchnikov est retourne en Russie, il a obtenu la place de charge de cours de zoologie a l'Universite d'Odessa. D'ou il etait passe au meme titre a l'Universite de Saint-Petersbourg. Mais en 1870 il est retourne de nouveau a l'Universite d'Odessa comme professeur titulaire de zoologie et d'anatomie comparee. Il y est reste jusqu'a l'annee 1882, lorsqu'il a donne sa demission a cause des troubles universitaires et de la reaction gouvernementale.

E. M. Metchnikov est parti a Messine pour poursuivre ses recherches d'embryologie comparee. C'est la qu'il a fait la decouverte des phenomenes de phagocytose chez les animaux inferieurs. Cette decouverte a oriente son activite scientifique vers l'etude des maladies infectieuses et de la defense de l'organisme contre les microbes pathogenes. Puis il est retourne a Odessa au laboratoire bacteriologique, cree en 1886 dans le but de preparer les vaccins de Pasteur contre la rage et la maladie charbonneuse.

Mais la theorie des phagocytes a necessite des recherches nouvelles. Dans ce but E. Mechnikov a demande L. Pasteur en 1888 de l'accueillir a son Institut. Le grand savant francais lui a confie le laboratoire de recherches de son Institut. En 1905 E. Metchnikov est devenu le sous-directeur de l'Institut Pasteur.

La premiere partie de son activite scientifique, Metchnikov l'a consacre a l'embryologie comparee des animaux inferieurs. Il a publie plusieurs travaux sur le sujet : un volume sur le developpement des insectes et un autre sur l'embryologie des meduses.

Depuis 1883 Metchnikov s'est consacre a la microbiologie. Il a publie une serie de travaux, par exemple : « La pathologie comparee de l'inflammation » et son traite « L'immunité dans les maladies infectieuses ». C'est lui, qui a etabli la theorie de l'immunisation cellulaire. Dans ces dernieres annees, Metchnikov etudiait la flore intestinale et des echanges nutritifs.

En 1891 Metchnikov a été nommé docteur honoraire des sciences de l'Université de Cambridge. Il a été, en outre, nommé membre de la Société Royale de Londres et de l'Académie de médecine de Paris, ainsi que membre honoraire de l'Académie des sciences et de l'Académie de médecine à St-Petersbourg, membre correspondant de plusieurs autres académies et, entre autres, membre de la Société médicale de Suède à Stockholm, où il a obtenu aussi la médaille de Nobel. Ce célèbre savant russe, E.E. Metchnikov, est mort en 1916.

LE GRAND SAVANT FRANÇAIS LOUIS PASTEUR

A. Mitschenko., G. Mansimova – et-tes de la 3-me année
Les dirigeants scientifiques - N.V. Jussan, S.I. Nasarkina

Le grand savant français Louis Pasteur est né en 1822 dans la famille d'un soldat de Napoléon en retraite qui vivait à Dole (Seine-et-Oise, France). Beaucoup de branches nouvelles de la science sont liées au nom de Pasteur. Ses recherches sur la dissymétrie moléculaire ont constitué la base de la stéréochimie. Ses expériences ont abouti à l'aseptie en chirurgie et elles ont donné naissance à l'industrie des conserves.

Ses travaux sur les germes de différentes fermentations et le rôle des micro-organismes dans la transformation de différentes substances ont donné naissance à la microbiologie. Pasteur considérait que la fermentation était un processus biologique, une modification du métabolisme des bactéries et des ferments sous le régime de l'anaérobiose. Chaque fermentation a son stimulant spécifique et une espèce de microbe ne se transforme pas une en autre.

L. Pasteur a prouvé l'inconsistance de la théorie sur la spontanéité des maladies. Il a démontré que les cultures des microbes pathogènes donnent des formes qui ont perdu la capacité de la contagion, mais qui inoculées dans un organisme, le rendent plus résistant aux infections et aux maladies. Une de ses admirables découvertes, c'était la découverte du microbe du charbon et de la rage. En 1879 il a découvert un procédé contre le charbon et la rage. Il a élaboré les vaccinations prophylactiques et ses méthodes sur la vaccination. Mettant à profit le fait que la période d'incubation de la rage est très longue, il a proposé d'inoculer en doses croissantes, aux personnes mordues par un chien enragé, le virus de la rage extrait de la moelle desséchée d'un lapin mort de la rage.

C'est justement Louis Pasteur qui, pour la première fois, a sauvé la vie à un être humain, mordu par un chien enragé. C'était le 6 juin 1885, quand L. Pasteur a vu entrer dans son laboratoire un petit garçon, âgé de neuf ans, Joseph Meister. Il avait été mordu par un chien enragé. Pour sauver la vie de l'enfant, L. Pasteur a appliqué sa nouvelle méthode de traiter la rage et il l'a vaincu.

Tout sa vie L. Pasteur a dû défendre ses idées, les résultats de ses recherches et ses méthodes. Mais les critiques se faisaient de plus en plus rares et le génie de Pasteur était reconnu de son vivant. Il a reçu la reconnaissance de toute l'humanité. Son nom a été donné à plusieurs microbes. L'opération consistant à détruire les microbes pathogènes par la chaleur a été appelée « pasteurisation ».

Pour mettre en oeuvre la précieuse découverte de L. Pasteur, sur l'initiative de l'Académie de Paris, était fondé un Institut, qui a pris le nom de L. Pasteur. Cet Institut est devenu un centre d'études de la chimie biologique, de celles des maladies infectieuses et en même temps un grand dispensaire pour le traitement de la rage.

Le grand savant français est mort en 1895.

Nous évoquons avec reconnaissance l'oeuvre du grand savant et humaniste, expérimentateur de génie et ardent patriote.

L'ÉTAT DE LA SANTÉ DES ÉCOLIERS DE BLAGOVETSCHENSK À PRÉSENT

E. Barabach, S. Ieknoian – et-tes de la 5-me année.

Les dirigeants scientifiques – K.A. Aroutunian, S I. Nasarkina.

La santé de la population d'enfant est une ressource médico-sociale et un potentiel de la société qui favorise le développement de l'état national. Le maintien de la santé des écoliers c'est un des problèmes importants de la pédiatrie contemporaine. Les conditions de l'enseignement qui sont présentées par les chargements mentaux, émotionnels et physiques, provoquent les exigences hautes à la santé des enfants comme somatique si psychique. L'entrée à l'école est accompagnée par un changement du stéréotype dynamique d'un enfant et présente le facteur émotionnel et stressant.

Les études à l'école sont accompagnées par les tendances négatives: la diminution de l'activité des écoliers pendant les études, la surcharge des études, l'intensification de l'enseignement, les formes nouvelles, les études stressantes, le délai de l'évolution physique et psychique. Tout cela fait les écoliers comme le groupe particulier du risque dans la formation de la pathologie chronique. L'apport des facteurs du milieu au sein de l'école dans la formation de la santé des enfants présente 20-30%. L'apport des conditions sociales et hygiéniques présente 15-27%. En 2006 – 2007 on a fait l'analyse de l'état de la santé des écoliers de Blagovetschensk, qui a montré les régularités communes comme en toute Russie. La partie des enfants avec la première et deuxième groupe de la santé diminue, mais le troisième groupe de la santé, le groupe de la pathologie chronique, augmente. L'analyse de la morbidité générale des écoliers a montré son augmentation parmi les enfants en 1,3 fois, la plus haute, pour le compte des maladies infectieuses (25,8%), mais la pathologie somatique changeait moins.

Les dernières années parmi les écoliers de Blagovetschensk sont répandus les maladies de l'appareil locomoteur, les maladies du système endocrinien, les maladies des organes de la digestion, de la myopie, du système nerveux, qui occupent les places essentielles dans la pathologie chronique. Les écoliers de Blagovetschensk pendant les études ont une diminution de l'ouïe et les défauts de la parole et au contraire l'augmentation de l'acuité visuelle (en 2 fois). Les causes sont : le travail des enfants avec les appareils électronique-calculatifs et avec les terminaux vidéo-display, c'est pourquoi les enfants (10-40%) ont reçu les signes de l'asthénopie. Pendant les études à l'école on a marqué la croissance du trouble de la posture en 1,5 fois et de la scoliose en 15 fois. L'indice de la santé physique est une évolution

physique, le niveau de laquelle influe sur les fonctions importantes de l'organisme et ses possibilités adaptées. La plupart d'écoliers ont les indices moyens de l'évolution physique et son harmonie. En même temps 15-20% des enfants ont les déficiences de l'indice de la masse du corps et 10-12% des enfants – de la longueur du corps à l'augmentation ou à la diminution, tout ce qui témoigne de leur évolution physique de désharmonie.

Le rejet dans l'évolution psychique des écoliers on a fait voir de 5% à 9%, dans la sphère émotionnelle est 2-4%, dans l'intellect est 1,5-2%.

Donc, le nombre des enfants en bonne santé est diminué pendant les études à l'école. Le nombre des enfants avec la pathologie chronique est augmenté pendant leurs études. La quantité des écoliers avec la myopie, avec les troubles nerveux et psychiques, avec les problèmes de l'appareil locomoteur est augmentée à la sortie de l'école. Tout cela augmente le nombre des enfants qui ont besoin de mesures de salubrité et l'aide psychologique et pédagogique.

L'analyse de l'état de la santé des enfants de l'âge scolaire témoigne le rejet dans l'état de la santé et l'abaissement des indices de l'état psychique. Tout cela exige la révision de l'organisation de la surveillance pour les enfants, la création des conditions compétentes dans les établissements scolaires, les mesures médicales et pédagogiques du caractère prophylactique et les mesures de salubrité.

ANTIOXYDANTS

J. Tschegortsova, E. Bronnikova – et-tes de la 3-ème année.

Les dirigeants scientifiques – N.V. Simonova, S.I. Nasarkina.

Les antioxydants sont les médicaments de la structure chimique différente, entravent ou bloquent les processus radicalaires et / ou contribuent à l'augmentation du niveau des substances aux propriétés antioxydantes en organisme. Les processus de la peroxydation lipidique se produisent toujours dans le corps et sont essentiels pour la mise à niveau et l'entretien des propriétés fonctionnelles des membranes biologiques, procédés énergétiques, la division cellulaire, la synthèse de substances biologiquement actives. L'activation excessive des réactions des radicaux libres de l'oxydation est un processus typique pathologique, trouvant dans diverses maladies et les actions sur le corps, ce qui provoque des conditions hypoxiques, processus inflammatoires, allergiques, le stress de toute origine, l'athérosclérose, prise de certains médicaments aux propriétés pro-oxydantes (tétracycline, l'isoniaside, l'acétaminophène, la chlorpromazine, la primaquine, adriamycine, rubomycine, les médicaments du fer, cuivre, mercure, plomb, etc), la réalisation des procédures médicales (oxygénothérapie, oxygène hyperbare, l'irradiation aux ultraviolets) et d'autres. L'activation de la peroxydation lipidique peut entraîner une accumulation dans les tissus des produits tels que les lipoperoxydes, les radicaux d'acides gras, les cétones, les aldéhydes, les acides cétoniques, qui, à son tour, affecte et augmente la perméabilité des membranes cellulaires, en modifiant les protéines structurales, les enzymes, des substances biologiquement actives. Les médicaments, limitant l'activité des processus sans oxydation des radicaux, sont des antioxydants.

La classification des médicaments antioxydants -

d'origine:

1. Les antioxydants naturels:
2. Les antioxydants synthétiques:

mécanisme d'action:

1. Les antioxydants vrais (les antioxydants de l'action directe):
2. Les antioxydants de l'action indirecte.

Les principaux aspects de la pharmacodynamie des antioxydants naturels sont les suivants:

1. L'interaction directe avec les radicaux libres d'oxygène.
2. La liaison des ions du fer et du cuivre, qui catalysent librement des réactions radicalaires.
3. Les changements dans la structure de la membrane cellulaire (interaction avec les substrats barrière d'oxydation).
4. L'augmentation de l'activité des systèmes antioxydants endogènes (les glutathionréductases, les catalases, les superoxydedismutases).

Les indications pour la prescription des antioxydants : l'irradiation, le cancer, la maladie de brûlure, l'athérosclérose, la thérapie complexe des maladies cardio-vasculaires, des infections broncho-pulmonaires, des maladies inflammatoires, des maladies de l'œil, afin de réduire les effets indésirables dans le traitement de chimiothérapie, des états pathologiques sur le fond d'une influence prolongée de stress-facteurs (d'immobilisation, acoustique, de la douleur émotionnelle, de froid et d'autres aspects de stress).

A présent la plupart des antioxydants sont largement utilisés dans la chirurgie, neurologie, ophtalmologie, cardiologie, dermatologie, oncologie et dans les autres domaines de la médecine.

On continue les recherches des médicaments de l'action antioxydante.

L'INFLUENCE DES ANTIOXYDANTS A LA CONSERVATION DES ERYTHROCYTES

A. Boroieva – et-te de la 4-me année.

Les dirigeants scientifiques – A.A. Brach, S.I. Nasarkina.

Au cours de l'histoire de la civilisation l'humanité heurte avec les problèmes de la transplantation des organes et des tissus : la rejection du greffon, l'incompatibilité, l'inopportunité, le manque des tissus ou des organes de donneur. Un des importants problèmes, c'est un problème de la conservation des cellules et leur capacité à remplacer et à assurer les fonctions du tissu, perdues pour la garde de l'activité vitale de l'organisme.

Dans nos recherches nous avons décidé d'examiner l'influence des antioxydants Dihydroquercétine (DQV), Arabinogalactate (ABG) aux érythrocytes « in vitro » pour savoir au juste la capacité de Dihydroquercétine et Arabinogalactate d'accroître le délai de la conservation des érythrocytes et la possibilité d'utiliser les antioxydants donnés à la transplantologie comme le procédé de la conservation des érythrocytes. Nous avons choisi les antioxydants donnés parce que l'examen de l'influence aux érythrocytes « in vitro » n'est pas encore étudiée.

La structure et la composition des membranes cellulaires souffre dans l'organisme avec chacun processus pathologique. Une des causes des lésions sont les réactions d'oxydation des radicaux libres. On a prouvé que dans l'organisme au cours de l'évolution était créé un système antioxydant, qui est responsable pour la défense de l'action endommagée de la peroxydation lipidique et la nécessité de soutenir l'état de l'organisme en compte du réglage à l'aide des systèmes de la nature fermentative et infermentative et des nombreux systèmes biologiques actifs.

Le système antioxydant c'est un mécanisme réglé universel de l'organisme, qui garantit les combinaisons et les modifications des radicaux libres.

Le but de ce travail fait montrer l'influence des antioxydants Dihydroquercétine et Arabinogalactate sur la conservation des érythrocytes « in vitro ».

LES BIOFLAVONOÏDES

G. Mansimova, A. Mitschenko – et-tes de la 3-me année.

Les dirigeants scientifiques – N.V. Simonova, S.I. Nasarkina.

Les flavonoïdes présentent une classe large de composés polyphénoliques naturels, structurellement contenant deux anneaux aromatiques. La recherche active de l'activité biologique commence depuis 1936 avec les travaux du biochimiste hongrois Saint-Dieurdi, qui a reçu en vue pure la vitamine P (Routine).

Une des plus connues propriétés des flavonoïdes c'est une activité antiradicale excellente, utilisée dans l'inactivation des formes actives de l'oxygène contre l'infection, l'inflammation, les brûlures, des blessures de rayonnement, etc.

Les flavonoïdes sont trouvés en vue des glucosides dans de nombreuses plantes, surtout aux fruits de l'églantier, des citrons, des noix immatures, dans les baies de cassis, de sorbe rouge, dans les feuilles de thé vert.

La routine et la quercétine ont une application pratique en qualité de médicaments.

La quercétine inactive les formes actives de l'oxygène, limitant leur effet endommageant sur les membranes cellulaires. De plus, elle bloque la lipoxydase, inhibe la synthèse des leucotriènes, elle limite l'afflux des granulocytes dans le myocarde ischémié, les parois des vaisseaux coronaires. En conséquence, la quercétine améliore les contractions, les lésions du myocarde, limite la dimension du foyer de l'infarctus.

Les effets : ce sont les effets antioxydants, antihypoxants, fortifiés les capillaires.

Les indications : la thérapie complexe des maladies cardiovasculaires, des diathèses hémorragiques, la maladie de Rayon, l'endocardite septique, le rhumatisme, la glomérulonéphrite, les maladies allergiques, etc.

Les formes de la production : en poudre, en comprimés à 0,02 g.

La dihydroquercétine entre en nombre de compléments alimentaires (capillar, dihydroquercétine en comprimés à 10 mg), en particulier par les producteurs de Blagovetschensk (l'entreprise « Ametis »), on les prépare sur la base de dihydroquercétine, ce sont laviocarde et vitalague.

Les bioflavonoïdes en combinaison avec des vitamines, ayant des propriétés antioxydantes, font partie de nombreuses plantes médicinales. Avec la variété

d'effets, ces plantes et des extraits ont un effet antioxydant : ce sont le ginseng, le ginseng siberien, le rhodiole rose, la Schizandra, l'extrait de ginkgo biloba (un arbre), le sorbie, l'extrait de pepins de raisin et beaucoup d'autres.

En outre, dans la region d'Amour sont largement distribues les plantes telles que le plantain, l'ortie, le bouleau, dont les feuilles contiennent egalement de grandes quantites de flavonoides, qui donnent aux infusions des plantes medicinales par les actions antioxydantes etudiees a la base de la chaire de la pharmacologie de l'Academie medicale d'Etat d'Amour.

LA HERNIOTOMIE EN CONDITIONS DE LA POLYCLINIQUE

A.Besik- et-te de la 4 annee

Dirigeants scientifiques- ass. De prof. O.J. Lakotsenina, L.I.Chpiltchouk.

La chirurgie polyclinique avec la creation des centres chirurgicaux ambulatoires est caracterisee pendant dernieres annees par l'elargissement de volume des interventions operatoires. La situation sociale de malade, l'activite de conduite, la presence des maladies concomitantes, le caractere de la manifestation des troubles pathologiques, la probabilite de l'observation postoperatoire hospitaliere determinent la selection a l'operation ambulatoire. Les contre-indications essentielles pour la herniotomie en conditions de la polyclinique sont : l'anamnese longue de la maladie, la maladie negligee (les hernies grandes, les collets plus de 10 cm. en diametre). Aussi la presence des infections chroniques des voies respiratoires et du systeme genito-urinaire, des maladies cardiovasculaires (la stenocardie, l'infarctus du myocarde en anamnese, la maladie hypertensive), la instabilite du systeme nerveux (les nevroses) ; l'absence de telephone a domicile, la solitude determinent les contre-indications a l'operation ambulatoire.

On utilise le materiel etranger (polytetrafluoroethylene) pour la hernioplastie de defaut (operations selon de Liechtenstein) a tous les malades. Le filet est utilise en la hernie inguinale (18 patients), en la hernie postoperatoire (4 operations), en hernie ombilicale (6 observations). Le malade avant d'operation est examine d'apres les standards chez le chirurgien de polyclinique. En jour de l'operation le malade est hospitalise au stationnaire journalier. Les operations sont faites par l'anesthesie locale par infiltration 0,5% de solution de la Novocaine. La plastie selon de Liechtenstein est faite en hernie inguinale. Les autres hernies de la paroi abdominale anterieure sont fortifiees par le filet. Apres l'operation le malade est mis a la chambre postoperatoire pour l'observation prochaine. On precise le regime de conduite, la diete, ordonne des analgesiques non narcotiques en comprimés. On explique des plaintes eventuelles auxquelles il faut faire attention du malade a la maison (les douleurs fortes ne sont pas coupees par les analgesiques, la hemorragie, l'oedeme de la plaie postoperatoire et du scrotum, la hyperthermie). On permet au malade de s'en aller dans 4 heures apres l'operation a l'absence des complications prochaines, mais d'abord on fait l'injection de 1 analgesique. Le soir on fait la conversation au malade d'apres le telephone de son etat. Le lendemain le malade lui-meme va au pensement est examine par le chirurgien opere. Les sutures enlevent au 7 jour au cours lisse de la periode postoperatoire. On revele les

complications suivantes : on est marqué le serome limite à l'anasarque chez 2 malades (la cicatrisation de la plaie d'après le type de la tension primaire après l'évacuation du serome). Les complications marquées n'ont pas exigé de l'hospitalisation des malades au stationnaire. On n'est pas marqué de récurrences des hernies.

De cette façon le perfectionnement suivant de la méthodologie de chirurgie d'une journée, l'utilisation des technologies nouvelles élargira des possibilités de la chirurgie de polyclinique.

L'EFFICACITÉ DU MÉDICAMENT "LODOSE" AU TRAITEMENT DE LA HYPERTENSION ARTÉRIELLE EN CONDITIONS À L'HÔPITAL DU JOUR

A. Tretiakova - 4^{ème} année

Dirigeants scientifiques : ass. de prof. O.J. Lakostenina, L.I. Chpiltchouk

À l'heure actuelle la thérapie antihypertensive combinée est la stratégie essentielle du traitement des patients avec la hypertension artérielle (HTA). La décision de ce problème est devenue l'utilisation de la thérapie combinée. L'application combinée de deux et plus des médicaments antihypertensifs ne permet que d'augmenter la probabilité d'acquiescement du nouveau but AT, mais et de diminuer la fréquence et la manifestation des phénomènes indésirables. Lodos est la combinaison fixée de bisoprolol en dose 2,5-5-10mg et HCHT en dose 6,25 mg est la combinaison nouvelle en dose basse. Les nombreuses recherches scientifiques montrent que cette combinaison répond aux toutes exigences présentée aux combinaisons antihypertensives rationnelles.

Le but de la recherche : étudier l'efficacité du médicament « Lodos » chez les malades avec HTA en combinaison avec la maladie ischémique.

Matériaux et méthodes. Les résultats de traitement analysaient en conditions à l'hôpital du jour de la polyclinique n.4 de Blagoveschnsk des 20 malades avec la HTA à l'âge 52,6 (16 femmes et 4 hommes). Les patients avec la HTA du II-III degré en combinaison avec la sténocardie de la II classe fonctionnelle, avec la dysfonction systolique du ventricule gauche (la fraction de la jete moins 60%), avec la tachycardie sinusale avec la fréquence des contractions cardiaques en repos 100-102 battements en minute.

Lodos est ordonné en premier jour de séjour à l'hôpital du jour en dose 2,5 mg+6,25 mg pendant 2 semaines. Le contrôle du niveau de la HTA, de la fréquence des contractions cardiaques, des données de l'ECG, de la recherche ultrasonique du cœur, du niveau de la glycémie, des lipides du sérum sanguin est passé en dynamique.

Les résultats de la recherche. Les recherches ont montré que le niveau de but HTA est atteint en réception de Lodos en dose 2,5mg chez 30% malades, l'augmentation de la dose journalière à 5 mg est exigée en 60% cas. Avec cela la fréquence des contractions cardiaques à 57,2 battements en minute est diminuée chez ces malades. Dans le groupe observé n'était pas de la dynamique négative de l'ECG, on est marqué la dynamique positive à l'alimentation des processus de la

repolarisation et de la diminution des symptomes de la surcharge de ventricule gauche chez 35% malades. L'augmentation de la fraction de la jete d'apres les donnees de la recherche ultrasonique du coeur est remarque en 15% cas.

Pendant du traitement par la Lodose en dose 5 mg. n'est pas remarque de la dynamique positive de la HTA chez 2 malades (10%). Ces malades ont recu completement le medicament de la groupe IAPF.

Le changement certain dea indices de la glycemie et des lipides du serum sanguin. Au fond du traitement par la Lodose n'est pas revele. Le developpement des phenomenes indesirables au fond du traitement par le medicament n'est pas enregistre.

Conclusions. Ainsi la Lodose est la combinaison fixee nouvelles en dose basse de B-bloquant hautement selectif de la Bisoprolole et du diuretique de la Thiazide est le medicament perspectif pour le traitement de l'HTA en combinaison avec la maladie ischemique du coeur en conditions de l'hopital du jour.

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