Министерство Здравоохранения России
ГБОУ ВПО Амурская Государственная Медицинская Академия
Студенческое научное общество
Ministry of Public Health of Russian Federation
Amur State Medical Academy
Students Scientific Society

ТЕЗИСЫ ДОКЛАДОВ
22-я СТУДЕНЧЕСКАЯ НАУЧНАЯ КОНФЕРЕНЦИЯ НА ИНОСТРАННЫХ ЯЗЫКАХ

ABSTRACTS
22-nd STUDENTS SCIENTIFIC CONFERENCE ON FOREIGN LANGUAGES

17 ДЕКАБРЯ 2012г.

Благовещенск 2012г.

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Сборник тезисов докладов 22[й] студенческой научной конференции на иностранных языках под редакцией председателя Совета НИРС Амурской ГМА проф. Е.А. Бородина.

Сборник тезисов докладов 22[й] научной студенческой конференции на иностранных языках содержит тезисы **98** докладов, заслушанных на трёх секциях:

- Английского языка
- Немецкого языка
- Французского и латинского языков

Редакционная коллегия:

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- **П.Е. Бородин**—член Совета СНО Амурской ГМА (технический редактор)

Section of the English Language

EFFECTS OF THE USING SOY PRODUCTS IN PATIENTS WITH HYPER-LIPIDEMIA

Litovchenko E.A. – the 5-th year student

Scientific leaders – Prof. Menshikova I.G., Prof. Borodin E.A., Kostina V.V.

The cardiovascular diseases are one of the urgent problems of modern medicine, because of the growth of this disease, disability and death in most countries of the world, including Russia. One of the risk factors for cardiovascular disease is a disorder of the lipid metabolism.

It is well established that soy protein foods can decrease blood cholesterol and mortality rates from cardiovascular diseases, that is why it is recommended daily consumption of 30 grams of soy protein to control blood cholesterol.

We have done the study in patients with hyperlipidemia. We tried to find a favorable method for patients to take about 30 grams protein per day from soybean protein isolate (SPI) or skimmed curd protein (SMP) and decided to use cookies. Thirty patients with hyperlipidemia were chosen. However, because of the 5 months long study 28 of them (9 males, 19 females, at the age of 50±2 years) could complete the trial. They were randomly divided in two groups and received cookie for 2 months, with one month interval.

Fasting blood samples were drawn before and after the dietary treatments. These samples were also measured at first month as a health check. In the middle of the study period the blood parameters were also observed. Serum samples were used for the lipid and other biochemical measurements. Every month energy and nutrient intakes were assessed and physical activity was estimated by pedometer. With the consumption of SPI for two months, concentrations of the total-cholesterol changed from 7,24±0,3 mmol/L to 6,79±0,2 mmol/L (-6,5%), HDL-cholesterol from 1,48±0,4 to 1,62±0,3 mmol/L (+9%), non-HDL-cholesterol from 5,76±0,4 mmol/L to 5,19±0,17 mmol/L (-11%) and triglycerides from 2,3±0,21 to 1,95±0,26 mmol/L (-18%).

There were no significant changes with SMP.

Thus, the present study showed that the administration of 30 grams SPI for two months has favorable effects on serum lipid concentrations in patients with the hyperlipidemia.

A PHARMACOLOGICAL VALUE OF MEDICINAL PLANTS WITH ANTIDIABETIC PROPERITIES

Kushnaryov V. – the 4-th year student

Scientific leaders–prof. Borodin E.A, ass. V.V Kostina

Diabetes is a multidimensional disease and its introduction needs firm adherence to the prescribed treatment plan. The contemporary treatment of diabetes is focused on suppressing and controlling of blood glucose to a normal level. The common agreement on introduction of type II diabetes includes transformation in lifestyle and appropriate diet and weight control at the same time. However, antidiabetic drugs are needed as these measures cannot provide satisfactory results. Antidiabetic drug therapy includes insulin injections and oral hypoglycemic drugs. These drugs act by various mechanisms to control the blood glucose level. However, many side-

effects such as hypoglycemia, lactic acid intoxication and gastrointestinal indigestion, etc. have fixed in patients.Because the antidiabetic medication may sometimes involve prescribing more than one drug at the same time, which can increase the severity of these side-effects, efforts are being made to find a suitable antidiabetic and antioxidant therapy. There are various medicinal antidiabetic remedies used in various traditional systems of medicine prevailing around the world, although only some of them have been scientifically assessed for their efficacy. A list of the various medicinal plants with their antidiabetic and associated useful effects is given below: Allium cepa, Caesalpinia bonducella, Eugenia jambolana, Momordica charantia and so on.

The number of people suffering from diabetes mellitus has been increasing dramatically over the past few decades, and this demands special attention towards its management. The few conventional therapies available are either expensive or often related with adverse effects; therefore, various traditional therapies with antihyperglycemic effect are increasingly sought by patients. Medicinal plants provide better alternatives as they are generally less-toxic and affordable; yet, their safety and efficacy needs more evaluation by controlled clinical studies. Although herbs are less likely to have drawbacks of the conventional drugs used for diabetes, potential herb -drug interactions should be kept in mind for those receiving conventional antidiabetic medications. Taking all these details into account, further research is required to validate the antidiabetic effects of medicinal plants.

SUMMER CLASSES 2012 FOR THE STUDENTS OF THE OSAKA MEDICAL COLLEGE IN THE AMUR STATE MEDICAL ACADEMY

Borodin P. – the 2nd year student
Scientific leader – Prof. Borodin E.A.

Within August 1-15 this summer classes for the students of the Osaka Medical College (OMC) was held in Blagoveshchensk in the Amur State Medical Academy (ASMA). Three Japanese students (Mr. Natsume Daichi, Ms. Yokokawa Ai, and Ms. Fujii Yuko) took part in the Students Exchange Program. Study and cultural programs were organized for them. They had a meetings with the rector of ASMA professor T. V. Zabolotskikh, former rector of ASMA professor V. A. Dorovskikh and with the leader of the fraction of “United Russia” in the regional parliament associate professor of ASMA O.V. Lysenko.

Our guests attended 3-days classes in Surgery, Therapy, Obstetrics and Gynecology in the Amur Regional Hospital and the Blagoveshchensk’s Perinatal Center. Under the guidance of the skilled professors (L. A. Volkov, T. S. Bystrytskaya, S.V. Naryshkina) students from Japan got practical skills in examining the patients, took part in the surgical operation as assistants and were deeply impressed by the procedures of baby delivery and Cesarean section operations in Perinatal Center. They were fascinated by the newborns, which were born so small. In Japan students had no possibilities to come into touch with the patients till the 5th year of study. That’s why they were also surprised by the practical skills of our students undergoing practical training after the 4th year. So they became acquainted with different diagnostic, prophylactic and curative methods of our doctors in the departments. No doubt, Japa-

nese students received a lot of professional impressions to share them with their native fellow students.

Cultural program was also very interesting and intensive. Our friends visited the Regional Museum, central square of Lenin, city park and many other sights of Blagoveshchensk. There was a meeting in the centre of Japanese culture at the Agrarian University - Japanese students looked at their native culture and looked there not only for their habitual things but found something new and interesting for them. One day they spent time on the nature and swimmed in the Zeya river, played basketball and volleyball, had sauna and swimming pool, walked through beautiful places of Amur nature across the wild forest and had a dinner with the rector of ASMA. This trip to the nature was one of the most delightful for them. The other day the ship trip down the Amur river was organized. Japanese students also visited night club, a karaoke bar and the penthouse of prosperous Russian family, where they had a dinner, sauna and discussion with family members. The standards of living of "new Russians" impressed our friends from Japan. Walking along the streets of our town they got impressions about everyday life of Blagoveshchensk. Discussion about the Sights of Japan and Russia was very interesting and informative for all of us. Japanese students showed famous temples, mountains, gardens, castles, and their student's life in Japan while Russian students showed beautiful sights of Russia. It helps our guests to find out more about Russian culture, traditions and life style.

At the first our meeting with the students from Japan the atmosphere was rather official. But from day to day we relaxed and spending time together made our relationships more friendly and strong. We became the real friends and continue to communicate with our friends together by E-mail. We are looking forward to see the presentation of our friends at this conference.

VACCINATION – IS IT GOOD OR NOT?

Fefelov A. – the 3-rd year student
Scientific leader – c.m.s Usan N.V.

First kind of vaccination was made in 1796 by English surgeon, Genner, and this case gave start for an excellent thing – try to save humanity from different diseases through vaccination. In our time there are a lot of institutions, laboratories and so on, spending a lot of money, making hard work to find most useful and safety vaccine for people. For this time a lot of human life was saved due to vaccination, a lot of diseases was forbidden due to total vaccination, for example smallpox, measles and others; maybe, soon scientists will find really working vaccine from HIV, and this terrible disease will be defeated, and many people will be able to live freely.

But not all so good. Sometimes we can hear about complications of vaccination, and this fact is a serious problem, because some people fear these complications and does not vaccinate. There is special social movement – ANTI VACCINATION, and this movement due to advertising and scary stories (not always true), attracts more and more people. And this is very bad.

Let's try to understand, is vaccination good or not, and who are these people, whose organize ANTI VACCINATION movement – people, really thinking about your life, or frauds and charlatans?

ANTI-INFLAMMATORY AND ANTI-AGGREGATIVE PROPERTIES CONJUGATES OF B-CYCLODEXTRIN WITH ACETYLSALICYLIC ACID

Kim E. – the 3rd year student.
Scientific leaders: Dbsc. T.A. Batalova, Kostina V. V.

The new substances on the basis of B-cyclodextrin, containing covalently bounded (conjugated) residues of 1-(4 isobutylphenyl)-propionic and acetylsalicylic acids, were obtained by the reaction of chloroanhydrides of these acids with B-cyclodextrin. The anti-aggregative and anti-inflammatory properties of obtained compounds were investigated. It was shown that anti-aggregative and anti-inflammatory activities were compared with the activity of Acetylsalicylic acid and Ibuprofen and in some cases exceeded their activity.

Inclusion compounds - cyclodextrin clathrates with the known pharmacological agents, displaying a variety of biological activity, attract a definite interest from a practical point of view.

Cyclodextrins are cyclic oligosaccharides built on a regular basis, in which fragments of the D-glucopyranose linked by a -1 4 glycosidic bonds. Today, because of the relative cheapness, non-toxicity and biodegradability, they find wide application in various fields of chemistry, especially of supramolecular chemistry, fine organic synthesis and in a number of interdisciplinary fields. The particular interest to the cyclodextrin is caused by their cyclic structure and the presence of internal hydrophobic cavity which is able to form clathrates such as "guest host" with various organic substrates.

Due to the ability to incorporate hydrophobic compounds, cyclodextrins are widely used in pharmacology as a drug delivery system by molecular encapsulation. At the same time, recently there began to develop another, more promising possibilities of using cyclodextrins in pharmacology: covalent "binding" (conjugation) of drugs to the cyclodextrin and the creation of drugs on its base. This is the basis of obtaining a more effective drugs with less side effects.

In the present work there is introduced the synthesis and pharmacological testing of new derivatives based on the β-cyclodextrin and acetylsalicylic acid (I), and β-cyclodextrin with 1 - (4-isobutylphenyl)-propionic acid (II), which have the potential anti-inflammatory activity and positive anti-aggregative property.

EVALUATION OF THE EFFECTIVENESS OF THE TREATMENT IN PATIENS WITH HYPERTENSION

Vdovin D. - the 3rd year student
Scientific leaders – Cand. Med. Sc. Magalyas E.V., Kostina V.V.

Arterial hypertension (AH) in the Russian Federation (RF) remains one of the most significant health and social problems, due to a high incidence of the disease, andthe fact that hypertension is a major risk factor forthe main cardiovascular disease - heart attack and stroke that determine the high mortality rate in the country.

The prevalence of hypertension in the adult population in Russia is 39.5%, among women - 40.4% among men - 37.2%. The situation is aggravated by the fact that 80.3% of womenand 75% men are aware of their disease; only 22.5% of women and 20.5% men are treated effectively.

Methodological framework for prevention and control of hypertension, the main provisions are to achieve the target values of blood pressure (BP) and the reduction of risk factors affecting on the prognosis of the disease.

The aim of our study was to assess the effectiveness of the treatment of patients with essential hypertension.

The study included 210 patients with essential hypertension II - III stage of the disease. Duration of the disease was an average 10, 6 ± 1,2 years. The diagnosis was established, according to national guidelines on the prevention, diagnosis and treatment of hypertension (GFCF, 2008).

Women made up 85.6%, men - 14.4%.

Mean age - 48,6 ± 0,8 years.

Patients received different combinations of the following classes of antihypertensive drugs: angiotensin-converting enzyme inhibitors, diuretics, β-blockers, angiotensin receptor blockers angitenzina 1, a calcium antagonist.

On repeated questioning of the patients of group 1there were detected significant improvement in quality of life scale: social activity, mental health (MH), role of emotional problems in disability (RE), the general health GH), vitality (VT).

In the patients of the 2 nd group quality of life was improved only on three scales of the questionnaire SF-36: social activity (SF), mental health (MH), role of emotional problems in disability (RE).

Findings:for effective control of blood pressure, correction of risk factors conclusions it is useful in the treatment of hypertensive patients using a combination of therapeutic and preventive measures, including drug treatment and educational programs, which improves compliance to drug therapy, adherence to non-drug methods of treatment improves quality of life and prognosis of essential hypertension.

NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2012

Serdyuk E. - the 2nd year student

Scientific leaders – Prof. Borodin E.A., Kostina V.V

The Nobel Prize in Physiology or Medicine is awarded once a year since 1901. Laureates are announced at the beginning of October. The Nobel Prize in Physiology or Medicine 2012 was awarded to John B. Gurdon and Shinya Yamanaka, “for the discovery that mature cells can be reprogrammed to become pluripotent”. They found, that mature specialized cells can be reprogrammed back into immature cells, which are capable to develop into any cell type. Their discovery became a revolution in the understanding the development of cells and organisms. We are all evolved from a fertilized egg. During the first days after fertilization, embryo consists of non-specialized pluripotent cells, each of which can develop into all types of cells, forming an adult organism. For a long time the way from immature cell to specialized one was considered as unidirectional. It was believed, that cells change during their maturation such a way, that in the future it’s impossible for them to return to the undifferentiated state. Gurdon’s and Yamanaka’s discoveries showed us, that specialized cells in certain circumstances can reverse the "clocks" of development. Despite the fact that its genome was modified in the course of development,

acquired modifications were not irreversible. That's how the new look at the development of cells and organisms became established.

ASSESSMENT OF SCHOOLCHILDREN HEALTH DURING PREVENTIVE EXAMINATIONS WITH USING THE SYSTEM "AKDO"

Miroshina O. – the 1st year student
Scientific leaders: Prof. Babtseva A.F., Borisenko E.P., Kostina V.V.

School age is associated with the completion of the processes of growth and development. Important role in the adaptation, especially for physical activities, has a state of cardiorespiratory system. In the polyclinic of City Children's Clinical Hospital in Blagoveshchensk during preventive examinations since 2006 it is used an integrated system of automated medical examinations and monitoring of pupils health "AKDO".

System "AKDO" allows:

to analyze the health of schoolchildren in the range from the current state of risk up to chronic pathology;

to observe the health of schoolchildren during their educational process;

to create a basis for individual program of prevention and rehabilitation;

to create the "profile of pathology" of the class and the school which identifies environmental factors which influence negatively on children health;

to give information for conducting the professional orientation of schoolchildren, deciding questions about the possibility of education in profile classes and using of different kinds of sport;

to coordinate health promoting activities;

The main purpose: to assess the health status of schoolchildren, to identify and define the somatometric characteristics, to determine the harmonious development of children by using new technologies during preventive inspections.

Materials and Methods: analysis of the state of 899 pupil's health, including 299 pupils of the first classes (7-8 years old) and 600 teenagers (13-14 years old). The data is obtained by Statistika 6.0.

Results : In the study of state of health among 7-8 years children there were identified groups of functional abnormalities in the activity of the leading systems (groups of risk) - 31%, with chronic diseases - 66.6%, without disease was 2.4% of children. In the structure of chronic diseases, such of the musculoskeletal system, cardiovascular system, nervous system, endocrine diseases, digestive diseases were prevalent. In the group with revealed chronic diseases 44.3% of children had a pathology (516.2 points for one child), 32% - two pathologies (1005.2 points for one child), in 13.2% of children there were revealed 3 pathologies (1529.2 points for one child), 4 or more pathologies were at 10.5% (2388 points for one child). In general, a child with chronic pathology account for 1.9 diseases that is 1139.2 marks.

THE RESULTS OF ELEKTROSTIMULATION DEVICE ESOM COMBINED WITH PARABULBARE INJECTIONS OF CORTEXIN FOR PATIENTS WITH POAG.

Vikhreva D.- the 6th year student.

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

Glaucoma is the leading cause of the irreversible blindness and invalidity in ophthalmological patients throughout the world. Rehabilitation of patients with glaucoma is one of the most actual and important problems in ophthalmology. Despite the effectiveness of modern medical and surgical treatment of glaucoma, normalization of IOP is not always able to stabilize the glaucoma process and suspend the progressive decline of visual functions. In this connection searching is constantly conducted for effective and available treatments for glaucomatous optic neuropathy. Considering the diversity and complexity of mechanisms of the pathogenesis of glaucoma, it is advisable to use neuropeptide Cortexin and percutaneous electrical stimulation in patients with unstabilized glaucoma.

The drug Cortexin has a neuroprotective effect on the cerebral cortex and allows to realize for fine regulation of higher nervous activity through the modulation of the metabolism of neurotransmitters and the regulation of lipid peroxidation in neurons. The neuroelectrostimulation effectiveness laid in the principle of electrical signals presentation simulating neuronal activity – packets' character sequence and targeted excitation of optic nerve neurons. In the fibers of the optic nerve conformational changes of molecular structures of the membrane take place and changing of its viscosity, increasing the concentration of extracellular potassium, which improves the conductivity of the nerve fibers.

The purpose of this study is to evaluate the effectiveness of the method of percutaneous neuroelektrostimulation in conjunction with parabulbar injection of Cortexin for patients with primary open-angle glaucoma in the developed stage of the disease.

Material and methods. We observed 36 patients (48 eyes) aged 58-72 years with advanced stage of primary open-angle glaucoma (POAG). IOP was offset against the backdrop of antihypertensive therapy (β-blockers, prostaglandins, carbonic anhydrase inhibitors). The average value IOP was 15,2 ± 4,3 mm Hg. A complex treatment included parabulbar injection of 10 mg Cortexin followed by a session of neuroelektrostimulation with the device ESOM. The treatment consisted of 10 sessions. Complex survey was carried out before treatment, immediately after, and then after 6 and 12 months. All patients underwent standard ophthalmological examination: visometry; static perimetry with the subsequent determination of the number of fine points of the perceived, relative and absolute scotomes, ophthalmoscopy, recording visual evoked cortical potentials, the definition of the threshold electrical sensitivity and elektrolabilnosty.

Conclusion. The method of percutaneous neuroelectrostimulation in combination with parabulbar injection of Cortexin has significantly improved visual function of patients with primary open-angle glaucoma in an advanced stage. Reliable increase of visual acuity was observed in 92% of cases, the proportion of absolute scotomes was decreased an average of 9% in the group, the number of fine points of the perceived was increased by 12,0%. There was an absolute scotomes transition into relative. Dynamic observation during 12 months showed stabilization of visual function in 78% of cases. In the remaining 22% was observed the depletion of effect by the end of monitoring. The tested method is available, easy to use and does not cause side effects.

CUTANEOUS LYMPHOMA

Komusidi K.V. – 6-th year student
Scientific advisors – Voitsekhovskiy V.V., associate professor,
k.m.s Melnichenco N.E., k.m.s Korneeva L.S.

Cutaneous lymphomas are a heterogenous group of neoplastic diseases specified by lymphocyte clone proliferation in the skin. Cytomorphologically it can be compared to other lymphomas, located for example in gastrointestinal tract or lymph nodes. Due to differences of its manifestation in the skin, confirmed clinically and hystologically, usually cutaneous lymphomas are divided in two categories.

T-cell and B-cell lymphomas.

T-cell lymphomas include fungoides mycosis / Sezary syndrome, primary cutaneous CD30+ T-cell lymphomas, T-cell febrile lymphadenopathic panniculitis.

B-cell lymphomas comprise about 25% of all cutaneous lymphomas, unlike T-cell type, have relatively uniform clinical presentation. Most often it is a repidly growing single tumour. Multiple tumours are rear, non-cutaneous manifestations generally don't occur therefore death rate is rather low.

Clinical presentation is defined by tumour cells attributes.

In most cases those are adult B-lymphocytes able to differentiate to plasm cells or transform into small or large follicules. B-lymphocytes and derivatives are not epidermotropic thus they accumulate mostly in reticulate layer of derma. The rash manifests in well defined nodes and plaques, both of which can regress completely and are not accompanied by itching. As the tumour progresses, mostly large nodes are observed in the disease clinical presentation.

Skin lesions in B-cell lymphomas rarely signifies the beginning of the diseas but usually is the symptom of generalisation as the B-lymphocytes mature in the lymph nodes. Blood tests show normochromic non-specific anemia which then develops into haemolytic autoimmune anemia.

Most cutaneous lymphomas can be diagnosed clinically, however both hystological and immuno-hystological studies are imperative. The latest molecular-biological methods influence malignant cutaneous lymphadenopathy diagnosis and classification, as well as assisting in assessment of reactive lymphocytic infiltration malignancy.

Therapy. Since malignant cutaneous lymphomas can be so heterogeneous a uniform treatment scheme has not been implemented. Lack of controlled prospective studies that define drug dosage and combination as well as the treatment duration doesn't make the situation better either. Besides, there is a significant difference in treating T-cell and B-cell cutaneous lymphomas.

Today a more moderate gradual T-cell lymphomas treatmens is recommended. At early stages it is mostly topical treatment with the use of topical corticosteroids, PUVA (Psoralen and UVA), locally applied cytostatic agents such as BCNU or radiation treatment with high-velocity electrons and such. System therapy such as PUVA together with retinoid or recombinant interferon is used at the acute stage.

VESICO-HEPATIC ARTERIAL AND VENOUS LINKS IN THE AREA OF THE GALLBLADDER BED

Cheplyigin V.-the 2-nd year student.
Scientific leaders-assoc.prof. Seliverstov S.S., Katina O.I.

Cholecistectomy is sometimes compliceted with bleddeng or bile loosing in the gallbladder bed. That forces surgeons to think about the possible existence of direct vascular or biliary bladder links with the liver parenchyma.

In order to identify the patters of arterial and venous syntopy of the gallbledder to the liver parenchyma, our collection of 246 hepatic preparations from embryos 15 mm in lergth – up to 90 years old and 15 preparations in calculous cholecystitis was studied by histological,preparation and corrosion methods.

It was found that in the early stages of embryogenesis the gallbladder to is closely connected with liver parenchyma through multiple mesenchymal fissures, and in prefetal period (10-11 weeks) through arterial and venous vesico-hepatic vessels leading from the bladder to the paravesical segments of the liver. The vesicohepatic type of blood supply of the gallbladder forms and persists in a definetive state in 19% of cases. Its symptom is disproportionately large (up to 5-6 mm) diameter of one cystic artery in adults (to our information its average diameter is 1.85 mm), or the presence of two large cystic arteries 2-4 mm in diameter (paired arteries we found: in fetuses – in 37,5%, in infants and children – 26,3%, in adults – 18,7%). With vesico-hepatic type blood supply,the separate branches and main trunks of cystic arteries perforate the connective tissue membrane of the gallbladder, giving few branches in its wall, and then open in the liver with their terminal sections, 0,8-1,0 mm in diameter. The location of these relatively large cysticohepatic branches is different: 80% of them pass to the liver to the left of the body and the fundus of the gallbladder, in 11% they are to the right of these sections, in 2% they are noted in the fundus of the gallbladder and in 7% - they are found on the surface of the gallbladder fixed to the liver.

The venous discharg from the gallbladder is in intrahepatic branches of the liver portal vein it to 2-9 and even more veins, leaving from the neck, body and fundus of the gallbladder along the cysticohepatic arterial branches. 2-4 necks, of the gallbladder are the most permanent. Three variants of the structure of cystic veins intrahepatic part were identified: 1- truncal veins draining into large intrahepatic branches (2-3 orders of magnitube), of the portal vein , 2 – branching veins, giving the branches to the liver parenchima before the joining the portal vein branches, 3 – portal veins branching to to sinusoids and reminding the srtucture of the extra portal veins of the liver. The perforation of cystic veins into inorganic part of the right branch of the liver portal vein we noted only in 13,1%. Cystic vein diameter is up to 0,8-1,2 mm, the net diameter is 8-10 mm. The diameter of the veins passing along the right and left walls of the common bile duct is 1,8-2,5 mm. The increase in the diameter of veins is observed till 61-74 years of age and is significantly increased in hypertrophic stage of cholecystitis, that is accompanied by both the thickening of fascial plate of gallbladder bed and strengthening its vascular links with the parenchyma of the liver. Arterial and venous vessels , bile ducts leaving the liver and perforating the facial plate in the direction of the gallbladder were not found. We belive

that some of the complications in cholecystectomy can be avoided, if considered and diagnosed in time the vesico-hepatic type of gallbladder circulation during surgical procedures in the area.

ANTIBIOTICASSOCIATED SYNDROME IN ACUTE INTESTINAL INFECTIONS IN CHILDREN

Prilipko L. – the 5th-year student
Sciencific leaders – Assoc. Prof. Marunich N.A., Soldatkin P.K., Kostina V.V.

The discovery of antibiotics, with a wide use in the practice of the treatment of bacterial infections, contributed to the achievement of significant results in solving the questions of current and forecast outcomes of various diseases. Unreasonable use of antibiotics contributes to increasing the resistance to them of different such as pathogenic and conditionally-pathogenic microorganisms (CPM).

The concept of antibioticassociated diarrhea includes the cases of the appearance of liquid stool in the period after the start of antibiotic therapy and up to 4-week period (?) after the abolition of the remedy (in cases when theres excluded other reasons of its development).

Our long-term research work on the search of the alternative (not antibiotics) of antibacterial therapy in the complex treatment of children with AII proved high efficiency of Enterofuril (Nifuroxazid, Nitrofuran III generation) compared with the use of antibiotics, often Cephalosporin.

In this case there takes place the developed antibioticassociated syndrome (AAS), which can manifest itself: by the development of monosymptoms in the form of accession of diarrhea (AAD) or its frequent; only by the emergence or increase of fever, much more likely by a combination of both diarrhea and fever, as well as strengthening of the already treated symptoms (vomiting, anorexia, lethargy). Thus, the definition of «antibioticassociated syndrome» (AAS) in the full capacity than, the AAS describes the clinical picture of stratified manifestations of influence than of antibiotics on the macroorganism.

THE PROBLEM OF OSTEOPOROSIS IN TRAUMATOLOGY AND ORTHOPEDICS

Bova E., Zasukhina A. - the 5th-year students
Scientific leaders – Prof. Borozda I.V., Kostina V.V.

Essense of the problem: The number of patients who received fractures against the backgroung of osteoporosis steadily increased from year to year, not only in Russia but throughout the world. Every 5 minutes, 1 patient in Russia gets a fracture of the proximal femur osteoporosis. It is detected in Russia (2009) annually 22,688 cases of osteoporosis, while according to epidemiological data, there should be not less than 7,000,000! It is known that the prevention brings better results than the treatment of marked osteoporosis, which leads to fractures. Hip fracture is treated by endoprosthesis, which costs about 300,000 rubles or osteosynthesis expensive metal structures (PFN)

Marker of osteoporosis fractures:

1. Colles fracture

2. Shoulder fracture
3. Hip fracture
4. Vertebral fractures (often undiagnosed)

Symptoms: spontaneous fractures or fractures with minimal trauma.

Clinic. In fractures of the long bones there are typical signs of absolute fracture. In fractures of the vertebrae - "widow's hump", "fish vertebra"; reduction on the distance between the costal arch and the iliac crest in at least 2 transversal/fingers (t/f).

Diagnostics:

1. In fractures, X-ray, CT
2. Densitometry (X-ray) – once a year
3. Laboratory diagnosis (creatinine clearance), alkaline phosphatase, etc. - 1 time in 3 months

Treatment in traumatologist-orthopedist

1. In fractures of the long bones - osteosynthesis
2. In fractures of the vertebrae - implantation of bone cement
3. Use of alendronate (Bonviva, aklasta) plus drugs Ca (Calcium D3 Nycomed) or combinatied drugs (ostalon calcium D)
4. Osteogenon (organic matter and macronutrients Ca, P)

Conclusion: Treatment should be comprehensive, based primarily on the prevention of osteoporosis.

THE LATENT SYPHILIS. A DISEASE CONDITION OF THE LAST 5-10 YEARS

Echkina O.V. - the 5-th year student
Scientific leaders – Cand.Med.Sc. Korneeva L.S., Kostina V.V.

The medical statistics indicates that the quantity of sick persons with latent syphilis has increased recently. The early latent syphilis is found out in 78 % of the patients, whose age is 40 years old, conducting a chaotic sexual life (66 % - single contacts). The late latent syphilis is found out in 71 % of the patients whose age is more than 40 years old and 65 % are made by the people who are married. In Russia in the period from 2001 up to 2011 years against the background of noticeable decrease in the general sickness rate of syphilis, the cases of late latent and latent not specified syphilis became frequent. According to the official statistics, in 2011 there were registered 2192 cases of late latent (in 2001 year – 563 cases) and 2818 cases of latent not specified syphilis (in 2001 – 345 cases). In comparison with 2001 year the number of patients with late latent syphilis increased from 0,2 up to 2,6 %, and with latent not specified one - from 0,1 up to 3,3 %. The problem is complicated also because cases of a combination of syphilis with other diseases, which are transferred by sexual way, become frequent. Questions of differential diagnostics of the early and late latent syphilis are discussed, importance of differentiation of the latent syphilis for a choice of tactics of treatment of the patient and the forecast of the negativism of serum reactions tests is underlined.

COOPERATION BETWEEN MEDICINE AND ART

Kushnaryov V. – the 4-th year student
Scientific leaders–ass. Sulima M.V, ass. V.V Kostina

Between medicine, on the one hand, and art - on the other, there are the invisible threads that connect them together. Outstanding therapist Kassirskiy I.A believed that medicine was indivisible as science and art - one without another was unthinkable. Scientist of medicine, as rule, have a broad erudition in the field of literature, painting, sculpture, architecture, theatre, and often used their knowledge for a more vivid, imaginative and memorable presentation or determination of the observed clinical effects. Let's look at examples of great observation of scientists - doctors, their capacity of creative thinking.

On examination of the heart in patients with aortic insufficiency of semilunar valves we can see clearly visible rounded, convex apical impulse, which is figuratively named choc en dome (blow or jolt in the form of the dome). At the similar heart disease there's seen violent pulsation of the carotid arteries on the neck in the neck, the other large arteries pulses by same way. These symptom French doctors identified as "danse des arteres" i.e stormy dance of arteries. In Latin, this symptom is called arteriae saltantes (from the Latin word saltatorius - jumping, dancing), and patients with this heart defect is often called homo pulsans. Many clinical symptoms which were described in mitral stenosis, also got a bright, imaginative display of terminology. Thus, a original trembling of chest palpation in the apex of the heart was called the French authors fremissemen cataire – "cat purring" as it mimics the perceived sense of hand, laid down on purring cat. Auscultation of the heart in patients with mitral stenosis in the apex of the heart was called the "galloping heart", as the sound phenomenon resembled hooves horse galloping on the pavement. V.P Obrazcov is a great specialist in this field, use a powerful metaphor "hearts cry for help. "

N.D Strazhesko called his described tone, which occasionally appeared over the top of the heart with complete atrioventricular block - "gun" tone, because by its volume and suddenness, it remanded of gun shot. Characteristic clinical feature of portal hypertension, as the appearance of first persistent bloating, and then the accumulation of ascitic fluid in the abdominal cavity, the French authors identified figurative phrase: "le vente precede la pluie", which translation meant: first - the wind, and then - the rain, "or" wind preceded the rain "

The origin of the term "Cesarean section» (saectio caesarea) is interesting: legend says that it was due to operation a famous military leader and statesman of the Ancient World, Guy Julius Caesar was born.

More acceptable are eponymous terms which used are for designation of the disease, syndromes and symptoms of the names of famous literary characters, whose characteristic features because common nouns: Munchausen syndrome, a syndrome of Ahasuerus.

One of the most famous physicists of XX century Yu.R Oppenheimer said that a man of science and a man of art have always lived on the edge of the incomprehensible. Both constantly bring into harmony the new and already known. Struggle to establish some order in the general chaos. In work and life, they have to help

each other and all people. They will pave the way to link the art and science of diverse, changeable and precious bonds. "

ETIOLOGY AND PATHOGENESIS OF ACUTE VENOUS THROMBOSES

Potapov O., Serobyan A. - the 4th-year students
Scientific leaders - Prof. Sakharuk A. P., Kostina V. V.

Essence of this problem is caused by the prevalence among the population and degree of danger of a pathological condition for life and health of the person. Frequency of thromboses of deep veins of the lower extremities in the general population composes about 160 on 100000 people, about 30 % of them perish in the next month, in another 20 % of patients within the next two years there's developed disease recurrence. The aim of research is an assessment of major factors of risk of a venous creature of thrombs, forecasting and diagnostics of venous thrombosis before development of thromboembolism's complications.

TROMBOEMBOLISM OF PULMONARY ARTERY. PREVENTION OF VENOUS TROMBOEMBOLISM'S COMPLICATIONS

Potapov O., Serobyan A. - the 4th-year students
Scientific leaders - Prof. Sakharuk A.P., Kostina V.V.

Tromboembolism of pulmonary artery (TELA) is one of three reasons of sudden death after a stroke and a heart attack. In the conditions of a multifield hospital TELA is annually observed in 15-20 of 1000 treated patients. Often it complicates the course of many diseases, the postoperative, postnatal periods. In most cases the reason of development of TELA is the vein thrombosis of the lower extremities. Thrombosis of deep veins of the lower extremities - the widespread disease, annual frequency of its emergence makes 100-160 cases on 100 000 population. Carrying out prevention of venous tromboembolism's complications the problem which is not solved finally and also demands special attention from the management of treatment-and-prophylactic establishments.

NEW METHODS OF STROKE REHABILITATION

Kamchedalova T., Paliy A. - the 4th year students.
Scientific leaders - Ass. Professor, PhD Karnauh V.N., ass. Volosenkova Ye. A.

Cerebrovascular accidents (strokes) are one of the most common causes of disability and mortality in the population. According to European researchers, for every 100 thousand inhabitants there are 600 patients with stroke, 60% of them are disabled. There are various rehabilitation measures that make it possible to accelerate the recovery, but these traditional methods today are not effective.

The possibility of recovery based on such a general biological law, as the reorganization of functions. That is, the neuronal ensembles and communication that have not previously been involved in the implementation of this function, able to change and to participate in its restoration.

Edward Taub developed a "forced use therapy" based on brain plasticity. Taub's therapy is also based on the principle of "do not use - is to lose."

PIROGOV CONTRIBUTION IN FIELD THERAPY

Mirkina A.-the 4-th year student
Scientific leaders- PavlenkoV.I.

Pirogov - one of the leading representatives of the world of medical science and practice. His works of historical significance it has enriched many fields of medicine, and in equally high: he has left us with outstanding works on surgery, topographical anatomy, general pathology, as well as various aspects of pedagogy and social life. Concerning surgical activities Pirogov, it should first be noted that both at home and abroad for over a hundred years, he is considered the founder and most authoritative representative of military surgery and therapy. Famous proposition Pirogov - "War - is traumatic epidemic", "is not medicine, but the administration has a role in helping the wounded and sick in the theater of war", "triage" - guided by Soviet surgeons during World War II. This position and today remain the foundation of the modern doctrine of military surgery. Pirogov suggested a number of new surgical procedures, he first used anesthesia in providing care to the wounded on the battlefield. Russian scientist famous in Europe, not only as a great surgeon, but also as the founder of modern surgical anatomy: he was the first in the world to operate not encouraged "by eye", and based on accurate knowledge of the relative position in each tissue of the body. Proceedings of Nikolai on topographic anatomy have become classics, they brought him worldwide fame and unquestioned authority of anatomists and surgeons. It would be wrong to limit the activities of the great medical scientist beyond surgery, as it often does. N.I. Pirogov was a highly educated man, a brilliant clinician, diagnostician subtle and skillful physician. Keep memories of how Nikolai rejected the diagnosis of severe illness, which was raised by doctors known Mendeleev, and, as time was right. Subsequently Mendeleev spoke Pirogov, "This is a doctor. Through man saw and immediately realized my nature." In the circle of St. Petersburg physicians organized Pirogov, widely discussed various aspects of theoretical and practical medicine. Pictures of many diseases and their complications were first described by Nikolai Ivanovich so accurately and vividly, that for more than 100 years, all the authors are cited as a classic. In the thick of the hard work in first aid and treatment of the wounded in the defense of Sevastopol under N.I. Pirogov started their practice fresh out of medical training young Botkin. It not only had to provide surgical care to the injured, but also to treat patients. Pirogov first noticed that at a certain stage of fighting contagious, that is infectious, patients often become more than wounded. The fact that he paid attention to this important aspect of the case and suggested a number of appropriate institutional arrangements, gives the full right to consider him not only the founder of the doctrine of military surgery, but the harbinger of the foundations of modern military field therapy.

VIOLATIONS OF CARDIAC RHYTHM IN TEENS (VCR)

Kartashova V., Tyschuk Y. - 5th-year students
Scientific leaders – Cand.Med.Sc. Shanova O.V., Cand.Med.Sc. Boychenko T.E., Kostina V.V.

Violations of a rhythm can be congenital or acquired and are caused by the cardial, extracardial and combined reasons. In recent years the great attention is

given to cardial dysplasias and its interrelation with violations of a rhythm of heart (VRH). The basic group consisted of 79 children with the diagnosis vegetovascular dystonia, which is accompanied by dysplasia of connecting tissue (DCT) (it was revealed not less than 4 external phenotypic signs of DCT). The control group was composed of 33 children with diagnosis vegetovascular dystonia without DCT (it was allowed the presence of 1-3 microanomalies in this group of children). Analysis of detection of ECG abnormalities depending on the severity of DCT leads to the conclusion about the growth of dysregulation, dysfunction of synoatrial zone and dysrhytmia which is parallel to the increase of DCT in manifestations. Correlation between a number of violations of an electrogenesis and dysplastic changes of heart is authentic: with increase of DCT's signs the frequency of identification of signs of a dysregulation of a cardiac rhythm and conduction (R=0,31; p=0,005) increases. The carried out analysis of data of ECG in the examined teens allows to allocate group of the changes associated with a syndrome of DCT to which it's related migration of pacemarker of a rhythm on auricles, extra systole, a syndrome of an early repolarization of ventricles (SERV), a smoothness and inversion of a segment of ST and the wave of T and incomplete left bundle branch block. The obtained data testifying to close connection of dysplastic changes of heart with various changes of ECG in teens, say that they are threatened on development of these violations.

REMAKSOL

Bityutsky V.A. – the 3rd-year student
Scientific leaders – Prof. Dorovskikh V.A., Cand.Med.Sc. Lee O.N., Kostina V.V.

In recent years it is steadily growing a number of people suffering from liver disease. According to WSH experts, the diseases in the world affected more than two billion people. In Europe, one in five women and one in ten men are faced with diseases of the liver and biliary tract. Only in CIS countries each year from 500,000 to a million people with such diseases. To reduce the effect of these factors and, thus, to keep the liver in the functional state, a number of drugs - hepatic (Greek hepar - liver, and Latin protectio - to protect). Today, they are virtually the only method of pharmacological action on this vital organ because most liver diseases targeted drug therapy does not exist.

EPILEPTIC REMEDIES

Durneva O. – the 3-thyear student
Scientific leaders –asis.Simonova N.V., Kostina V.V.

Epilepsy - a chronic neuropsychiatric disorders characterized by a tendency to recurrent sudden seizures.

CAUSES

Although seizures can occur in many diseases and, thus, may be associated with them, the real cause of epilepsy is unknown. Studies show that this disease occurs when a certain area of the brain is damaged but not completely destroyed.

HISTORY

Pharmacological treatment of epilepsy began in the XIX century and is still the main one. Historically, the first for the treatment of epilepsy were used bromides

(1853). Later there were created various potions based on bromides. Thus, B. Poole experimented by mixing them with Calabar bean, eserine sulfate, picrotoxin, belladonna, atropine sulfate and digitalis.

MECHANISM OF ACTION

The exact mechanism of action of antiepileptic drugs remains unknown and is going to be studied intensively. Different mechanisms can lead to a decrease in excitability of neurons epileptogenic focus. Fundamentally, they are either in the inhibition of activating neurons, or activation of inhibitory neurons.

TREATMENT

Treatment is conducted in four directions:

1) prevention of attacks using drugs;
2) elimination of factors (situations or substances) that provoke seizures;
3) social rehabilitation, promoting its transformation into a full-fledged member of society.

Approximately 50-75% of cases idiopathic epilepsy. It is important to accurately identify the type of attack, because it affects the treatment.

THE MAIN OPIUM ALKALOIDS

Sibileva D., Fomina M. – the 3rd-year students
Scientific leaders – Cand.Med.Sc. Kodintsev V.V., Kostina V.V.

Morphine is one of the main opium alkaloids. Morphine and other morphine alkaloid can be found in plants of poppy, Stephanie. 10 mg subcutaneous on 70 kg weight leads to the removal or sharp weakening of pain in 70% of patients within 4.5 hours. Lethal doses 200 mg

Mental sphere:

Phase of morphine euphoria;
Phase of morphine sleep;
Phase of morphine abstinence.

Symptoms of poisoning in overdose: cyanosis, corestenoma, hypotension, gastrointestinal tract spasm, decrease body temperature, clammy skin, respiratory depression, loss of consciousness, thready pulse, coma, and death from respiratory paralysis after 2-4hours when injected subcutaneously and with intravenous injection immediately.

Treatment of poisoning by morphine: 1. Artificial ventilation 2. Nalokson 1-2 ml 0.5% solution intravenously. 3. Multiple gastric lavage (tannin, Lugol solution, solution of manganese).
4. Anticonvulsant remedies.

PCR: MYTH AND REALITIS

Kovbas V. - the 3rd-year student
Scientific leaders - Cand.Med.Sc. Usan N.V., Kostina V.V.

Polymerase chain reaction (PCR) is every year increasingly applied in clinical practice. In the last ten years, it moved from the category of unique techniques that are available only to elite clinics in high-level, but the available studies. All this time PCR studies walks plume of "myths and legends" that are distributed by those who

"heard the bell, but do not know where it is," - people who do not have the opportunity of practice using the PCR studies. The PCR studies are widely included in the list of recommended tests CNIKVI recommendations in 2002, the recommendations of hepatologists by MHS in Russia. Most reagents for PCR investigations are registered and approved MHS. Where is the most efficiently run all the advantages of this method?

THE ROTAVIRUS INFECTION

Tikhonova M., Romaschyev A. - 3rd-year students
Scientific leader - Prof. Chubenco G.I., Kostina V.V.

The Rotavirus infection is one of the forms of acute enteric infection, the agent of which is rotavirus of the man from kind of Rotavirus. People at any age can fall ill by Rotavirus disease infection however children from 6 months up to 2 years old most frequently can fall sick. Virus cells are propagated in the mucous membranes of the digestive tract and are discharged with stool. Disease ends through 4-7 days by full recovery. Prevention of rotavirus infection consists of observant personal hygiene and isolation of sick persons during the epidemic. The main risk of rotavirus infection is connected with dehydration of organism because of strong diarrhea.

SHARP RESPIRATORY VIRUS INFECTIONS

Lutov A.R. – 3rd-year student
Scientific leaders - Prof. Chubenko G.I., Kostina V.V.

SRVI - special group of diseases which by the specific weight in structure of infectious pathology of the person strongly occupies one of leading places. More than 200 viruses can cause emergence of SRVI that extremely complicates carrying out of diagnostics. Today there are certain notions about the main activators of SRVI which are switching on representatives of, at least, six families, and the purpose of the given publication - to acquaint practical doctors with these data.

THYROID DISEASE

Muradyan K., Pasternak I.- the 2nd-year students
Scientific leaders - Tertychnaya L.G., Kostina V.V.

The human body synthesizes about two hundred hormones. These signal chemical substances regulate metabolism, are responsible for the growth and development of the body, regulate the activity of the gonads, influence on human behavior. Hypothalamus manages by the glands, it sends a signal to the pituitary gland, and it in its turn sends signals to all other glands (thyroid, thymus, gonads). Getting the order, the glands throw away hormones into the blood, which are then delivered to the appropriate cells of the body.

The thyroid gland weighs about 30 grams. It produces two hormones - thyroxine and triiodtironin. There occurs the deficiency of hormones or complete absence of them, when there is hypothyroidism. Subsequently the metabolic processes in the body are inhibited.

Factors of hypothyroidism may be: inflammation (Hashimoto's disease), radioiodine

therapy, congenital malformations. With increased function (hyperthyroidism) there is an excessive amount of hormones. Factors of hyperthyroidism may be an adenoma, inflammation and autoimmune diseases (Graves' disease). Hyperthyroidism can cause thyrotoxic coma - sudden disruption of all major functions.

THE CASE OF UNUSUAL ADDITIONAL HEPATIC ARTERY

Muradyan K., Pasternak I.,Kodyakov P.- the 2nd-year students
Scientific leaders - Ambrosyeva N.P., Kostina V.V.

During the preparation of blood vessels of organs of the abdominal cavity, we found the extra blood vessels, we called it an additional hepatic artery. At the moment of the excretion of "vital triad" of the liver, we noticed that the component consisted of four tubular structures. When we picked out three main classical formations, we found the fourth - it was an arterial vessel, which was located between the portal vein and the common bile duct and before entering the liver it was divided into several small branches. The largest branch carries blood to the gallbladder. This artery branches out from the superior mesenteric artery at the top edge of the second lumbar vertebra.

SYSTEM OF MASS CELLS IN ACTION ON EXTREME BODY FACTORS

Muradyan K.-the 2nd-year student
Scientific leaders - Cand.Med.Sc. Semyonov D.A., Kostina V.V.

Response mass cells to stress is systemic and is observed in organs that determines: development of stress - reaction (thymus, bone marrow, adrenal glands, stomach, duodenum) and in organs that do not participate in it (skin, liver).

The reaction of mastocytes is revealed as a total degranulation. Mass cells secretion has a well-defined regulatory character and is shown by directed to the target cells and by release biologically active substances. In organs forming a stress reaction together with the processes of degranulation there is a process of migration leading to a redistribution of mass cells.

Mass cells or mastocytes received increasing attention of researchers due to the fact that this type of cell is well represented almost in all organs and tissues: they are involved in the development of inflammatory, immune, allergic reactions and many other pathological processes, secreting a variety of biologically active substances. In recent years there were accumulated data that mass cells did not only play an important role in the regulation of various physiological functions of the body and the pathogenesis of many diseases, but were also involved in its adaptation to extreme factors which allowed to make a hypothesis about the possible formation of a single, self-regulatory systems.

For the first time the creator of the theory of Hans Selye's adaptation syndrome paid attention to the possible role of participation in stress a reaction.

VITAMIN BALANCE OF FOOD IN THE HUMAN BODY

Mirkina A. - the 4-th year student

Scientific leaders- Professor Korshunova N.V.

Vitamins and minerals are necessary for the full functioning of the body. Vitamins regulate metabolism and diverse influence on the function of all organs and systems. These biologically active substances for the most part are not formed in the body, and if they are formed, in small quantities, which allows to call them essential nutrients. With a lack of vitamins in the diet, or the violation of their absorption in the gastrointestinal tract may develop a condition of vitamin deficiency of varying severity - vitamin deficiency and vitamin deficiencies. Deficiency disease - is a complete depletion of vitamin supply in the body, vitamin deficiencies - lack of one or more vitamins. There are several reasons for the formation of vitamin A deficiency. First, this is the wrong choice of products. Inadequate intake of vegetables, fruits and berries leads to a deficiency of vitamins C and E, with redundant content in the diet of refined foods (white flour, sugar, refined rice) there is a lack of B vitamins, with prolonged restriction of the use of products of animal origin was a lack of vitamin B12. In the winter-spring period in the products decreases the amount of vitamin C, A and D. Violation of rules of cooking and food storage also leads to loss of vitamins C, A, Bp carotene and others. Even with an adequate intake of vitamins from food is necessary to remember that the lack of complete proteins can disrupt the formation of active forms of vitamins and their accumulation in the tissues. The main sources of vitamins - fresh vegetables, fruit, berries, nuts, and dairy products. The highest amount of vitamin C found in dry and fresh wild rose, sweet peppers, black currants, parsley, fennel, cabbage, spinach, mountain ash, oranges, lemons, strawberries, cloudberries, dogwood, lingonberries, cranberries. Vitamin C increases the body's resistance to infections, support the strength of the walls of blood vessels, has a positive effect on the function of the nervous and endocrine systems and is actively involved in many metabolic processes. Consumption of vitamin C in the body is continuous, and the stocks are small, so its supply of food or in the form of drugs should be every day. The need for vitamins increases with the number of states: pregnancy, breast-feeding, intensive neuro-psychological stress, you are in a very cold, or, on the contrary, very hot climates (in the heat is greatly increased sweating), under the influence of chemical and physical occupational hazards. Some diseases (diseases of the stomach, biliary tract, bowel, worm disease, dysbiosis, etc.) result in a violation of the absorption of vitamins in the gastrointestinal tract, and as a result, there is a vitamin deficiency. Therefore, the usefulness of therapeutic vitamin and diet is very important for any diseases.

DIABETES

Bednenko A., Zuzin P.- the 2nd-year students

Scientific leaders - Tertychnaya L.G., Kostina V. V.

In our report we decided to discuss "diabetes" because this theme is topical nowadays. This illness "surprises" us with is statistics. According to the statistical research, every 10-15 years the number of people with diabetes doubles, so it becomes a medico-social problem. It is also necessary to stress that the number of people suffering of the first type of diabetes is increasing, that's why we want to tell in details about the types of diabetes. There are two forms: insulin-dependent (ID, type

1 diabetes) and noninsulin-dependent (NID, type 2 diabetes).

ADRENALS. STRUCTURE AND FUNCTION

Kucherenko T. – the 2nd-year student
Scientific leaders - Cand.Med.Sc. Semyonov D.A., Kostina V.V.

The adrenal glands are paired parenchymal organs of zone type. Outside covered with a capsule of dense fibrous unformed tissue, from which depart layers deep body - trabeculae. Capsule and loose fibrous unformed layer of connective tissue form body stroma. Parenchyma is represented by a set of cells: corticocytes in the cortex and chromaffin cells in the brain. Adrenals clearly divided into two structurally and functionally different zones:

Cortex consists of several areas:

1. Subcapsular zone is formed by small undifferentiated corticocytes.
2. Glomerular zone is formed by small corticocytes forming glomerulus. Mineralocorticoids are produced.
3. Beam zone is formed by oxiphylic corticocytes of large size. Glucocorticoids are produced.
4. Reticular zone is composed of small cells, which are in the form of a network. Male sex hormones and glucocorticoids are produced.

Brain substance is separated from the cortical thin capsule of loose fibrous connective tissue. It is a cluster of cells chromaffin cells which are well stained by chromium salts. The brain substance produces catecholamines - the hormone adrenaline and the neurotransmitter noradrenaline, which are produced during stress.

THE ROLE OF NITRIC OXIDE IN THE WORK OF HEAR

Kucherenko T., Gigaev V. – the 2nd-year students
Scientific leaders – Cand.Med.Sc. Egorshina E.V., Tyrtyshnaya L.G., Kostina V.V.

Nitric oxide produced by endothelial cells of blood vessels, is responsible for the relaxation of vascular smooth muscle and their expansion (vasodilation), prevents platelet aggregation and adhesion of neutrophils to the endothelium. It is involved in various processes in the nervous, reproductive and immune systems. NO also has cytotoxic and cytostatic properties.

NO in the blood supply is many sided:

1. First of all, NO - powerful vasodilator agent.
2. Vasodilatation associated with the diffusion of NO from the endothelium to the adjacent smooth muscle cells of the vessel wall, activation of guanylate cyclase in them and the formation of cyclic guanosine monophosphate (cGMP).
3. NO has a great importance in the regulation of cerebral circulation.
4. With NO binds to and development of septic shock, when a large number of microbes that circulate in the blood, rapidly activates the synthesis gas in the endothelium.
5. Gas prevents the adhesion of leukocytes and platelets to the endothelium.

In violation of the biosynthesis and metabolism of NO are related diseases, such as essential arterial hypertension, coronary heart disease, myocardial infarction, primary pulmonary hypertension, asthma, neurotic depression, epilepsy, neurodegen-

erative diseases (Alzheimer's disease, Parkinson's disease), diabetes, impotence and other.

MARTIN SHEIN – THE GREAT RUSSIAN ANATOMIST

Kucherenko T. – the 2nd-year student
Scientific leaders - Ambrosjeva N.P, Kostina V.V.

This year it will be the 300-th anniversary since the birth of the great anatomist Martin Ilyich Shein. He made an invaluable contribution to the development of anatomy.

Martin Ilyich Shein (1712-1762) came from a humble people and was an orphan. He studied in St. Petersburg in the Episcopal school for orphans, founded and maintained on his own expense by Theophanes Prokopovich. In 1738 the Medical Office, where he served as «painting master», sent him to Kronstadt Admiralty hospital. In 1739, Shein was transferred to St. Petersburg Admiralty Hospital. Here, in 1741, he registered his belonging to medicine – he passed exams and was promoted as doctor's assistant. In 1753, Martin became the head doctor.

Shein was the originator and author of most tables for the main section of anatomy in the first domestic leadership in this discipline - atlas «Syllabus» - the first original domestic medical textbook. He became known as a great interpreter. In 1757 Shein translated textbook Lorentz Heister "Brief Anatomy" (in two volumes). It is extremely important that by the translation of the book from Latin he actually recreated the Russian medical terminology. The Shein's work of translation into Russian (also from Latin) textbook Johann Platner become pioneering. In the book there was the latest Platner practical surgery of that time.

Unfortunately, very intense and fruitful scientific activity of M.I. Shein was short-lived: he died suddenly in 1762 at age 50.

COMPARATIVE DESCRIPTION OF SKULL OF THE 1-ST - 2-ND YEARS' STUDENTS

Vorsina N., Kucherenko T.- the 2nd-year students
Scientific leaders - Ambrosjeva N.P., Kostina V.V.

Nowadays it is known that the individually-typological features of morphometric descriptions of skull must be taken into account in surgical, diagnostic, endoscopic manipulations above main parts of skull and also at operative interventions in otolaryngology and neurosurgery as they are skeletal anatomo-topographical reference points.

To study the different types of skulls we examined 60 students of the first-year of Amurskaya SMA (40 girls and 20 boys). Thus it was taken into account: width, length and height of skull from which a cranial index was calculated. According to our facts 40% of students have dolichocephalic type of skull, 33.3% - brachycephalic type and 26.7% - mesocefalic type. 60% of boys and 20% of girls are of dolichocephalic type of skull, 35.2% of boys and 31.5% girls - brachycephalic and 24% of boys and 29% of girls have mesocephalic type of skull.

So the 1-st – 2-nd years' students of Amurskaya SMA - dolichocephalic type of skull. In this case, brachycephalic type is dominated in the girls, in the boys-

dolichocephalic. Mesocephalic type of skull in the students is expressed to a lesser extent.

THE LIFE PROLONGATION – TRANSPLANTOLOGY

Sharvadze N., Ismailova N. - the 2nd-year students
Scientific leaders – Assoc. Prof. Labzin V.I., Kostina V.V.

Transplantation of organs as a treatment of severe patients has a great social significance, as it can not only prolong life, but also ensures its higher quality level.

Types of transplantation

- Autotransplantation - transplantation parts within the same individual
- Gomotransplantation - transplantation from one individual to another individual of the same species
- Geterotransplantation – transplantation, in which the donor and recipient belong to different species of one genus
- Xenotransplantation - the transplantation, in which donor and recipient belong to different genera, families, and even orders.

Soviet scientist Vladimir Demikhov is considered as the founder of the world transplantation. In 1937 he designed and produced by his own hands the world's first artificial heart and implanted it to the dog. The first heart transplantation from an animal to man was performed in 1964 by James Hardy, the patient lived for a half hour. In 1965 Boris Petrovsky performed the first successful kidney transplantation from a related donor. Christian Noetling Barnard, a pupil of Dr. Demikhov made the world's first heart transplant surgery from person to person in 1967. The patient lived only 18 days and died of bilateral pneumonia. The first heart transplantation in the Soviet Union was performed by Valery Shumakov on the 12-th of March 1987.

At the beginning of the XXI century transplantation began to move to new technologies. Today, artificial organs are created. They include artificial bones, skin, retina, limbs. Although they are not a complete analogue of living one, but perform the same functions and help extend the life of the person.

PROGRESS IN THE STUDY OF ANATOMY OF CNS

Sharvadze N., Ismailova N.– the 2nd-year students
Scientific leaders – Assoc. Prof. Labzin V.I., Kostina V.V.

Attempts to connect anatomical structures with the mental activity generated a science like phrenology of Franz Gall at the end of XVIII century. After sometimes objective studies have shown the groundlessness of the phrenological statements.

The following discoveries in anatomy of central nervous system (CNS) have been associated with the improvement of microscopic techniques. At first August von Waller proposed a method of wallerian degeneration, allowing to trace the path of nerve fibers in the human body and then the discovery of new methods of staining nerve structures by Golgi E. allowed to explain that besides neurons in the nervous system, there was still a huge number of sub-cells - glia. It should be noted that such prominent psychologist as Sigmund Freud began his career in medicine as a neurologist - the anatomy researcher of the nervous system.

In Russia the development of anatomy was closely associated with the con-

cept of the nervism. In the middle of XIX century W. Betz opened pyramidal cells and founded differences in the cellular composition of different parts of the cerebral cortex. He started the foundation of the study of the cytoarchitecture of the cerebral cortex. An outstanding neurologist and psychiatrist Vladimir Bekhterev extended the theory of localization of functions in the cerebral cortex, deepened the reflex theory and created the anatomical and physiological basis for the diagnosis and understanding of the manifestations of neurological diseases. Bekhterev discovered a number of brain centers and conductors.

At the present time the most important discoveries are made in the field of microscopy not only of cells and their organelles but also at the level of bio macromolecules.

DETERMINATION OF GENDER BY USING BONE ANALYSIS

Matyliuk O., Kalishchuk E. - the 2nd-year students
Scientific leaders - Assoc.Prof. Labzin V.I., Assoc.Prof. Gygolyan M.O., Kostina V.V.

Forensic medicine like any other medical science is based on a general medical knowledge. Undoubtedly, it is possible to say that without knowledge of normal anatomy not only forensic medicine's, but also the medicine's existence is impossible.

The forensic medicine as a science about the general regularities of the phenomena and the processes occurring in a body of the person, is directly connected with all medical disciplines, without it definition of a floor and age of the corpse which was injured, the first stages of decomposition would be impossible. If the corpse for any reasons is disfigured or is in a condition of considerable putridity, and also at detection of bone remains for an identification use signs which reveal at research of bones of a skeleton.

More expressed and reliable gender differences can be found in cranium and pelvis bones. Such signs can be the general or group (a sex, age, growth, etc.), and also private, individualizing the personality. To make an identification, it is necessary to establish the general signs beforehand.

Sex determination. The most marked, significant sex differences at people who have reached sexual maturity, have the skull and pelvis.

Review of a pelvis bones:

- Man's pelvis
- Woman's pelvis

Review of a cranium bones:

- Man's cranium
- Woman's cranium

ADAPTATION OF FIRST-YEAR STUDENTS TO STUDY IN ASMA WHILE STUDYING THE SUBJECT "NORMAL ANATOMY"

Lukyanchenko A. - 2nd-year student

Scientific leaders - Assoc. Prof. Labzin V. I., Kostina V. V.

On entering the university the student faces a number of difficulties. The first difficulties for the student arise because of new conditions of life, of the primary socialization in the Academy, adaptation to new conditions of teaching and new academic disciplines.

To research this problem of adaptation of first-year students to training in higher educational institution and to studying one of the leading subjects «Normal anatomy» we carried out research among first-year students of medical and pediatric faculties. Its essence consisted of questioning which allowed to reveal success and difficulties of adaptation of students to training in Amurskaya State Medical Academy on the example of disciplines of chair «Normal anatomy».

The analysis of the received data allowed to conclude the following:

almost a half of first-year students proceeds successfully in the adaptation to training in higher educational institution;

the process of adaptation to training in higher educational institution in the most part of interviewed lasted almost during the first semester;

the signs of unsuccessful adaptation are: decreased working capacity , fatigue, drowsiness, headache, dominance of depressed mood, increased levels of anxiety, confusion, or, on the contrary, hyperactivity, accompanied by misconduct, systematic failure to carry out homework, missing classes, lack of motivation of educational activity.

- the majority of students showed low or moderate level of anxiety in the course of adaptation to training in Amurskaya State Medical Academy.

Concerning to a subject «Normal anatomy» students pointed out that all types of independent work carried a professional orientation, they are important, interesting and significant for the student, all tasks on a subject were always carried out by students.

IRIDODIAGNOSIS

Vakhrusheva N.,Gorte O. - the 2-nd year students
Scientific leaders - Ogorodnikova T.L.,Kostina V.V.

Eye is a peripheral part of the visual analyzer, which perform the function of photoreceptor neurons - photosensory cells of the retina. The eyeball consists of three membranes that surround the inner core of the eye. Iris is a thin diaphragm movable eyes, located behind the cornea, between the front and the back of the eye, in front of the lens. In iris there are five layers: the anterior epithelium, the outer boundary layer, vascular layer, the inner boundary layer, the pigment epithelium. In the center of the iris there is a round hole - the pupil. The iris contains a different amount of pigment, which determines its color - "the color of the eyes." As you know, some of the features of the iris are inherited from their parents, and are widely used in the diagnosis of the state of the body. By the eyes and the skin around you can learn a lot about a person. When the eyes are tired, red, dim it means such man may have problems with his health. Eyes from the earliest times of human existence are considered to be a source of information about their owner. In ancient China, the shape and size of the eye determine the state of health of the patient, its dynamics.

Iridodiagnosis is analysis of the colored part of the eye, the iris, in order to identify factors that are important for the prevention and treatment of various diseases, as well as to achieve optimal health. Iridodiagnost by various signs and characteristics of concentric and projection zones of the iris can easily identify the problems and diseases of people, establish the cause and identify the source of violations. The iris can tell exactly where the disease is localized, which organs are involved in the disease process and inform the researchers about the emotional or mental disorder of patient. Today, doctors and healers of various schools and trends, including specialists in herbal therapy, homeopathy and representatives of traditional medicine know the basis of iridodiagnosis.

MEDICOSOCIAL FEATURES OF PHYSICAL ACTIVITY OF STUDENTS IN WINTER

Chueva O.A., Medvedeva O.A. – the 2-nd year students
Scientific leaders – Cand.Med.Sc. Zinoviev S.V., Kostina V. V.

Some scientists believe that the climate of Amur region may cause the development of respiratory diseases of its inhabitants. We have developed a questionnaire because of necessity to study medicosocial causes of cold stress. The purpose of this questionnaire was to assess the socio-biological causes which determine the motor activity of the students in the winter.

In the studying of the nasal secretion of people with hypothermia, the desquamated cells of cylindrical multi-row epithelium were detected in epithelial scrapes. It leads to a significant change in the cellular profile of nasal cytogram.

We assumed that the crystallization of nasal secretion could reflect the metabolism disfunction. For example, in the case of hypothermia functions of mitochondria can be significantly disrupted.

Our information concurs with that of other authors, who has determined that the impact of low temperature decreased the quality of life.

BIOCHEMICAL BASIS OF ATHEROSCLEROSIS

Shabanov I., Ryazanova A. - the 2nd-year students
Scientific leaders – Assoc. Prof. Doroshenko G.K., Kostina V.V.

Atherosclerosis - a chronic disease of the arteries of elastic and muscular-elastic type that occurs as a result of lipid metabolism and is accompanied by the deposition of cholesterol and certain lipoprotein fractions in the intima of the vessels. Risk factors: smoking (the most dangerous factor), hyperlipoproteinemia, hypertension, diabetes, obesity.

Development of atherosclerotic lesions - a collection of the flow system in the intima and exit lipoproteins and leukocyte proliferation and cell death, education and reconstruction of intercellular substance and proliferation of blood vessels and calcification.

Diagnosis of diseases associated with atherosclerosis includes: asking of symptoms, physical examination of the patient: the signs of aging, hearing systolic murmur in focus of the aorta, and obligatory palpation of the arteries.

Treatment: there can be both medical and nonmedical methods.

METHODS OF INVESTIGATION OF THE PARANASAL SINUSES

Nadtochiy A., Shabanov I.- the 2nd-year students
Scientific leaders – Pavlova A. E., Kostina V.V.

In the diagnosis of diseases of the paranasal sinuses used an external examination. With palpation and percussion it is evaluated the consistency of tissues in the projection of the sinuses and also reveal their sickness. Rhinoscopy allows you to examine the nasal passages and nasal sinks, to determine the condition of the mucous membrane, the nature of discharge from the sinuses. Diagnostic value has a puncture of the sinuses, which are also used for therapeutic purposes. For trepanation of frontal sinus is widely practiced the method Antonyuk - through the front wall of the sinus. In some cases, it is used antroscopy - examination of the sinuses with optical instruments (antroscopes). Antroscopy of maxillary sinus is usually carried out through a hole in the lower course of the nose. Widespread, mainly in the study of the maxillary sinuses, got X-rays and especially CT, including computer.

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VITAMIN DEFICIENCY IN CHILDREN

Miroshina O. – the 1st-year student
Scientific leader - Cand.Med.Sc. Egorshina E.V., Kostina V.V.

The word "vitamins" we can hear several times a day from co-workers, doctors and many other people, we can see it on posters in the transport, on television. No doubts that the vitamins are one of the most necessary things for our health, however not everyone knows deficiency symptoms of these substances clearly. Nowadays there are more than 40 types of the vitamins and vitamin-like substances in our world that affect almost all processes in the body. The activity of hormones and enzymes depends on many of them. Moreover, vitamins are parts of very important enzymes, without which human life would be impossible. Vitamins that enter the body in very small amounts have a regulating effect on the metabolism. They practically are not synthesized in the body and that's why it is important that they will come to a human organism in sufficient quantity. And when there are lack of vitamins in the human body there can be a vitamin deficiency.

Children have more intensive exchange of substances than adults. Therefore, for the normal development kids just need good nutrition. Proteins, fats and carbohydrates provide the strong growth the child's body, but it will slow down if the child will receive less vitamins. There are three degrees of vitamin deficiency: severe (avitaminosis), medium (vitamin deficiencies) and light (subnormal security).
Vitamin deficiency is a pathological condition caused by a complete lack of the vitamin. It may be caused as the (long) insufficient intake, impaired digestion and endocrine, damage the intestinal microflora.

Signs of vitamin deficiency in children:
Baby becomes lethargic, sedentary, capricious;
Cold in the child becoming quite frequent. The healing process is delayed. The slightest runny nose smoothly passes into a cough and a fever.
Nails begin to exfoliate, hair becomes pale, and the skin becomes dry.

How to treat:
In order to prevent vitamin deficiency every person should consume enough vitamins trough food or various supplements. Foods that are particularly rich in vitamin A are: milk and dairy products; eggs; liver; fish; vegetables and fruits. Simple, affordable treatment of mild cases of a vitamin B12 deficiency is to increase your dietary intake of vitamin B12. Patient should add foods that are rich in the B12 vitamin to his daily diet, including meat such as liver, oysters, beef and salt-water fish. To prevent hypovitaminosis D children should take its analogues. Patients should have daily walks in the fresh air, because vitamin D is produced in the skin under the influence of ultraviolet radiation

THE CONTENT OF PROINFLAMMATORY AND ANTIINFLAMMATORY CYTOKINES IN UMBILICAL BLOOD OF HEALTHY NEWBORNS

Fefelov A. – the 3rd year student
Scientific leader – prof. Borodin E.A.

Cytokines - biologically active compound protein-peptide nature, produced by the cells and regulates cell-cell interactions that determine cell survival, stimulation or inhibition of their growth, differentiation, functional activity and apoptosis. Determination of cytokines in the blood helps to assess the intensity of the inflammatory process, the nature of the disease and the effectiveness of the treatment.
In our work we carried out determination of five cytokines - interleukins 1α, 6, 8, 10, and TNF-α in 57 serum samples obtained from umbilical blood of healthy newborns and 13 samples umbilical blood of newborn infants with hypoxic CNS lesions by solid-phase IFA with the use of diagnostics produced by "cytokine" (St. Petersburg), the washing device Antos Fluido 2 Microplate Washer and reader Antos 2020 (Biochrom Ltd, UK).
We determined the content of cytokines in umbilical blood of healthy newborns ranges from several to hundreds pg per ml and decreases in the sequence of IL-8 (128 ± 27 pg / ml)> IL-1α (67 ± 15 pg / ml)> IL-6 (28 ± 16 pg / ml)> TNF-α (8,4 ± 2,4 pg / ml)> IL-10 (5,9 ± 1,9 pg / ml) (table 3). From 70 samples we analyzed serum IL-8 and IL-1α determined in all samples, IL-10 - 63, IL-6 - 58 and FPN-α - only 18. Earlier in the analysis of blood serum of trauma patients we found that IL-6

was determined in most samples, and TNF-α - only 5 of 45 samples of blood serum. Thus, in healthy newborns is possible to determine steady-state concentrations determined by us interleukins and TNF-α is detected in approximately 25% of cases.
To make conclusions about the difference, or lack thereof in the content-defined cytokine levels in healthy newborns and infants with perinatal hypoxic lesions of the CNS is premature, since the latter group included only 13 people. Preliminary results suggest that perinatal hypoxia is accompanied by a decrease in blood IL-1α, increase IL-6 and does not affect blood levels of IL-8, IL-10 and TNF-α

HONORED PHYSIOTHERAPIST – A.SHCHERBAK

Orlov I. – the 4th-year student
Scientific leaders – Assoc.Prof. Reznikova S.V.

Shcherbak Alexander (1863-1934) - Soviet neurologist, psychiatrist and therapist, MD (1890), Professor (1894), for-Honored Worker of Science (1930). Born on August 30, 1863 in a noble family. Secondary education he received in the classical school at the Institute of History and Philology, which he graduated with a gold medal in 1881, in the same year he joined the Medical Faculty of the University of Kiev, and then transferred to the third course of the St. Petersburg Military Medical Academy. He completed it in 1887 with a degree of doctor with honors and was left to work in the clinic psychiatry and nervous diseases under the guidance of Professor I.P. Merzheev-sky. In 1890 he defended his thesis "On the dependence of phosphorus exchange-on by strengthening or weakening of the brain" for the degree of Doctor of Medicine. In the years 1890-93 he studied in depth neurology in Paris and Germany (in Dubois Reymond, Jean Charcot, Flechsig's). In 1893 he was elected as assistant professor of neurological diseases and professor of the Faculty of Medical University of Warsaw. Since January 1, 1894 approved the ordinate of Narnia, and in 1897 - the professor. Shcherbak organized giving to pre-clinical neurological diseases, has introduced a course of forensic psychiatry, he taught a course physiologically psychology. In 1905 he published "Clinical lectures on nerves and mental illness.". In 1911 he was forced to leave the university and moved to Sevastopol. In 1914 he took an active part in the organization of the Institute by natural methods of treatment, which he headed until his last days.

THE DIABETIC FOOT. THE WAYS OF IMPROVEMENT OF TREATMENT'S RESULTS

Golova A. – the 6th -year student
Scientific leaders – Prof. Shimko V.V., Kostina V.V.

During the last 30 years it is noted significant growing of diabetes mellitus disease, its prevalence forms 5-6 %. Each 10-15 years number of sick persons of diabetes mellitus doubles. Big social value of the disease consists in that it causes vascular complications. The syndrome of diabetic foot occurs in 80 % of diabetic patients 15-20 years after the onset of illness and in half of cases it ends by amputation of one or both legs. In this connection we conduct the complex treatment including medicinal therapy, hyperbaric oxygenation, laser influence in red and infrared spectrum of the action. The purpose of the study was an estimation of efficiency low

– intensive laser radiation and hyperbaric oxygenation (GBO), but in the same way their combination in complex treatment of the syndrome of the diabetic foot. The study is based on experience in treating of 213 patients, which were in surgical clinic of Amur State Medical Academy. All patients got the course of standard medicinal therapy, including introduction of low molecular solutions, anticoagulant, angioprotectors, disaggreants, correcting diabetes mellitus. The low – intensive laser radiation is organized to 65 patients, GBO - to 43 patients, low – intensive laser radiation in combination with GBO – to 66 patients, control group composed of 39 patients.

EFFERENT METHODS OF TREATMENT OF PATIENTS WITH SYNDROME OF THE DIABETIC FOOT

Golova A – the 6th-year student
Stientific leaders – Prof. Shimko V.V., Kostina V.V.

Purpose: to estimate efficiency of low – intensive laser radiation and hyperbaric oxygenation (GBO) and also their combination in complex treatment of the syndrome of the diabetic foot. Materials and methods: study is based on experience of the treatment of 250 patients who were in surgical clinic of Amur State Medical Academy. To all patients it was conducted the course of standard medicinal therapy, including introduction of low – molecular solution, anticoagulant, angioprotectors, disaggregants correcting the diabetes mellitus. The low- intensive laser radiation was organized to 65 sick persons, GBO – to 57 patients, combination of low-intensive laser radiation – to 67 patients conducted in combination with GBO, control group consisted of 61 patients. The low – intensive laser radiation was made by intravenous and over vascular way. For intravenous irradiation of blood it was used the home laser device “Mullato” NCLC “Technology” (Moscow), possessing monochromatic coherent radiation with wavelength 630 nm and power of the radiation on the end of light device 2,5-3 mVt. The course of the treatment was 10-15 procedures during 15-20 minutes daily. Using of low-intensive laser radiation in combination with hyperbaric oxygenation in complex treatment of the syndrome of the diabetic foot promotes the improvement of nearest and remote result improvement of the process of the healing trophic ulcer at more short periods and improvement of the factors of immune status and can be effectively used under given pathology.

ANATOMY OF THE HEART

Mihneva A. - the 1st-year student
Scientific leaders - Yaryomenko K.S., Kostina V.V.

The heart is an inner hollow muscular organ placed within the chest and included in the pericardium. The heart is a pump, consisting of four chambers: two upper chambers called atrium, and two lower chambers called ventricles. The whole blood gets through each camera by definite manner. The deoxygenated blood passes through the right heart side (vena cava superior and inferior, tricuspid valve, pulmonary artery) into the lungs, where it is enriched by oxygen and will return carbon dioxide. Newly oxygenated blood returns to left side heart (pulmonary veins, mitral valve, aorta), then pumps the blood to all parts of the body, where it loses the oxygen and returns to right heart to begin the cycle again. The four chambers of the heart are

separated by septa - interatrial, interventricular. The heart wall is composed of three layers – endocardium, myocardium, epicardium. The heart is supplied with blood through the right and left coronary arteries. As a result of this, arterial blood changes into venous one.

THE ENDOCRINE SYSTEM

Cherepenko A., Kiselko M., Labzenko S. - the 1st-year students
Scientific leaders - Yaryomenko K.S., Kostina V.V.

The endocrine system is composed of glands located in many different regions of the body, each of which release hormones.

The thyroid gland secretes thyroxine - is necessary in the body to maintain a normal level of metabolism in all body cells. The parathyroid glands secretes the parathyroid hormones is which regulates the amount of calcium in the blood in a homeostatic manner. The adrenal cortex secretes hormones, which have influence on the metabolism of organic and inorganic substances and maintain the secondary sex characteristics. The adrenal medulla secretes hormones, which regulate blood pressure, increasing heartbeat and respiration. Pancreatic hormones play a role in the proper metabolism of sugars and starches in the body. The pituitary gland secretes hormones, which stimulate and supervise other glands secretion. The ovaries produce the female sex cell, the ovum, as well as hormones which are responsible for female sex characteristics and regulation of the menstrual cycle. The testes produce the male sex cells, spermatozoa, as well as the male hormone, which promotes the growth of secondary sex characteristics in the male.

All the endocrine glands secrete their hormones directly into the bloodstream. Those glands which send their chemical substances into ducts and out of the body are called exocrine glands (sweat, mammary, mucous, salivary, and lacrimal (tear) glands).

THE PLACE OF A MAN IN NATURE

Gutchina V., Borisova K.-the 2nd year students
Scientific leaders - Zerepa L.G., Katina O.I.

All organisms are alive systems with similar features of structure and vital activity. They have one genetic code, chemical compound, molecular and cellular structure, one-typed body structure in identical organization levels. Organism constituents as cells, tissues, organs, etc totally are not the organism itself. But their compound in evolutionary-conditioned order and interaction forms the complete organism as an open system for which the environmental metabolism and the energy transformation are characteristic. A man (Homo sapiens) is related to animals as he uses ready substances for nourishment. There are disjointed segments inside of the body. As all mammalian, a person has mammary glands, hair covered skin; the cavity of the body, separated by diaphragm into the thoracic and abdominal cavities. The straight walking was the most determinant evolutional step from apes to a person according to the opinion of F. Engels. The Person is not only the biological essence, but also the social one. The human organism is the biological system that continuously interacts with the environment.

AGE CHANGES OF THE THYROID GLAND

Golov N. – the 2nd year student
Scientific leaders - Pavlova A.E., Katina O.I..

The thyroid gland is an unpaired organ consisting of two lobes connected by the isthmus. It is located in the front part of the neck, side and front of the larynx and trachea, as if encircling them. The gland has the shape of a horseshoe with the concave side facing posteriorly. It also consists of two lateral lobes different in size; the right lobe and the left one, and the unpaired isthmus of a thyroid gland connecting these lobes. The thyroid gland is a gland of internal secretion. It produces hormones thyroxin and triiodothyronine the characteristic feature of which is the content of iodine. Thyroid hormones provide mental, physical and sexual development of the child. The germ of the thyroid gland appears on the 4-th week of embryogenesis in the form of diverticulum of pharyngeal colon ventral wall between the 1st and 2nd pairs of bronchial pockets. The size of the thyroid gland in the newborn is more, than in the fetus. There is a slight decrease in the mass of the thyroid gland during the first year of life. It is up to 1,0-2,5 g. The size and the weight of the thyroid gland gradually increase (up to 10-14 g) before puberty. In the period from 20 to 60 years, the mass of a body does not substantially change, remains almost constant and is equal to 18 g on average. Some reduction in the weight and size of the body occurs in the elderly in accordance with the age atrophy. However, the thyroid gland function often remains inviolate in old age.

RADIA DIAGNOSIS OF HEART

Cherednichenko O., Labunko T. – the 2nd-year students
Scientific leaders – Pavlova A.E., Katina O.I.

At present, the most informative methods for studying the heart are CT, MRI and ultrasound. CT of the heart.

Cardiac computed tomography, or cardiac CT, is a painless test that uses an X-ray machine to take clear and detailed pictures of the heart. It's a common test for showing the problems of the heart. During a cardiac CT scan the X-ray machine moves around the patient's body in a circle and takes a picture of each part of the heart. Cardiac CT is a specific type of computed tomography.

As an X-ray machine is used, the cardiac CT scans involve radiation. However, the amount of radiation used is small. This test gives out a radiation dose similar to the amount of radiation that a person is naturally exposed to over 3 years. There is a very small chance that cardiac CT will cause cancer.

Each picture that the machine takes shows a small slice of the heart. A computer puts the pictures together to make a large picture of the whole heart. Sometimes an iodine-based dye is injected into one of the veins during the scan to help to highlight blood vessels and arteries on the X-ray images.

Statements:

Functional and organic disorders of the heart and heart valves.
Problems with the aorta (aneurysms).
Blood clots in the lungs.
Pericardial disease.

MRI of the heart

Magnetic resonance imaging (MRI) is a safe, noninvasive test that creates the detailed images of organs and tissues. "Noninvasive" means that no surgery is done and no instruments are inserted into the body.

MRI uses radio waves and magnets to create images of organs and tissues. Unlike computed tomography scans (also called CT scans) or conventional X-rays, MRI imaging doesn't use ionizing radiation or carry any risk of causing cancer. Doctors use cardiac MRI to get images of the beating heart and to look at the structure and function of the heart. These images can help them to decide how to treat patients with heart problems better.

Statements:

Coronary artery disease
Damage caused by a heart attack
Heart failure
Heart valves problems
Congenital heart defects
Pericardial disease (a disease that affects the tissues around the heart)
Cardiac tumors

Cardiac MRI images can help to explain results from other tests, such as X-ray and CT scans. Cardiac MRI is sometimes used to avoid the need for other tests that use radiation (such as X-rays), invasive procedures, and dyes containing iodine (these dyes may be harmful to people who have kidney problems).
Sometimes during cardiac MRI a special dye is injected into a vein to help to highlight the heart or blood vessels on the images. Unlike the case with X-rays, the special dyes used for MRI don't contain iodine, so they don't present a risk to people who are allergic to iodine or have kidney problems.

Ultrasound of the heart

A method of ULTRASONIC diagnostics for the study of functional and structural changes of the heart and valvular apparatus is called echocardiography. Ultrasound equipment is of such a resolution that the doctor not only assesses the work of the heart and its structures in real-time, but may, taking advantage of computer processing, calculate the sizes of the hearts, find the speed of the movement of blood through the vessels and the pressure in heart cavities. Diagnostics of the heart with the use of color Doppler mapping allows to define the spatial orientation of flows.

Statements for ultrasound of the heart:

• Any noise in the heart
• Suspicion of heart disease (congenital or acquired)
• The results of the ECG evidence of changes in the heart
• High blood pressure
• Myocardial infarction
• Suspicion of an aneurysm of the aorta
• Suspicion of a heart tumor

Echocardiography is not recommended in deformation of the chest or allergies and inflammation of the skin left of the sternum. There are no contraindications for diagnostic.

ROLE OF PALMITIC ACID IN THE PATHOLOGICALS PROCESSES

Golov N., Labunko T. – the 2nd year students
Scientific leaders - Assoc.Prof. Doroshenko G.K., Katina O.I.

Palmitic acid (hexadecanoic acid) is the most common in nature unibasilar saturated carbonic acid (a fatty acid). Palmitic acid is included in the composition of the glycerides of the majority of animal fats and vegetable oils, as well as in the composition of some of wax. The palm oil is mostly saturated with palmitic acid. Palmitic acid is used in the production of stearin, detergents, cosmetics, lubricants, plasticizers, as well as medicinal flavouring agent for food products. Saturated fatty acids with long-and medium-carbon chain are included in the lipoprotein structure, circulate in the blood, are stored in the fat depot and are used for the synthesis of other lipid compounds in the body such as cholesterol. In the endothelial cells the palmitic acid can activate NADPH dependent oxidase and enhance the formation of active forms of oxygen. The cause of insulin resistance is the increase in blood plasma the palmitic acid and the strengthening of passive absorption of it in the form of free fatty acids. The palmitic acid has pathological effect on myofibrils of cardiomyocytes. The surplus of palmitic acid in food is the cause of hypercholesterolemia, a syndrome of an inflammation. Hypercholesterolemia is the increase of cholesterol level in the blood. That safe phenomenon, at first glance, may be the cause of such diseases as atherosclerosis, ischemic heart disease, diabetes, gallstone disease and obesity. The normalization of biological function of exotrophy is the method of preventing the atherosclerosis. The less palmitic acid is in the food and the higher the concentration of essential polyenic fatty acids, the lower is the level of alcohol, cholesterol and triglycerides in the blood.

PSYCHOLOGICAL CHARACTERISTICS OF PERSONALITY IN ESTIMATION OF LIFE QUALITY IN PATIENTS

Student - Sharifova Z.N., Burmistrova A.A - clinical ordinator
Supervisors: Prof. Yanovoi V.V., ass. Anikin S.V., ass. Katina O.I.

Nowadays it is an accepted fact that the estimation of disease severity and choice of therapies should be based not only on physical health outcomes, but also on criteria of life quality. In the literature there are many papers covered different aspects life quality of surgical patients.

Various aspects of the patient psychology in the last decade have taken on particular actuality. But sometimes the attention of a specialist focuses on the manifestations of a disease, and response characteristics of the whole organism and its manifold ¬ evaluated the patient's personality is not enough researched. In this regard, it is emphasized the usefulness of an integrated approach, as when considering the life quality of surgical patients we have revealed the possibility of significant differences in the results of subjective and objective methods.

Purpose: To research the influence of psychological characteristics of individual patients to their personal estimation of life quality.Materials and Methods: We observed 30 patients in the Department of Coloproctology.

To determine a person's psychological characteristics we chose Shmishek's

questionnaire to define the accentuation of a character, a study assessing the quality of life was carried out using the SF-36 questionnaire, and VI Pomazkin's questionnaire (2010).

Conclusions:

1. Accentuation of character significantly influents the patient's estimation of their life quality that must be considered in the researches.
2. From the character accentuations, the highest level of estimations of life quality was observed in hyperthymia (55.25%), to a lesser extent in exalted type (48.25%), much less a pedantic (39.5%) and the lowest level was detected at getting stuck type (36.87%). In patients without accentuation of character, the average estimation of life quality was the highest (63.7%).
3. This trend, in our opinion, is determined by the ability to adapt which in a different degree and the ratio of inherent designated to characterological types. Patients without accentuation of character, in turn, have higher adaptive capacity, due to lack of sharp character traits reduced the flexibility and koplaentity of personality.

CANCER

Makarova A. – the 2nd-year student
Scientific leaders – Assoc.Prof. Semenov D.A., Katina O.I.

Cancer is a general sign of a big group of maladies that can affect any area of the body. Cancerous cells are the cells of the organism that begin to divide chaotically and uncontrolled.

There are a lot of causes for the germination of the cancerous cells in the organism: from radiation to the heredity. Cancer can be in the middle age, young age and even in the infant.

Cancer is considered to develop from a single cell or small group of cells after the changes in their DNA, genetic material that instructs the cells behavior.

Cancerous cells are dangerous in different ways. They can block normal cells of nutrients and place for growth; they can form the mass of the cells, the tumor, that can penetrate and destroy normal tissue; they can metastasize to different parts of the body by blood vessels and lymph tubes. Cancerous cells can move in the organism with the flow of blood or lymph, they can penetrate any organs and tissues. Not any form of cancer or other oncological maladies are infectious!

Cancer is the group of maladies that can be followed by any signs and symptoms. The signs and the symptoms depend on the size of the tumor the locus of the cancer and on how much the circumflex organs and structures are involved in the process. In case of the cancer metastasis the symptoms can appear in different parts of the organism. As the tumor grows it begins to squeeze the nearest organs, blood vessels and nerves.

In some cases cancer can be exposed before the symptoms appear. It can be realized in special examination of people without any symptoms of cancer. Though it doesn't mean that one must hide the appeared symptoms from a doctor.

In conclusion it must be admitted, that the cancer prevention is the first task of public health specialists. However, the individual prevention is very important too. You must pay more attention to your health and the health of your family. If the

suspicious symptoms appear, you must apply to a doctor without delay to avoid advanced forms of malignant tumors.

And even if the cancerous disease was already diagnosed, you should not fall into despair. You'll be able to increase the defense forces of the organism to resist the danger and overcome the illness joining the efforts with medical specialists, modern ways of treatment, reasonable lifestyle and your own will.

PROCESS OF LIVER NECROSIS

Berstenjova N. – the 2nd year student
Scientific leaders - Ogorodnikova T.L., Katina O.I.

Liver is the largest of digestive glands. It carries out the major functions in the organism, such as neutralization of various alien substances, participates in digestion processes, synthesizes hormones and enzymes, etc. The hepatic segment is structurally functional unit of a liver. The main structural components of a hepatic segment are: the hepatic plates (radial ranks of hepatocytes); intralobular sinusoid hemocapillaries (between hepatic beams); bilious capillaries in hepatic beams between two layers of hepatocytes; cholangioles (expansions of bilious capillaries at their exit from a segment); Disse's perisinusoid space (fissural space between hepatic beams and sinusoid hemocapillaries); the central vein (it is formed by merge of intralobular sinusoid hemocapillaries). Necroses cause certain changes in the liver. The most important of them are the collapse of hepatic segments, diffusive formation of fibrous septs and the emergence of regeneration nodes. The fibrosis develops after a necrosis hepatocytes. The focal fibrosis develops after the focal necrosis. The regeneration nodes that break normal architectonics of a liver and lead to cirrhosis development are formed in the areas of cellular death. Sinusoids remain on the periphery of regeneration nodes in the field of portocentral septs. Blood suppy from a portal vein, functioning the hepatic tissues in particular the central part of nodes, is violated. It can promote the cirrhosis progressing even after the elimination of its reason. In Disse's space pathological collagenic matrix is formed. It interferes the normal metabolism between blood of sinusoids and hepatocytes. In norm connective liver matrix contains collagen type IV, laminin, heparansulfat, proteoglycan and fibronectin. All of them are in a basals membrane. The injury of a liver involves the increase of extracellular matrix. Stellate hepatic cell is the major participant of fibrogenesis. It is in Disse's space between endothelial cells and a hepatocytes surface, turned to a sinusoid. The injury of a liver activates the stellate cells. They proliferate anf increase, the drops of fat containing retinoids disappear out of them, the rough endoplasmic network increases, a specific protein of smooth muscles α-actin appears. The quantity of receptors to cytokines, stimulating a proliferation and fibrogenesis increases. After the injury of a liver the great value is got by early changes of matrix fibrills in Disse's space - adjournment of collagen of types I, III and V of which fibrills consist, and fibronectins. Sinusoids turn into capillaries ("capillarisation"), fenesters of endothelium dissappear so that a metabolism between hepatocytes and blood breaks. The progressing of fibrosis breaks the architectonics of a liver and causes the development of cirrhosis and portal hypertensia. Besides the participation in fibrogenesis, cytokines also carry out many other functions. Such

pro-inflammatory cytokines, as FNO-a, SILT-1 and SILT-6 are formed in a liver, generally in Kupffer's cells. Besides, cytokines of blood are inactivated in a liver that weakens their systemic action. Probably, the violation of this inactivation at cirrhosis serves as the reason of some immune violations observed

INDIVIDUAL AND AGE VERIABILITY OF THE LINE IN THE EPITHELIAL JUNCTION OF ESOPHAGEAL-GASTRIC SECTION

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Scientific leaders - Assoc. Prof. Seliverstov S.S., Katina O.I.

The individual and age variability of a form and an arrangement of the line of an epithelial junction of esophageal and gastric transition (EGT), was investigated on 300 complex preparations of a gullet with a stomach from 6 months fetuses till 88 years old persons by the graphic coping methods. It is established that five options of a gullet epithelial arrangement in the Z-line area are put and remain in a deficient condition at 6-months fetuses. The epithelial displacement (to 22,0 mm) on a greater curvature of the stomach is noted at the age of 36-60 years in the first option (38 %). In the second one (24 %):a gullet epithelium displacement to 21,0 mm on smaller curvature of the stomach is marked. The third option is that (14 %)-the gullet epithelium is on the level of the superior edge of the cardiac opening of the stomach.

The fourth option (19,4 %)-non –uniform displacement of a gullet epithelium concerning the superior edge of the cardiac opening of the stomach. The fifth option (4,6%)-deep uvular displacements of the gullet epithelium towards the stomach with simultaneous displacement of the stomach epithelium in the gullet (to 15,0 mm) above the cardiac opening.

The form of an EGT epithelial junction is subjected to the expressed individual variability.

The deep gullet epithelium displacement towards the stomach to 16,1 % from its total length ix noted in 6-9 months fetuses. In the adult (36-60 years) the gullet epithelium displacement towards the stomach makes 9,1 % of its length. The age changes of epithelial junction of EGT form reflect functional and hystogenetic processes of an alimentary tract.

BIOLOGICAL IMPORTANCE OF WATER

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Scientific leaders - Etmanova L.Y., Katina O.I.

Water is known as a good solvent - it dissolves many substances. The uniqueness of water is that it is fairly good solvent for both organic and inorganic substances, providing the speed of chemical reactions and at the same time - enough difficulty of forming complex compounds. Due to hydrogen bonding, the water remains liquid over a wide temperature range, and exactly in that one that is widely represented on the Earth at this time. In addition, water is the physical and chemical environment which allows to implement most of metabolic reactions, providing a continuous process of destruction and restoration of living tissues. Thus, water is the main biological fluid. It not only the inert environment, it can also react with other elements of living matter. It is necessary to emphasize its importance in the biologi-

cal cycle. At the same time water plays a role in the temperature regulation due to the ability to slow heating and slow cooling of the body and is needed for irrigation of its tissues. Water from mammals sweat, cools the body. The human body contains from 55% to 78% of water, depending on the weight and age. The loss of more than 10% of water by the human body can lead to death. Adult should drink at about 2.5 liters of water per day. Over sixty years of life a person drinks a full tank of fresh water (50 tons). To drink fresh water is very harmful because it causes the lixiviation of calcium from the body, and especially the children one.

The receipt of most substances into the cell and removing them from the cells occurs mainly in the form of solutions. The isolation of soluble metabolites from the body is possible only when water is sufficient. The thirst is a natural need. It is stimulated by the growth of the osmotic pressure within the body. This is the so-called "tissue hunger" that can not be staked by moistening the mucous membrane of the mouth. This need can be met only by introducing a liquid into the body. Up to 10 liters of water get through the alimentary canal during a day and are absorbed by the mucosa. Only 2.5 liters of this amount of liquid flows from the outside, and the rest of it is distributed in the following proportions: 1.5 liters of saliva, the same quantity of gastric juice, three liters of intestinal juice, 0.7 liters of pancreatic juice and half a liter of bile. There is the so-called labyrinth in the ear filled with fluid. When in motion it regulates the balance of the body. Drinking center in the body is the command post that charges the water balance of the human body. It monitors and controls the continuous exchange of water between the organs. On average up to 2.5 liters of water excrete from the human body a day. In order to maintain the water balance one should take the same amount of water. From this the great importance that water has for all living beings is obvious. Without water people will cease to exist. Water is life.

INFLUEENCE OF SOMATOTROPHIC HORMONE ON DIFFERENT AGE GROUPS

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Scientific leaders - Pavlova A.E., Katina O.I.

Somatotrophic hormone is one the key regulators of metabolism functioning in different organs, tissues and system throughout the life. This hormone is produced impulsively. Though pulse amplitude and frequency is maximal at puberty and they gradually decrease with age. The secretion of somatotrophic hormone is inversely proportional to body weight and body fat, and is directly proportional to osteogenic activity and concentration of testosterone. The activity of adenohypophysis somatotrophi is controlled by two hypothalamic neurohormones of hypothalamus:GH- releasing hormone and somatostatin. In addition, the secretion of somatotrophic hormone is affected by other exogenous and endogenous factors.

STH exudes continuously throughout the life of the organism. Its release is stimulated by somatotrophinreleased factor and is inhibited by somatostatin products of the hypothalamus neurosecretion.

In young children the changes arising from the lack of growth hormone manifest in severe growth retardation. Thus a man is a dwarf (pituitary dwarfism) for the

whole life the constitution of these people is about proportion, but the hands and feet are small, fingers are thin, skeletal ossification is delayed, sexual organs are underdeveloped, secondary sexual characteristics are underdeveloped, the hair are soft and silky as in children. Such people can not sustain infectious and other diseases. They often die young.

GH deficiency in adults is shown in series of violations of the physical and mental condition. The frequency of GH deficiency in adults has not been established.

When excessive production of growth hormone in children gigantism develops: the growth of a man can reach 240-250 cm and weight-150 kg or more. If the overproduction of growth hormone occurs in the adult, the growth of the body does not increase in whole as it has been completed, but the size of the body parts that still retain the ability to grow increases: the fingers and toes, hands and feet, nose, lower jaw, language, parts of the thoracic and abdominal cavities. This condition is called acromegaly. As in the pituitary giants, so as in patients with acromegaly the impaired function of the endocrine glands, regulated by hormones of the anterior pituitary, for example the lack of endocrine function of the gonads is obcerved. In acromegaly the insufficiency of insular pancreas tissue that leads to dicbetes is also noted.

NEW TECHNOLOGIES IN ASSESMENT OF HEALTH OF GIRLS OF BLAGOVESCHENSK

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Scientific leaders – ass. K.A. Arutyuanyan

ACTUAL REASON: The concern of the condition of health of pupils has been arisen for the last years. The school study aimed at getting more information and theoretical knowledge leads at intensification of study process and influence on the condition of health. The lack of system physical culture activities, low level of knowledge of health style of life.And culture, bad environmental situation enable worsening of health condition of children.Besides, children have constant psychological stress during the period of study which also make negative influence on the health condition

THE AIM OF THE WORK.To learn the health condition using new technologies during medical tests

MATERIALS AND METHODS.The study of health condition was conducted in Blagoveschensk with 284 girls, 11-12 years old, using computer system AKDO (auto complex of dispanser research) The data received were processed by STATISTIKA 6.0

RESULTS It is revealed that the indicators of physical condition which are the integral evidence of the assessment of health condition of children, pupils of Blagoveschensk, 11-12 years old are not differentiated from data of assessment of centil tables of the physical condition of children.The average weight of girls was 42,8± 9,1 kg, height was $153,7_{cm.}$ Circuite of breath – 70,4± 7,3 cm. Mesosomatype was determinated with 57% of girls.Macrosomatype- with 27%, microsomatype – with 16%, that testify the fact of disharmonic development practically of half of children. 6% of children had abstemious disharmonic development.In a group of children (11%) with signified disharmonic development it correspondented with the lack

of weight (10%), narrow chest (6%), lack of height and excess of weight , excess of height and lack of weight (4%). Getting girls with pronounced disharmonious development in 11% it was combined with an underweight, 10% - with a relatively narrow chest, 6% - a growth deficiency and excess body weight in 6% - with an excess of growth and 4% - with excess growth and underweight. Analysing the reproductive health of girls, noted that 70% of them sexual development corresponds to the calendar age, at 27% - are lagging behind and in 3% - advance calendar dates. In general, physical and sexual development of girls 11-12 years corresponds to their age by conventional standards (respectively 57% and 70% girls), because of puberty development.

Of the 284 girls in 274 (96%) identified one or other pathology, 6 girls (2,5%) belonged to a group at risk of developing cardiovascular disease and only 4 girls (1,5%) had not found any disease. Pathology and 1 disease had 66 girls (23%), and 2 disease - 82 (29%), 3 or more - 126 (45%), and almost half surveyed have expressed multiple organ pathologies. The structure of the pathology: the I-site - diseases of the locomotor apparatus, II - cardiovascular disease, at III - diseases of view on IV - diseases of the digestive system, the V-site - diseases of the nervous and endocrine systems. By point system to assess the health of the child based on AKDO rank are preserved almost in the same way: I place - diseases of musculoskeletal system (389,8), II - cardio-vascular pathology (217,2), III - diseases of the digestive system (184,1), IV place - diseases of eye (179,9), and endocrine pathology (172,1), the V spot diseases of the nervous system (166,1).Conclusion: Thus, the use of a computer system AKDO for preventive examinations can comprehensively assess the health status of children with separation of the most important pathology that can be used to develop individual and group rehabilitation activities.

SEXUAL GLANDS

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Scientific leaders - Mozhaev S.I, Katina O.I

Sexual glands (gonads) are the glands that provide the reproduction of the posterity and have a wide spectrum of biological effects on the body. It influence on the maturation of the body, form the appearance of a man, his physiological and psychological characteristics.

Ovaries - are paired female genital glands. There are settled in the peritoneum and weigh 8.6 grams for everyone. The ovary consists in the stroma and the cortex that have follicles in various stages of development, and white matter. One of the follicles becomes dominant and inhibits the development of others. Then the egg develops in this follicle. When the follicle matures, it bursts and the egg migrates into the abdominal cavity - the process of the ovulation. The bursted follicle becomes the yellow body. Yellow body produces the hormone, which is called progesterone. Progesterone – is the hormone suppresses uterine‘s muscle, prevents the rejection of the ovum and prepares the breasts for lactation. The hormone is destroyed in the liver and excreted with the urine. The ovary produces the hormones – estrogens. Estrogens determine the development of woman‘s genital characteristic: the growth of the uterus, a thickening of the mucous membrane of the vagina, the development of

the ducts in the breast, the formation of a female figure and features of the skeleton. Coming from the ovaries into the blood, the hormones are transported through the body with the protein-carrier, are destroyed in the liver and are excreted with the urine. The men have estrogens too, but in the small number.

Testes (testicles) - are the male genital glands. It is a paired organ that locates in the scrotum. The testicle is suspended on the spermatic cord and is surrounded by the seven shells. The spermatic cords that locate in the testes form deferens. The male genital cells are in the wall of the tubule, it gives the development for the spermatozoon. The cycle of the maturation of the male genital cell takes at about 75 days and the maturity happens not simultaneously: in the wall of the tubule we can find hundreds of cells at different stages of the spermatogenesis. There are leyding cells in the connective tissue (the complex of this cells is the pubertal gland) that produce androgens (the male genital hormones) and the main of it is testosterone. Testosterone is responsible for the development of the secondary male genital characteristics and for the maturation of the sperms. The woman has androgens too, but in the small number.

The cholesterol is the source for the formation of the genital hormones. First it convertes into progesterone and then to androstenedione. It gives the development as to testosterone so as to estrogen. The hypophysis regulates the production of the hormones, which conforms to hypothalamus (the function of the control and coordination of the glands). They luteinizing hormone – is the main physiological regulator of androgens. Besides the fact that androgens stimulate the growth and development of the reproductive system, are responsible for the appearance of the secondary genital characteristics, genital reflexes, they also influence on many biochemical processes not connected with the gender (the metabolism, the anabolic effect). Androgens also influence on the functional state of the central nervous system. Besides estrogen influence on the female genital organs, they also create changes of the metabolism, stimulate the processes of cell division and change the excitability of the central nervous system, decrease the content of the cholesterol and the lipoproteins in the blood, influence the osteoblasts and the metabolism of the calcium in the blood.

Breaks in the reproductive glands give deviation in the genital development. Thus, the genital hormones are the basic in the normal functioning of the system starting with fertilization. They determine the growth and the development, control the process of the genital differentiation, including the structures of the brain, the work of the reproductive system and the process of aging.

THE SYNDROME OF HYPERCORTICOIDISM (CUSHING SYNDROME)

Poroshin A. – the 2nd-year student
Scientific leaders – Etmanova L.Y., Katina O.I.

The syndrome of hypercorticoidism (Cushing syndrome) unites the group of the diseases at which the prolonged chronic action on the organism of an excess quantity of hormones of the adrenal cortex, independent of a reason, producing an increase in the quantity of these hormones in the blood occurs. The syndrome of hypercorticoidism is characterized by the typical manifestations:

the exchange of proteins, fats and carbohydrates is disrupted;
the disintegration of proteins is activated, an excess quantity of free fats
in the blood is formed, a quantity of glucose in the blood of patient rises. That can lead to the development of steroid diabetes mellitus.

The manifestations of Cushing disease are caused by the excessive secretion of the hormones of the adrenal cortex, first of all glucocorticoids. Different states can be the reason for Cushing's syndrome. Most frequently the syndrome of hypercorticoidism is caused by the increased production of the adrenocoritcotropic hormone of hypophysis (disease of Cushing). This hormone can be produced by the microadenoma of hypophysis or by ectopic (located not on the usual place) corticotropin. Ectopic malignant corticotropin can be located in the bronchi, the eggs and the ovaries.

The Cushing's syndrome appears with the primary defeat of the adrenal cortex (benign or malignant tumors of the adrenal cortex, hyperplasia of the adrenal cortex) seldom. The hormonal- active tumor of the adrenal cortex is called corticosterome. It produces into the blood an excess quantity of glucocorticoids. In this case due to an excess quantity of glucocorticoids in the blood a quantity of adrenocoritcotropic hormone of hypophysis is reduced and the remained tissue of the adrenal glands undergoes atrophic changes.

The syndrome of hypercorticoidism can arise during the treatment of different diseases with the aid of the hormones of the adrenal cortex (glucocorticoids), if the overdose of preparation occurs. Quite frequently the hypersecretion of hydrocortisone is observed in obesity, chronic alcoholic intoxication, pregnancy and some psychic and neurologic illnesses. This condition is called "pseudo-Cushing syndrome" or "functional hypercorticoidism" that is not caused by tumors but clinical picture is observed as with the true syndrome of Cushing.

REGENERATION OF THE MUCOUS MEMBRANE OF THE ORGANSOF ALIMENTARY TRACT

Poroshin A., Ondar S. – the 2nd year students
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Regeneration of the mucous membrane of the organs of digestive system is natural process. The senescent mucous membrane cannot renew in time, due to it atrophy and the premature aging of the organs of mucous membrane occurs. Aging of mucous membrane directly leads to the disfunctions of the digestive organs and absorption. That is the reason of absence of the necessary nutritients in the human organism that causes the primary diseases of different organs. This is the relevance of the study of this topic.

The digestive apparatus of man is the digestive tube that includes hollow organs (gullet, stomach, intestine) and large digestive glands (liver and the pancreas).

Digestive tube is divided into several sections:
The front part of digestive tube includes the oral cavity and the gullet.
The middle part of digestive tube consists of stomach, small intestine, and large one to the initial opening of the rectum.
The rectum is included into the posterior part of digestive tube.

The structure of the wall of the digestive tube is constant practically for the entire elongation. The wall of the digestive tube consists of four layers:
mucous membrane
submucous layer
muscular layer
serous shell

The mucous membrane of the alimentary is presented by different types of the incornified epithelium that lines the digestive cavities and produces great quantity of mucus protecting the walls from the self-digestion and involving the globus. Submucous layer is presented by connective tissue and contains nerves, blood and lymphatic vessels, glands. The muscular layer of the digestive tube is longitudinal and annular muscles. Contacting they contribute to mixing food and to its move along the digestive tract. The serous membrane, which consists of friable fibrous connective tissue, is the last layer of the digestive tube. The mucous membrane has the greatest regenerative ability of all layers of the digestive tube. In the clinical practice the need for acting on the processes of the regeneration of the organs of the gastrointestinal tract appears frequently. In recent years in connection with the successes of molecular biology ideas about the mechanisms of the regulation of reparative processes substantially changed. The influence on these processes requires careful approach and a fundamental understanding of basic regularities. One should realize that the exarticulation of the separate components of these processes and actions of regulator factors has the conditional nature, as they are tightly connected and interlaced between themselves in the organism. After the acquaintance with the contemporary views on general orders of the regenerative processes we specificate them according to the mucous membrane of GIT.

The regeneration is the process of reduction of the destroyed or lost tissues, organs and separate parts of the body of the living beings. In the multicellular organism the process of a constant renovation of cells of different tissues is called physiological regeneration. The biological sense of the regeneration process in multicellular organism consists in the restoration of the structure, capable to carry the specialized function. It is reached either by the restoration of the cellular mass of the organ due to hyperplasia of cells (cellular type of regeneration), or by the method of hyperplasia of cellular ultrastructures (intracellular type of regeneration). In reparative regeneration during the restoration of the cells, damaged by pathologic process, the additional mechanisms, facilitating the acceleration of cellular renovation, are included. The reparative regeneration can be complete (restitution), during the substitution of defect by the tissue identical to the previouse one, and incomplete (substitution), when the defect of tissue is replaced by the other one with the lower level of organization, for example by scar. If there is a distortion of the regenerative process in the form of the either excessive or insufficient formation of the regenerating tissue, for example the keloid formation, or the transformation of one form of tissue to another one metaplasia in the course of reparative regeneration, then they speak about the pathologic regeneration. The basic components of regenerative process are: cellular proliferation and differentiation, the migration of cells, and also the restructuring of stroma and angiogenesis.

THE ANALYSIS OF THE COURSE OF EXTRA - HOSPITAL PNEUMONIAS WITH CHILDREN BASED ON DATA OF CHILDREN STATE CLINICAL HOSPITAL (CSCH)

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Scientific leaders – ass. YutkinaO.S.

Actual reason: Extra-hospital pneumonias stand on the first place between complications of acute virus infections with children has the necessity for hospitalization, high mortality and the social importance.

The purpose of work: the analysis of the clinical course of the non - hospital pneumonias and estimation of adaptive reactions of organism of children.

Objects and methods: clinical - anamnestic, radiographic, gematological data of 199 children visiting shools and kindergartens, treated at CSCH were analysed in autumn 2009.

Results: Clinical course of pneumonias wasanalysed with children aged 1-17 years old. (66%).In the age till 3 years old (11%), 4-12 years old (22%). 7-17 years old (66%). 'Links with Acute respiratory virus infection (ARVI) were revealed with 61% of children, with overcooling- 19%. The period of stay in the hospital was 10 days average. The main complans were coughanf fever. Damp cough from the first day was observed at 68%of children. Rise of the temperature of the body was indicated with all patients.

Duration of fever with 49% of children was 4-7 days.Auscultative changes in lungs: the weakened breath was indicated with 69 % of children, the rest of children had rigid with small-bubbling rattles shortening of percurative sound was detected with insignificant part of patient .

Radiographically pneumonia was confirmed with all patients. The process had more often unilateral character. 83%) and the left and the right lungs were deseasedaccordinly 48% and 52%. According to morphological form the most pneumonias were segmentary (68,4%), among them polymentary cases were revealed with 6 %. Focal pneisesisumonias were revealed with 24.6% of children, partial – with 7%. On pictures infiltration of lung fabric was light and average intensity. It was accompanied by strengthening vascular picture. Complications of lung- pleural character (pleurisies, atelactases) were developed with 5 % of children. In gemmogramm – 73%.

Adaptable reactions of organism of children were studied in the beginning of disease of pneumonia , at the moment of leaving the hospital and depending on age using the data of leucitogramm (percentage of limphocytes in leukocitar formula. (L.H Garkavi, 1998)

On entering the hospital stressor reactions (stress, training, overactivation was observed with 2/3 of children (64%), 1/3 of children (36%) – activational reactions the calm activation, increased activation), half of the patients had reactions with lowered reactance.On leaving the hospital activation reactions increased 1,2 times (44%), frequency of stress reactions lowered till 56%, half of the children kept low adaptive opportunities, 1/2 children had low adaptive opportunities and 2/3 of children keeping in dynamics till 1 month , so the correct therapy was demanded.

Thus, for the course of pneumonias in the period of epidemiological situation in Amur region non acute course is tipical, mainly without phenomena of taxicosis, with small amount of complications, with prevalence of unilateral, segmentary form. Nevertheless one of pathogenetic features of the course of date extra - hospital pneumonias is decrease of adaptive opportunities of child organism. It was testified by high frequency of stress reactions and lowered reactance, kept long time after clinical recovery and demanding correct therapies.

UKHTOMSKIY' TEACHING ON DOMINANT

Dashieva D, Kovalenko D - the 2nd year students
Scientific leaders – Prof. Cherbicova G.E., Katina O.I.

Dominant is more or less steady focus of hypererethism of the centers, where with it was caused. Again coming to the excitation center signals serve for excitement of strengthening in the focus whereas in other central nervous system the inhibition phenomena are widely poured. The principle of a dominant is a mechanism of a brain work thanks to which the unique center of excitement dominates in it. And all other excitement are not only taken by a brain into consideration, not considered and not realized in behavior, but inhibited and reoriented. Transferring the excitement to the dominating center, they accelerate the work of the main focus of excitement in a brain and strengthen it. Phases of a dominant development:

First phase: the dominant that has appeared in an organism under the influence of internal secretion and reflex influences involves in itself as occasions to excitement the most different receptions. A stage of strengthening of a cash dominant on a superiority. Second phase: from a set of operating receptions the dominant catches the group of receptions that is especially biologically interesting to it. It is a stage of development of an adequate irritant for this dominant and subject allocation of this complex of irritants from the environment. Third phase: between a dominant (internal state) and this receptive content (a complex of irritants) a strong adequate connection is established.

Properties of a dominant

1. Hypererethism and lability;
2. Ability to summation of excitations;
3. Persistence of excitement in the dominant center;
4. Ability to support in itself the excitement at the expense of the impulses coming to other centers;
5. Ability to inhibit the other centers.

The external expression of a dominant is permanently supported work or a working pose of an organism.

Normal role of the center in an organism

In normal activity of the central nervous system the current tasks in the changing environment cause in it the variables or - "predominating excitement centers". They distract themselves the emerging waves of excitation and inhibit other central mechanisms so diversify the work of centers.

Ways of a dominant permission:

1. Permission by achievement of the purpose

2. Transverse of the necessary actions to automatism
3. Inhibition of a former dominant by a new one
4. Block inhibition in "forehead"

THE INTERESTING FACTS ABOUT THE HEART

Murashko S, Yakushova O – the 1st year students
Scientific leaders - Pavlova A.E., Katina O.I.

Heart is the fibrous and muscular organ providing a flow of blood on through the blood vessels. Human heart at the small sizes plays one of the main roles in an organism. Very few people reflected on heart possibilities, and after all it can a lot of things. There is a set of interesting factors.

On average the heart of the adult person beats 72 times a minute, 100,000 times a day, 3600000 times a year, and about 2,5 billion times for the whole life. The oxygenated blood passes through the aorta with the speed of 1,6 km/h. When the blood reaches the capillaries, the speed decreases to 109cm/h. Heart approximately weighs 310 grams, but being small in size it pumps over 7600 liters of blood a day! Heart has its own electric impulse therefore it can contract out of a human body, under a certain conditions. The addiction of drugs is harmful for the person; cocaine strongly influences the electric activity of the heart and causes a spasm of arteries. It can lead to the heart attack and death even of absolutely healthy person.

There are many interesting facts about the heart. We should treat this organ more attentively, as many people suffer from heart troubles.

CARDIOVASCULAR SYSTEM. ACQUIRED HEART DISEASE: MITRAL STENOSIS

Melnikova V., Koroteeva V. - the 2nd year students
Scientific leaders – Kozlova V.S., Katina O.I.

The anatomist, physician W. Harvey, developed and described an idea of the blood circulation in a closed system of tubes, i.e. circulation. Based on the concept of circulation, as well as on morphological an functional characterization of the heart, as the main motor for the movement of blood through the vessels, he noted the functional importance of cardio - vascular system in relation to the vital activity of all the organs and systems of the body. The functions of cardio - vascular system: 1) trophic (nutrient supply of the cells), 2) breathing (oxygen supply), 3) excretory (excision of metabolic products from the tissues), 4) integration (the union of all the tissues and organs), 5) involved in inflammatory and immune reactions 6) regulation of organ functions through: a) a change in the blood supply, b) the transfer of hormones, growth factors, and c) the development of biologically active substances.

The heart (Latin «cor») - a hollow muscular organ that due to a rhythmic contractions provides the circulation of blood in the vascular system. The structure of the wall of the heart consists of three membranes: 1) internal - endocardium, 2) middle-the myocardium, and 3) external - epicardium. Endocardium is lined with endothelium, that is located under the subendothelial connective tissue layer (endocardium connects with infarction). The musculo-elastic layer is deeper. Myocardium is the thickest layer of the heart wall that is composed of cardiomyocytes. There is connec-

tive tissue containing blood vessels and nerves between the fibers. Epicardium is covered with mesothelium under, which is a loose fibrous connective tissue containing blood vessels and nerves. There may be a considerable amount of a fat tissue. Epicardium is the visceral pericardium sheet. Parietal leaf also has the structure of the serous membrane, facing the visceral layer of mesothelium.

There is conducting system of the heart between the endocardium and myocardium. It consists of two parts: sinoatrial and atrioventricular.The sinoatrial node (Flack's node), three beams of fast inter-node connecting the sinoatrial node and the atrioventricular interatrial, bundle of quick implementation connecting the sinoatrial node to the left atrium are included to the sinoatrial part. Atrioventricular part consists of the atrioventricular node (node Aschoff-Tawara), His bundle (includes the common trunk and three branches: the left anterior, left posterior and right) and the conducting Purkinje fibers.

Mitral stenosis is frequent acquired heart disease. The narrowing of the mitral orifice is an obstacle to the expulsion of blood from the left atrium. Complications of mitral stenosis are due to: 1) the stagnation of blood in the pulmonary circulation, and 2) dilatation of the heart. In moderate stenosis, and a rare rheumatic fever patients can keep the working capacity for a long time. Progressive mitral stenosis leads to circulatory problems. High pulmonary hypertension, thromboembolism,and atrial fibrillation exacerbate circulatory disorders. In these conditions the forecast deteriorates, working reduces significantly ability up to a total loss.

In compiling profiles of heart disease in the elderly, there is a tendency to an increase in cardiac disease every year. The main reasons are: 40 elderly men and women believe that their heart disease is related to the Great Patriotic War, some of them took part in the hostilities, the other were on the labor front: 10 men worked as miners and were retired early because of heart disease; stress, existing nowadays: the environment, the military action in Chechnya, drug and alcohol addiction, financial distress, family problems, and genetic inheritance.

LIFESTYLE AND REPRODUCTIVE SYSTEMS MODERN TEEN AGE GIRLS

Terechova N. – the 5-th year student
Scientific leaders – ass. Kholodak L.G.

Relevance. Adolescent health is a sensitive indicator of changes in the environment and society. Nowdays, the socio-economic and environmental problems the study of adolescent health is given special significance (Frolova O.V. et al., 2005).

Objective: To examine attitudes to health and healthy lifestyles, to examine reproductive aims and characteristics of sexual behavior among adolescent girls city of Blagoveshchensk.

Materials and methods.

The sociological study of adolescent girls aged 14 to 18 years, schools, colleges and universities of Blagoveshchensk, aimed at clarifying the systemic diseases, bad habits, views on family life, sexuality and reproductive systems. The study was conducted based on a questionnaire, which included: age, chronic diseases, bad habits, views on family relationships and reproductive plants, interviewed the girls.

Results. In questioning 46 girls were attended. Average age - 16,19 ± 0,17 years old. The share of school girls was 54.3%, students of technical schools - 34,8%, university students - 10,9%. In the analysis of somatic pathology found that 16 (34,8%) of respondents have a chronic illness. Bad habits were observed in 18 (39,1%) of adolescent girls. Sexual relations before marriage were considered valid 65,2% of respondents. 34.8% of girls did not give the positive answer. The mean age for beginning sexual relations, all respondents identified the age of 18 years (mean 16,4 ± 0,56 years). At the same, sexuality live 19 (41,3%) girls (average age of sexual debut, 15,26 ± 0,29 years). When asked about the number of sexual partners received a reply from 1 to 5 (an average of 2,2 ± 0,69) at the age of 16 to 28 years. Availability of contraception (mostly mechanical) was detected in 14 (73,7%) of 19 sexually active young women.

Regularly visiting a gynecologist 76,1% of respondents occasionally - 10,9%. To the question: "Would you like in the future to create your own family?" The results were the following: Responded positively - 84.8%, difficult to answer - 6,5%, replied in the negative - 8,7%. The main purpose of the family 93.5% of adolescent girls stressed the birth and upbringing of the child, the prospect of being close to a loved one supported - 30,4%. Theirs attitude toward unregistered marriages the girl identified as follows: positive - 4,3%, negatively - 17,4%, 78,3% of respondents answered that they do not care. To the question: "At what age you would like to have a baby?"

Found that the average patient's plan the birth of a child under age 22,8 ± 0,51. In the matter of the number of planned children girls were as follows: 23,9% - one child, two - 47,8%, three - 19,6%, four or more - 8,7%. Pregnancy history, which ended in therapeutic abortion, said 6,5% responded girls.

Conclusion. Thus, one-fifth of women polled had bad habits (smoking, alcohol). Most patients are loyal to the admissibility of sexual relations before marriage and do not see anything wrong with civil marriage. Early sexual debut, an active sex life, promiscuity, neglect of reliable methods of contraception - a portrait of modern teenage girls. In our view must now be strengthening the family population policy, the active participation of government in matters of health prevention programs and the creation of gender.

MORPHINI

Timofeeva Y.E. — 3rd year student
Scientific leader: ass.Lee O.

Morphine in XX century was the most commonly abused analgesic in the world, which ultimately led to the so-called morphinism or morphine addiction. This has led to the technique of morphine by subcutaneous injection. At the beginning of XX century, many doctors became a morphine addict, the soldiers and officers returning from the war, turned morphine half the time, Mikhail Bulgakov, a time was a morphine addict, to the number of victims of morphine include Vladimir Vysotsky. Morphine is derived from opium, which is solidified latex derived from the opium poppy heads cuts - Papaver somniferum. The important thing for the analgesic effect

of morphine is. The mechanism of action is not fully elucidated. Nevertheless, there is every reason to believe that it is made up of the following components: 1) the inhibition process interneural transmission of pain impulses in the central part of the afferent paths and 2) violation of a subjective evaluation of the emotional perception of pain and reaction to it. One of the typical manifestations of the psychotropic effect of morphine - it causes a state of euphoria, which is in high spirits, feeling of peace of mind, a positive perception of the situation and prospects in life, regardless of the reality. Particularly pronounced euphoria with repeated use of morphine. It is this ability of the drug and is a substrate of morphinism that plays a significant negative role in the use of morphine in medicine. Morphine has found application in persistent pain associated with injuries, surgeries, myocardial infarction, malignant tumors, with premedication before surgery as antitussive, X-ray examination of the stomach, duodenum and gall bladder. Of the side effects can be nausea, vomiting, bradycardia, and other drugs should be caution in patients with respiratory failure with impaired liver function. They are contraindicated for children under 3 years of age and in the elderly, due to inhibitory action on the respiratory center. The most unfortunate side effect of morphine - the development of addiction and drug addiction, both mental and physical. Habituation (tolerance) allows you to transfer 0.25 - 0.5 grams of morphine without symptoms of acute poisoning. Physical dependence is associated with a profound interference with the metabolism of opioids neurotransmitters in the brain. At the stage of physical dependence is accompanied by the abolition of opioids withdrawal syndrome-type symptoms return.

STOMACH HYSTOPHYSIOLOGY. AGE RELATED CHANGES

Kirillova M., Bashirova A. - the 2nd year student
Scientific leaders - Kozlova.V.S, Katina.O.I

The digestive system is a complex of organs whose function is in the mechanical and chemical treatment of received nutrients, the intake of processed and the elimination of undigested parts of food. The human alimentary canal has a length of about 8-10 meters and is divided into the following sections: oral cavity, pharynx, esophagus, stomach, small and large intestine. The upper three parts located in the head, neck and chest, keep a relatively straight line. The alimentary canal crosses with the respiratory tract in the pharynx. After passage of the esophagus through the diaphragm the digestive tube expands forming the stomach. The stomach is a sacciform extension of the digestive tract located between the esophagus and the duodenum. The gastric juice, secreted by glands, contains the digestive enzymes, hydrochloric acid and other physiologically active substances, splits (digest) proteins and some fats, has a bactericidal effect. The mucosa membrane of the stomach produces antianemic substances (Castle factors) that affect the formation of blood. The function of the digestive is to ensure penetration of nutrients and water, which are necessary to sustain the body and supply it with energy and plastic materials. There is a close correlation between different parts of the digestive system. Impaired function of one of the links can lead to substantial changes in the entire digestive system. The consequences of failure of digestion can be serious: a metabolic disorder, intoxication, exhaustion, etc. The study of the causes and mechanisms of disorders that char-

acterize the pathology of the gastrointestinal tract are essential to the future doctor. The wall of the stomach consists of four walls: Mucous membrane of the stomach consists of 3 epithelial layers, proper plate and muscle one. Epithelium lining the surface of mucous membrane of the stomach and fossae is monostratal and grandular. All superficial epithelial cells of the stomach constantly secrete the mucoid secretion. Every cell is divided into two parts, both basal and apical. The oval-shaped nucleus is in basal part jointing the basal membrane. The apical part of a cell is filled with grains or drops of the mucoid secretion. The role of superficial epithelial cells of the stomach is to produce mucus that provides the protection from both the mechanical effect of coarse particles and the chemical effect of the gastric juice. The gastric glands that have the thin layers of RST between are in the proper plastic of mucosa. There are always the clusters of lymphoid elements in it. They are either in the form of diffuse infiltrates, or in the form of solitary lymph nodules. Sub mucosa, located between the mucosa and the muscle layer, is presented by loose fibrous connective tissue with great number of elastic fibers, where vascular and nervous submucosa (meyssnerovo) plexus are located. Muscular layer consists of 3 layers of smooth muscles (external-longitudinal, middle- the circular and the infernal-skew),whose tonic contraction maintains the shape and size of the stomach. Circularly arranged muscles in the canal zone thicken and form a powerful constrictor-pyloric sphincter. Nervous intramuscular (auerbahovo) plexus is between the external and middle layers. External serous membrane, represented by loose fibrous connective tissue lined with a layer of mesothelial cells, performs a support function, fixing the body in a certain position. There are blood and lymph vessels, and nerves in it. The stomach of a baby has a spindle-shaped form. The cardiac part, the fundus and the pyloric part are slightly marked, the pylorus is wide. By the end of the first year the stomach is longer, and in the period from 7 to 11 years if takes the shape as in adult. Formation of the cardiac part ends until the early period of the second child (8 years old).The volume of the stomach in a newborn is about 50 $cm^{3.}$At the end of the first year of life the volume of the stomach increases to 250-300 cm^3.At 2 the volume of the stomach is 490-500 cm^3,in 3 years-580-680 cm^3,and in 4 years-it is up to 750 cm^3.By the end of the second child period (12 years) the volume of stomach increases to 1300-1500 cm^3.The children that are artificially feeded have the strained stomach ,especially in the front wall. The substantional part of newborn stomach (cardia, the fundus,part of the body) is in the left hupochondrium and covered with left lobe of the liver. Greater curvature of the stomach is adherent to the transverse colon. With the decrease of the left lobe of the liver the stomach is close to the anterior abdominal wall and shifts in the epigastria region. The inlet of the stomach in the newborn is at the VIII-IX, and the hole porter-at XI-XII level of the thoracic vertebrae. At the growth and development of the child the stomach droppes. At the age of 7,in the vertical position of the body the opening of the stomach is projected between XI-XII thoracic vertebrae, and the outle opening is between I and XII thoracic lumbar vertebrae. In elderly people the stomach droppes even more. The mucosa of the stomach in the newborn is relatively thick, folds are high. The number of gastric fossae is at about 200 thousand. To three years of life the quantity of the fossae increases up to 720 thousand, to two years-1300 thousand, to 15 years-4 million. The

number of gastric glands in the newborn is 500 thousand. In children it increases rapidly. In two-months baby the glands number reaches 1,8 million, in 2 year-old children-8 million, in six years-10 million, an adult has at about 35 ppm. The muscular layer of the stomach is weak in newborn. The muscular layer has its maximum thickness up to 15-20 years.

COBALAMINE (V.B12) ANTIANEMIC VITAMIN

Bak E., Lopatina E., Borodina K. – the 2nd year students
Scientific leaders - Etmanova L.Y, Katina O.I

Vitamin B12 is a group of cobalt-containing biologically active substances known as cobalamin. Cyanocobalamin - is the product obtained at purification of vitamin by cyanide, hydroxocobalamin-two coenzyme forms of vitamin B12: methylcobalamine and 5-deoxyadenosine.

The main function of vitamin B12 - is the formation of red blood cells and maintaining a healthy nervous system. It is needed for rapid synthesis of DNA during cell division, and in the tissues of the bone marrow is responsible for the formation of red blood cells, participates in the regulation of the formation of normal red blood cells.

Biological functions:

In humans, there are only two enzymes with coenzyme B12:

1. Metilmalonil Motaz CoA, the enzyme that uses adenosylcobalamin as a cofactor, catalyzes the rearrangement of atoms in the carbon skeleton. The reaction of L-CoA obtained metilmalonil succinyl-CoA. This reaction is an important link in the chain reaction of biological oxidation of proteins and fats.
2. 5-methyltetrahydrofolate-homocystein –methyltransferase is an enzyme from the group of methyltransferases, using methylcobalamine as a cofactor. If catalyzes the conversion of the homocysteine amino acid into the amino acid methionine.

Sources: cereals, brewers and nutritional yeast artificially fortified with vitamin B12, vitamin-enriched cereals and special supplements. In the food industry of in many countries vitamin is added to breakfast cereals, chocolate bars, energy drinks.

Its greatest amount is found in liver, kidneys and heart. It is also in seafood as oysters sardines, salmon, crab, so as in yolk and low-fat dry milk. There is slightly less vitamin B12 in meat, fish, and cheese.

Vitamin B12 is absorbed mainly in the lower part of the ileum in the presence of a glycoprotein (Castle's internal factor) produced by the gastric mucosa.

Background: the growth of the megaloblastic anemia disease as a result of an underconsumption of vitamin B12 in food, or a lack of Castle intrinsic factor.

CAPILLARIES ESOPHAGEAL MUCOSA IN THE ESOPHAGEAL-ZONE GASTRIC JUNCTION

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Scientific leaders - Assoc.Prof. Seliverstov S.S., Katina O. I.

The describtion of the blood capillaries of the abdominal esophagus mucous membrane are badly introduced in the available literature. 184 complex preparations

of the lower third of the esophagus and cardia section of the stomach were taken (people of the first and second mature age). The mucosal capillaries of the abdominal esophagus located in the zone of the Z line and up to 5 cm were studied. Methods: bloodstream in injections with polychrome masses and 3% gelatin-ink, the illumination of film products, histological staining dyes, computer morphometry and statistics. Fig. Capillary bed of enlightened drugs of mucous membrane in the supracardial area of esophagus in 34 years old men (transcapillary mass injection - 3% gelatin-ink): a- capillaries of longitudinal esophageal epithelium microfolds in the form of braid (40-fold increase);B- vertical capillary loops (100-fold increase);C- capillaries of basal subepithelial rete(80-fold increase);d- capillaries in the area of epithelial joint- Z line (30-fold increase). It was found that the capillary retia of the esophagus mucous membrane have a three-dimensional structure and are formed by two types of capillaries: 1)- the vertical capillaries included in microfolds-fragment- **а** и **в**; 2)- basal horizontal capillaries that lie in areas between microfolds and in microhpleat base – fragment- **с**. Single vertical capillary loops 175,4 ± 16,4 mkm in height have the blood link 13,2 ± 0,8 mkm in diameter and venous link(in diameter 18,3+-1,2 mkm) and penetrate by into 2/3 of the thickness of the esophagus epithelium. Single vertical capillary loops merge with each other making the retia in the form of a flat capillary network (frag. A) to 582,4 +- 12,3 loops per 1 mm² in density at approaching of esophagus microfolds to the joint line with gastric epithelium (Z-line).Mucous esophagus microfolds can significantly increase in size at hemodynamics change due to the high density and large diameter of the capillaries. Capillary networks of microfolds take the form of spherical cells in the Z-line – (fragment- d). The horizontal network of ba al (fragment C) capillaries measuring in arterial section 11,2 ± 0,6 mkm in diameter and in the venous one15,3 ± 0,8 mkm in the microfolds bases and in the areas between them under the multilayer plane esophagus.

THE CASE RECORD OF PATIENTS WITH PLEIOTROPIC EFFECT (MARFAN'S SYNDROME)

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Scientific leaders - Prof. Gordienko E.N, Katina O.I

The first year student, studying fundamentals of human genetics is interested in

Marfan's syndrome - an autosomal dominant genetic disorder that affects the connective tissue, and is characterized by disproportionately long limbs, thin fingers, asthenic constitution and presence of defects that specifically manifested in the form of heart valves and aorta. This genetic disorder is due to a violation of histogenesis, functioning of connective tissue and significant polymorphism of clinical manifestations. The history of the study of the disease originates from the Antoine Marfan, the French pediatrician who was the first to describe the symptoms of the disease in 1896, noting the features of the syndrome in five year old girls. The gene that causes the disease was discovered 95 years later by Francesco Ramirez at the center of Mount Sinai (New York, 1991). It was found that Marfan's syndrome is not so rare disease with classic pleiotropic effect of gene interaction. It is diagnosed in the world and in all ethnic groups. There are no any unique symptoms of Marfan's syndrome. However, the combination of such features as long limbs, dislocation of the lens and an aneurysm of the aortic root is enough to diagnose it for sure. But at present we know more than 30 other clinical symptoms associated with syndrome studied. Most of them are related to changes in the connective tissue - bone, skin and joints. Marfan's syndrome is caused by mutations in the gene FBN1 (chromosome 15), which encodes a glycoprotein fibrilin-1 being component of the extracellular matrix. This protein is essential for the correct formation of the extracellular matrix and affects the functioning of the elastic fibers. In addition, extracellular matrix provides the structural integrity of connective tissue. Marfan's syndrome affects the transforming beta growth factor (TGF-β). Diagnosis of Marfan's syndrome is based on the heredity of families and on a combination of primary and secondary symptoms of the disease that together are not common among in the population, but in a single variant may occur in an individual. There is also a differential diagnosis, as there are diseases that have similar symptoms with Marfan's syndrome. Marfan's syndrome treatment is mostly symptomatic, aimed at relieving certain symptoms of the disease. Patients should undergo extensive annual medical examination with compulsory participation of ophthalmologist, cardiologist and orthopedist. Without treatment, the life expectancy of people with Marfan's syndrome is often limited to 30-40 years. In countries with developed health care patients are treated successfully and live to the old age.

GENOMIC BASES OF HEREDITARY PATHOLOGY OF THE PERSON WEARING SPECTACLES – JUSTIFICATION OF IMPORTANCE OF STUDYING

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Studying the fundamental bases of the general genetics and genetics of the person, we study also ourselves, our problems, the features of inheritance of signs. For the last decades the number of the persons with short-sightedness considerably increased. People wearing spectacles are an essential sign of modern life. This problem is actual today. Among adult population the myopia makes from 25 to 42 %. It is very big percent. Myopia is the strong refraction, parallel beams are formed before a retina, and the image turns out indistinct.

Now it is recognized that in an origin of myopia a combination of hereditary and environmental factors plays a role. Research of families the revealed the prevalence of a myopia at children of short-sighted parents. It was revealed that at seven-year children of healthy parents the myopia occurs in 7,3 %, at one short-sighted - in 26,2 %, at both - in 45 % of cases. Studying of twins and analyses of family trees showed a high heritability of short-sightedness which varies from 60 % to 90 %. In recent years the molecular genetics of short-sightedness is investigated. The genes responsible for defect of synthesis fibrillin and collagen at a high myopia are mapped. More than 10 loci finding coupling from not syndromic myopia of high degree are reveled. On a long shoulder of the 15th chromosome sites in which mutations authentically lead to myopia development are found. 15q14 rs634990, P = 2.21 x 10-14. The associated locus is located near two genes, is active expressing in a retina. GJD2 and ACTC1 – molecules-regulators that influence a transcription of these genes. In total 108 genes which expression is anyway connected with myopia development are described

Influence of environmental factors is distinctly seen. The hypothesis of «a predisposition threshold», stated by H.Dannin (2001) is worthy. According to this hypothesis a certain genetic threshold of predisposition to short-sightedness, for which overcoming a certain quantity of adverse factors of environment is necessary to "gather", is inherent in each individual. Various diseases, acute and chronic infections can be such factors. However the most significant factor of the environment is visual work at a short distance. In recent years, it is doubtless proved that frequency and progressing of a myopia are directly connected with a number of hours, carried out for reading (and feedback is tracked with hours of physical activity out of door). The fact that population of «myopic» authentically is more reading and formed in comparison with not myopic (Grossvenor, Goss, 1999) is known.

METHODS OF GALLABLADDER EXAMINATION

Bak E., Lopatina E., Borodina K. - 2nd year students
Scicntific leaders - Pavlova A.E, Katina O.I.

Radiographic methods are widely used for the diagnosis of diseases of the gallbladder and bile ducts. They are radiography, cholecystography, holegrafiya and cholangiography. Also it is possible to diagnoses diseases of contiguos organs developing as cholecystitis (nephroliths and ureterolith, calculous pancreatitis, deforming spondylarthrosis, etc.). Methods of cholecystography and holegrafii are based on the ability of the liver cells to secrete iodine-containing substances with bile that, falling in to the biliary tract, allows to get their picture on the radiographs. Ultrasound examination is the main method of diagnosis of diseases of the gallbladder and bile ducts, allowing to identify even small (1-2 mm) calculi in the lumen of the gallbladder (rarely in the bile duct), the thickness of its walls, fluid near the inflammation. Ultrasound examination reveals the dilatation of biliary tract.

Cholecystocholangiography (oral, intravenous, infusion) - is not informative method. It is not applicable in obstructive jaundice and intolerance to iodine-containing preparations. Cholecystocholangiography is used when the ultrasound examination is impossible. Choledochoscopy, the examination of the bile ducts and

the lumen, is done using the endoscopic devices choledofhoskopes and fibraholedahoskopes. This study is to evaluate the state of the mucous membrane, to see and remove under the control the finest stones and "putty", to assess the condition of the ostium of the major duodenal papilla. Computed tomography of the liver is used in malignant tumors of biliary tract and gall bladder to determine the extent of the tumor, specification of operability (metastasis). Controlled by a computer tomography the puncture of the gallbladder or the intrahepatic bile ducts can be performed, followed by the injection of contrast agents into their lumen for roentgenography. Retrograde pancreatocholangioroentgenography (opacification of bile ducts by endoscopic cannulation of the major duodenal papilla and the injection of contrast substance into the common bile duct) – is used at the defeat of the main bile duct lesions.MR cholangiography - is actual before operations or in acute pain, when there is a suspicion of "stones" in the gallbladder. It gives a bright signal from the free liquid (bile) and is non-invasive. It is used in the diagnosis of anomalies and bile duct strictures, sclerosing cholangitis and choledocholithiasis i. e. to identify stones in the gallbladder and bile ducts.

STRUCTURE OF A LIVER LOBEI. ITS PRACTICAL VALUE IN MEDICINE

Bak E., Lopatina E., Borodina K. - 2nd year students
Scientific leaders - Ogorodnikova T.L, Cand.Med.Sc. Sayapina I.Y, Katina O.I.

At present 30% of the adult population suffers from one or other hepatic diseases. According to statistics provided by the Ministry of Health, more than four thousand people die from disease caused by the liver disorders every year. The most important of them is hepatitis, whose target organ is the liver.

Classification of hepatitis:

1. Infectious (viral) hepatitis: Hepatitis A, B, C, D, E, F, G.
Bacterial hepatitis: when leptospirosis, syphilis.
2. Toxic hepatitis: Alcoholic hepatitis, drug-induced hepatitis.
Hepatitis caused by poisoning with various chemicals
3. Radiation hepatitis (a component of radiation sickness)
4. Hepatitis as a result of an autoimmune disease.

Liver (Latin jecur, jecor, hepar, etc.-Greek. Ἧπαρ) is unpaired vital internal organ of vertebrates, including humans, located in the peritoneal cavity (abdomen) below the diaphragm and performing a wide variety of physiological functions.

Options: many metabolic products are neutralized. Hormones, biogenic amines, and a number of drugs are inactivated. The liver is involved in the defense response against bacteria and foreign substances in case of their penetration from the outside. It forms glycogen. The major plasma proteins synthesize in it the fibrinogen, albumin, prothrombin, and others. Iron metabolizes and bile forms.

The cholesterol metabolism. The required fat soluble vitamins-A, D, E, K, etc. accumulate in the body. In the embryonic period it is the organ of hematogenesis.

Structure. Lobed parenchyma. Hepatic lobule is the structural and functional unit of the liver. The main structural components of the hepatic lobule are: liver laminae

(radial rows of hepatocytes), intralobular sinusoidal hemocapillaries(beams between the liver),bile capillaries (Latin ductuli beliferi) in liver beams between two layers of hepatocytes, holangioly (expansion of bile capillaries as they emerge from cloves), perisinusoid Disse space (the space between the slit beams and hepatic sinusoidal hemocapillaries where pit-cells are localized Kupffer cells and fat cells), central vein (formed by the merger of intralobular sinusoidal hemocappillaries). Stroma consists of an outer connective tissue capsule, interlobular RVST layers, and blood vessels of the nervous system. There are 350 million of carriers of hepatitis B and 500 million carriers of hepatitis C in the world. At present the growth of hepatitis increases.

D3 VITAMIN ROLE IN ORGANISM ACTIVITY

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Scientific leaders – Etmanova L.Y., Katina O.I.

Relevance: The doctor should know about the role of vitamins for an organism. The need for D3 vitamin in different moments of life of an organism isn't identical and one must consider it when making up a diets. D3 vitamin is one of the major medicines which are widely recommended by doctors for treatment of numerous diseases. It is necessary for a doctor to know not only the chemical nature of vitamin, but also its biological role in an organism, and also the daily requirement. The D3 vitamin, which is also known as cholecalciferolum, is included into the group fat-soluble vitamins. At a lack or total absence of vitamins in an organism hypo - and avitaminosis arise and at surplus there is hypervitaminosis. To make a correct diagnose, the doctor should know the manifestations of various diseases, and also to establish the ekzogenous and endogenous reasons of their occurance. The main function of D3 vitamin is the ensuring of normal growth and the development of skeletal bones, the prevention of development of rachitis (at children) and osteoporosis. It regulates a mineral exchange and promotes the calcium adjournment in a bone fabric and a dentine, thus interfering with an osteomalacia of bones. The organism susceptibility to skin diseases, heart troubles and a cancer also depends on vitamin D. Incidence of atherosclerosis, arthritisis, diabetes (especially youthful) is increased the in geographical areas where the food is poor with vitamin D. D3 vitamin participates in regulation of arterial pressure (in particular at a hypertension at pregnant women) and palpitation. Vitamin D interferes with the growth of cancer cells that makes it effective in prevention and a treatment of breast cancer, ovarian carcinoma, cancer of prostate gland and brain, and also leukemia.

AGE FEATURES OF AN ORGAN OF VISION

Pimanova M. – the 2nd-year student
Scientific leaders: Pavlova A.E., Katina O. I.

Aging the human body undergoes various changes that also refer to your eyes, especially after 60 years old. Some changes in your vision aren't the eye diseases, but natural process of aging of an organism, for example a presbiopiya. It is possible to consider the existence of a cataract may be an age disease, its prevalence at people of this age group is extremely high, but surgical treatment of a cataract can

easily correct this problem.

Unfortunately, in the course of time lots of us may face more serious age diseases of eyes that can make strong negative impact on vision and quality of life. They are of such diseases as glaucoma, age macular degeneration and a diabetic retinopathy.

COMPARATIVE CHARACTERISTICS OF THE PHYSICAL DEVELOPMENT OF FIRST YEAR STUDENTS OF THE AMUR STATE MEDICAL ACADEMY

Bakhmeteva A., Trufanova A.- the 2-nd year students
Scientific leaders -Ambroseva N.P.,Gritcenko S.N.

In order to study different types of somatic constitution we examined 80 first-year students of ASMA born in 1993 (30 boys and 50 girls), and a comparative analysis of the physical development of first-year students of ASMA born in 1988 according to the data of 2007 (Marushenko I.Y, Korytko N.V) was performed. Pine index was calculated. Height, weight and chest circumference were taken into account. According to our data, 26% of first-year students apply to persons of an asthenic body type, which is less as compared with, the data of 2007 by 15%. 31% of the examined belong to hypersthenics (by 8% more as compared with 2007), the remaining 43% of first-year students can be referred to an intermediate body type. Among girls the number of people with astenic body type increases (26%, while in 2007 the figure was 41%), 31% is a hypersthenics type (23% in 2007) and 43% is a mesomorphic type (36% in 2007). In young men mesomorphic type predominates (38% this year and 80% 5 years ago). The remaining 58% is an asthenic type, 4% a hypersthenic one.

TAPETORETINAL DYSTROPHY

Pnyukhtin O.P, Yashin D.A.– 2-nd year students
Scienfic leaders – Sayapina I.Y., Gritcenko S.N.

Retina - a thin layer of nervous tissue, located inside the back of the eyeball. Microscopically there are 10 layers in the retina, counted from outside in. Major segments are pigment epithelium and light-sensitive cells (photoreceptors). Then comes the outer marginal membrane, outer nuclear layer, outer cellular (synaptic) layer, inner nuclear layer, inner cellular layer, ganglionic layer, the layer of nervous fibers, the internal marginal membrane. The retina is responsible for image perception that is projected onto it with the help of the cornea and lens, and its transformation into nerve impulses transmitted to the brain. Like other organs of our body, it is subjected to a number of diseases, some of which are tapetoretinal dystrophies. Leading pathogenetic mechanisms of tapetoretinal dystrophy development are genetic defect, determining protein synthesis infringement in the outer segments of photoreceptors and retinal pigment epithelium dysfunction, accompanied by reduced blood flow in the choroid of the eyeball (choroid), vascular capillary plate disappearance and increased hypoxia of all structures of the eye . As stated above, the retina is formed by nervous tissue, and nervous tissue is susceptible to malnutrition, metabolism abnormality and inhibition of visual functions occur. The disease progresses slowly, end-

ing in most cases with blindness. It also should be noted that among all ocular diseases hereditary forms occupy nearly 50%. Therefore, understanding of the retina is important for medical students as well as knowledge of norm helps to find out pathology, and understanding of the proper functioning can yield positive results in treatment. And a proof of the latter is the realization of opportunities in the treatment of tapetoretinal dystrophy in humans due to the achievements of genetic engineering.

GILBERT'S SYNDROME

Pnyukhtin O.P, Yashin D.A. – 2-nd year students
Scienfic leaders – Etmanova L.Y., Gritcenko S.N.

Gilbert's syndrome (a family jaundice) refers to diseases with autosomal dominant inheritance. It is the most common form of hereditary pigment hepatosis, which is diagnosed in 1-5% of the population. Syndrome is common in people of Europe, Asia and Africa. The disease first appears in adolescence and teen age, due to the inhibitory effect of sex hormones on the process of bilirubin conjugation and is 8-10 times more common in men. In the pathogenesis of the syndrome is abnormality of bilirubin capture by vascular pole microsomes of hepatocyte, its transport abnormality by glutathione-S-transferase delivering unconjugated bilirubin to microsomes of hepatocytes and urindylphosfateglucuroniltransferase microsomal enzyme deficiency, with the help of which the conjugation of bilirubin with glucuronic acid and other acids occurs. The feature is unconjugated bilirubin content increase, which is insoluble in water, but soluble in fats, so it can interact with the phospholipids of cell membranes, especially those ones of the brain, which explains its neurotoxicity. Hyperbilirubinemia persists for life and is not accompanied by mortality increase. Prognosis is favorable, but like any disease it is a subject to detailed diagnosis as jaundice may occur after intercurrent infections, there is also high sensitivity of patients to various hepatotoxic effects (alcohol, drugs etc.). Inflammation in the bile ducts, cholelithiasis, psychosomatic disorders may occur. Parents of children with this syndrome should consult a geneticist before planning another pregnancy. One should act similarly, if this syndrome is diagnosed in relatives of the couple going to have a baby.

CANALS OF THE TEMPORAL BONE

Pnyukhtin O.P, Yashin D.A. – 2-nd year students
Scienfic leaders – Pavlova A.E., Gritcenko S.N.

The sticking point for generations of medical students is the temporal bone, its original architectonic and internal structure. Lack of solid references and diagrams easy to understand come to the picture. Under the influence of these factors, the study of the temporal bone is delayed for a long time. We tried to simplify and shorten this process by setting up tables and charts that are demonstrable and easy to understand for a beginner as it is necessary to lay the foundation in the mind of a student on which all subsequent knowledge will be put. In the work proposed a student does not require the availability of additional sources, as everything he needs is already provided. Canals of the temporal bone are summarized in a table, where the places of their end and beginning are indicated. Anatomical formations are also

noted. In addition, the central part of the work is presented by a large scheme with Russian and Latin names, which also contributes to accelerating the learning process. Finally, the scheme is maintained by drawings of the atlas, where necessary items are indicated. Knowledge of the temporal bone channels is an important factor for clinical disciplines such as traumatology, otolaryngology, and others. Fracture of the skull base, fractures of anterior cranial fossa and mesocranial fossa, inflammation of the internal ear - is not complete, but rather actual list, which shows the importance of understanding the structure of this bone.

CONGENITAL MALFORMATIONS OF THE MALE REPRODUCTIVE ORGANS

Komova K., Mescheryakova K.- the 2-nd year students
Scientific leaders- Pavlova A.E., Gritcenko S. N.

Congenital malformations or abnormalities occur during intrauterine life and take place in all organs and systems of the human body. Classification:
Testicular abnormalities (occur in 5-7% of newborns and in 12-14% of people up to 21 years, and no more than 0,2% in people of older age); Anorhizm (absence of both testicles); Monorizm (there is only one testicle);

Poliorhizm (the presence of three or more testicles); Testicular hypoplasia (its underdevelopment); Cryptorchism: the most common of these abnormalities is cryptorchism, in newborns it occurs in 2% of cases; Seminal vesicles: Fusion of both seminal vesicles into one; Small rudimentary seminal vesicle; Narrowing, severe tortuosity or wrong location.

Prostate. Underdevelopment of the prostate gland that usually associated with hypoplasia of the penis, testes and seminal vesicles; Absence of prostate from birth.
Abnormalities of the urethra: Hypospadias is a complete or partial splitting of its back wall (it occurs in one of 100-200 baby boys); Hypospadias of balanus; Hypospadias of the penis; Hypospadias of scrotum; Epispadias is splitting of its front wall, which may extend from the balanus to the bladder (occurrence of the disease in men is 1: 30000-50000).

Abnormalities of the penis: Phimosis is a congenital or acquired narrowing of the pening of the foreskin that prevents exposure of the balanus (occurs in 2% of men); Ectopic penis is the extremely rare abnormality of the penis, found behind the scrotum and has a small size; Double penis (diphallia) is a complete or partial doubling of the penis with the existence of two balanus. Sometimes it is associated with other abnormalities; hypospadias, epispadias etc.

ANDREY VEZALY

Morozevich J., Belonogova K.– the 2-nd year students
Scientific leaders– Pavlova A.E., Gricenko S.N.

Vezaly Andrey, Vesalius Andreas (1514-1564), - the great scientist of Renaissance, the founder of anatomy.

He was born in Brussels in a family of a royal druggist, graduated from Luvensky university, and then studied medicine in Paris where he became a pupil of

a well-known anatomist Y.Silvia and a philosopher Z.Fornel in 1538 he published «The six anatomical tables».

Vezaly's main work «About structure of a human body in seven books», based on opening and preparation of human corpses was published in Basel in 1543. It describes the structure of organs and systems, and point out numerous errors of predecessors. Vezaly, in particular, was the first to disprove Galen's other predecessors's erroneous opinion that there are openings in the septum through which blood passes from the right ventricle of heart to the left one. He showed that the right and left ventricles of the heart during the post-embryonic period aren't communicable. Also Vezaly made a huge contribution to anatomic terminology in Latin.

In 1559 Vezaly moves to Madrid. Deprived of possibility to be engaged in anatomy, pursued by slander, Vezaly burns a part of the manuscripts and in 1564 makes pilgrimage to Palestine. On the way back Vezaly after a ship-wreck he got on the island of Zant in the Ionian Sea where he soon died.

Seven books «About a structure of a human body» are published in 1950-1954 in translation by V.N.Ternovsky and S.P.Shestakov.

HAEMOGLOBIN EXCHANGE DISORDER

Makogon K., Grivtsova M.-the 2- nd year students
Scientific leaders - Etmonova L.Y, Gritcenko S.N.

Haemoglobin (Hb) - oligomeric protein, belonging to the group of chromoproteides. It contains four polypeptide chains and four prosthetic groups, in which the iron atoms are in the reduced form. Haemoglobin is found in red blood cells and therefore its main function is to carry oxygen to the tissues, it can reversibly bind oxygen in the blood. There are more than 30 types of Hb: normal A (adult haemoglobin), P (primitive in the blood of a human embryo) F (fetal, embryonic), S (mutant form). Haemoglobin has molecular diseases. Sickle cell anemia: HbS - is a hereditary haemoglobinopathy connected with the change one amino acid for another, in which it aquires special crystal structure - the so-called haemoglobin S. Red blood cells that carry haemoglobin S instead of the normal hemoglobin A, have a characteristic sickle shape under the microscope. Porphyria is a group of heterogeneous hereditary disorders resulting from disorder of heme synthesis and elevated levels of porphyrins (natural and synthetic tetrapyrrole compounds, formally - porphyrin derivatives, the macrocycle formed by four pyrrole nuclei joined by the provisions of the four α-methine groups) and their forerunners in the body. There are genetic and acquired forms of porphyria. The acquired forms of porphyria are toxic and are cause by the action of salts of heavy metals.

In hereditary forms the enzyme defect is present in all cells of the body, but occurs in only one type of cells. There are two large groups of Porphyry: liver and erythropoietic. α-chains (α-thalassemia) and β-chain (β-thalassemia) hemoglobin synthesis reduction is characteristic. This leads to disruption of erythropoiesis, hemolysis and heavy anemia.

SKIN REGENERATION IN WOUNDS

Chehuta E. - the 2-nd year student

Scientific leaders- Ogorodnikova T. L., Gritcenko S. N.

The skin is one of the largest organs in the body in surface area and weight. The skin consists of two layers: the epidermis (basal, prickly, grainy, shiny and horny layer) and the dermis (papillary and reticular layers). Beneath the dermis lies the hypodermis or subcutaneous fatty tissue, it contains cells of Vater-Pacini.

Manifestation of violating the integrity of the skin is a wound. A wound may be described in many ways; by its etiology, anatomical location, by whether it is acute or chronic, by the method of closure, by its presenting symptoms or indeed by the appearance of the predominant tissue types in the wound bed. To determine the severity of wounds, there are special classification.

In the regeneration of the skin one distinguishes 3 phases: Inflammatory phase, Proliferation phase and Maturation phase. Inflammatory phase is the body's natural response to injury. During proliferation, the wound is "rebuilt" with new granulation tissue which is comprised of collagen and extracellular matrix and into which a new network of blood vessels develop, a process known as "angiogenesis". Maturation is the final phase and occurs once the wound has closed.

Knowledge of characteristics of the structure and regeneration of the skin to the doctors is necessary for the correct diagnosis and treatment of injuries.

METASYMPATHETIC NERVOUS SYSTEM

Bak E.-the 2-nd year student

Scientific leaders- prof. Grigoriev N.R., Gritcenco S.N.

Metasympathetic nervous system (MNS) - a part of the autonomic nervous system, a complex of mikroganglions and their connecting nerves, as well as individual neurons and their processes are located in the walls of the internal organs, which have contractile activity. The main effector apparatus walls of hollow visceral organs are: secretory suction, excretory epithelium main.muscle, capillary network local endocrine and immune formation. Postganglionic fibers come out of microganglions, performing rhythmic contractions of innervated organs.This relative functional autonomy of a metasympathetic system is explained by own rhythm and independent neurogenic reflex arc, consisting of the following parts: sensor (sensitive), associative (interlinings), efferent (motor) and mediator. Metasympathetic nervous system has its own sensor elements, which may be mechanical-, chemo-, thermo-, and osmoreceptors.They send information about the condition of the wall of the inner body. Features of metasympathetic nervous system are: 1. It supplies the only internal bodies with their own motor activity.2.It receives synaptic inputs from the sympathetic and parasympathetic systems and has no direct synaptic contacts with the efferent part. 3. Along with the general visceral efferent way it has its own sensory section.4.It has greater independence from the central nervous system.5.Organs with disrupted by ganglioblockers metasympathetic ways lose their inherent rhythmic motor function.6. MNS has its own mediator section. Functions of metasympathetic nervous system:1.Transmission of central influences 2. integration, as the system has the reflex arc (afferent-efferent-intercalary neurons). Research: Analyzing the neural ganglia of the intestinal tube, A.D.Nozdrachev, in particular, offers a rigorous scheme of functional organization of the whole part of the nervous s meta-

sympathetic system. In his view, the basis of neural networks are extremely robust so-called cell-oscillators, whose function is not changed by the action of mediatoror ganglioblocker. Significance: metasympathetic nervous system provides excitation of extraorganic nervous system tissue of an organ. Metasympathetic nervous system regulates organ blood flow, and also has a direct relation to the organization of regulatory influences on such an important function as membrane digestion.

ANOMALIES OF THE KIDNEYS: RADIATION AND DIFFERENTIAL DIAGNOSIS

Tipikina M., Drobniy D. – the 2-nd year students
Scientific leaders - Cand. Med. Sc., Sayapina I.Y., Cand. Med. Sc.
Ogorodnikova T.L., Critcenko S.N.

Developmental abnormalities of the urinary system are so common that it was necessary to classify them. Gimpelson E.I. classification turned to be the most appropriate, where all development abnormalities are united into 4 groups: quantity abnormalities, positional abnormalities, abnormalities of relation and structure

Quality abnormalities include: renal aplasia, the absence of kidney (unilateral or bilateral), extra (third), kidney (ren accessorium), double kidney (ren duplex); spliced kidney.

Positional abnormalities is kidney distrophy.

Abnormalities of relation include ureteral ectopia in the intestines, the urethra, the organs of the male reproductive system (seminal vesicle, the vas deferens) and in the female reproductive organs of the system (in the fallopian tube, into the uterus, in the vulva).

Quality anomalies. Bilateral arenia. Defect freguency is 1-1.2 in 10000 diciveries. Bilateral arenies is combined with oligohydramnios, pulmonary hypoplasia, a peculiar type of face ("the Potter face»). Children are not viable. The feature of a one-sided arenia is – increased size and area of contralateral kidney due to compensatory hypertrophy. *Anomalies of* (*dystophy).* There are, lumbar, iliac and renal pelvic dystophy. It is often a random finding in ultrasound of the abdominal cavity. In sonography kidney is not visualized in the typical place. Therefore, a careful search for it retroperitoneal space is needed. Thoracic dystophy is visualized by intercostal space above the diaphragm through, the liver or spleen at a large angle of the sensor inclination. When rendered in the back above the upper pole it is seen above the X rib. Through the interior abdominal wall - the right kidney is visible above the liver, and the left - over the spleen. In lumbar dystopia and visualization from the back the upper pole is seen over the one crest of the ilium. Iliac dystopia is seen through the interior abdominal wall, and the kidney is seen to the left and right of the umbilicus.

Anomalies of relation (glued kidneys). There is symmetric and asymmetric (L-, S-shaped) fusion. Frequency of spliced kidney is - 1 in 250 autopsies in children. About 90% of all spliced kidney occur in horseshoe kidney, with the most frequent type - glued lower poles. Often anomalies of relation are combined with hypoplasia and dystopia of segments, which significantly complicates the diagnosis.

Anomalies of structure. Syndrome of "central lobe". Syndrome of a central lobule is quite a complex pathology in terms of differential diagnosis. Children with

this syndrome come to the nephrology department with clinical urinary infection. In ultrasound scanning in the central part of the kidney, more common in the right, rounded, well-demarcated formation is found in diameter of 3-4 cm, which allows us to associate it with the kidney tumor. Dynamic control of patients (over 4 years) confirms the assumption of the presence of the syndrome. Unusual location of the blastema plays the main role in the development of this anomaly. Newborn kidney has some structural features of the embryonic kidney - lobed structure (10-20 round), lobes have more connective tissue than in adults, there may be fosi of hemopoiesis . Subsequently, one of the segments remains of an embryonic type. Fosi of hemopoesis in it can be subjected to calcification. In identifying the syndrome of the central lobule an excretory urography, cystography, CT, are recommended.

BIOCHEMICAL BASIS OF ALBINISM

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Albinism - the congenital absence of pigment in the skin and its appendages, iris and pigment of the eye caused by an abnormality of melanin synthesis. Albinism is known since ancient times, it has been described in ancient Greece and Rome. Albinism - congenital anomaly tyrosine exchange. This breaks the production of the enzyme tyrosinase, which is due to a block in the conversion of tyrosine, dihydroxyphenylalanine. In albino formation and exchange of adrenaline is not broken, so it is difficult to assume that the exchange of tyrosine is inhibited in the earlier stages of conversion (to the point of formation dihydroxyphenylalanine). Total albinism is inherited autosomal recessively. Mutant gene carriers are suggested to constitute 1.5% of all normally pigmented people. Depigmentation of the skin and appendages are observed from birth. A partial albinism, in contrast to the previous form of inherited is autosomal dominant, in some cases - recessive. There is a decrease in the activity of tyrosinase, but not the block of its synthesis. Thypopigmentation of the skin, hair, iris, sometimes photophobia occur other defects and anomalies are detected. Partial albinism is inherited autosomal dominantly. Manifestations are identified at birth. Characterized by achromia area appearance on the skin of abdomen, face, lower extremities, gray hair appearance there are depigmented spots of irregular shape with sharp boundaries, on the surface there are small dark brown spots. In the pigment cells (melanocytes) tyrosine acts as a predecessor of dark pigments – (melanins). They are dominated by two types: eumelanins and pheomelanin. Eumelanin (black and brown in color) –are insoluble macromolecular heteropolymers 5,6-dihydroxyindole and some of his predecessors. Pheomelanins - yellow or reddish-brown polymers are soluble in dilute alkali. They are mainly in the hair. Melanin is present in the retina of the eye. Skin color depends on the distribution and number of melanocytes a number of different types of melanin in them. Tyrosinase plays a key role in the synthesis of melanin in melanocytes. It catalyzes three reactions in the biosynthesis of melanin chain:

Hydroxylation of l-tyrosine (conversion of tyrosine to 3,4-dihydroxyphenylalanine -)
Oxidation of dihydroxyphenylalanine dihydroxyphenylalanine -quinone;

Oxidation of 5,6-dioksiindola to indole-5 ,6-quinone.

Tyrosinase (ortho-difenolosidaza) enzyme of oxidoreductase class, found in almost all animals and plants. Tyrosinase catalyzes the oxidation of the amino acid tyrosine to dihydroxyphenylalanine in the biosynthesis of melanin pigment is involved in the synthesis of adrenaline and other metabolic processes. Inherited tyrosinase activity disorder the body is the cause of albinism.

PHYSIOLOGICAL AND REPARATIVE REGENERATION OF THE EPIDERMIS

Tipikina M.A., Drobniy D.A – the 2-nd year students
Scientific leaders - Cand. Med. Sc., Assoc. Prof. Sayapina I.Y., Cand. Med. Sc. Ogorodnikova T.L., Critcenko S.N.

The structure of the epidermis.Multilayered squamous epithelium forms the epidermis and consists of the several layers of cells - keratinocytes. The deepest basal layer is located on the basement membrane and is constructed of a series of cylindrical cells. The cytoplasm contains few cisterns of granular endoplasmic reticulum (HPP), many free ribosomes, thin strands, called tonofilaments. Above the basal layer of the epithelium-a number (4-8) of cells called spinous are located. The cells have irregular shapes. From layer to layer, these cells gradually flatten. The third, granular layer is located above the germ one. Cells of this layer are in 3-4 rows and have a flat shape. They are connected with neighboring cells by desmosomes. Granular layer turns to the fourth - shiny layer. Shiny layer consists of 1-4 rows of flat strongly eosinophilic cells filled with photorefractive mass. Such a layer of dying cells is replaced by multiple rows of flat horny scales, forming a superficial horny layer of the epidermis.Keratinization of the epidermis and its shedding.

The process of transformation of epithelial cells in the horny scales is very difficult. During keratinization prekeratines filaments gradually flatter by the addition of proteins. Prototonofibrills gather in bunches and turn into the keratin fibrils. In spinous layer profilaggrin synthesis occurs, which then turns into filaggrin. In the horhy layer, it begins to collapse. Another specific protein of the granular layer is involucrin. It transformes into insoluble form and is a part of the horny cell walls, thickening them almost twice.

Regeneration of the epidermis.

Physiological regeneration of the epithelium during the life of the body is continuously through the proliferation of cells of the basal layer and their transformation to the overlying layers to replace exfoliated layers of horny scales. The epidermis regenerates by cell type. In the surface epithelium there are two populations of dividing cells. One population is stem cells. The second population of epidermal cells can often divide and differentiate. In the surface epithelium the veare individual clones of cambial cells, which are located in the basal layer. Itwas found these cells gradually turn into horny scales. At the same time on a group of basal cells there is a whole column of squamous cells. The entire complex is called *"epidermal proliferative unit"* (EPU). In the center of each of the separate groups of basal cells is one that can be classified as a stemcell.Stem cells rarely divide it each division of stem cells one of the daughter cells keeps stem cell characteristics. The scales are on different

levels, and their margins are put on each other in such a way that each scale of one column is in contact with twelve scales. This gives the opportunity for free shedding of scales from the surface of the epidermis.
Reparative regeneration of the skin epithelium develops in response to injury. After injury ofhorny scales significant changes of the epidermis associated with reproduction and migration of basal cell layer occur. Immediately after the injury increased migration of cells from the basal layer to the spinous begins. On the 7th day of regeneration the thickness of the reservoir. By the 8 or 9 th day of proliferation rate decreases, the thickness of the layers of nucleated cells decreases cell migration slows. Spinous layer becomes columnar. Again the epidermis acquires its original structure.

ANGIOGENESIS AS A PHYSIOGICAL PROCESS. TUMOR ANGIOGENESIS

Morozevich J. – the 2-nd year student
Scientific leaders – Sayapina I.Y., Gricenco S.N.

Angiogenesis is the physiological process involving the growth of new blood vessels from pre-existing vessels. It was first proposed by Judah Folkman in 1971 in The New England Journal of Medicine. Angiogenesis is a normal and vital process in growth and development, as well as in wound healing and in granulation tissue. However, it is also a fundamental step in the transition of tumors from a dormant state to a malignant one, leading to the use of angiogenesis inhibitors.

Sprouting angiogenesis was the first identified form of angiogenesis. It occurs in several well-characterized stages. First, biological signals known as angiogenic growth factors activate receptorspresent on endothelial cells present in pre-existing blood vessels. Second, the activated endothelial cells begin to release enzymes called proteases that degrade the basement membrane to allow endothelial cells to escape from the original (parent) vessel walls. The endothelial cells then proliferate into the surrounding matrix and form solid sprouts connecting neighboring vessels. As sprouts extend toward the source of the angiogenic stimulus, endothelial cells migrate in tandem, using adhesion molecules, the equivalent of cellular grappling hooks, called integrins. These sprouts then form loops to become a full-fledged vessel lumen as cells migrate to the site of angiogenesis.
Intussusception, also known as splitting angiogenesis, was first observed in neonatal rats. In this type of vessel formation, the capillary wall extends into the lumen to split a single vessel in two. There are four phases of intussusceptive angiogenesis.

Angiogenesis may be a target for combating diseases characterized by either poor vascularisation or abnormal vasculature. Application of specific compounds that may inhibit or induce the creation of new blood vessels in the body may help combat such diseases. The modern clinical application of the principle of angiogenesis can be divided into two main areas: anti-angiogenic therapies, which angiogenic research began with, and pro-angiogenic therapies.

Cancer cells are cells that have lost their ability to divide in a controlled fashion. A tumor consists of a population of rapidly dividing and growing cancer

cells. Mutations rapidly accrue within the population. Tumors induce blood vessel growth (angiogenesis) by secreting various growth factors (e.g. VEGF -Vascular endothelial growth factor). Angiogenesis is a necessary and required step for transition from a small harmless cluster of cells to a large tumor. Angiogenesis is also required for the spread of a tumor, or metastasis. Single cancer cells can break away from an established solid tumor, enter the blood vessel, and be carried to a distant site, where they can implant and begin the growth of a secondary tumor.

THE COGNITIVE ABILITIES OF RATS UNDER STRESS REACTIVITY

Mirkina A.-the 4-th year student
Scientific leaders- Professor Grigoriev N.R

METHODS

Experiments were performed on 44 adult mongrel male rats aged 8-10 months. Each animal had its own individual labeled cage. Animals were kept separately in groups of six individuals in spacious cages with free access to feed and water. Three series of experiments were performed on the same animals, divided into three groups: two groups of 15 and one of 14 animals. This division was performed because of the impossibility of testing all groups on the same day. Breaks between tests lasted three days for all groups. Series of experiments were performed to identify investigative activity and anxiety by two methods with 28-day breaks. There was then a one-week break. Directed seeking activity was investigated over three days. The overall volume of tests amounted to 660 tests, of which 132 were in the open field, 132 in the elevated plus maze, and 396 in the problem-solving box. For statistical analysis, *data* were adjusted to a common denominator and relative values (%) were used. Measurements of behavioral parameters were made objective and significant using an experimental battery of tests: two classical homologous methods of studying investigative activity and associated anxiety, the open field test and the elevated plus maze test. Seeking activity was studied using a problem-solving box developed by ourselves.

RESULTS

Data ranking was performed using only one rating measure - the effectiveness of the search for the exit on ordering of these values from the minimal to the maximal. The No. 1 ranking individual had the lowest search effectiveness, at 14%, and the Nos. 43 and 44 ranking individuals had the highest effectiveness, at 100%. Above and below this measure, the vertical axis of the plot shows the maximal values recorded using other methods. Animals with high measures of search effectiveness were found to have low levels of investigative activity and high anxiety within the frameworks of these methods. Conversely, individuals with low search effectiveness had high levels of investigative activity and low anxiety identified in the maze and open field. Levels of anxiety in the maze had a significant positive correlation with the effectiveness of seeking activity and a negative relationship with investigative activity and anxiety in the open field, on the other.

Analysis of links in these relationships and independent variables at the first branch point identified two clusters. Cluster I contained individuals Nos. 16, 20, and 22-44 (a total of 57% of all animals), while cluster II included animals Nos. 1-15, 17-19,

and 21 (a total of 43%). The next step in differentiation consisted of the division of each cluster into two subgroups each: cluster I contained two subtypes including 23% and 34% of all animals, respectively, while cluster II included two subtypes accounting for 29.5% and 13.5% of the animals.

PROSPECTS OF DEHYDROQUERCETIN FOR BURN TRATMENT

Chan Men Khak - the 3rd year student
Scientific leader: Brash A.A., Chagarova O.V., Gritcenko S.N.

Currently, despite the high percentage of admission of patients in hospitals with burns and the availability of a wide range of drugs used to treat burn wounds, treatment and remains long high rate of complications, so still exist. We decided to examine the prospects of antioxidants in the treatment of burn wounds on the example Dehydroquercetin.

Dehydroqurcetin (DHQ) is a natural antioxidant or bioflavonoid. It has a powerful anti-inflammatory and anti-edema action, strengthens and restores connective tissue, promotes the normalization of metabolism, removal of toxins from the body. The advantage of natural products (DHQ) over synthetic ones is that they have effect not only one but several processes in the body. On the other hand - it makes natural substances unstable to those influences to which synthetic materials are quite stable. Today, in clinical practice, there are different ways of antioxidants use in surgery, but the problem is that they have an effect on the body as a whole, not locally. To solve this problem we created a method of antioxidants, as the example of dehydroquercetine used locally. The given method mechanism principle is in application of polymeric material containing antioxidants on a burn wound locally polymeric material containing antioxidants.

During the work were used gelatin dehydroquecetine and alcohol solution. We managed to get the polymeric slick with the presence of DHQ in it, which we subsequently sterilized by ultraviolet light. We used gelatin as a polimer creator. To carry out the experimental work, we plan to select the 10 laboratory animals, which will be divided into two groups: the control, and tested one. We shall use a polimer slick for the animals of the tested group a polimer slick with dehydroquercetine.

MAIN STAGES OF THE EMBRYONAL DEVELOPMENT

Eretnova A.-the 1st year student
Scientific leaders- Zherepa L. G., Gritcenko S. N.

Stage 1. Progress of a human germ begins after fertilization of a female sexual cell by a male one- spermatozoon, and a formation of a zygote.

Stage 2. Crushing. The fertilized egg, being splitted up, turns to multicellular dense sphere –morula, and then in a single-layered vesicle-blastula which cells refer to blastomeres.

Stage 3. Gastrulation. It consists in transformation of a single-layered germ into two-layer, and then three-layer germ-gastrula. The beginning of this stage goes during implantation of a germ into a mucous membrane of a uterus that occurs on the

sixth-seventh day of pregnancy. Cells trophoblast the enzyme dilute a mucous membrane of a uterus.

Stage 4. Isolation of a body of a germ. On the second week of progress embyoblaste forms two vesicles- amniotic and vitelline, and in seat of their contact-germinal shield. A shield is a bookmark of a body of a germ, having two leaves: external-ectoderm and internal-endoderm. On the third week of progress of a germ between them the average germinal leaf –mesoderm is formed.

Stage 5. It is the period from the fifth week of life of an embryo, a period of progress of bodies (organogenesis) and fabrics (histogenesis). This time is the period of early progress of the heart, the lungs, branchiate arches, the intestines and the brain. On the eighth week this stages comes to an end. On the ninth week, from the beginning of the third month the germ becomes the person and is referred to as a fruit. From the third to the tenth months there is a further differentiation and progress of the body and its parts.

THE SKELETON

Akhremenko A. – the 1st-year student
Scientific leaders – Zherepa L.G., Gritcenko S.N.

Human skeleton is a passive component of the musculoskeletal system, formed by bones that are connected by joints and ligaments. The skeleton has many different functions and is the basis which gives shape to the human body. The skeleton consists of more than 200 bones (their number depends on the age and individual characteristics). The human skeleton is divided into axial and peripheral. The axial skeleton includes the skull, the spinal column, the ribs and the sternum, the peripheral one includes the breast bone, pelvis and limb bones. The skull consists of flat bones, their number varies at different stages of human development, as with age fusion of bones which in childhood were separated from each other occurs. The skull is the seat of the brain and it protects it from the adverse effects of the environment - mechanical, chemical, etc. The spinal column is formed by the vertebrae, each of them has a spinal opening. Holes of all vertebrae form the spinal canal, which contains the spinal cord. Thus, the function of the spine is to protect the spinal cord and to form so-called "core" by which it is possible to maintain the body in a vertical position. The ribs and the sternum form the rib cage - a repository of the organs of the chest (the heart, the lungs, etc.). Limb girdle bones include the scapula, pelvis, etc. The latter form the pelvic cavity, which contains the internal organs. Limb bones are the main propulsion elements, thanks to which by the muscular system a lot of multi-directional movements take place. The human skeleton performs functions such as support and maintenance of movement, protection of internal organs. The bones are the seat of the bone marrow, in which the processes of hematopoiesis occur, and also a place which acts as a depot for minerals, the main of which are calcium and phosphorus.

MITOCHONDRIAL GENOME (THE 25th CHROMOSOME – IMPORTANT ADDITION)

Anisimova M. – the 1st-year student

Scientific leaders – Prof. Gordienko E.N., Korneva O.A

The genome of mitochondria the most exactly deciphered and sequenced can be an example of a full genetic map. Each gene of mitochondria occupies its position.

In cells there are the molecules of DNA located not only in chromosomes, but specific in intra cellular structures, as mitochondria. MitDNA is called now sometimes as a chromosome 25 or the M- chromosome. In a cell of a person is from 100 to 1000 mitochondria each of them contains from 2 to 10 molecules ring-shaped mitDNA 16569 in length. Human mitDNA contains 37 genes coding 13 albuminous chains, 22 tRNA and 2 ribosomal RNA. MitDNA is responsible in a cell for synthesis only several mitochondrial proteins. But these proteins are very important for a cell as they participate in one of the most important processes – providing a cell with energy.

The knowledge of genetic maps in necessary in different parts of medical genetics: for diagnostics of diseases by a attached method; estimate of pathological effects of chromosomal translocations; solution of questions of evolutionary and population genetics.

In sexual reproduction mitochondria are as a rule, inherited only by the maternal line, spermatozoon mitochondria are usually destroyed after fertilization. Besides, the most part of mitochondria of a spermatozoon is at base of flagellum which is sometimes lost during fertilization. In 1999 it was revealed that mitochondria of spermatozoa are marked ubikvitiny (protein marker which leads to destruction of fatherly mitochondria in a zygote).

XENOBIOTICS

Kalish Ju., Paliokha A. - the 2nd-year students
Scientific leaders – Assoc.Prof. Egorshina E.V., Korneva O.A .

Xenobiotics (from the Greek Xenos-alien and bios - life) - conventional category for the designation of organisms alien chemicals, that are not involved in the non-biotic cycle. Each of the new chemicals can cause chemical poisoning or disease. Toxins can cause more serious - deadly poisoning, and in some cases their effect is manifested through the years in the form of certain diseases, and even affect the health of posterity. Increasing concentrations of xenobiotics in the environment is directly connected with human activities. There are: pesticides, some cleansers (detergents), radionuclides, synthetic dyes, polycyclic aromatic hydrocarbons, etc. In the environment, they can cause an increase in the frequency of allergic reactions, death of organisms change of hereditary signs, loss of immunity system, damage of metabolism, disorder of the processes in natural ecosystems up to the level of the biosphere as a whole. Examples: heavy metals, freon, petroleum products, plastics, especially it is concerned to plastic packaging. Some substances, rated as xenobiotics can be found in the nature. Thus, dioxins are formed by natural processes such as volcanic eruptions and forest fires. Lipophilic xenobiotics are especially interesting for ecologists and toxicologists, are accumulating in fatty tissues, they are able to move through the food chain to animals and man, turning into more polar and therefore more easily digested or excreted substances.

CORTICAL CENTERS, DISORDER OF THEIR FUNCTIONS

Dolinina K., Kalish Ju. - 2nd-year students
Scientific leaders – Assoc.Prof. Shakalo Yu.A., Korneva O.A

The cortex is the layer of gray substance with the thickness of 1-5 mm, covering the hemisphere of the brain of mammals and human. This part of the brain developing at the late stages of evolution of the animal world, plays an important role in mental or higher nervous activity, although this activity is the result of the brain as a whole. Functionally there are such lobes as frontal - motinal area, temporal-taste, smell, hearing, gravity, parietal-sensitive; occipital-visual.

Representations of functions in the cerebral cortex is associated with the concept of cortical center. Cortical centers of analyzers are located in different areas of the cerebral cortex, which is a signaling system.

THE FEMALE SEXUAL SYSTEM

Nogay V.Ye ., Sumin E.V., Hotchenkov Ye.M .- the 1st-year students
Scientific leaders - Eryomenko K.S., Korneva O.A.

The female body has the female sex cells - ova. Sex cells are produced in special organs called gonads. Estrogen and progesterone play important roles in the development of secondary sex characteristics. Description of major organs of the female reproductive system. The ovaries are a pair of small almond - shaped organs located in the lower abdomen. The uterus is a muscular organ situated between the urinary bladder and the rectum and midway between the sacrum and the pubic bone. The breast (accessory organ of reproduction). The breasts has two mammary glands located in the upper anterior region of the chest. The menstrual cycle is divided into 28 days. The days can be grouped into 4 time periods. The time periods are: days 1-5 (menstrual period)

days 6-13 (postmenstrual period)

days 13-14 (ovulatory period)

days 15-28 (premenstrual period)

The placenta- the organ of communication between the mother and embryo. Pregnancy continues during 9 months. Estrogen and progesterone. These hormones from the ovary, however, are under the influence of other hormones from the anterior lobe of the pituitary gland. Pathological conditions: endocervicitis - inflammation of the inner lining of the cervix; ectopic pregnancy - pregnancy which is not in the uterus; ovarian cysts - collections of fluid or solid material within a sac in the ovary.

BONE FRACTURE

Mikhaylov P.P., Solonin A.P. - the 1st-year students
Scientific leaders - Eryomenko K.S., Korneva O.A.

A bone fracture is a medical condition in which there is a break in the continuity of the bone. A bone fracture can be the result of high force impact or stress, or trivial injury as a result of certain medical conditions. A bone fracture can be diagnosed clinically based on the history given and the physical examination performed.

Imaging by X-ray is often performed to view the bone suspected of being fractured. Treatment of bone fractures are broadly classified as surgical or conservative, the latter basically referring to any non-surgical procedure, such as pain management, immobilization or other non-surgical stabilization. An anatomical classification may begin with specifying the involved body part, such as the head or arm, followed with more specific localization.

SARCOIDOSIS

Surat A., Shchekochikhina O. - the 3rd-year students
Scientific leaders – Cand.Med.Sc. Dubyaga E.V., Korneva O.A.

Sarcoidosis (sarcoidosis; Greek. Sarx, sarkos flesh, flesh + eidos form +-ōsis; synonym: Beck disease, Besnier - Boeck – Schaumann disease, benign lymphoma, chronic epithelioid cell reticuloendotheliosis, etc.) is a systemic disease from the group of granulomatosis, it is characterized by the development of productive inflammation in various organs with the formation of epithelioid cell granulomas, processes of degeneration and necrosis in the surrounding tissues with a frequent outcome in fibrosis. The etiology of sarcoidosis is unknown. It is assumed that sarcoidosis is caused by changes - ultrafine filters or granular forms of Mycobacterium tuberculosis.

Long enough sarcoidosis was a rare disease, but recently its constant increase is marked in the world. Today, the average index in many countries is 10 to 20 per 100 000 population. Sarcoidosis is more common in women (53-66%), the age of the majority of patients (80%) is 20-40 years, but the disease can occur at any age. Phathomorphological changes in the disease are characterized by a variety depending on the duration of the disease, the localization of the process and the character of its flow, i.e the propensity to progression, or conversely, to the regression. There are three pathologic stages of sarcoidosis: pregranulematous, granulomatous and fibrotic. Sarcoid lesions are found in different parts of the lung, especially in the interstitial tissue - peribronchial, perivascular, under the pleura and in interalveolar walls. Epithelioid cells are considered to be the main element of the cell granuloma of among them there are two types - hypertrophical, available in fresh granulomas rich in mitochondria and lysosomes with high activity of phosphatases, and atrophied, occurring on the periphery of the old granulomas with a reduced number of cytoplasmic organelles. In the peripheral zone of the granuloma are dominated lymphoid cell infiltration, accumulation of lymphoblasts and macrophages. System of lesion of various organs is generally recognized. Granulomas may be found in the kidneys, liver, spleen, nervous system, muscles, heart, skin, bone, and of course in the lymph nodes. During the chronic disease fibrosis has common character, cysts are formed in the lung and lung tissue itself resembles a honeycomb; cysts can be large. They result from stretching of the alveolar tissue and formation of bronhioleectasis. They are sometimes determinated as "sarcoid cavity." At the same time are developed severe emphysema, bronchial stenosis due to affection of their walls.

Mortality, which may be the cause of pulmonary heart disease in patients with severe pulmonary fibrosis, the addition of non-specific infections, tuberculosis is 0.5-2%.

LIQUORODYNAMICS

Rylchenko Ju, Golenko K. – the 2nd-year students
Scientific leader – Assoc. Prof. Shackalo Yu.A.

Cerebrospinal fluid is the biological environment of the body which is constantly circulating in the ventricles, the passes carrying out fluid, the subarachnoid space of the brain and the spinal cord. The process of circulation of the spinal fluid in the cavities of the brain, spinal cord, and in spaces under their membranes is LIQUORODYNAMICS.

The main volume of the spinal fluid is produced by the choroid plexuses, of the third, fourth ventricles and in a small amount by the ependyma of the ventricles and an aqueduct of the brain. By now extrachorioid formation of the fluid has been proved, but the question of its source remains open. Normally speed of formation of fluid is a constant. At first from the lateral ventricles the fluid through foramina of Monro arrives to the third ventricle, then through the aqueduct of the brain into the fourth one. The openings of the fourth ventricle connect the ventricular system with the cisternae of pons, the great cistern of the brain. Then from the cisternae of the basis, which are the expanded subarachnoid spaces, the fluid goes in two main directions: in the chiasmatic cictern, lateral fissures of the brain and further in the space, surrounding the frontal and lateral surfaces of the cerebral hemispheres and other portion of the fluid goes through the bypass cistern. Daily about 450ml, according to other data about 500-750 ml of fluid is produced. In the body the process of resorption takes place. The total amount of the fluid is about 100-150 ml. The resorption of the fuid occurs by means of the fibers of volli of the soft brain membrane. Effective pressure is important in the resorption of the fluid. The discharge of the fluid from the ventricles can occur through the lymphatic sheaths of craniocereberal and spinal nerves. The fluid protects the brain and spinal cord from any mechanical injures, provides the maintenance of constant intracranial pressure and water electrolyte homeostasis, supports trophic and metabolic processes between the blood the brain, elimination of products of its metabolism. Fluctuation of the fluid influences in the vegetative nervous system.

MORPHOLOGY AND PATHOLOGY OF THE EYEBALL

Dolinina K., Tonkonogova M. – the 2nd-year students
Scientific leaders: Prof. Krasavina N.P., Ogorodnikova T.L.

It is known that even with a damaged eye structure a disturbance of the ocular apparatus, which can lead to a loss of vision takes place. The eye (Lat. - “oculus”) is an organ of vision of a man and animals, and has the ability to perceive the electromagnetic radiation in the light wave range and provide vision. A man gets about 90% of all information from the outside world. The eyeball is a sphere consisting of three membranes. External, fibrous membrane consists of an opaque sclera, which is continuous with the transparent cornea on anterior surface of the eyeball. The middle membrane includes choroid, a layer which contains a lot of blood vessels which supply nutrients to the eye. The internal membrane of the eye is the retina. The eye lay-

ers and their derivatives are three functional apparatus: dioptric apparatus (the cornea, liquid circulating through the anterior and posterior chambers of the eye, the lens and vitreous body), accommodative apparatus (the iris, ciliary body with ciliary processes) and receptor apparatus (the retina).

CANCER OF THE MAMMARY GLAND

Gevorgyan M., Arakchaa S. the 2nd year students
Scientific leader: Assoc. Prof. Kozlova V.S.

The problem of cancer of a mammary gland is extremely urgent now. And occurrence of cancer of a mammary gland is steadily growing. This disease belongs to the slowly developing and occult passing ones. Cancer has a feature to be developed suddenly and to progress under the influence of many endogenous and exogenous factors.

The mammary gland is covered with the skin. The stroma is a friable not perfectly formed connective tissue. The morphofunctional unit of the gland is a lobule. The excretomy ducts continue into the dilated sinuses (cavities) where the numerous branching milk-carrying ducts go to. Before the period of lactation they end with the thin blind tubules (the alveolar lactiferous ducts). The lactiferous sinuses become open at the apex of the nipple representing the intumescence of the skin.

Adenoma is clinically diagnosed due to accurately outlined dense tumor of various size, which has not been connected with the skin.

As to diagnostics and treatment of cancer of a mammary gland there are the great difficulties connected, in our opinion, first of all with existence of several pathogenetic forms of the disease. They are different according to the rate of development of progression, and in this regard demanding various medical methods of treatment.

FEATURES OF ARTERIAL BLOOD SUPPLY OF MUCOUS MEMBRANE OF ESOPHAGO-GASTRIC TRANSITION

Gevorgyan M., Arakchaa S. the 2nd-year students
Scientific leader - Assoc. Prof. Selivyorstov S.S.

In Sphincterology the issue of arterial blood supply of the mucous membrane of the esophago-gastric transition represents a great theoretical interest; however, this question has not been enough discussed in the publications. The arterial bed of the mucous membrane within the esophago-gastric area was examined basing on the preparations taken from 60 corpses aged 35-60. The following methods were applied: staining the arteries, lightening the plane preparations placed into the plastic packets, histologic and computer analyses (programs Biovision 3). It was found that 10-16 arterial branches of the third order with the diameter of 0.345-0.042 mm had penetrated the submucosa of the esophago-gastric transition through the muscle membrane. According to the quantity, topography and features of their branching three zones of arterial blood supply of the esophago-gastric area were defined. In the first zone corresponding to the mucous membrane of abdominal portion of the esophagus lying 5 cm above the epithelial transition there were 5-20 arteries of the 3rd order with the diameter of 0.297-0.038 mm. They branched 3-4 times before

breaking up into the capillaries. These arteries supplied the esophageal mucosa area of 3.5-4.0 cm with blood. In the second zone corresponding to the histological transition line, which was 1.5-2.0 cm wide the blood supply was due to the arterial branches of the 4th order with the diameter of 0.132-0.02 mm in general. In the third zone lying in a cardinal part of the stomach, 3 cm below the epithelial transition, 4-8 arteries of the 3rd order with the diameter of 0.394-0.063 mm branching 5-7 times, supplying the parts of the mucous membrane of 1.0-1.5 cm. were revealed. As to the intensity of the arterial blood flow the mucous membrane of the cardia was supplied better than the overlying zones.

CORNEA AND SCLERA

Gigaev.V., Videnkin.V.- the 2nd- year students
Scientific leaders - Assoc. Prof. Ogorodnikova.T.L.

The cornea is the transparent front part of the eye that covers the iris, pupil, and anterior chamber. In humans, the refractive power of the cornea is approximately 43 dioptres.

Structure: The cornea has unmyelinated nerve endings sensitive to touch, temperature and chemicals. Because transparency is of primary importance the cornea does not have blood vessels. In humans, the cornea has a diameter of about 11.5 mm and a thickness of 0.5–0.6 mm in the center and 0.6–0.8 mm at the periphery. Transparency, avascularity, the presence of immature resident immune cells, and immunologic privilege makes the cornea a very special tissue. The cornea has no blood supply; it gets oxygen directly through the air.

The sclera also known as the white of the eye, is the opaque, fibrous, protective, outer layer of the eye containing collagen and elastic fiber. In humans the whole sclera is white, contrasting with the coloured iris.

Structure: The sclera forms the posterior five-sixths of the connective tissue coat of the globe. The sclera is perforated by many nerves and vessels passing through the posterior scleral foramen, the hole that is formed by the optic nerve. The thickness of the sclera varies from 1mm at the posterior pole to 0.3 mm just behind the rectus muscle insertions. The sclera's blood vessels are mainly on the surface.

THE MAMMARY GLAND AND RISK OF BREAST CANCER

Paliokha A. - the 2nd- year student
Scientific leader - Ogorodnikova T. L.

Breast cancer takes the first place in the structure of morbidity in women, and its occurrence is growing especially in the elderly. In order to deal with the disease such as breast cancer, you have to understand the structure of the mammary glands. Mammary glands are the modified sweat glands with the apocrine glands type of the secretion. Glandular tissue has ectodermal origin. The adult female breasts are composed of 15-20 separate glands that have alveolar-tubular structure. Each gland forms the lobules, separated by a layer of the connective tissue. Each lobule consists of separate segments, between which there are the layer of the connective tissue rich in the fat cells. The mammary gland consists of secreting areas and the duct system. The ducts join up to form the following lactiferous ducts: alveolar milky passes

(within the lobules), the intralobular ducts (lined with simple cuboidal epithelial cells and with myoepithelial ones), interlobular ducts (in the layer of connective tissue). Breast cancer is a malignant tumor of the glandular breast tissue. Breast cancer can be the following: ductal and lobular. These forms can be both invasive and non-invasive. Histologically, there are the following types of cancer: papillary carcinoma - its occurrence is about 1%; medullary cancer - its occurrence is about 5 – 10%; inflammatory cancer- its occurrence is about 5 - 10%, infiltrative (ductal) carcinoma is revealed approximately in 70% of cases. According to the experts, an important condition for the fight against breast cancer is self-examination, which a modern woman should do regularly. Also, at least once a year a woman has to consult a specialist and conduct an ultrasound investigation starting with the age of 20 and as to mammograms starting with the age of 35.

ARCHITECTONICS OF THE BLOODSTREAM OF THE MUCOUS MEMBRANE OF THE ESOPHAGO-GASTRIC TRANSITION

Evseenkov V., Lebedev S. - 2nd-year students
Scientific leader - Assoc. Prof. Selivyorstov S.S.

The regularities of the structure, topography and morphometric parameters of the blood vessels of the mucous membrane of the esophago-gastric transition, regarded as a vascular complex taking part due to the longitudinal venules of the supracardial section in the antireflux mechanism of the locking apparatus of the lower sphincter of the esophagus were determined. These data are necessary for the development of the new methods of diagnostics and treatment of reflux esophagites and achalasia of the esophagus.

GILBERT'S SYNDROME

Rylchenko Yu., Golenko K. – the 2nd- year students
Scientific leader – Cand.Med.Sc. Egorshina E.

The human body contains one of bilious pigments – bilirubin, which is one of intermediate products of disintegration of hemoglobin occurring in the macrophages of a spleen, a liver and a marrow (about 80 %). It is formed by fermentative restoration of biliverdin. Bilirubed is contained in small amounts in plasma of the blood of vertebrate animals and a man (concentration in a healthy individual about 0.2 — 1.3 mg or 3.4 — 22.2 µmol/l). Bilirubin of serum of the blood is divided into two fractions: conjugated and unconjugated, according to the result of laboratory reaction with a special reagent. Unconjugated bilirubin is a toxic bilirubin which recently has been formed of hemoglobin. Conjugated bilirubin is bilirubin decontaminated in a liver and prepared for discarding from an organism. Normally the content of total bilirubin (conjugated and unconjugated fraction) in serum of blood is from 8.5 to 20.5 µmol/l. The norm of unconjugated bilirubin is about 17.1 µmol/l, the norm of conjugated bilirubin is about 4.3 µmol/l. Disturbance of capture of bilirubin by hepatocytes is Gilbert's syndrome. This binign chronic disorder was described by the French doctor N. Gilbert in 1907. It is characterized by mild constant unconjugated hiperbilirubinemia. Usually Gilbert's syndrome isn't detected tillthe age of 20 and jaundice often remains unnoticed for the patient. It is diagnosed by chance. While

studying the concentration of bilirubin Gilbert's syndrome can be diagnosed in 3-10 % of the population. The total bilirubin is from 21 to 51 μmol/l (1, 2-3 mg of %) and its amount seldom exceeds 86 μmol/l (5 mg of %). During van den Bergh reaction conjugated bilirubin is less than 20 %. However the researches carried out with more exact methods (for example, with a high-performance liquid chromatography (HPLC)), show that practically in Gilbert's syndrome only unconjugated bilirubin is revealed. Usually signs of jaundice are not evident, it can be easely diagnosed during starvation, operations, fever, infections, physical overstrain and alcohol intake. Biochemical indicators of function of a liver and its morphological sings are not changed. In this syndrome the reduced activity of the enzyme uridine diphosphate glucuronyltransferase (ULPGT) of a liver is observed. As a result the hepatic cells can't transform unconjugated bilirubin into conjugated therefore its removal from a liver with bile is difficult. Gilbert's syndrome is a hereditary disease accompanied by continuous or periodic increase of level of bilirubin in blood, jaundice and some other symptoms. Gilbert's syndrome isn't a dangerous disease and doesn't demand special treatment.

EXTRARECEPTORS AND BIOLOGICALLY ACTIVE POINTS. THEIR MORPHOLOGY AND SIGNIFICANCE FOR THE NORMAL FUNCTIONING OF THE ORGANS SYSTEMS OF THE ORGANISM

Kalish Ju. - 2nd - year student
Scientific leader- Ogorodnikova T.L.

The skin is the outer covering of the body of vertebrates, which protects the body from a wide range of external factors involved in breathing, temperature regulation, metabolism and many other processes. Besides the skin is a massive receptive field of different types of surface sensitivity. In the skin there are the end-bulbs of Krause, Meissner's corpuscles and Vater-Pacini corpuscles. The skin is the boundary between the inner and outer environment of the body. The acupuncture points are located on its surface. Acupuncture (from Lat. «Auks»-needle, «puncture»-pricking) is based on the introduction of the needles into the BAPs affecting certain physiological processes due to the fact that they are closely connected with certain organs and tissues. BAPs are the specialized morphological formation, consisting of the aggregates of free and encapsulated receptors, the vascular and neural networks, which are located in the superficial and deep layers of the body, included in the "energy meridians" and performing the function of bioenergy's substations. In China, Korea and Japan, acupuncture is used in a large number of pathological conditions: as a sedative or a tonic for the treatment of chronic diseases and in surgery as well.

ALVEOLUS: STRUCTURE OF ALVEOLAR WALLS

Lazarchuk L. - the 2nd- year student
Scientific leader – Assoc. Prof. Kozlova V. S.

The epithelium covers the alveoli inside and is composed of two main cell types of cells. The basilemma: on it the epithelial cells are situaited. Just below the basilemma membrane the capillaries or interstitial connective tissue of the lung may be found. Lung regeneration: the adult lung tissue can regenerate after surgical re-

moval, at least partly. The observational study by researchers from Harvard Medical School (Boston, USA) has shown. The use of magnetic resonance imaging (MRI) with inhaled hyperpolarized helium-3 allowed them to detect 64% increase in the number of alveoli in the remaining lung in 15 years after pulmonectomy for lung cancer.

FOLK REMEDIES IN ONNURI MEDICINE

Nevedomskaya N. – the 5th-year student
Scientific leaders – Cand.Med.Sc. Molchanova E.E., Cand.Ped.Sc. Bibik I.A

Treatment and prophylaxis of acute respiratory diseases is greatly eased when the therapist's efforts are based on the body correspondence systems. The correspondence systems located in the hands and feet, as well as correspondence systems related to any other anatomical structure consolidate the information about the human body. Application of compresses in the region corresponding to the upper respiratory tract and lungs. The thumb and the thenar area are to be covered with a gauze bandage imbued with honey. Over it some compress paper and cotton wool should be placed, and the resultant compress is fixed by means of a bandage. The compress place should be warmed with a woolen glove or sock. The bandage is being used from 8 to 10 hours.

The use of diverting and warming remedies.

In onnuri medicine a mustard plaster or pepper plaster are used. A piece of plaster, of the required shape and size is cut out and put right on the area corresponding to the chest. The "Finalgon" ointment and "Golden Star" balsam are highly recommended. They are to be rubbed into the thenar skin. Besides combination of curative action of garlic and moxotherapy is also useful. A piece of garlic can be employed as a minimoxa stand. To this end, a small piece of a garlic clove in the shape of a tablet should be cut out. The moxa is applied to the bronchi and lungs correspondence points which are the most painful ones. The cough reflex can be promptly suppressed by the application of different types of magnetic starlets or seeds onto the area involved and massage. Folk medicine has accumulated knowledge about how natural remedies can be used to cure diseases. The creative approach to the potentialities offered by correspondence systems-based therapy will enable medical practitioners to make most efficient use of that precious heritage.

FEATURES OF THE DEVELOPMENT OF HEMORRHAGIC FEVER WITH RENAL SYNDROME IN THE AMUR REGION

Shevel L. - the 5-th year student
Scientific leaders - Gavrilov A.V., Cand. Ped. Sc. Bibik I.A.

The prevalence of HFRS in Russia: HFRS cases are registered in 61 administrative territories of Russia. The most active natural foci of HFRS are in the Ural and Volga regions. Along with the long-known centers of HFRS in the far east of Russia, from the mid 80's HFRS cases are recorded annually in western Siberia.

Factors determining the endemicity of the Amur region on HFRS: landscape and geographical location - the optimum habitat of key species of rodents, which are reservoirs and vectors of HFRS virus in nature. The favorable climate and geo-

graphical features of the region include species composition of fauna, as well as the proximity of China, where each year about 50 thousand cases of HFRS morbidity are registred (90% of total incidence in the world). Natural foci of HFRS occupy more than 40% of the area with the exception of the Zeya, Magdagachi, Selemdjinsk, Szymanowski Skovorodinsky, Tynda districts.

Hantavirus natural reservoirs in the Amur region: field mouse, mouse houses, a large eastern vole, vole red-gray, gray rat. Infected with hantavirus these species range from 2.1 to 4.3%.

Long-term dynamics of HFRS incidence from 1988 to 2007: HFRS occurs in cycles, frequency of 4-5 years. Outbreak incidence is reported in 1990, 1995, 1999 and 2004. Cyclical nature of the disease is due to increasing in the number of rodents, including the development of epizootics.

Analysis of the incidence of HFRS: incidence recorded throughout the year. Maximum disease observed in autumn and winter, when there is nearly 70% of the annual number of cases. Autumn-winter season of HFRS associated with the migration of rodents in areas of human habitation. The distribution of disease by gender is 85% of the sick are men.

From 1996 to 2007, 125 cases of HFRS are reported. Despite the fact that the in Amur region sporadic incidence is recorded, the number of deaths was 10%. In 1999, outbreak was registred in a boarding school of the Svobodniy, wich affected the life of 12 children. The disease is more severe, with severe intoxication and hemorrhagic syndrome.

The total number of rodents is increasing in recent years, the cases of HFRS are decreasing. The reason may be the appearance of worn, easy leaking or atypical forms of the disease, which go under the other diagnoses, in the absence or weak expression of the leading symptoms.

RACIAL CHARACTERISTICS OF A PERSON

Lukashov I., Ramzina I. – the 2-nd year students
Scientific leaders - Zherepa L. G., Volosenkova Ye. A.

Race –is a natural historical category. It is characterized by a set of transmitted morphological signs common to a group of people living in a certain area. Modern races formed in different geographical, climatic, geo-political and social conditions. No matter how changeable shape of the skull, is these changes do not affect the man's mental abilities. Long, short and intermediate forms of the skulls are found among the skulls of all races, nationalities, and are not the signs of cranial capacity. Cross-breeding (miscegenation) – is a very old process in the development of humanity, leading to the emergence of new modern races, such as the South Siberian, Ural, etc.

ATHEROSCLEROSIS

Sidorov. A.S. Lukashov. I.A - the 2nd-year students
Scientific leaders - Feoktistova N.A. ,Volosenkova Ye.A

Atherosclerosis- is a condition in which an artery wall thickens as a result of the accumulation of fatty materials such as cholesterol. It is a syndrome affecting

arterial blood vessels, a chronic inflammatory response in the walls of arteries, caused largely by the accumulation of macrophage white blood cells and promoted by low-density lipoproteins (LDL, plasma proteins that carry cholesterol and triglycerides)

The main cause of atherosclerosis is yet unknown, but it is supposed to initiate by inflammatory processes in the vessel wall in response to retained low-density lipoprotein (LDL) molecules. Inside the vessel wall, LDL molecules become susceptible to oxidation by free radicals, and become toxic to the cells.

Pathogenesis of atherosclerosis is called aterogenesis. It occurs at some stages. Development of atherosclerotic damage — is a set of processes of entering the intima and lipoprotein and leukocytes, outlet proliferation and death of cells, formation and reorganization of intercellular substance, and also excrescence of vessels and calcification. These processes are controled by a number of signals, which are often multidirectional.

Non-pharmaceutical means are usually the first method of treatment, such as cessation of smoking and practicing regular exercise. If these methods do not work, medicines are usually the next step in treating cardiovascular diseases, and, with improvements, they increasingly become the most effective method over the long term.

STRUCTURAL ORGANIZATION OF THE HUMAN BODY

Sidorov. A.S - the 2nd-year student
Scientific leaders - Zherepa L.G., Volosenkova Ye.A

The human organism is a historically developed complete, consfantly changing system having the special structure and development, capable to a metabolism with the environment, to growth and reproduction. The organ system is a set of the homogeneous organs similar in the structure, function and development. Organ-represents a historically developed system of various tissues. Organ is the complete formation having certain, inherent only to it the form, to a structure, function, development and position in an organism. Tissue is a historically developed particular system of an organism, it consists of cells and their derivatives and has specific properties.

Types of tissues are: Epithelial, connective, muscular, nervous. Blood is a specific physical fluid in animals that supplies necessary substances such as nutrients and oxygen to the cells and transports metabolic waste products away from the same cells.

THE DISCOVERY OF INSULIN

Vinnik V., Podlesnova A. - the 4th-year students
Scientific leader - Tanchenko O.A.

Insulin takes a special place in the history of a science. For the same molecule, the Nobel Committee has awarded the prize twice: in 1923 - for his discovery (Frederick Banting and John Macleod), and in 1958 - for the determination of its chemical composition Frederick Sanger (insulin and this was the first - the first protein with to decipher the sequence of amino acids).

In 1869, in Berlin, 22-year-old medical student Paul Langerhans studied using the new microscope structure of the pancreas, called attention to a previously unknown cells forming groups that were evenly distributed throughout the gland. The function of these "little heaps of cells", later known as the "islets of Langerhans"
In 1900, Leonid Sobolev found that after ligation of the pancreatic ducts glandular tissue atrophies, and the islets of Langerhans remain. These results allowed to conclude that the islets of Langerhans are required for the regulation of carbohydrate metabolism.

So it seemed that the pancreas must have at least two functions:
1. To produce digestive juices
2. To produce a substance that regulates the sugar glucose.

This hypothetical internal secretion was the key. If a substance could actually be isolated, the mystery of diabetes would be solved. Progress, however, was slow.

Dr. Frederick Banting wanted to make a pancreatic extract, which he hoped would have anti-diabetic qualities. At the University of Toronto, Canada, along with medical student Charles Best, they managed to make the pancreatic extract.

In the Dictionary of Applied Genetics article on insulin ends thus: "I. discovered by F. Banting and Charles Best in 1921-1922., and its primary structure (a first for proteins in general) is set F. Sanger in 1945-1956. ". Perhaps Banting helped that he was engaged in the problem of diabetes with no experience and professional scientific knowledge. Frederick Banting, an unknown surgeon with a bachelor's degree in medicine, had the idea that the pancreatic digestive juices could be harmful to the secretion of the pancreas produced by the islets of Langerhans. Banting took his idea to Professor John Macleod at the University of Toronto, who was a leading figure in the study of diabetes in Canada. Macleod didn't think much of Banting's theories. Despite this, Banting managed to convince him that his idea was worth trying. Macleod gave Banting a laboratory with a minimum of equipment and ten dogs. Banting also got an assistant, a medical student by the name of Charles Best. The experiment was set to start in the summer of 1921.

In 1920, Dr. Frederick Banting wanted to make a pancreatic extract, which he hoped would have anti-diabetic qualities. In 1921, at the University of Toronto, Canada, along with medical student Charles Best, they managed to make the pancreatic extract.

Their method involved tying a string around the pancrease duct. When examined several weeks later, the pancreatic digestive cells had died and been absorbed by the immune system. The process left behind thousands of islets. They isolated the extracts from the islets and produced isletin. What they called isletin became known as insulin.

In 1922 the insulin was tested on Leonard Thompson, a 14-year-old diabetes patient who lay dying at the Toronto General Hospital. He was given an insulin injection. At first he suffered a severe allergic reaction and further injections were cancelled. The scientists worked hard on improving the extract and then a second dose of injections were administered on Thompson. The results were spectacular.

The news of the successful treatment of diabetes with insulin rapidly spread outside of Toronto, and in 1923 the Nobel Committee decided to award Banting and

Macleod the Nobel Prize in Physiology or Medicine. Banting, Macleod, and the rest of the team patented their insulin extract but gave away all their rights to the University of Toronto, which would later use the income from insulin to fund new research.Very soon after the discovery of insulin, the medical firm Eli Lilly started large-scale production of the extract. As soon as 1923, the firm was producing enough insulin to supply the entire North American continent. Although insulin doesn't cure diabetes, it's one of the biggest discoveries in medicine. When it came, it was like a miracle. People with severe diabetes and only days left to live were saved. And as long as they kept getting their insulin, they could live an almost normal life.

ORGANS OF VISION

Ruzmetova S., Sakhnova O., Shalagina Ye., Ushakova A., Antonosyan T. – the 1st-year students
Scientific leaders – Yeremenko K.S., Volosenkova Ye. A.

Organs of vision. Anatomic and physical features of a structure of organs of vision. Structure of the retina of a normal eye. Structure of the lacrimal channel and lacrimal gland. Functions of an optic nerve. Passing of a ray of light from conjunctiva to a cerebral cortex. Pathologies of organs of vision. Pathological condition of organs of vision. The main causes of the vision organs work damage today. How can we keep our eyes healthy?

FETAL CIRCULATION

Chernik I. N., Okrugin M. – the 2nd-year students
Scientific leaders – Zherepa L. G., Volosenkova Ye. A.

The placenta fulfills functions of the lungs, organs of the alimentary system, kidneys, skin and other organs of a fetus. Everything that is necessary for development, the fetus receives from blood of a mother. The umbilical cord is the connecting cord which spreads from the fetus to the placenta. There is an opening between the right and left atrium (the foramen ovale). The upper part of the body of a fetus (especially a brain) receives blood which is enriched with oxygen and nutrients better than the lower part of the body

APPLICATION OF GESTALT THERAPY IN THE TREATMENT OF THE NEUROTIC PATIENTS

Tarasova Ye. – the 6th-year student
Scientific leaders - Agarkov A.A., Volosenkova Ye.A.

Gestalt therapy is an existential/empiric form of psychotherapy that emphasizes personal responsibility, and that focuses upon the individual's experience in the present moment, on the therapist-client relationship, the environmental and social conditions of a person's life, and the self-regulating persons corrections giving a result in a certain situation.

Gestalt therapy is a form of psychotherapy, based on the empiric ideals of "here and now," and the relationship with others and the world. Supporting by the ideas of humanistic psychology, the school of Gestalt therapy was co-founded by Fritz Perls, Laura Perls, Ralph Hefferline and Paul Goodman in the 1940s-1950s.

Gestalt therapy is a type of therapy used to deepen our awareness of ourselves

and our feelings in a less intellectual manner than more traditional forms of therapy. Gestalt" means the whole; it implies wholeness. The idea in Gestalt therapy is that all of us have or had to restrain or suppress aspects of ourselves because they were not accepted or supported. These aspects of ourselves or our feelings that are in the background and can become unfinished business. Gestalt therapy can help shed light on an unfinished business by helping us to focus our consciousness on our feelings (or lack of feelings) from moment to moment. Gestalt therapy continues to thrive as a widespread form of psychotherapy, especially throughout Europe, where there are many practitioners and training institutions.

BLUE PUS BACILLUS (PSEUDOMONAS AERUGINOSA)

Loskutnikova M. – the 3rd year student
Scientific leaders – Bubinets O.V., Volosenkova Ye.A.

Blue pus bacillus is an opportunistic pathogen that infects people having the weakened immune system. Predisposing conditions include a disrupted epithelial barrier (as found in a patient with a burn wound), a depletion of neutrophils (for example, in a cancer patient receiving chemotherapy), the presence of a foreign body (in a patient with a central venous catheter) and the mucociliary clearance change(in an individual with cystic fibrosis). Many Blue pus bacillus infections occur after the patients have been hospitalized. Several factors which can explain pathogenesis. It can use a broad spectrum of nutrients and can thus grow in hospital drains, sinks and even disinfectant solutions. Blue pus bacillus is resistant to a large number of antibiotics and can acquire resistance to many other, preparations making treatment to be difficult. The property of Blue pus bacillus is to form biomembranes which protect it from antibiotics and from the host immune system. In addition, it has a lot of pathogenic factors which diminish the protective agents of the macroorganism.

ABOUT THE CLINICAL APPLICATION AND THE COMPARATIVE EFFECTIVENESS OF AMARYL-M AND GLIBENKLAMID IN PATIENTS WITH DIABETES MELLITUS OF TYPE 2

Chernova. A. - the 4th-year student
Scientific leaders - Strunina Yu.Z., Volosenkova Ye.A.

Diabetes mellitus of type 2 is a serious medical and social problem. It is due to the extremely high prevalence of LED2, the risk of development of cardiovascular complications, early invalidization of patients and premature mortality, which is 2-3 times higher, than in population. Among patients suffering from diabetes, the prevalence of IHD is 2-3 times, the risk of myocardial infarction 6-10 times and strokes-4-7 times higher than among persons without diabetes. Results of various studies confirmed the importance of timely and adequate control of hyperglycemia in diabetes 2, which leads to reducing the risk of cardiovascular complications by 25%.

The largest groups of sugar lowering preparations are derivatives of sulfony-

lurea. Drugs of sulfonylurea of the 1st generation, used in the 1970s, had adverse effects on the cardiovascular system. Amaryl-M is a drug of sulfonylurea of the 3rd generation, which has no side effects of drugs of the 1-St and 2-nd generations. It is proved by a number of experimental and clinical studies.

Results. The patients of the 2-nd group had compensation of DM (HbA1c<7%), and the decrease of blood glucose level less than 7,0 mmole/l without increasing the frequency of hypoglycemia. In contrast to them, the patients of the 1-st group, receiving glibenclamide, marked the increase of hyperglycemia frequency, mainly in the pre- and after lunch time, the decrease of glucose level of the capillary blood by 8,0 mmole/l. It contributed to the increase in the body weight: body weight index (BWI) increased by 8%. In the patients of the 2nd group BWI was not marked. Moreover in the group of males the decrease of BWI by 4% was marked. It contributed to the improvement of the general well- being and satisfaction of the treatment.

Conclusions. High clinical effectiveness, safety, good tolerability, as well as the ease of the use of Amaryl-M have contributed to the improvement of blood glucose control without an increase in BMI and reduced the number of hypoglycemic condition. Patients with diabetes 2 and obesity of the 1st and 2nd grade of. Convenience of taking the drug increases the adherence of patients to the implementation of medical advice and improves the quality of life of the patients.

ANTHROPOMETRIC CHARACTERISTICS IN CHILDREN WITH ANTENATAL ADENOVIRUS INFECTION HAVING OFTEN ACUTE RESPIRATORY VIRAL INFECTIONS DURING THE FIRST YEAR OF LIFE

Lapteva M., Larionov A. - the 1st-year students
Scientific learders – Prof. Labzin V.I., Cand.Med.Sc. Gorikov I.N., Volosenkova Ye.A.

Antenatal adenovirus infection in the newborns who form the group of children with often acute respiratory viral infections led to a lower estimation by Apgar scale and also to the decrease of the body's length, of head and chest circumference, which proves a negative influence of DNA-infection on the children of early neonatal age. Those children who were often ill within 6 months had a decrease of body length and head circumference, and in 12 months they had a decrease of head and chest circumference, which can be considered as a delayed negative effect on adenoviruses of phosphorus-calcium exchange provision of optimal conditions for formation of the skull and bones and joints of apparatus in the postnatal ontogenesis of a person.

1. Anthropometric indices in children 1 year of age are defined by features of intrauterine development and intensity of plastic processes in their bodies.
2. Prenatal adenovirus infection in newborns
3. Differences of indices of the physical development in intrauterine adenovirus infection.

CLINICAL CASE: DELAY OF SEXUAL DEVELOPMENT. HYPOPITUITARISM. HYPOGONADOTROPIAN HYPOGONADISM

Maslenikova K., Stokoz K. - the 6th year students

Scientific leaders - Cand.Med.Sc. Putinceva O.G., Volosenkova Ye. A.

Patient V. of 17 years complained of low height, absence of mammary glands and menstruations. Child is from the 3rd pregnancy, antenatal period was complicated. In the I half – toxicosis, In the II half – hypoxia, preeclampsia. Birth was in time. It was vaginal birth, which was complicated. The neck of the child was entwined with the umbilical cord. Body weight made up 4000 gr, child's stature was 57 cm. She was under the care of endocrinologist. At the age of 5 years STH (somatotropin hormone) its insufficiency was diagnosed as well as secondary hypothyroidism. Hormonal therapy with somatotropin (norditropin, nordilet, L-thyroxyn) was appointed. In a year the child's stature increased up to 11 cm, during last 6 mounts – 4 cm.

Examinations: the child's stature – 142 cm, weight – 40 000 gr. Physical development within 11 years. Formula of sexual development: Ax – 0, Ma – 0, P – 0, Me – 0. Ultrasound examination of small pelvis: uterus 24*7*18 cm, M-echo – linear, volume of ovaries reduced – 2,1 cm, 1,6 cm, follicles are small. USE showed that the thyroid and adrenal cortex are without structural changes. Hormones: oestradiol – 14,0 pmol/l (low), LG – 0,14 mME/ml (low), FSH – 0,07mME/ml (low), prolactin – 167,9 mME/l (normal), insulin – 7,7ME/ml (normal), TTH – 1,96 (normal), T4(free) – 2,78 pmol/l (low), cortisol – 1,76 nmol/l (normal). Roentgenography of hands – bone age corresponds to 12 years (low). Head CT: outside hydrocephaly, rotation subluxation C1. Karyotype: 46XX. USE of internal organs is without changes.

Diagnosis: Delay of sexual development. Hypopituitarism. Hypogonadotropian hypogonadism. STH – insuffiency. Secondary hypothyroidism. Retinal myopathy. Desorder of tolerance to glucose.

Therapy of STH was continued: rostan, L-thyroxyn – always. Diet №9. Hormonal replacement therapy with natural oestrogens during 3-6 mounts. When menses begins, progesteron, which modulates menstrual cycle, is added. Duration of therapy is up to 35-45 years under the hormone dependent-organs control.

The basic criteria of efficiency of the therapy are formation of mammary glands, sexual hairiness, increase of height. Hormonal replacement therapy is more effective at the age of 14-15. Fertility prognosis: temporary regeneration of fertility is possible with the use of the method of induced ovulation with LH, FSH or agonists of gonadotropin-releasing-hormones in circhorial mode.

MUSCLE TISSUE DAMAGE AND REGENERATION

Borodin P., Liyasova A., Babenko S. - the 2nd year student
Scientific leaders - Ogorodnikova T. L., Volosenkova Ye. A.

Muscle tissue is one of the four basic biological tissues presented in animals. It is a soft tissue that composes muscles. There are three types of muscle tissues: skeletal, smooth and cardiac and muscle tissue damage can occur in all of this types. Indicators of muscle damage include loss of strength and range of motion, accumulation of cellular calcium, delayed onset of muscle soreness (DOMS), and increased blood levels of creatine kinase.

Damage of muscles can be a serious problem for sportsman as it can cause the

pause or even the end of sports career. Muscle damage causes a lot of problems for doctor - it is wide-spread and difficult to diagnose. Damage of cardiac muscle is known as myocardial infarction and is a very serious and wide-spread problem in the modern society. Recovering also may take a long time.

Regeneration of muscles has a great value in sports, for example, for body-builders. Muscle precursor cells, or satellite cells, are responsible for muscle tissue regeneration that may take days to weeks to complete. In the case of severe skeletal muscle damage fibrosis can occur, interrupting contraction of skeletal muscle. Fibrosis is typical after myocardial infarction also. It is useful to doctor to know not only the muscle tissue structure but the basis of its regeneration.

THE EDUCATIONAL MUSEUM AT THE DEPARTMENT OF ANATOMY

Liyasova A., Borodin P., Babenko S. - the 2nd year students
Scientific leaders - Zherepa L. G., Volosenkova Ye. A.

At the department of anatomy of the Amur State medical Academy there is the educational- museum. This museum helps both students and teachers to study and teach anatomy, respectively, demonstrating the visual representation of the structure of human body. Now educational museums are estimated highly because of their advantages in illustrating the content of the study program. Anatomic museum is not only the place for storage of anatomic preparations, but it helps students and practical doctors to develop an anatomic thinking, to become anatomists. In science like anatomy visualization is very important.

To understand the structure of the human body it is necessary to look through it at first. The great Russian anatomist Vladimir N. Tonkov said: "Museum of the department is a pride of the department. The exhibits are collected slowly and each teacher retains something for memory of himself." The modern anatomic museum has no purpose to eliminate demonstrations of the anatomic preparations at the practical classes, but it helps to organize the self-study of students. Museum has no negative influence on students but its advantages are obvious. The anatomic museum is used for the popular science excursions for different contingent of people – students of the medical college, of the faculties of physical culture and so on. For them museum represents the base of studying anatomy.

EFFECT OF COMPENSATED CHRONIC TONSILLITIS ON THE PHYSICAL DEVELOPMENT OF WOMEN AND THEIR CYTOKINE STATUS

Dorzhieva Ye., Batomunkuev Z. - the 1st-year students
Scientific leaders - Assoc. Prof. Labzin V.I., Gorikov I.N., Volosenkova Ye.A.

In the structure of the upper respiratory tracts diseases the most common pathology is compensated chronic tonsillitis.

The estimation of the cytokine status in women. Physiological characteristics of women of the childbearing age with compensated chronic tonsillitis.
Symptoms in the patients with compensated chronic tonsillitis.

Conclusions.

MODERN PROBLEMS OF REGENERATION

“PHYSIOLOGICAL REGENERATION AND ITS SYSTEMIC REGULATION IN THE BONE TISSUE. AGE AND SEXUAL FEATURES OF OSTEOHISTOORGANOGENESIS”

Gigolyan P., Kolobova Ye. - the 2nd-year students
Scientific leaders - Prof. Krasavina N.P., Volosenkova Ye.A.

During ontogenesis of an individualthere is a physiological degeneration and physiologicalregeneration in tissues. In a spongy substance of bones there can be a partial or full resorbtion of bony beams, formation of new ones or precipitation of a new bone substance on partially resorbed beams. During reorganization phases osteogenesis consistently proceed: activation, resorbtion, reversion, formation of osteogenesis. The mechanism of physiological regeneration of a compact substance of a bone is considered from the positions of functioning of basic multicellular units. The concept of BME reflects formation of new osteons in the place of the old ones. System regulation of physiological regeneration is carried out by hormones and substances with hormone like action. It is supposed that hormones are capable to stimulate an expression of osteoblast-specific genes. Among the main systemic factors of regulation of osteogenesis of PTG, sexual hormones, a calcitonin, glucocorticoids, a thyroid hormone are mostly studied.

DIETARY FISH OIL ALTERS RAT MILK COMPOSITION AND LIVER AND BRAIN FATTY ACID COMPOSITION OF FETAL AND NEONATAL RATS

Chernik I.N. – the 2nd-year student
Scientific leaders – Feoktistova N. A., Volosenkova Ye. A.

Polyunsaturated fatty acids (PUFA) play an important role in growth and development of the infant’s brain and retina. The effects of dietary fish oil on tissue phospolipid, tissue or serum cholesterol, and prostaglandins produced from PUFA and platelet aggregation have been demonstrated in animal studies. There have been few studies on the effect of dietary fish oil in the tissue lipids of fetal and neonatal rats. We examined the effect of diets with fish oil containing (n-3) PUFA, especially 22:6(n-3), on fatty acid concentrations in the dams milk and on tissue fatty acid composition in fetal and neonatal rats. The weights of the liver and brain of individual fetal rats showed no significant differences between groups at any gestational age. The food intake and body weight gained of the pregnant rats were measured for both groups, but there were no significant differences between groups. The level of 20:4 (n-6) in all classes of liver phospholipid for the experimental group was lower than that for the control group during the fetal period and after birth, exept at 2 week of age. The level of 22:6(n-3) in brain of the fish oil-fed group was higer in phosphatidylethanolamine and phosphatidylserine than in phosphatidylcholine or phosphatidylinositol. After birth, livers of the fish oil-fed group in the present study showed a relatively low 20:4(n-6) concentration compared with the control group. The 20:4(n-6) was localized in phosphatidylinositol in the brain, unlike 22:6(n-3) contained in the fish oil.

THE MUSCULOSKELETAL SYSTEM

Velchenko E. - the 1-st year student
Scientific leaders - Yeremenko K.S., Bibik I.A.

The musculoskeletal system includes the bones, muscles, and joints. Each has several important functions in the body. Bones, by providing the framework around which the body is constructed, protect and support our internal organs. Also, by serving as a point of attachment for muscles, bones assist in body movement. The inner core of bones is composed of hematopoietic tissue (red bone marrow manufactures blood cells), while other parts are storage areas for minerals necessary for growth, such as calcium and phosphorus. Bones are complete organs, chiefly composed of connective tissue called osseous (bony) tissue plus a rich supply of blood vessels and nerves. Osseous tissue is a dense connective tissue which consist of osteocytes (bone cells) surrounded by a hard, intercellular substance filled with calcium salts. A bone grows in width through the action of osteoclasts within which dissolve out the inner walls and make the interior hollow wider. At the same time, osteoblasts add layers of bony tissue to the outer surface. When a bone breaks, osteoblasts lay down the mineral bone matter (calcium salts) and osteocblasts remove excess bone debris (smooth out the bone).

LYMPHATIC SYSTEM

Buryak L., Rudakova E., Geraskina E., Yakimova D. - the 1st-year students
Scientific leaders – Eryomenko K.S., Korneva O.A.

The lymphatic system is important to the body's defense mechanisms. It filters out organisms that cause disease, produces certain white blood cells and generates antibodies. It is also important for the distribution of fluids and nutrients in the body, because it drains excess fluids and protein so that tissues do not swell up. Lymph is a milky body fluid that contains a type of white blood cells, called lymphocytes, along with proteins and fats. Lymph seeps outside the blood vessels into the spaces of body tissues and is then stored in the lymphatic system to flow back into the bloodstream. Through the flow of blood in and out of arteries, and into the veins, and through the lymph nodes and into the lymph, the body is able to eliminate the products of cellular breakdown and bacterial invasion.

The spleen is located in the upper left abdominal cavity, just beneath the diaphragm, and posterior to the stomach. It is similar to a lymph node in shape and structure but it is much larger. The spleen is the largest lymphatic organ in the body. Surrounded by a connective tissue capsule, which extends inward to divide the organ into lobules, the spleen consists of two types of tissue called white pulp and red pulp. The white pulp is lymphatic tissue consisting mainly of lymphocytes around arteries. The red pulp consists of venous sinuses filled with blood and cords of lymphatic cells, such as lymphocytes and macrophages. Blood enters the spleen through the splenic artery, moves through the sinuses where it is filtered, then leaves through the splenic vein. The thymus is a specialized organ of the immune system. The thymus "educates" T-lymphocytes (T cells), which are critical cells of the adaptive immune system.Each T cell attacks a foreign substance which it identifies with its receptor. T cells have receptors which are generated by randomly shuffling gene segments. Each

T cell attacks a different antigen. Thymus epithelial cells express major proteins from elsewhere in the body, and T cells that respond to those proteins are eliminated through programmed cell death (apoptosis).The thymus is composed of two identical lobes and is located anatomically in the anterior superior mediastinum, in front of the heart and behind the sternum.

VITAMIN PP (NIACIN)

Zveryakov V.G. - the 1st-year student
Scientific leader - Feoktistova N.A.

Niacin

Niacin (pyridine-3-carboxylic acid) is an organic compound with the formula C6H5NO2 and, depending on the definition used, one of the forty to eighty essential human nutrients.

History

Niacin, also known as vitamin B3, is in low supply in corn, and deficiencies of this vitamin are pretty much confined to predominately maize-eating populations; it is, however found in liver, lean meat, grains, and legumes. The amino acid tryptophan can be converted into niacin in the body, but it is also relatively deficient in maize (Pyke 1970)... The deficiency disease associated with low niacin intake is pellagra. Clinical signs begin with skin problems that resemble sunburn, including the distinctive "Casal's collar", a skin condition resembling a necklace (Wood 1979), but later more severe dermatitis, diarrhea, and neurological symptoms appear. The condition can be fatal (Newman 1962), but even when less severe it causes impaired work capacity and psychiatric disorders (K.V. Bailey 1975). Pellagra has been found in poor people living in the southern United States as well as in other areas highly reliant on maize as a dietary staple.

Receiving and synthesis

Nicotinic acid was first synthesized in 1873 Vaydel's the oxidation of nicotine with nitric acid, a modern laboratory and industrial methods for the synthesis of nicotinic acid are also based on the oxidation of pyridine. Thus, nicotinic acid can be synthesized by oxidation B-Picoline (3-methylpyridine) or oxidation of quinoline to pyridine-2,3-dicarboxylic acid, with subsequent decarboxylation.

Character

B3 is one of 8 B vitamins. It is also known as niacin (nicotinic acid) and has 2 other forms, niacinamide (nicotinamide) and inositol hexanicotinate, which have different effects from niacin. All B vitamins help the body to convert food (carbohydrates) into fuel (glucose), which is used to produce energy. These B vitamins, often referred to as B complex vitamins, also help the body use fats and protein. B complex vitamins are needed for healthy skin, hair, eyes, and liver. They also help the nervous system function properly.

All the B vitamins are water-soluble, meaning that the body does not store them. Niacin may increase blood sugar levels. Cholesterol-lowering Medications -- Niacin binds the cholesterol lowering medications known as bile-acid sequestrants and may make them less effective.

High doses (50 mg or more) of niacin can cause side effects. The most common side effect is called "niacin flush," which is a burning, tingling sensation in the face and chest, and red or flushed skin.

One recommended daily allowance of niacin is 2–12 mg/day for children, 14 mg/day for women, 16 mg/day for men, and 18 mg/day for pregnant or breast-feeding women.

Taking any one of the B vitamins for a long period of time can result in an imbalance of other important B vitamins. For this reason, you may want to take a B complex vitamin, which includes all the B vitamins.

DEUTSCHE ABTEILUNG

DIE HAUTLYMPHOME

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Die Wissenschaftliche Leiter: D.m.W., W.W. Woizechowskij.,
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Die Hautlymphome sind heterogenne Gruppe der neoplastischen Erkrankungen, die mit Proliferation des Klones der Lymphozyten in Haut bedingt sind. Sie sind den Lymphomen anderen Lokalisationen zytomorphologisch gegenubergestellt, z. B. Magendarmkanal oder Lymphoknoten. Das Vorhandensein der Besonderheiten der Hautverletzungen eine besondere Klassifikation dieser Pathologien, die klinisch oder histologisch erscheinen.

Das Krankheitsbild wird durch Eigenschaften der Tumorzellen bestimmt. Meistens sind sie reife β – Lymphozyten, die zur Differenzierung in plazmatischen Zellen oder zur Transformation in kleine und groβe follikulare Zellen fahig. β – Lymphozule und ihre Produkte haben keine Epidermotropism, deshalb sammeln sie sich vorteilhaft in Netzhaut zu. Ausschage sind mit Knoten und Plaquen mit scharfen Grenzen vorgestellt. Beide konnen spurlos regressieren und begleiten mit juckreiz nicht. Mit Verstarkung der Tumorprogression beim Krankheitsbild werden groβe Knoten pravalieren.

Die Behandlung.

Weil maligne Hautlymphome heterogenne Gruppe der Krankheiten vorstellen, gibt es keine einheitliche Taktik.

Die Situation wird komplizierter, weil es keine kontrollbare Forschungen gibt, die Dosen, Frist oder effektieve Kombinationen der Praparaten exakt bestimmen. Auβerdem unterscheiden sich die Behandlung der T – zelligen Hautlymphomen. Heutzutage wird den Stadien nach, zurückhaltende Therapie empfehlt. In frühen Stadien steht in der 1. Stelle lokale Behandlung und werden Steroide, PUVA, Zytostatiken wie BCNU oder Padiotherapie mit schnellen Elektronen und schonende Roentgentherapie verwendet. In weiteren Stadien wird Systemtherapie, z.β. Kombination PUVA mit Retinoiden oder rekombinanten Interferone verwendet.

GESCHLECHTSUNTERSCHIEDE BEI LEUTEN, DIE AN DER ISCHAMIE DES HERZENS ERKRANKEN

Archipowa M. – die Studentin des 2. Studienjahres.
WissenschaftlicheLeiter: A.W. Wodopjan, N.A. Tkatschjowa.

Die globaleForschungen, die in der letzden 10-15 Jahrendurchgefuhrt werden, haben die Bedeutung der ischamiealsRisiko des Todes und der Komplikationen der Herzkrankheitenbeweisen. EsgibtbedeutendeGeschlechtsunterschiede in Etyologie, Prognose und Effektivitat der Behandlung der chronischenHerzinsuffizienz.

VorunsererGesellschaftstehtsehrwichtiges Problem: die Gesundheit der alteren Menschen zubewahren. Dabei muss man besondereAufmerksamkeit der Vorbeugung der Herzgefasskrankenheitenschenken, weilsie die erste Stele unter den anderenUrsachen des Todeseinnehmen. EpidemiologischeAngabe der amerikanischenAssotiation des Herzenszeigen, dass fast eineHalbe der Todesfallen der Frauen wegenIschamieist, was zweimalhoheralsSterblichkeit an Krebs ist. Die

Untersuchungenmehrals 500 Frauen mitakutenInfarktmyokardenhabengezeigt, dass dieersteMerkmaledieserKrankheit die Mudigkeit (71%), Schlafzerstorung (48%) und Afemnot (42%) sind. BeiFrauen werdennichttypische fur StenokardieMerkmalebemerkt. In vielen Fallen fehlen die elektrokardiographiescheMerkmale der Erkrankung. Dies fuhrtzuspaterenDiagnosestellung und Behandlung.

In 50% der Fallen kann die Frau an erztenkoronarenAnfallsterben und in 38% sterbtwahrend des erstenJahres der Krankheit, obwohldieseAngabenbei Manner bedeutendniedrigsind : 30 oder 25%. NacherlebtenInfarktwerden die Frauen in 46% arbeitsunfahig, bei Manner betragtes 22%. Das hangt von physiologischenBesonderheitenab, die auf Pharmokinetikbeinflussen. Die FrauenhabenGewicht und die Grosse der innerenOrganenetwaweniger, aberFettmengeist grosser alsbei Manner. Die Geschlechtshormone und Wasserniveau in Organismus der Frau sindunterschiedlich, weil von Phase der Periodeabhangt. Bei Frauensindglomerulare Filtration und Klirens des Kreatininsniedriger. Aberischamie des Herzens gilt alsHauptfeind der Manner, weil die Krankheitbedeutendschwirigerheilt.

DieseKrankheitistphatologischerZustand, die mit absolute oder relative Stohrung der BlutzirkulationdurchSchadigung der KoronarenArteriencharakterisiertwird. Das ist die Ursache der Atherosklerose. So werden den KrankenStatineverordnet. Eine intensive hypolipidemischeBehandlung muss für die KrankenmitZuckerkrankheit des Typs II verordnet, weilsiehoherRisikofaktorhaben.

GENERALISIERTER STARRKRAMPF AUF DEM LANDE

Tschurin W.- der Student des 5. Studienjahres.
Wissenschaftliche Leiter: A. W. Gawrilow, N. A. Tkatschjowa.

Verbreitete Auffassung auf Starrkrampf als seltene Krankheit, die ihne Bedeutung heutzutage verloren hat, ist falsch. Im Amurgebiet wird Starrkrampf einmal in 2-3 Jahre registriert. Die Letalitat bei Starrkrampf ist zu hoch, obwohl diese Krankheit steuerbare Infektionskrankheit ist.

Es ist bekant, das Starrkrampf mit tonischer Spannumg der Skelettmuskulatur und periodischen generalisierten Krampfen charkterisiert wird, die mit Schadigung der bestimmten Strukturen des ZNS von Taxinerreger bedingt. Dieser Erreger verdrangt in Organismus durch verletzte ausere Hulle. Der Starrkrampf gilt als schwerste Infektionskrankheit.

Die Patientin, 66 Jahre alt bezog klinische Gebietsinfektionskrankenhaus am 26. 09. 2003 mit Diagnose: verletzte Starrkrampf, generalisierte Form, schwerer Verlauf. Aus der Anamnese ist klar, das am18. 09. 2003 sie eine Wunde im Hinterkopf bekam. Um medizinische Hilfe bat sie nicht. Seit 20.09.2003 begannen die Schmerzen in Hals beim Schlucken und Hustenkitzel. Seit 24. 09. 2003 begann Speichelflus und Unmoglichkeit den Mund zu offnen. Die Arzthelferin untersuchte die Patientin und uberweist sie zum chirurgische Abteilung des Zentralkrakenhauses, wo bei Untersuchung des Arztes wurde Diagnose: Starrkrampf gestellt. Dort wurde der Patientin Tetanusserum gesprizt. Sie war von Intektionishe untersucht. Im Krankenhaus verbrachte sie 2 Tage , dann wurde sie nach klinischen Gebietsinfektionskrankenhaus mit der Sanitaren Luftfahrt umgezogen.

Der geschriebe Fall des generalisierten Starrkrampfes erregt Interesse fur Arzte aus Gesichtspunkt der Richitigkeit der Diagnossestellung. Weil diese Krankheit das ZNS verletz und mit Krampfsyndrome verliest. Die Anamnese verlangt die dringende spezifische Vorbeugung bei verletzbter Haut mit dem Einspritzen der prophylaktischen Dose Titanuserum. Allen medizinische Einrichtungen des Amurgebiets sollen unversiegbare Vorrate der genannten prophylaktischen Mittel haben.

GERICHTSMEDIZIN IN RUSSLAND IM 18.JAHRHUNDERT

Shulga A. – der Student des 1. Studienjahres
Wissenschaftliche Leiter : M.O.Gigoljan, N.A. Tkatschjowa.

Gerichtsmedizin ist selbstandige medizinische Disziplin, die die Frage studiert, die bei Gerichtsmitarbeitern entstehen. So besteht die erste und auch Hauptaufgabe in der Hilfe der Gerichtsorganen bei der Arbeit, die mit dem Verbrechen gegen Leben, Gesundheit, Personlickeit und Gesundheit der Bevolkerung im allgemeinem verbunden ist. Die zweite Aufgabe besteht in der Hilfeleistung der Gesundheitsorganen in Verbesserung der Qualitat der arztlich –prophylaktischen Arbeit.

In der Zeit des Peters I. war die grosste Teil der staatlichen Interessen in Russland mit der Versornung der Militarbedurfnisse verbunden. Deshalb wurden viele Unternehmen, die fur Staat nutzlich sind, enstanden und im Rahmen der Militargesetz befestigt.

Im 1714 wurde Militarartikel der Gerichtsanordnung uber die Einladung der Arzten in der Losung im Gericht der Fragen, die medizinische Kenntnisse fordern.In der Militarvorschrift von 1716 wurde zum ersten mal verschrieben, dass einen Arzt fur Leichsobduzieren bei dem Verdacht auf Gewaltstod einladen werden soll. Umfang und Verbreitung der Tatigkeit des Militarvorschriftes war solcher, dass er als rechtes Gesetztbuch des Russlands wahrend 18. Jahrhundert gilt. Er war auch Organisationsbasis der Medizin im ganzen und insbesondere der Gerichtsmedizin.

Reshtsnorme, diedie Tatigkeit der Gerichtsmidizin reglamentieren, werden nicht nur in genannten Urkunden enthalten, sondern auch in anderen. Z.B. hat Meervorschrift des 1720 Jahres einigen Paragraphen(№ 108,114). Die Simulationsexpertise wurde auch von Meervorschrift vorgesehen.

DIE EINWIRKUNG DER UV-STRAHLUNG AUF DIE HAUT.

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Wissenschaffliche Leiter- K.m.W. Korneewa L.S,klinische Ordinatorin Nikischina E.A.,Tkatschjowa N.A

Beim Aufsaugen der Lichtsquanten werden in der Haut folgende photochemische und photobiologische Reaktionen vollzichen-die Zerstorung der Albumenmolekule(Photolysis),die Bildung komplizierten Biomolekule(Photobiozynthese) oder Molekule mit neuen chemiko-physikalen Eingenschaften(-Photoisomeration)und auch die Entstehung der Bioradikalen. Beiordnung und Ausgedrucktung dieser Reaktionen,so wie Auserung der anschliesenden HeilEffekte werden durch der UV-Strachlen bestimmt. In Fotobiologie werden lange-millere-kurze UV-Strahlen zur hintragen entscpechlen A,B,C Zonen des Spektrums gehort. Heutzutage dank der Genetik und Immunologie werden viele Mechanismen der beschdigenden Aktion der

UV-Strachlung geoffnDas sind vorzeitige Hautalterung der Haut Pigmentation Risiker der Entstehung des Krebses die Stoffwechselstorungen und viele andere. Negative Auswirkung der UV-Strahlung kann auch Fotodermatiten sein enzundliche Reaktion der Haut mit dem Auskommen begignende und maligne Tumorer, Ruckgang des Herpes Komplikationen der chronischen Krankheiten.

Hautarten

Weise-melanozyte der Haut des europaschenTyps Aktion UV-Strachlung der Sonne in Nord haben bedeutend geringes Quantitat von melanin.Solche Haut hat helle Farbe. Schware-Farbe der Haut wird durch Quantitat und Pigmenttypus von Melanin bestimmt. Pigmentzelle der Haut des Afrikanischen Typs arbeiten groBe Zahl von Melanin,das gegen UberfluB der schadlichen UV-Strachlung schutzt und gieb der Haut dunkle Farbe. Gelbe-in Haut des asiatischen Typs haben melanozyte aucg groBe von Melanin fur Schutz gegen UV-Strachlung des intensiven Sonnen ausgearbeitet,des wegen Haut gelbe Farbe hat. Man muB nicht vergessen,daB auf Haut nicht nur aufrechte UV-Strachlung auswirkt,aber auch die Strachlung,die durch leichte Kleidung,Winkel und Wasser durchgegangen wird.

INFEKTION, SEXUELLE UBERTRAGBARE KRANKHEITEN. DRINGLICHKEIT DES PROBLEMS

Rasdobreewa Ju. – die Studentin des 4. Studienjahres.
Wissenschaftliche Leiter: K.m.W. L.S. Kornejewa, N.A.Tkatschjowa.

Eine der wichtigsten und psychischen Probleme der Neuzeit sind Geschlechtskrankheiten. Soziale Bedeutung wird durch die hohe Pravalenz, Schwere der gesundheitlichen Auswirkungen von Fallen, eine Gefahr fur die Gesellschaft, Auswirkungen auf die Fortpflanzung bestimmt. Jahrlich gibt es in der Welt fast 200 Millionen Falle von Gonorrhoea, 250 Millionen Patienten mit Trichomoniase, 200-250 Millionen mit Chlamydien, 100 Millionen mit Mykoplasmose und 50 Millionen mit Syphilis. Es gibt viele zusammenhangenden Faktoren, die zu Krankheiten fuhren, sexuell ubertragbare Krankheiten. Nach den Angaben werden im Amurgebiet im Jahr 2011 4798 Patienten mit Geschlechtskrankheiten registriert; auf 100 Tausend Menschen betragt es 578,0; man beobachtet die Abnahme auf 0,1%. Im Jahre 2011 erkrankten im Amurgebiet an Geschlechtskrankheiten 1,7 mal ofter, als im Russland.

KAROTINE

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Wissenscaftliche Leiter: N.A.Feoktistova, N.A. Tkatschjowa.

Karotine werden in den Pflanzen bei Photosynthese gebildet. Es sind 3000 Karotine (α,β,γ) bekannt. Sie werden in Mohrrube entdeckt, deshalb bekommen sie ihr Name.

Das Vorhandensein der doppelten Bezihungen in Karotin wird hohe Reaktionsfahigkeit bei Zusammenwirkung mit freien Radikalen verschiedener Arten bedingt.z.B. β- Karotin kann als Abfanger der freien Radikalen sein, weil es undoppelte Elektrone hat. So erfuhlen die Karotine die Rolle der Antioxydanten.

β- Karotin hat Eigenschaften des Antikanzerogens, Antimutagens. Es war Ruckkorrelation zwischen Keratinanwesenheit in der Nahrung und Entstehung des

Krebs im Organismus bestimmt.

Keratinmangel ist nicht gefahrlich. Bei uberschussingem Bedurfnis nach Karotin hat der Mensch gelbe Handeflachen, Fuβflache und Schleimhaut, doch wird in solchen Fallen die Infoxikation nicht bemerkt. β- Karotine befinden sich in Mohrrube am meistem, doch verschiedene Mohrrubearten haben ihre Konzentration scharf (von 8 bis 25 ml. In 100Gr.) varieren. Rote Piper, grüne Zwiebel, Salat, Kurbis und Tomaten sind gute Keratinguelle. Das Tagesbedurfnis nach Keratin ist 5 mGr.

ENSIMOPATHIE DES KOHLENHYDRATSTOFTWECHSELS

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Wissenschaftliche Leiter: L.Ja.Etmanowa, N.A.Tkatschjowa.

Ensimopathie ist pathologische Vevanderung der Fermentaktivitat. Man bezeichnet auch erbli-che Krankheiten bei denen die Fermentaktivitat verandert und die biochemische Reaktionen im Organismus verletzen, so entstehen die Krankheiten des Stoffwechsels.

Die vererbte Ensimopathie ist mit genetischen Insuffizienz eines oder mehrerer Fermente ver-bunden. Die Besonderheit der vererbten Ensimopathie ist das Vorhandensein der latenten Peri-ode, wenn die Krankheit keine klare klinische Kennzeichen hat, aber kann nach biochemischen Untersuchungen des Blutes, des Harnes, des Kotes bestimmt. In Zusammenhang mit fermenta-tivem Defekt werden im Organismus Zwischenprodukte des Stoffwechsels angesammelt, die die Funktion der Organen zerstört und bedingt die Entstehung der klinischen Kennzeichen der Krankheit. Gewohnlich werden die erste klinische Symptome der erblichen Ensimopathien in Kindheit bemerkt, aber manchmal wird diese Krankheit bei Kindern des Altersmittleren oder bei Erwachsenen klinisch nachgewiesen. Es hangt von dem Charakter der Zerstorung des Stoffwechsels ab.

Zu erblichen Krankheiten des Kohlenhydratstoftwechsels gehoren Glykogene, Aglykogenose, Galaktosemie, Mukopolysacharidose.

Bei klassischen Galaktosemie fehlt Galaktose-1-phosphaturidiltransferase, die Galaktose in Glu-kose verwandelt, fuher zur Speicherung des Galaktoso-1-phosphte. Das klinische Merkmal dieses Zustandes ist wahrscheinlich mit unmithelbarer Toxizität dieser Methabolite verbunden. Ausserdem erhoht die Galaktosekonzentration im Plazma, ihre Ausscheidung mit dem Harn. Bei Kindern mit Galaktosemie werden Aufenthalt der Lebensgrosse, Erbrechen, Lebervergrosserung und Gelbsucht bemerkt. Nicht selten wird Septizemie, die gewohlich mit E. coli verbunden ist. Als Ergebnis der Verwaltung des Uberschuβes der Galaktose in Galaktikole in der Augenlise kann sich Katara entwickeln. Galaktose ist wiederhergesteltender Zucker und ein positive Test beim Kind mit klinischem Kennzeichen der Galaktosemie und ist als Hinweis zum Ausschluβ Galaktose (und Laktose) aus Nahrung bis Enddiagnose, die auf Aktivitatsmessung der Ga-laktose-1-phosphaturidiltransferase in Erytrozyten gegrundet wird.

Glukogenose ist allgemeine Bezeichnung der Syndromen, die durch vererbten Fer-mentsdeffekte verursacht ist, die an Glykogenverspaltung teilgenohmmen haben.

Girkekrankheit wird durch genetisch bedingte Unfahigkeit der Zellen Glukose-6-phosphatase zu produzieren, verursacht. Das ist Hauptferment als Glyko-

genolyse auch glukoneogenese. Die Krankheit wird nach autosomo- rezessiven Typ vererbt. Die Aufnahme der Glukose in Organis-mus mit der Nachrung ist normaler Prozess, der die Moglichkeit zur Unterhaltung das normalen Niveans der Glukose im Blut gibt. Bei gesundem Mensch wird sie deponiert und bei Not-wendigkeit benutzt Glukogen, das bei ihre Polymerisation gebildet wird. Bei Girkekrankheit wird die Fahigkeit zur Glukoseumwandlung in Glykogen und Deponieren, der letzten in Geweben verschiedener Organen hauptsachtlich in Leber, bewahrt. Die Fahigkeit zur Ruck-prozess bei Verkleinerung Glukosekonzentration im Blut wird doch verlohren, d.h. zur Ruckumwandlung Glukogen in Glukose. So ist physiologische Glukosetransformation in Glu-kogen ein unnatürlicher Prozess, der nicht nur Nutze dem Organismus bringt, sondern auch eine Ursache der realen zusatzlichen pathologischen Erscheinungen ist.

VERANDERUNGEN IN ANTHROPOMETRISCHEN INDIZES BEI KINDERN MIT INTRAUTERINER PARAGRIPPOSEN INFEKTION INNERHALB VON 1. JAHR, DIE OFT AN ARVI(ARK) ERKRANKEN.

Kozlik A., Arkhipova M. – die Studentinnen des 2. Studienjahres.
Wissenschaftliche Leiter: Doz.V.I. Labzin; K.m.W. I.N. Gorikov; N.A. Tkatschjowa.

Zur Zeit wird der Einfluss der Bedingungen der Fotusentwicklung auf die korperliche Entwicklung der Kinder des 1.Jahres des Lebens bestimmt. Das Ziel war es, die anthropometrischen Parameter bei Kindern von 1.Jahr mit intrauteriner paragriposen Infektion, die an ARVI (ARI) erkranken untersuchen. Das Studium der anthropometrischen Maßen (Gewicht, Lange, Kopfumfang und Brust), beurteilt den Zustand nach Apgars von 105 Sauglingen, die in 1,3,6 und 12 Monaten Veranderungen des Gewichts, Korperlange, Kopfumfang und Brust haben. Bie 51 Kindern wird diagnostiziert, IUPI, die bei Untersuchung von Blutserum in Paaren "Mutter-Kind" durch die Reaktion von Hamagglutinationshemmungs bestimmt wird. Unter ihnen befanden sich zwei Untergruppen. Zu den ersten Gruppe gehorten 28 Kinder, die an ARVI 1-3 mal erkranken, und die zweite besteht aus 23 Kinder, die ARVI (ARI) vier oder mehrere Mal innerhalb eines Jahres diagnostiziert werden.

Es war bestimmt, daß Sauglinge der ersten Untergruppe, mit ARVI keine signifikante Unterschiede im Gewicht, Korperlange und Brust im Vergleich mit der Kontrollgruppe haben. Gleichzeitig wird eine Kopfumfangverringerung bis 34,5 ± 0,19 cm (Kontrolle 35,0 ± 0,13 cm, $p < 0,05$) beobachtet. Bei der Geburt hatte sie einen niedrigeren Grad nach Apgar, die in 1. Minute 6,6 ± 0,21 Punkten und 5 Minuten 7,3 ± 0,18 Punkte (bei gesunden Neugeborenen bzw. 8,0 ± 0,09 Punkte, $p < 0,001$ und 8,4 ± 0,10 Punkte, $p < 0001$) war. Bei den Kindern der zweiten Untergruppe im Vergleich zur Kontrolle und Diagnose wird Kopfumfangreduktion auf 34,0 ± 0,27 cm ($p < 0,01$) und der Brustumfang auf 32,9 ± 0,34 cm ($p < 0001$) diagnostiziert. Sie haben einen niedrigeren Grad nach in der Apgar 1. Minute (6,9 ± 0,19 Punkte ($p < 0001$) und nach 5. Minuten 7,7 ± 0,13 Grad ($p < 0001$), was einen negativen Effekt der pranatalen IUPI auf ihrer anthropometrischen Parametern hat.

Bei der Beurteilung der korperlichen Entwicklung von Kindern in 1. Monat bei IUPI, die selten und oft an (ARI) erkranken, haben wir keine wesentlichen An-

derungen in ihrer Masse, Korperlange, Kopfumfang und Brust im Vergleich zu denen in der Kontrollgruppe festgestellt wird.

Nach 3 Monaten in der ersten und zweiten Untergruppe werden auch keine signifikante Unterschiede zwischen den Indizes der Masse, Lange und Umfang des Brustkorbs bei Kindern bestimmt. Jedoch in der zweiten Gruppe Reduktion des Kopfumfang bis 40,2 ± 0,44 cm (Kontrolle 41,4 ± 0,26 cm, $p < 0,05$) diagnostiziert. Bei Sauglingen im Alter von 6 Monaten, mit haufigen Episoden von akuten respiratorischen Virusinfektionen (ARI), im Vergleich zu Kindern von Muttern mit physiologischen Schwangerschaft, wird einen Anstieg in der Korperlange von bis zu 65,8 ± 0,87 cm ($p < 0,01$) beobachtet. Gleichzeitig waren Indikatoren des Korpergewichts, Kopfumfang und Brustes von denen in der ersten Untergruppe und bei der Kontrolle nicht signifikant unterschiedlich.

Nach 12 Monaten, Kinder, die an ARI (akute Infektionen der Atemwege) 1-3 mal pro Jahr erkranken, wird nur einen Ruckgang Großen des Kopfes bis zu 46,4 ± 0,35 cm ($p < 0,01$) beobachtet, wahrend bei oft krankliche Kinder wird morphometrische Variation der obergenannten nicht registriert Abbildung. So in IUPI werden deutlichsten Veranderungen der anthropometrischen Parameter bei der Geburt in 3 und 6 Monate, in der Gruppe der kranken Kinde beobachtet.

ZUVORKOMMENES STUDIUM DER "POPULAREN" NEUROLOGISCHEN ERKRANKUNG

Kubaj I. – die Studentin des 1. Studienjahres
Wissenschaftliche Leiter: Prof. Gordienko E.N.; Tkatschjowa N.A.

Die Krankheit wird bei 1-2% Menschen des hoheren Alters beobachtet. Sie war im Jahre 1817 von James Parkinson geschrieben, der die Krankheitsymptome im Buch "Esse uber zitternde Lahmung" hingewiesen hat. Im 19 Jahrhundert schlug der franzosische Neurologe Pier Mari Scharco diese Krankheit als "Parkinsons krankheit" bezeichnen vor. Die Zahl der Erkrankungen steigt mit dem Alter. In 5-10% der Fallen beginnt die Krankheit fruher als im Alter von 40. Lebensalter, durchschnittlish beginnt die Krankheit im Alter von 65 Jahre. In der Welt betragt die Verbreitung mit Altersberucksichtigung 1%, in Europa 1,6 %. Bei Vorhandensein dieser Erkrankung bei. Verwandten wird Entstehungsrisiko zweimal hoher und betragt im Laufe des Lebens 17%. Nach Angaben der WHO leideten an der Parkinsonskrankheit in der Welt mehr als 4 Millionen Menschen.

Die Informationsforchung beweist davon, das in der Entstehung dieser Krankheit genetische und Umweltfaktore liegen. Die Menschen , die erkrankten Verwandten im Alter von 40-60 Jahre alt haben, besitzen einen erhohten Risikofaktor. Das Studium der Mechanismuszerstorung zeigt den Mangel an Dofaminsynthese, Uberschuss von Glutamate und Neuromediatore – Azetylchiline, ungenugende Synthese von Noradrenaline und Serotonine. Die Bewegungsstorungen bei der Parkinsonskrankheit werden von Degenerarion der nigrostriare Neurone und Funktionszerstorung der neuronalen Kreisen begingt, die pramotore und sensore Zone des Hirnrindes, basale Ganglien und Thalamus verbinden.

Die klinische Erscheinungen enstehen bei Verkleinerung der Dofaminsquantitat im geschwanzten Kern und in der Schale auf 70%. Symptome entwickeln sich

gleichmaβig. Als Krankheitsbild sind Hypokinesie, Tremor, Rigiditat. Diese Krankeit ist heutzutage nicht heilbar, alle existierte Methode der Behanglung sind auf die Erleichterung der Symptomen gerichtet. Neurostimulation ist kleininvasive neurochirurgische Operation (im Deutschland wird in der Universitatsklinik in der Stadt Freiburg aktiv verwendet). Genetische Therapie, die Behandlung mit der Verwendung der Stammzellen finden statt: die Ergebnisse der ersten Forschungen nach der Verwendung dieser Zellen bei der Parkinsonskrankeit werden in 2009 eroffnet. Nach den Angaben wird positive Effekt bei 80% der Kranken in 36 Monaten bemerkt. Die Behandlung besteht in Transplantantation der Neuronen, die bei Differenzierung der Stammzellen bekommen werden, ins Hirn. Theoretisch sollen sie die zugrundegegangene dofaminsekretierende Zelle ersetzen. Diese Methode ist zu 2011 nicht genugend erklart und bekam keine weitere klinische Verwendung.

In 2003 wird zum ersten Mal dem Menschen mit der Parkinsonskrankeit in subthalamischen Kern genetischen Kette, die das Gen erhielt, das fur Glutamatdekarboxilasesynthese antwortet, eingefuhrt. Gegebenes Ferment sinkt die Aktivitat, des subthalamishen Kerns. Dadurch hat es positive terapeutische Einwirkung. Trotzdem die gegebene Ergebnisse der Behaundlung gut waren, wird die Methodik der Behaundlung praktisch nicht vermendet und befindet sich in der Stadie der kinischen Forschungen.

Die Diagnose der Pakinsonskrankheit war der romischen Papa Ioann Paul II, Mao Zedun, Salwador Dali, Andrej Woznesenskij, Mochammed Ali u.a.m. festgestellt.

DIE CHARAKTERISTIK DES ALKOHOLISCHEN SUIZISES

Gigolyan A.M.-der Student des 2 Studienjahres.
Wissenschaftliche Leiter- M.O. Gigolyan, N.A. Tkaschjowa

Wir analysierten die beendete Suiziden im Amurgebiet nach folgenden Gruppen der Faktoren:

1) sozial-demographisch (Alter, Beruf, Geschlecht, Familienstand, Ort der Wohnung);

2) klinik-noizologischen (Verdachts diagnose, der psychischen Steuerung, die Weise des Suizides, Monat, Wochentage und Zeit, das Vorhandensein des vortodlichen Briefes, Alkohol im Blut und Harn, Trunkenheitsgrad, vermutete Ursache des Suizides und sine Motivitat, Autoaggression in der Anamnese, Einsamkeit);

3) somatischen(nach den Ergebnissen des Obduzieren und Zeugenaussagen)

Der Zusammenhand der vollendeten Suiziden mit dem Alkohol wird durch Zeugnissen der Verwandten, Nachbaren bestimmt , die auf Episode der dauernden periodischen Trunksucht, oder deutlich ausgedruckten Symptomen der Abstinenz oder Beobachtung Behandlung bei Narkologe oder im Psychiatrikrankenhaus, oder alkoholische Psychose oder periodische visuale Halluzinationen nach der Trunksucht hinweisen. Die Suizider werden in zwei Gruppe geteilt: die Hauptgruppe (alkoholische) und Konrollgruppe(unalkoholische).

Es was festgestellt: die Frauen, die an Trunksucht leiden, haben Suiziden seltener als die Frauen ohne Trunksucht und Männer-Alkoholiker Nach Berufs- und Bildungsstatus unterscheiden sich diese Gruppen nicht. Aber unter den Alkoholiker

gibt es Arbeitslose mehr und die Rentner weniger, was erklärt die Erhöhung der Suiziden in der Kontrollgruppe.

Nach Altersbesonderheiten werden drei typische Spitzen des vollendeten Alkoholsuizide bestimmt, die 25-29, 36-39 Lebensalten(maximale Spitze) 45-49 Lebensalter entspricht.

In der Kontrollgruppe werden sich „Spitze“ der fatalen suizidalen Aktivität gleichmassig eingerrichtet und dem 30-34 Lebensalters entspricht, erreichend in 55-55 Alter des Hohepunktes. Anliche altersmässige Teilung der fatalen Suiziden entspricht der nationalen Statistik. Der Faktor der Eheleu Fetrennung ist fur Alkoholiker bedeutend, als fur allgemeine Population. In der Kontrollgruppe war fur Männer des hoheren Alters der Faktor des Witwers pathogenisch. Der Faktor des Vorhandenseins oder oder Abwesentheites der Kinder und Ehepaarstrennung ist in untersuchten Gruppen nicht unterschiedlich.

So, unter soziodemographischen Angaben sind die bedeutend, die vollendete Alkoholsuizid charakterisieren: manliches geschlecht, mittleres Alters, Arbeitslosigkeit und Scheidung. So zeugen die gegebene Angabe uber spezielle soziale Bedeutung der Suizidenforschungen in der Narkologie.

DRUSE DER INNERE SEKRETION

N. S. Schiwtschenko – Studentin des 2. Studienjahres.

WissenschafticheLeiter – E. W. Jegorschina, L. J. Etmanowa, N. A. Tkatschjowa.

Nebennieren-sindeinpaariges Organ. Siesei auf den oberen Pol der beidenNierenbefestigt, daherbekommensieihr Name. Die anatomischeStruktur der einzelnenNebenniereistfolgende: zuerstfettigeUmschlagunterihmBindegewebe,danachfolgtKortex und in der Mittebefindetsich das Gehirn. Kortikalen und medullarenSchichtenproduzieren Hormone, die dieverschiedenenProzesse des Lebens des Korpersbetreffen, soist das MechanismusihreArbeitunterschiedlich. Hormone, Adrenalin und Noradrenalinsind in den BlutstromunterdemEinfluß der Nervenimpulseserkretiertwerden, die in der Druse durch den Nervussplanchnicusverdringen. Diesebeidenverwandte Hormone spieleneinewichtigeRollebeiadaptiven-Reaktionen des Korpers, deren Wert in extremen Stresssteigt. Noradrenalin istnachchemischenStruktur und Wirkungmit Adrenalinahnlich. Erscheintfortzusetzen und abzuschließen, die Reaktionen, die imKorper, durch die Wirkung von Adrenalinauftreten. DieNebennierenproduzierenKatecholamine undetwazehn Hormone, dieunterdemallgemeinenTitel von Kortikosteroiden in der Rindenschicht der Prostatasynthetisiertsind. Cortex und Nebennierenmarkproduzieren Hormone, die in ihrer Art und Wirkungunterschiedlichsind, obwohlbeeinflußensieeinanderspurbar. Besondersengwirken Hormone derRinde und MarksubstanzwahrendGefahrzusammen, wennKorpernachteiligeUmweltauswirkungenbekommt. Produkte, die die«kleine» Nebennierenproduzieren,sindfur den Korperlebenswichtig. Tiere, die keineNebennierenrindesubstanz und Kate-cholaminehaben,sindnicht in der Lage, ihreeigeneNahrung, um die drohende «Gefahr»reagierenund verteidigen. Und ohne die Nebennierenrindegehen die Tiereninnerhalbwenigerzu Grunde.

ATHEROSKLEROSE

Schischnjowa W.- die Studentin des 2. Studienjahres
Wissenschaftliche Leiter: L. Ja. Etmanova , N.A. Tkatschjowa.

Was ist das?

Atherosklerose ist eine der aktuellsten Erkrankungen des 20.Jahrhunderts, die eine der vier haufigsten Erkrankungen und Todesursachen ist. Missbrauch ,Falsche Ernahrung,Bewegungsmangel,Stress fuhren zu Arteriosklerose. Atherosklerose ist eine Krankheit, die die wichtigsten Gefaße betrifft. Daraus ergibt sich die Ablagerung von Cholesterin in der Gefaßwand, was zu einer atherosklerotischen Plaque fuhrt, die Lumen des Gefaßes verengt. Dies fuhrt auch zu der Tatsache, dass Blutfluss in den betroffenen Schiffen signifikant abnimmt: der Grad der Verringerung des Blutflusses, ist ublicherweise proportional zu dem Grad der Stenose (Verengung) des Gefaßes.

Atherosklerose wird chronisch und ist die haufigste Ursache der Arbeitsunfahigkeit und fruhzeitiges Todes. Diese Krankheit betrifft haufiger Menschen in 40-45 Lebensjahre und 3-4 mal haufiger die Manner.

Ursachen und Risikofaktoren der Atherosklerose.

Zweifellos von großer Bedeutung sind sogenannte Risikofaktoren. Einige von ihnen konnen nicht entfernt werden: Alter, mannliches Geschlecht, Familienanamnese von Atherosklerose, d.h Vererbung. Andere sind vermeidbar: Bluthochdruck, alimentare Adipositas und Rauchen. Dritte abnehmbare Teil (potentiell): Diabetes, verschiedene Arten von Stoffwechselstorungen. Zu den Risikofaktoren gehoren der Mangel an korperlicher Aktivitat, ubermaßige emotionale Stress und Personlichkeitsbesonderheiten, schlechte Ernahrung (die Tendenz zu viel zu essen, bevorzugt Lebensmittel, die reich an tierischen Fetten,ist etc.).

SECTION du FRANCAIS et du LATIN

LE DEVELOPPEMENT DU FOETUS

J. Tcshegortsova, E. Bronnikova, A. Mitschenko, G. Mansimova – et-tes de la 4-me annee

Les dirigeants scientifiques – c.s.m. E.V. Nikolajeva, S.I. Nasarkina

Au plein du cycle (14 jours du cycle habituel de 28 jours) une ovulation se produit : un des ovules mures quitte la trompe de Fallope. Au cours des prochaines 12-24 heures on peut se produire la fecondation. L‘ ovule feconde, appele le zygote, ferme tout de suite son enveloppe exterieure du reste de spermes qui ont egalement pu en arriver la. Apres cela la zygote commence a se diviser comme elle se deplace dans la trompe de Fallope vers l‘uterus, ou il va continuer a croitre. 4 semaines de la grossesse. La tete du bebe est forme, puis le coeur, les mains et les pieds. La circulation convient, ce qui on peut voir a l‘echographie. Puis, ce sont le cerveau et la colonne vertebrale, qui se forment. 8 semaines de la grossesse. Il y a toutes les parties importantes du corps de l‘enfant, mais elles ne sont pas encore completement formes. Les yeux, les oreilles, les mains, les pieds de l‘enfant sont bien visibles. Les muscles et le squelette du bebe continuent a se former. Le systeme nerveux devient de plus en plus meilleur. 12 semaines de la grossesse. L‘enfant commence a avaler. Les reins commencent a produire l‘urine. Le sang commence a se former a l‘interieur de l‘os. Les muscles formes permettent a l‘enfant de faire de pleins mouvements. On peut voir les paupieres du bebe et determiner le sexe de l‘enfant. 14 semaines de la grossesse. La tete, les bras, les jambes de l‘homme se sont a plein formes. A ce que semble que la peau du bebe est transparente. Les cheveux commencent a pousser sur la tete. Les mouvements deviennent plus coordonnes. 22 semaines de la grossesse. Il y a une ossification des osselets, qui sont en mesure d‘installer les sons. L‘enfant entend sa mere, sa respiration, le rytme de son coeur et sa voix. La graisse commence a se former. C‘est une periode de l‘augmentation intense du poids. Les poumons se developpent pour que le bebe peut survivre hors de l‘uterus, mais seulement dans des conditions du traitement intensif. Ces enfants peuvent avoir des troubles du fontionnement des organes, ce qui exige un long sejour dans la salle de soins intensifs. 24 semaines de la grossesse. L‘enfant reagit sur les sons externes, les sons qui se produisent dans l‘uterus. On peut noter l‘amelioration des mouvements reflexes. Les mouvements du corps deviennent plus forts.Les poumons continuent a se developper. L‘enfant dort et se reveille. La peau devient rougeatre et couvre de rides et de cheveux fins. Environ huit enfants de dix,qui peuvent survivre dans cette periode (dans la salle de la therapie intensive). 28 semaines de la grossesse. Les poumons sont capables de respirer par l‘air ordinaire, mais une aide medicale est toujours necessaire. Le bebe ouvre et ferme les yeux et suce son doigt, pleure et repond aux sons externes. La respiration rythmique et la temperature du corps sont controlees par le cerveau (le systeme nerveux central). Presque tous les enfants nes dan ces conditions, continuent a vivre (avec l‘aide des medecins). 34 semaines de grossesse. Les cheveux deviennent soyeux. Le tonus musculaire augmente et l‘enfant est capable de tourner et lever la tete. Presque tous les enfants nes dans cette periode continuent a vivre. 38 semaines de grossesse. La croissance du bebe (de la tete aux fesses) est de 30 cm et la croissance totale est de 50 cm. Le poids est de 2,6 a 4 kg. Plus de 70 differents mouvements reflexes automatiques sont developpes, qui sont

necessaires pour la survie. L‘enfant est suffisamment developpe et est prepare pour la naissance.

L‘ANATOMIE ET LES FONCTIONS DU SYSTEME LIMBIQUE

Tonkonogova M. – et-te de la 2-me annee
Les dirigeants scientifiques – c.s.m. J.A. Chakalo, S.I. Nasarkina

Le sujet est actuel en rapport ce qu‘a l‘endommagement d‘un des structures du systeme limbique, il y a des infractions graves dans la mentalite et la conduite emotionnelle, dans ce cas on aborde tout l‘organisme de l‘homme. Le limbe (provient du mot latin *limbus,* ce qui signifie *la frontiere),* c‘est un ensemble de la serie de structures de l‘encephale. Il participe a la regulation des fonctions des organes interieurs, de l‘odorat, de la conduite instinctive, des emotions, de la memoire, du sommeil, des veilles, etc. Le terme « limbe » est introduit pour la premiere fois dans la terminologie scientifique en 1952 par le chercheur americain Paul Mac-Lin. La partie principale des structures du limbe presente les formations de l‘encephale se rapportant a une substance corticale du cerveau ancienne, vieille et nouvelle, disposee principalement sur les surfaces des hemispheres du grand cerveau, ainsi que les structures, sous-corticales nombreuses, liees etroitement avec eux. A la periode initiale du developpement des animaux vertebres, le systeme limbique assurait toutes les reactions les plus importantes de l‘organisme (alimentaires, approximatives, sexuelles, etc), formees a la base du plus anciens sentiments distendus, de l‘odorat. Notamment l‘odorat a joue le role du facteur integrant de plusieures fonctions de l‘organisme et a uni au complexe de la morphologie fonctionnelle. Ce sont les structures du telencephale, du diencephale, du mesencephale. Morphologiquement le systeme limbique chez les mammiferes superieurs insere les domaines de la vieille substance corticale du cerveau (la circonvolution de ceinture ou limbique, hippocampe), certaines formations de la nouvelle substance corticale du cerveau (les parties temporales et frontales, la zone intermediaire fronto-temporale), les structures sous-corticales (le globe pale, le noyau a queue, la coquille, le corps amygdalien, la cloison, l‘hypothalamus, la formation reticulaire du mesencephale, les noyaux non specifiques du thalamus). Les structures du systeme limbique participent a la regulation des besoins biologiques les plus importants, lies a la reception de l‘energie et des matieres plastiques, le maintien de la balance d‘eau et de sel, l‘optimisation de la temperature du corps. Dans de differentes parties du limbe sont ouverts les centrs du « plaisir » et du « mecontentement », unis dans le systeme de « la recompense » et « la punition ». Les reactions viscerales a l‘influence sur le limbe sont les composants specifiques du type correspondant de la conduite. Ainsi a la stimulation du centre de la famine dans les parties laterales de l‘hypothalamus on observe la salivation abondante, le renforcement de la motilite et l‘activite secretoire du canal gastro-intestinal, a la provocation des reactions sexuelles, ce sont l‘erection, l‘ejaculation. Au fond des types differents de la conduite de motivation et et de la conduite emotionelle on enregistre les changements de la respiration, la frequence des contractions cardiaques et la valeur de la tension arterielle, les secretions HACT, les catecholamines, d‘autres hormones et des mediateurs. Les violations des fonctions du systeme limbique se

manifestent dans les differentes maladies (les traumas du cerveau, les intoxications, les nevro-infections, la pathologie vasculaire, les psychoses endogenes, les nevroses) et elles sont extraordinairement diverses selon le tableau clinique. En fonction de la localisation et de volume de la lesion ces desoorganisations peuvent se rapporter aux motivations, emotions, fonctions vegetatives et s'unissent dans les differentes proportions. La conclusion : dans ce travail on presente la structure anatomique du systeme limbique, son influence sur l'organisme, en particulier a la conduite et a la memoire. Quelles troubles de la mentalite on peut observer aux lesions des composants du systeme donne.

LE TRAITEMENT DE LA MALADIE HYPERTONIQUE A L'HOPITAL DU JOUR.

G. Mansimova, A. Mischenko- et-tes de la 4-me annee.
Les dirigeants scientifiques – c.s.m. O.J.Lakotsenina, L.I.Chpiltchouk.

L'hopital du jour comme l'alternative au traitement a l'hopital est utilise largement par les medecins des polycliniques de Blagovetschensk pendant les 10 dernieres annees. Les medecins du quartier de la polyclinique n.4 ont analyse 200 dossiers sanitaires des malades passants la reabilitation a l'hopital du jour. D'apres le sexe les femmes ont compose 82%. D'apres le corps les patients ont divise de facon suivant : 21-30 ans-2%, 31-40 ans-8%, 41-50 ans-40%, 51-60-4%, plus de 60 ans-4%. Les indices vers la direction a l'hopital du jour de la polyclinique sont : l 'aggravation du cours de la maladie et l'absence d'effet de la therapie hypotensive dans les conditins ambulatoires sont 70% cas ; la hypertension arterielle revelee pour la premiere fois, le refus des patients de l'examen medical et du traitement en cnditions de l'hopital sont 7% ; le traitement du plan et l'examen des malades avec la maladie hypertonique trouvants sous l'observation dispensaire (sans s'arracher au travail) est 16% ; 7% des malades avec la maladie hypertonique (MH) ont passe le traitement d'apres le traite. La structure de la pathologie des malades traites est suivante : la MH du 2 degre ; le degre facile, le risque moyen-4% ; la MH du 2 degre, le degre modere, le risque grand -54% ; la MH du 2 degre, le degre modere, le risque tres grand-38% ; la MH du 2 degre, le degre grave, le risque tres grand-4%. Tous les patients ont passe la therapie medicamenteuse a l'hopital du jour y compris la prescription IAPF de la deuxieme et de la troisieme generation, des diuretiques, en necessite la correction du changement electrolytique, lipide,glucide ; la prescription des Noo-trop, des vasodilatateurs peripheriques. La therapie de la deuxieme ligne a utilise les bloquants des canaux de calcium de la troisieme generation (Normodipin), B-adrenobloquants (Lodose). Les methodes physiotherapeutiques ont utilise comme le traitement supplementaire a l'absence des contr-indications : la physique culture medicale, le massage relaxant de main et l'hydromassage des zones vasoactives,l'oxygenation hyperbarique.L'analyse de la qualite du traitement est montre que en 98% cas ont reussi abaisser et (ou) stabiliser le niveau de l'hypertension arterielle (HA),diminuer la symptomatologie de l'insuffisance cerebrale et circulatore peripherique. En 66% cas est reussi normaliser ou abaisser et stabiliser le niveau de la tension arterielle a 5-7 du sejour au stationaire. Les medicaments plus efficaces au traitement HA chez les personnes jeunes avec le type

hyperkinetique de l'hemodynamique ont recommande B-adrenobloquants. Le bon resultat est recu en combinaison IAPF et du diuretique de la Thiazide chez les personnes ages avec les symptomes de l'insuffisance circulatoire.L'application des B-adrenobloquants avec IAPF n'est que diminue la tension arterielle (TA) des malades avec la maladie ischemique du coeur, mais en meme temps a ameliore la circulation coronaire eb 67% cas. Les malades avec les symptomes progressfs de l'encephalopathie ont transmis a l'hopital sous la surveillance jour et nuit (2%). La duree moyenne du sejour des patients a l'hopital du jour est 11,0 lits-jour.Tous les malades sont sortis avec les recommandations precises des medecins traitants.

LES POSSIBILITES DIAGNOSTIQUES DE LA DENSITOMETRIE DES OS AVEC LA PATHOLOGIE DIFFERENTE

J.Tschegortsova, E. Bronnikova – et-tes 4-eme annee.
Les dirigeants scientifiques : c.s.m. O.J.Lakotsenina, L.I.Chpiltchouk

A l ' heure actuelle pour l' evaluation de l'etat du tissu osseux a recu l'usage large la methode de la mesure de la densite mineral d'os (DMO) a l'aide de la DXA. Le principe du travail des densitometres de ce type est base en transmission des rayons X par un os vers le detecteur.Le systeme de detecteur enregistre l'intensite de deux faisceaux etroits de l 'energie haute et basse, que augmente considerablement la precision de la recherche. Le rayon X passe a travers le secteur de recherche vers le detecteur, d'apres l'affaiblissement de l'irradiation est calcule automatiquement la quantite des mineraux par le rayon passe la surface du tissu osseux. Les indices essentiels de la mineralisation du tissu osseux a l'examen par le methode DXA sont :
-le composant mineral osseux montre la quantite du tissu mineral en scanning des os, d'habitude est determine par la longueur de la voie scanning (en g/cm) ;
- La DMTO est evalue par la quantite du tissu osseux mineralise en surface scanning (en g/cm) ;
- La DMTO est evalue par la quantite du tissu osseux mineralise en surface scanning (eng/cm2) ;
-La mesure de trois espace de la DMTO est faite par CT determine la quantite du tissu osseux mineralise en volume d'os (en g/cm3) et theoriquement doit etre mieux de la determination de deux l'espace de la DMTO, mais d'apres les donnees cliniques ,ses preferences sont insignifiantes. Les indices plus admissibles pour la pratique clinique sont base en deux l'espace de la DMTO (g/cm2). Pour screening on mesure la DMO en deux niveaux d'avant-bras.Cest plus commode. D'apres la DMO da le partie ultradistale d'avant-bras on peut juger de l'etat de la substance osseuse en autres parties du squelette et particulierement en colonne vertebrale (Mazess 1984). Les coefficients de la correlation entre de la DMO d'avant-bras et de la colonne vertebrale d'apres les donnees des auteurs differents sont compose de 0,27 a 0,67. La partie mediodistale d'avant-bras au grand degre represente l'etat de la substance compacte du tissu osseux. Ces donnees permettent prognoser le risque des fractures des os longs. A la protection de la sante pratique la densitometrie employe pour :
1.screening ;
2. de la revelation des cas des malades sans symptomes ;

3. de la confirmation du diagnostic chez patients avec les symptomes et avec la radiographie ;
4. de la determination de la vitesse de la demineralisation du tissu osseux.
5. de l'evaluation de l'efficacite du traitement.

Pendant l'examen les indices plus importants sont :
la compacite du tissu osseux en mg.
la compacite mineral du tissu osseux en mg/cm3 ;
l'indice Z (presente la quantite des ecarts standardises plus haut ou plus bas d'indice moyen pour les personnes de l'age analogique) ;
l'indice T (montre la difference entre la DMTO du patient et des criteres du pic de la masse osseuse (en group de controle sont les personnes de 40 ans).

L'APPENDICITE AIGUË D'ENFANT

Tretiakova A. – et-te de la 5 annee
Les dirigents scientifiques – c.s.m. Vdovin O.B., Nasarkina S.I.

L'appendicite aeguë, c'est une inflammation aiguë de l'appendice. L'enfant de tout age peut tomber malade par l'appendicite aiguë, mais le plus souvent cette maladie se manifeste chez les enfants de 8 – 15 ans. Chez les enfants de trois premieres annees de la vie, cette maladie est tres rare, en raison de la forme en entonnoir de l'appendice a cet age. Cette fonction empeche la stagnation du contenu intestinal dans l'appendice. L'inflammation de la cavite abdominale chez les enfants tende a se generaliser, en raison de l'imperfection du systeme immun, du systeme nerveux et de la regulation du systeme endocrine. En consequence, il y a un des etats terribles comme une peritonite et une septicemie.

Etiologie. Le role du premier plan appartient a la microflore propre de l'appendice et du l'intestin. Il a y une posibilite d'une infection hematogene et lymphogene. Les maladies somatiques et infectieuses, les anomalies congenitales de l'appendice (les torsions, les plis), une presence des corps etrangers ou des parasites contribuent au developpement des processus inflamatoires.

Clinique. Ce sont des douleurs abdominales. La douleur n'est pas forte, mais constante. Au debut de la maladie la douleur est localisee dans l'epigastre ou autour de l'abdomen, puis elle est transferee a la region iliaque droite (symptome de Kocher). Ce sont des vomissements. Les vomissements sont presentes plus souvent une fois apres le repas et ils n'apportent pas d'aide a l'enfant. Ce sont les changements des feces. Cela peut se manifester par une diarrhee ou une constipation. C'est une fievre. Au debut de la maladie la fievre monte a 38 degres, mais avec le developpement des complications la temperature peut monter a 39 – 40 degres. Cependant, chez les enfants de bas age ce sont les symptomes qui ne sont pas suffisamment objectives, comme une maladie avec la fievre chez l'enfant provoque des douleurs abdominales. A la palpation de l'abdomen on marque les douleurs dans la region iliaque droite et la tension musculaire passive de protection. Les analyses du sang montrent une leucocytose et une augmentation de la vitesse de sedimentation des erythrocytes. Un examen a ultrason de la cavite abdominale aide diagnostiquer l'etat du malade, ou on peut voir les signes des changements inflammatoires dans l'appendice. Le traitement de l'appendicite aiguë est

chirurgicale. Il consiste en ablation de l'appendice. Cette operation porte le nom de l'appendicectomie. Le diagnostic a temps et la tactique correcte au traitement de l'appendicite aiguë mene au retablissement de l'enfant.

ЛАТИНСКИЙ ЯЗЫК В ИСТОРИЧЕСКИХ ПАМЯТНИКАХ, ЛЕКСИКЕ ВЫСШЕЙ ШКОЛЫ, ПОСЛОВИЦАХ И ИЗРЕЧЕНИЯХ

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Латинский язык (латынь), один из индоевропейских языков италийской группы. Был официальным языком Римской империи; вплоть до начала Нового времени. Один из основных письменных языков западноевропейской науки, культуры и общественной жизни; официальный язык Ватикана и Римско-католической церкви; язык богатейшей, более чем двухтысячелетней литературной традиции, один из важнейших языков общечеловеческой культуры, в некоторых областях знания (медицина, биология, общенаучная терминология естественных и гуманитарных наук) продолжающий активно или пассивно применяться и в настоящее время. Учёными подсчитано из 20000 наиболее употребительных слов английского языка около 10400- латинского происхождения, около 2200- греческого, и только 5400 англосаксонского. Огромное количество латинских слов вошло и в русский язык.

МИФЫ ДРЕВНЕЙ ГРЕЦИИ

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Мифы Древней Греции – это поэтический мир древних легенд, дошедших до нас из глубины тысячелетий. В них тесно переплелись реальные события и фактические представления о происхождении мира и человека. Каждое новое поколение людей заново открывает для себя античные сказания о великих богах, героях, о рождении звезд и планет. Время не властно ни над историей кровавой Троянской войны, начавшейся из-за обыкновенного яблока (хоть и золотого) и закончившейся коварной выдумкой с деревянным конем; ни над легендами о чудесном путешествии аргонавтов за золотым руном и приключениях хитроумного Одиссея.

ИСТОРИЯ ОЛИМПИЙСКИХ ИГР

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Олимпийские игры начали проводить в Олимпии – в святилище греческих богов, возле городов Эллиса и Пизы, расположенных на полуострове Пелопоннес. Официально первые Олимпийские игры состоялись в 776 году до н.э. Греки придавали Играм огромное значение, недаром от даты 776 г. до н.э. они вели свое летоисчисление. Во время Игр объявлялся «священный мир»: прекращались войны, и вчерашние враги мирно соревновались за право называться самыми быстрыми, ловкими и сильными. Первым из известных нам олимпионником стал Корэб из Элиды. Атлетом, побеждавшим на шести Олим-

пиадах, был «сильнейший среди сильных», борец Милон из Кротона. Олимпийский праздник отмечали в «священный месяц», начинающийся с первого полнолуния после летнего солнцестояния. В праздничных состязаниях могли участвовать лишь чистокровные эллины. Женщины, кроме жрицы Деметры, вольноотпущенники и рабы на соревнования даже в качестве зрителей не допускались под страхом смертной казни. Только одна женщина нарушила запрет и появилась в Олимпии во время Игр. Это была Ференика. Главной наградой служила оливковая ветвь. Олимпийские игры оказывали влияние на развитие греческой культуры. В IX в. до н.э. наблюдаются постепенные изменения характера и содержания Олимпийских игр. В 394 г. н.э. Олимпийские игры были запрещены римским императором Феодосием I, насильственно насаждавшим христианство. Возрождены игры были только в конце XIX в.. Отсчет современных Олимпийских игр был начат в Афинах с 1896 года. Девизом игр стал призыв к спортсменам всей планеты — CITIUS, ALTIUS, FORTIUS (БЫСТРЕЕ, ВЫШЕ, СИЛЬНЕЕ).

РИМСКИЙ КАЛЕНДАРЬ

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В древнейшие времена римский (или Ромулов) год делился на 10 месяцев. Первым месяцем был март, названный в честь бога Марса, считавшегося, согласно преданию, отцом Ромула. К VI веку был принят календарь, по которому в году было 12 месяцев: добавились январь, названный в честь бога дверей и всякого начала — двуликого Януса, и февраль — месяц, завершающий год и требующий искупительной жертвы (februare —; очищать, жертвовать), которую приносили в Луперкалии. В середине I века до н.э. римский император Гай Юлий Цезарь под влиянием александрийского математика и астронома Сосигёна внес в римский календарь изменения, которым суждено было сформировать знакомую нам систему исчисления времени. Начало года было перенесено на 1 января, поскольку с этого дня консулы приступали к своим обязанностям. Был установлен годичный цикл (по движению Солнца) в 365.25 дня; 0,25 дня за четыре года складывались в целый день, который и прибавляли к каждому четвертому году, но не 29 февраля, как принято сегодня, а дважды считали шестой день перед мартовскими Календами — 24 февраля. Отсюда и весь год назывался "дважды шестой — биссекстус". Так получилось знакомое нам слово "високосный". Количество дней в каждом месяце, известное нам сегодня, было установлено также при Юлии Цезаре: 4 месяца (апрель, июнь, сентябрь и ноябрь) имеют по 30 дней, остальные — по 31 дню, февраль — 28 (29). В новых языках до наших дней сохранились и названия дней недели, которые у римлян обозначались по именам богов: Понедельник — день Луны — Lunae dies, ср. нем. Montag, англ. monday (оба означают "день Луны"), франц. lundi Вторник — день Марса — Mortis dies, ср. франц. mardi Среда — день Меркурия — Mercuri dies, ср. франц. Mercredi и другие.

СПОРТИВНЫЕ СОСТЯЗАНИЯ В ДРЕВНЕЙ ГРЕЦИИ.

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Спортивные состязания древности. Зародились как часть религиозного культа и проводились с 776 до н.э. После состязания были названы как олимпийские игры. В наши дни олимпиада - одно из самых крупнейших событий в мире. Игры оснащены по последнему слову техники, за результатами следят компьютеры и телекамеры, время определяется с точностью до сотых долей секунды, спортсмены и их результаты во многом зависят от технического оснащения. Благодаря СМИ не осталось ни одного человека в цивилизованном мире, который не знал бы, что такое олимпиада или не видел бы соревнования по телевизору.

Но мы хотим подробнее остановится на древних олимпийских играх и их истории. Что дало начало олимпийским играм, насколько было важно для людей, живущих в древней Греции, не только с точки зрения спортивного зрелища, но и социальной позиции.

СТОМАТОЛОГИЯ ГИППОКРАТА

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С древних времен зубоврачевание повсеместно являлось средством оказания помощи при болях, но сводилось в основном к удалению больного зуба. Причем проведение подобных операций ценилось достаточно высоко. Первыми, кто обозначил патологию зубов не только как проблему общей медицины, но и конкретного раздела медицинских знаний, стали греческие врачи, и, прежде всего, Гиппократ. Центральный момент учения Гиппократа состоял в рационалистическом подходе к человеку и его организму. Это позволило Гиппократу сделать многие правильные выводы, в том числе и касающиеся зубов. Так, он правильно описывал строение зубов, понимал последовательность их формирования.

Гиппократ уделял внимание и проблемам вывихов челюсти и методам их вправления, что вполне можно отнести к разделу хирургической стоматологии. Думаю, что Гиппократа, с учетом поправки на время, можно считать одним из «отцов» стоматологии, так как он впервые попытался выделить ее как самостоятельную область медицинских знаний.

КАНОНЫ КРАСОТЫ В ДРЕВНЕЙ ГРЕЦИИ И РИМЕ. ПЕРВЫЕ КОСМЕТИЧЕСКИЕ СРЕДСТВА

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Едва найдется человек в современном мире, который бы не пользовался косметическими средствами в своей повседневной жизни. О происхождении некоторых косметических средств и канонах красоты в Древнем мире мы и попытаемся рассказать в своем сообщении.

ПРОИСХОЖДЕНИЕ НАЗВАНИЙ ХИМИЧЕСКИХ ЭЛЕМЕНТОВ

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В химических текстах можно встретить множество терминов, понятных только узким специалистам. Но есть слова, известные каждому грамотному человеку: названия элементов, многих веществ и методов их обработки. Некоторые из этих названий придуманы недавно, другие имеют тысячелетнюю историю. В таблице Менделеева приведены названия элементов на русском языке. Большинство из них фонетически сходны с латинскими. Однако есть элементы, названия которых в различных языках сильно отличаются. Это семь металлов - золото, серебро, медь, свинец, олово, железо, ртуть, которые сопоставлялись с известными тогда планетами, а также сера и углерод. Они встречаются в природе в свободном состоянии, и многие получили названия, соответствующие их физическим свойствам. Элементы-топонимы. Это такие элементы, названия которых связаны с географическими объектами. К ним можно отнести: америций, рутений, магний и марганец, лютеций и др. Некоторые ученые при открытии новых элементов присваивали им имена богов, героев, духов, как бы сопоставляя химические и физические свойства открытого элемента с характерными особенностями личностей, в честь которых и давались эти названия. Например: кадмий, кобальт, прометий, уран, плутоний и т.д. Также прослеживалась такая тенденция, как присвоение элементам имен ученых, которые внесли значительный вклад в открытие элемента . К ним можно отнести самарий, резерфордий, борий, сиборгий и др. Считается, что в XIII-XVII веках алхимики открыли пять новых элементов (правда их элементарность доказана была значительно позднее). Речь идёт о фосфоре, мышьяке, сурьме, висмуте и цинке. Удивительное совпадение — четыре из пяти элементов находятся в одной группе. Если же учесть, что открытие цинка было, по сути, переоткрытием (металлический цинк выплавляли ещё в Древней Индии и в Риме)^ то получается, что алхимики открывали исключительно элементы пятой группы. Элементы, названные по их свойствам или свойствам соединений, которые они образуют. В этом случае использовали храктерные особенности элемента, такие как запах, цвет, взаимодействие с другими вещее твами и т.д. Например: хром, платина, кислород, водород. Ну и последнюю группу составляют элементы, названия которых связаны со способом открытия данного вещества. Это такие элементы как алюминий, литий.

МЕТОДЫ АНЕСТЕЗИИ В ДРЕВНЕЙ ГРЕЦИИ

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Современная медицина не может базироваться на таблетках и массажах. Существуют болезни, вылечить которые, без хирургического вмешательства не возможно. Ведь совершенно не зря мы подсознательно с детства боимся ложиться на операционный стол. . К счастью, в современной медицине любая операция проходит абсолютно безболезненно, благодаря методам анестезии, или другими словами методам обезболивания. Это намного упрощает задачу

оперирующих хирургов, но, что более важно, в разы упрощает переносимость операции больным.

Сегодня есть множество видов анестезии:
Полная анестезия; местная анестезия; спинальная анестезия; эпидуральная анестезия. комбинированная спино-эпидуральная анестезия; проводниковая анестезия ; инфильтративная анестезия.

Термин "анестезия" впервые был предложен в античной Греции философом Платоном. Однако проблема борьбы с болью, в первую очередь, при хирургических вмешательствах возникла намного раньше, в глубокой древности. Уже тогда врачи знали, как погружать пациентов в глубокий наркотический сон для приведения их в бесчувственное состояние. В древние греки для погружения в сон и анестезии использовали вино и коноплю, мак, ряд растений и дым, образованный при их сжигании, отвары из мандрагоры, напитки из ядовитых семян и листьев белены, красавки. Помимо растений так же был популярен метод лишения кислорода. Но метод был не безупречен, и исходы после него были плачевными, хотя особо сильные могли его пережить, в большинстве случаев люди, пережившие этот способ, просыпаясь, погибали от болевого шока.

Современная анестезия.

Анестезия — уменьшение чувствительности тела или его части вплоть до полного прекращения восприятия информации об окружающей среде и собственном состоянии. Анестезия возникает при нарушении восприятия или передачи чувствительного нервного импульса на разном уровне: поражение чувствительных рецепторов; поражение чувствительных нервов; поражение головного мозга, нарушающее восприятие нервных импульсов; психические заболевания, мешающие правильно интерпретировать информацию, которую головной мозг принял от чувствительных рецепторов, например истерия.
В зависимости от вида чувствительности, который нарушен, анестезия бывает: полная анестезия (блок всех видов чувствительности); частичная анестезия (блок определенного вида чувствительности).

Наркóз — искусственно вызванное обратимое состояние торможения центральной нервной системы, при котором возникает сон, потеря сознания и памяти (амнезия), расслабление скелетных мышц, снижение или отключение некоторых рефлексов, а также пропадает болевая чувствительность (наступает общее обезболивание). Его классифицируют: по факторам, влияющим на нервную систему при общем обезболивании; по количеству используемых препаратов; по применению на различных этапах операции.

Спинальная анестезия — вид местной анестезии, при котором анестетик в процессе люмбальной пункции вводится в субдуральное пространство, а блокирование передачи импульса происходит на уровне корешков спинномозговых нервов.

Проводниковая анестезия - обратимая блокада передачи нервного импульса по крупному нервному стволу (нерв, сплетение, узел) введением раствора местного анестетика в параневральное пространство.

ПРИМЕНЕНИЕ SPA ПРОЦЕДУР ГРЕКАМИ И РИМЛЯНАМИ

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В своём сообщении мы объясним значение слова SPA. Вопросы красоты волновали, как женщин, так и мужчин Древнего Рима. Чтобы сохранить стройную фигуру, сильные мышцы и эластичную кожу древние применяли различные процедуры: водные, массаж и др., достижениями которых мы пользуемся в современном мире.

ОГЛАВЛЕНИЕ

Section of the ENGLISH Language

DEUTSCHE ABTEILUNG

SECTION du FRANCAIS et du LATIN