Министерство здравоохранения России

ГБОУ ВПО Амурская Государственная Медицинская Академия

Студенческое научное общество

Ministry of Public Health of Russian Federation

Amur State Medical Academy

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СБОРНИК ТЕЗИСОВ ДОКЛАДОВ

23Я НАУЧНАЯ СТУДЕНЧЕСКАЯ КОНФЕРЕНЦИЯ НА ИНОСТРАННЫХ ЯЗЫКАХ

ABSTRACTS

23rd SCIENTIFIC STUDENTS CONFERENCE IN FOREIGN LANGUAGES

16 ДЕКАБРЯ 2013г.

Благовещенск 2013г.

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ABSTRACTS 23rd SCIENTIFIC STUDENTS CONFERENCE IN FOREIGN LANGUAGES

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Сборник тезисов докладов 23^{й} студенческой научной конференции на иностранных языках под редакцией председателя Совета НИРС АГМА проф. Е.А. Бородина.

Благовещенск 2013г.

Сборник тезисов докладов 23^{й} научной студенческой конференции на иностранных языках содержит тезисы 124 докладов, заслушанных на трёх секциях:

- Английского языка
- Немецкого языка
- Французского и латинского языков

Редакционная коллегия:

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- **П.Е. Бородин**—член СНО АГМА (технический редактор)

Section of the English Language

INTRODUCTION TO JAPAN

Soshi M. – the 2nd year student

I am going to introduce Japan in terms of geography, places to visit, and the way we live. In this presentation, I am introducing some Japanese words that cannot be translated. I think they show our national characteristics very well. Please enjoy my presentation.

NERVE ENDINGS

Kanash T., Zubkova M. - the 2nd-year students
Scientific leaders - Cand.Biol.Sc. Ogorodnikova T.L., Katina O.I.

The nervous system plays the most important role in the regulation of the body functions. It provides organic work of cells, tissues, organs and systems. The body acts as a single unit. Due to the nervous system there is a contact of the organism with the external environment. The nerve endings are one of the structures of the nervous system. These are specialized formations at the ends of nerve fibers that provide the information delivery in the form of nerve impulses.

There are three types of nerve endings:

1) effector - deliver impulse from the nerve cell to the cells of other tissues ;

2) afferent - deliver impulse from the action point of external and internal environment to a nerve cell;

3) synapses - deliver impulse from one nerve cell to another.

Afferent nerve endings are formed on the dendrites of sensory neurons.

Synapse is the contact between cells, providing a one-way conduction of nerve stimulation.

Effector nerve endings develop on axons of motor neurons.

When violation, a variety of pathological conditions develop in the nerve endings.

Myasthenia gravis a disease that occurs in the effector of neuromuscular endings. It is characterized with progressive muscle weakness and often ends in paralysis of respiratory muscles. In this disease antibody to acetylcholine sarcolemma receptors circulate in the blood. These antibodies bind to the acetylcholine receptors of postsynaptic membrane and inactivate them, disrupting the nerve - muscle interaction. Inactivated receptors undergo endocytosis and are replaced with new ones.

Despite the severity of the disease and its incurable character prolonged employability and life is possible if one follows the certain treatment and the implementation of all recommendations. Anticholinesterase drugs - kalimin , proserin - are regularly essential drugs in this disease. Patients with myasthenia gravis must be seen by a neurologist. Treatment is carried out over the years by adjusting agents depending on the severity of the disease. Thanks to modern methods of diagnosis and treatment the mortality in myastenia become minimal - less than 1 %. Previously it was 30 - 40 %.

HUMAN HEIGHT. ANTHROPOLOGICAL RESEARCH.

Mikhailov P. – the 2nd-year student
Scientific leaders – L.G. Zherepa, Cand.Ped.Sc. I.A. Bibik

Human height is the distance from the bottom of the feet to the top of the head in a human body, standing erect.

Height, like other phenotypic traits, is determined by a combination of genetics and environmental factors.

The average height for each sex within a population varies significantly, with men being (on average) taller than women. Women ordinarily reach their greatest height at a younger age than men, because puberty generally occurs earlier in women than in men.

As human height is one of the common anthropometric signs, a special anthropological research has been done. The anthropological data, height of 50 male and 50 female students, were analyzed for each year from 2009 to 2011. The results were systemized. The conclusion was the following: students' height decreased each year.

ORGANS OF VISION. IMPAIRMENT AND RECOVERY OF VISION.

Plushch D., Telyakova A. - the 2nd -year students
Scientific leaders - Cand.Biol.Sc. Ogorodnikova T.A., Volosenkova Ye.A.

This problem is very urgent nowadays, almost everyone has a problem with his vision. Also, there exist more and more different methods for the correction of vision.

The eyeball according to morphological point of view, is the organ consisting of some layers. It consists of three layers:

-The external membrane; - the mean membrane; - the retina.

From a physiological point of view the eye has a number of functional units:

- Receptor system; - Diopter or light-refracting apparatus; - Accommodation apparatus;

- Auxiliary apparatus.

Myopia is a defect of visual refraction, when the rays of light focus in front of the retina.

Hyperopia is a defect of visual refraction, when the rays of light focus behind the retina.Farsightedness as well as nearsightedness are corrected by optical lenses. Astigmatism is the impairment of vision provoking the emergence of a distorted image on the retina. Astigmatism is corrected by the cylindrical lenses.

Color blindness is a congenital disorder of color vision , characterized by an inability to distinguish certain colors .

Cataract is a lenticular opacity with the consequent loss of transparency.

It is important to know the structure and function of a particular part of the eyeball, because thanks to it you can identify and understand by various symptoms

that manifest externally what organ at the moment is affected and how much, and prescribe a specific treatment for this disease.

CORRECTION OF LIPID METABOLISM IN PATIENTS WITH VERY HIGH CARDIOVASCULAR RISK

Borodin P. – the 3rd-year student
Scientific leaders: Prof. I.G. Menshikova, Prof. E.A. Borodin.

Cardiovascular diseases (CVD) remain one of the major causes of mortality, which negatively affects the demographics and socio- economic indicators of the Russian Federation (EI Chazov et al 2009, 2011). Every year 1.3 million of people die from CVD. The average life span in Russia in 2012 was 69.8 years, in Japan - 83.9 years, in Italy, France and Sweden - 81. In 2000, the contribution of various risk factors in the overall mortality of the Russian population from CVD was as follows: hypertension - 35.5 % , dislipidemia - 23 % , smoking - 17.1% , overweight - 12.5 % , lack of exercise - 9 % (R. Oganov, et al , 2009). Among risk factors of mortality from CVD in 2010 dislipidemia entered the 1st place in Europe, including Russia, and made up 25.9%, while hypertension - 22.8%, smoking - 17% (Eurika Stady, 2011). According to the recommendations of the European Society of Cardiology (2011) and the Russian Society of Cardiology (2012) the target levels of total cholesterol in CVD patients with very high risk of mortality should be <4.0 mmol/L, LDL-cholesterol, - <1.8 mmol/L, HDL-cholesterol in men - > 1.0 mmol/L (in women -> 1.2 mmol/L), triglycerides - <1.7 mmol/L. However, in 2010 the target level of HDL cholesterol was not achieved in 44.7% of CVD patients. It is known that statins (3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors) are the most effective drugs for the treatment of hyperlipidemia in patients with coronary atherosclerotic disease. The most effective statin is rosuvastatin. To achieve 46% decrease of LDL-cholesterol the daily dose of rosuvastatin should be 1o mg, whereas atorvastatin - 40mg and simvastatin - 80 mg (P. Jones et al., 2003). It was found that the reduction in LDL-cholesterol by 1% is followed by 1% decrease of the risk of coronary heart disease. Increase of the level of HDL-cholesterol by 1% reduces the risk of coronary heart disease by 1-3% (W. Boden, 2000 ; SMYrundy et al., 2004). In Russia, among CVD patients with high- and very high risk of mortality only 5.3% are treated with statins (SA Shalnova et al., 2006). The reasons for this are: high price of statins and particularly rosuvastatin; inattentive attitude of CVD patients to their lifestyle; therapeutic inertia of physicians. It is important to remember that the reduction of LDL cholesterol by 2 mmol/L (45-50% decrease) reduces CVD mortality risk by 45-50%. Thus, dyslipidemia is a major risk factor for fatal complications from CVD. On-time correction of lipid metabolism with an allowance for risk category will help to increase the life span of CVD patients. The therapeutic effect of statins in CVD patients is based not only on the correction of LDL- and HDL-cholesterol, but also on anti-inflammatory effect. Nowadays, the inflammatory theory of atherosclerotic is of interest. Due to that, anti-inflammatory drugs seems to be helpful for the treatment of CVD. One of such drugs are antioxidants. Inhibiting the production of pro-inflammatory cytokins antioxidants exert anti-inflammatory effect. We investigated

the effect of food additive “Laviocard+” (dihydroquertsetin 30 mg + ascorbic acid 70 mg) on the blood content of pro-inflamattory interleikins (IL) and tumor necrosis factor-alpha (TNF-alpha) CVD patients with CVD risk. CVD patients. Patients were treated with200 mg of “Laviocard+” daily within 4 weeks. The blood content of IL-1-alpha, IL-6, IL-8, IL-10, IL-18 and TNF-alpha was measured before and after treatment. The content of all cytokines was reduced after treatment and the reduction of IL-18 was statistically significant. Thus, it is possible to conclude that the combination of statins with antioxidants should be effective in treatment of hyperlipidemia in patients with high CVD risk.

BLOOD TYPE AND DISEASES

Kozlenko A. - the 4-th year student
Scientific leaders- Cand.Sc. Pavlenko V.I., Gritcenko S.N.

You probably already know that if you want to preserve your health and live longer, then a healthy diet, regular exercise and proper cardiac care can help you. You may also be aware that your genes play a role in determining disease resistance. But do you know that your blood type may also make you more prone to some illnesses and simultaneously reduce the risk for others? Intuitively it makes sense, because the distinguishing factor between blood types are antigens (the system of immune defense) and each blood type group developed protection against the lethal diseases people were most vulnerable to. People with blood type O (the most common blood type), who have the ADAMTS7 gene do not experience an increased coronary artery disease or heat attack risk. When it comes to blood type A numerous studies have found that people with this blood type have a greater risk for gastric cancer. Studies have also found that women with blood type AB or B have a higher risk of developing pancreatic and ovarian cancer and preliminary evidence suggests that women with type AB have a much higher risk of developing pre-eclampsia (a lethal blood pressure condition) during pregnancy. Type Bs are usually resistant to heart attacks, heart disease, cancer and many of the most severe diseases in modern life. Conversely, they are more susceptible to strokes and immune system related disorders such as chronic fatigue syndrome, lupus and multiple sclerosis.

THE STRUCTURE OF THE RENAL CORPUSCLE

Zhumikova Ju. – the 2nd-year student
Scientific leaders – Assoc. Prof. Sayapina I.Yu., Volosenkova Ye.A.

Bowman’s capsule is named after Sir William Bowman (1816-1892), a British surgeon and anatomist. Bowman’s capsule the expanded part of the nephron, resembles a balloon during embryonic development and is composed of a simple squamous epithelium that is invaded by a cluster of fenestrated capillaries, the glomerulus, whose fenestrae have no diaphragm and they are from 70 to 90 nM in diameter. Thus the space within Bowman’s capsule is reduced and forms a narrow cavity- Bowman’s space (urinary space), located between the outer and inner layers of Bowman’s capsule (known as the parietal and visceral layers of Bowman’s cap-

sule, respectively).

The glomerulus becomes covered by the visceral layer, all of its cells become modified in shape and are known as podocytes. The glomerulus and Bowman's capsule are known as the renal corpuscle, where the podocytes and the endothelial cells of the glomerulus contact each other through three-layer basal plate. Podocytes have numerous long, tentacles-like cytoplasmic extensions — primary (major) processes. Podocytes have peduncles of processes - pedicels that wrap around glomerular capillaries. These pedicels interlace with the secondary pedicels of adjacent podocytes forming filtration fissures. Podocytes are involved in regulation of glomerular filtration rate.

A renal corpuscle is also known as a Malpighian corpuscle, named after Marcello Malpighi (1628-1694), an Italian physician and biologist. This name is not used widely anymore, probably to avoid confusion with a Malpighian corpuscle in the spleen.

The fluid and solutes collecting in the capsular space are called glomerular filtrate. The concentration of each of these substances in the glomerular filtrate is similar to its concentration in plasma. Glomerular filtration is the first step in urine formation. Fluid and small solutes are forced under pressure flow from the glomerulus into the capsular space of the glomerular capsule. Not everything can pass through the glomerulus filtrate. Some things can fit through the fenestrae and others can't.

What passes through?

electrolytes (including Na+, K+, Ca2+, Mg2+, Cl-, SO42-, PO42-, HCO3-, and H+).

nutrients such as monomers

small hormones (not large ones)

water

What doesn't pass through?

cells

plasma proteins

Molecules from blood plasma must:

1. pass through the fenestrated capillary epithelium (fenestrations are 50-100nm in diameter)
2. pass through the thick basement membrane (main filtration barrier)
3. pass though filtration fissures between the podocyte «feet»

The renal corpuscle has some pathology, for example the Goodpasture syndrome. A normal glomerulus has a very thin parietal layer of Bowman's capsule. The renal corpuscle in Goodpasture syndrome, however, is characterized by a large crescent-shaped proliferation of epithelial cells in that parietal layer.

SIGNS OF FETUS MATURITY

Danilec V. – the 2nd-year student
Scientific leaders – Ambroseva N.P., Katina O.I.

Maturity is a normal fetation, starting in 39-40 weeks of pregnancies. Many factors influence on a height and weight of infants. Chiefly they are physical indexes of parents, their age, and state of health and the diet of woman during the pregnancy.

Other signs of worn of fetus maturity are:

loud and demanding voice;

pink, clean and velvety skin;

fontanel is open;

floor of the auricles are formed;

an umbilical ring is located in the middle of abdomen, etc.

Healthy infants are active, with a well-developed muscular tension and physiological reflexes.

ANTIOXIDANT PROPERTIES OF REMAKSOLI AND CYTOFLAVINI AT THE COLD STRESS

Bugreeva T., Dorovskikh V. - the 2nd-year students
Scientific leaders – Assoc. Prof. Doroshenko G.K., Katina O.I.

Cold exposure (stress factor) results in increased heat against reducing the synthesis of ATP, which is the basis for the formation of hypoxia, acidosis and accumulation of lipid peroxidation products.The prescription of Antihypoxanth drugs, stimulants of gene -mediated initiation of erythropoietin production is an important aspect in the regulation of the effects of low temperatures on the organism. However, reducing the damaging effect of cold on the cell membrane and the formation of lipid peroxidation products, they do not significantly reduce the time of cold adaptation.

Perspective correction direction in cold exposure is the use of drugs based on succinic acid as its oxidation plays an important role in the "output" of energy from the Krebs cycle through succinate pronounced effect on system of electrons reverse transport in the mitochondrial ATPhases, which, in turn, regulates the rate of phosphorylation .

Results:

1. The possibility of cold stress correction injecting "Remaksol" and "Cytoflavin" that contain succinic acid is experimentally confirmed.

2. Intraperitonealinjection of Remaksol and Cytoflavin to laboratory animals at a dose of 100 mg / kg decrease the intensity of lipid peroxidation of membranes induced by prolonged cold exposure, restoring the level of peroxidation products against the significant increase in activity of the main components of ceruloplasmin and vitamin E.

3. Results of studies give the evidence to recommend Remaksol as an antioxidant , a regulator of adaptive reactions of the body when exposed to cold temperatures. Examinations have shown that Remaksol stabilizes the lipid peroxidation in a

cold experimental model. It is confirmed by a significant decrease in the content of lipid peroxidation products: lipid hydroperoxide, conjugated diene and MDA.

4. Research allows to recommend Cytoflavin as an antioxidant, as well as a regulator of adaptive reactions of the body when exposed to cold temperatures.

PERSON DESEASE DEPENDING ON BODY CONSTITUTION

Bugreeva T., Ostanina A.- the 2nd-year students
Scientific leaders - Zherepa L.G., Katina O.I.

Constitution is proportions and features of body parts, and also the characteristic of bone, fat and muscle tissue development.

There are three main types of human habitus:

Normosthenic (athletic type). The trunk is muscular. He has broad strong shoulders, trapezoidal body with a narrow pelvis. He has powerful and convex relief of the muscles, feet in comparison with upper part of the body, seems thin, strong elongated head, strong neck loose. Face has sharp features and oblong shape. High or medium growth is characteristic. Normosthenics are energetic and confident in their abilities; they have a tendency to diseases of upper respiratory tract and the motoapparatus, to neuralgia and coronarosclerosis. Also myocardial infarction develops more frequently.

Hypersthenic (pycnic type). The body is round and soft, adipose tissue is expressed.

It is characterized by a small or medium-sized growth, the body with a big belly and a round head on a short neck. He has a short, broad, convex chest, and blunt costal angle. Figure is solid, with a soft broad face on the short massive neck. Bones are ample, limbs are short, hands and feet are broad. The round head is relatively large, crown control is flat, and neck is massive and short. Skin is soft, but it is not loose. Soft hair on his head, with a tendency to alopecia.

Hypersthenics have high blood pressure. Function of the gonads and the adrenal glands is increased. They are prone to obesity, atherosclerosis, hypertension, cholecystitis and cholelithiasis. People with prevalence of adipose tissue in the abdomen and upper part of body have maximum risk.

Asthenic (leptosomaticus). Their body is slim, bones are long, and constitution is fragile. They have little fat and skinny muscles, high growth. They have flat, long, narrow thorax, costal angle is sharp, pelvic is hips, thorax is flat; body is slim with a scanty layer of subcutaneous fat. They have long, thin limbs with long, thin hands and feet. The shoulders are narrow, lower limbs are long and thin. Their head is relatively small and neck is long and thin. Pale narrow face is egg-shaped, nose is sharp and thin, and sometimes profile is angular. Asthenic's feature is increased nervous irritability, a tendency to visceral ptosis, neuroses and hypotension, tuberculosis, the gastric and duodenal ulcer, atherosclerosis, obesity and diabetes.

So, it is seen that people of different constitution are prone to various diseases. And future doctor must take it into consideration.

THE HORMONE OF GROWTH AND STARVATION – GHRELIN

Popov S. - the 2nd-year student
Scientific leaders – Feoctistova N. A., Katina O. I.

Ghrelin was detected as the first identified circulating starvation hormone. It participates in human nutrition and the development of the organism as a whole.

Ghrelin plays a significant role in neurotrophy, particularly in the hippocampus, and is essential for cognitive adaptation to environmental changing and the studying process.

Ghrelin is known as the target for the development of anti-obesity treatments, due to its effects to energy metabolism and starvation.

GOUT IS A DISEASE OF THE CENTURY

Bugreeva T., Eretnova A.- the 2nd-year students
Scientific leaders – Assoc. Prof. EgorshinaE.V., Katina O.I.

Gout is in origin a heterogeneous disease characterized by the deposition of urate crystals in the form of sodium monourateor uric acid in various tissues of the body.

Causes:

The origin of the disease is closely related to the amount of uric acid that occurs due to processing of certain foods rich in purines in the body.

Increased levels of uric acid in the body may be associated as with the impaired renal function so as with the administration of some drugs.

Clinical manifestations:

Clinically the gout manifests in recurrent acute arthritis and the formation of gouty knots - tophi. Disease occurs more often in men, but recently, there is the prevalence of the disease among women. The occurrence of gout is increasing with age. The drugs that affect the pathogenetic mechanism of the disease, as well as drugs for symptomatic treatment are used.

Complications:

If gout occurs frequently and for a long time, it can lead to severe damage of the joints and their mobility restrict.

RESPIRATORY PHYSIOLOGY BASIS

Bugreeva T., Artemyeva S. - the 2nd-year students
Scientific leaders – Vodopyan A.V., Katina O.I.

The main function of the lungs is to ensure normal gas exchange. External respiration is the process of gas exchange between the atmospheric air and the blood in the pulmonary capillaries. Due to it there is arterialization of the blood: oxygen pressure increases and CO2 pressure reduces. The intensity of gas exchange is determined in the first place by three pathophysiological mechanisms (pulmonary ventilation, pulmonary blood flow, diffusion of gases through the alveolar- capillary membrane), which are provided by a system of external respiration.

Pulmonary ventilation is determined by:

1. mechanical ventilation apparatus, that primarily depends on the activity of the respiratory muscles, their nervous regulation and the chest wall motion ;

2. elasticity and extensibility of lung tissue and chest ;

3. passage- ways patency;

4. intrapulmonary air distribution and its conformity with the blood flow in different parts of the lung.

When violations of one or more of the above factors, clinically significant air violations may develop. It appears in several types of ventilation respiratory failure.

The diaphragm plays the most significant role of the respiratory muscles. Its active contractions reduces intrathoracic and intrapleural pressure that becomes lower than the atmospheric pressure, with the result of inhalation .

Inhalation occurs due to active contraction of respiratory muscles (diaphragm) and the exhalation is mainly due to the elastic recoil of the lung and the chest wall.

If it is necessary to increase the amount of ventilation, the reduction of external intercostal, scalene and sternocleidomastoid muscles (additional inspiratory muscles) occurs. It also leads to an increase in the capacity of the chest and decrease of intrathoracic pressure, which contributes to inhalation. Muscles of the anterior abdominal wall (external and internal oblique, and transverse lines) are considered to be additional expiratory muscles.

SIXTH LAYER OF THE CORNEA – A DUA'S LAYER

Poplavskaya A. – the 2nd-year student
Scientific leaders – Prof. N.P. Krasavina, Katina O.I.

Cornea is the transparent part of the photorefracting apparatus of the eye.

Discovery was made by Harminder Dua. The layer is between Descemet's membrane and stroma. It is thin, but resistant to high pressure.

The discovery of this layer is a reason to reprint textbooks on Ophthalmology. Knowledge of the new layer will facilitate the operations on the retina without touching the deeper layers.

The discovery was made in the experiment on cornea during the separation of layers from each other by air bubbles.

Now, new methods of cornea disease treatment will be developed studying the true causes of their occurrence.

THE GEOGRAPHY OF GREAT NAMES AND DISCOVERIES.
THE IMPULSE TO LIFE SECRET SEARCH

Shirokov D. - the 1st-year student
Scientific leaders - Prof. Gordienko E.N., Katina O.I.

More than half a century ago, February 28, 1953, Francis Crick announced that he had discovered the secret of life. In fact Francis Crick and James Watson have found something similar. To get to the famous double-helix DNA, they made a break that, in particular, has allowed to solve the secret tormenting scientists for dec-

ades. Even before the Second World War, the researchers found that the mysterious substance that transfers genes from one generation to another is DNA. Results of Watson and Crick discoveries were published in the journal Nature, April 25, 1958. In subsequent decades the important break in biology and medicine based on them was made.

CARDIOVASCULAR PHYSIOLOGY

Velchenko E., Alisina A.-the 2nd-year students
Scientific leaders - Vodopian A.V., Katina O.I.

Performing one of the main functions - transport - cardiovascular system provides rhythmic course of physiological and biochemical processes in the human body. All necessary substances (proteins, carbohydrates, oxygen, vitamins, and mineral salts) are delivered to the tissues and organs through the blood vessels and the metabolic products and carbon dioxide are removed. Thus, the vascular system also performs the regulatory and protective functions. With the nervous and humoral systems cardiovascular system plays an important role in providing the integrity of the body .The vascular system is divided into the circulatory and lymphatic. These systems are closely related and complete one another anatomically and functionally, but there is a definite difference. Blood in the body is carried by the circulatory system. The circulatory system consists of the central organ of circulation - the heart. The rhythmic contractions of the heart allow the blood to pass through the vessels.

THE ORGAN OF VISION

Velchenko E., Artemeva S.-the 2nd-year students
Scientific leaders - Assoc.Prof. Shakalo Yu.A., Katina O.I.

The organ of vision plays an important role in human life, in the communication with the external environment. In the evolution this organ changed from light-sensitive cells on the surface of the animal to the complex organ carrying motions in the direction of the light beam. Then it sends this beam to special light-sensitive cells in the thickness of the back wall of the eyeball that receives as a black-and-white so as color image. In the development the vision organ of a person gets the picture of the outside world and transforms the light stimulus into a nerve impulse.

The organ of vision is in the eye socket and includes eye and auxiliary apparatus of the eye, forming a functional eye apparatus:
Light-refracting (cornea, aqucouns humour, lens, vitreous body) provides the refraction of light rays and the projection of the observed objects on the retina.
Accommodative (iris, ciliary body with ciliary girdle) provides the focus of the retinal image by changing the shape (and so the refractive power) lens, adjusts the intensity of illumination of the retina (due to changes in the diameter of the pupil).
Receptor (retina) provides the perception and primary processing of light signals.

THE PROBLEMS OF LIVER RECOVERY

Nikishov A., Ostanina A. – the 2nd year students
Scientific leaders – Cand.Biol.Sc. Ogorodnikova T. L., Katina O. I.

The mechanisms being in basis of liver tissue regeneration are not studied completely. It is known that liver is able to reduce the size of the original, even having 25% of normal tissue. Previous results indicated that cells of regenerated tissues act like the cells of the developing embryo.

A new direction in the study of regeneration is to study its immune regulation.

In mature human liver and other mammals four species of stem cells are revealed. They are liver progenitor cells, the so-called oval cells, small hepatocytes, epithelial cells and liver mesenchyme-like cells.

Activated lymphocytes are capable to release factors that stimulate the growth of connective tissue violating the structure of the liver. Regeneration efficiency depends on too many conditions to provide a normal result of restoration.

Further studies of properties, culture conditions and specific markers of mature progenitor cells of the liver are required to assess their regenerative potential and clinical use. In the end, all variety brings to atrophy, degeneration or necrosis of the cells and the intercellular structures. Damages of cells are known to be distinguished as reversible or sub lethal when cells are able to restore the structure and function and as lethal when the recovery is impossible. So, it is appropriate to search for violation of the cell structure.

And today it is possible to assume that the recovery is through regeneration (intracellular and cellular). The complete recovery is possible only when restoring the normal structure of cells, tissues and organs.

REGENERATION IN THE HUMAN BODY AND ANIMALS

Bugreeva T., Zeynalov O. - the 2nd-year students
Scientific leaders - Cand.Biol.Sc. Ogorodnikova T.L., Katina O.I.

The problem of regeneration is one of the most challenging problems in biology. Continuing interest in this area of knowledge is determined by many factors, especially by its importance in solving a range of issues such as biology and medicine. Without this ability it would be impossible to preserve life on earth, since any minor injury or illness would lead to the death of the organism.

The phenomena of regeneration were familiar to the people even in ancient time. Scientists try to understand how amphibians, such as newts and salamanders, regenerate severed tails, legs, jaws, restore the damaged heart, eye tissues, and the spinal cord.

Regeneration in animals and humans is the formation of new structures instead of deleted or lost due to the injury (reparative regeneration) or lost during the normal life (physiological regeneration). Regenerated organ may have the same structure as the remoted one, differ from it or do not be similar to it. Regeneration may occur by the growth of tissues on the wound surface, restructs the rest of the organ in to a new one or grow the rest of organ, without changing its form.

Reparative and physiological regeneration are not isolated as reparative regeneration stands on the physiological principle.

Reparative regeneration should be regarded as a normal response to injury basing the same mechanisms.

ANATOMIC BASE OF ENTERING TO THE URINOGENITAL VENOUS TEXTURE VESSELS

Melnikova V., Koroteeva V., Smirnova N. – the 3 rd - year students
Scientific leaders – Assoc. Prof. Piskun S.I., Katina O.I.

Material studying from 217 male corpses aged from 4 months of prenatal development till 87 years confirms the important clinical value of a urinogenital venous texture. These textures have the powerful afferent and efferent innervation, and well developed receptor apparatus that allows considering them as an extensive reflexogenic zone of a small pelvis.

The urinogenital venous texture can be a source of conflict situations in the field. Suprapubic inguinal access creates a necessary scope in a wound. The section is in borders of an orthogonal projection of a urinogenital texture on a belly wall, the length of a section is sufficient; its direction corresponds to a course of the main departments of a texture. In case of the section is needed it can be prolonged for the opposite side of urinogenital system.

Suprapubic inguinal access is recommend as a pass to urinogenital venous texture because it is characterized by a number of anatomic and physiological advantages.

DIABETES - «NON-INFECTIOUS EPIDEMIC» OF XXI CENTURY

Gorshkova K., Krivenko A. - 2nd-year students
Scientific leaders - Egorshina E.V., Katina O.I.

Diabetes mellitus is a group of endocrine diseases, developing as a result of absolute or relative (violation of interaction with target cells) lack of the insulin hormone. It is a common disease that is registered in all the developed countries and has a tendency to rise.

The structure of endocrine pathology in the Amur region: diabetes mellitus - 65.8 %, thyroid disease – 28%, other endocrine pathology - 6.2 %.

The proportion of diabetes type 1and 2 is from 6% to 94%.

Some of the diabetes complications: neuropathy, retinopathy, nephropathy and diabetic foot.

The structure of diabetic patients at received therapy: about 2475 people take insulin, about 9055 people get tablets hypoglycemic agents.

Nutrition in diabetes has goals and principles.

KAPOSI'S SARCOMA

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Kaposi's sarcoma (angiosarcoma or multiple hemorrhagic sarcoma sarcomatosis) is a multiple malignant tumors of the dermis (skin). First it was described by the Hungarian dermatologist Moritz Kaposi and was named after him.

The spread of the disease in general is low. But, Kaposi's sarcoma takes the first place among cancers that affect patients with HIV infection, reaching figures of 40-60 %. The risk groups for the development of Kaposi's sarcoma include:

- HIV - positive men;
- Elderly men of Mediterranean origin;
- People of Equatorial Africa;
- People with organ transplants (recipients).

Usually the tumor has a purple color, but the color may be different shades of red, purple or brown. The tumor may be flat or rise slightly above the skin. It has painless spots or nodules. In most cases it is located on the skin, sometimes - on the internal organs. Kaposi's sarcoma is often associated with the damage of the mucous of palate or lymph nodes. The course of the disease is slow. The finding of Kaposi's sarcoma at HIV infection gives a basis for the diagnosis of AIDS.

The histological structure of the tumor is characterized by a set of randomly distributed thin-walled beams of newly formed blood vessels and spindle-shaped cells. Tumor infiltration by lymphocytes and macrophages is characteristic. The vascular nature of the tumor highly increases the risk of bleeding. But it is not necessary to do a biopsy for suspected Kaposi's sarcoma. Kaposi's sarcoma is a special kind of tumor that often requires not only the verification of the diagnosis, but also its treatment. It may seem strange at first glance. This is due to the fact that it is possible to deliver correct diagnosis without a biopsy. And the isolated treatment of Kaposi's sarcoma rarely provides a full recovery. Moreover, the treatment of Kaposi's sarcoma (by virtue of its connection with the main causative agents of disease) is usually palliative, i.e. aimed at reducing symptoms of a disease.

CANDIDA-INFECTION

Pnuykhtin O., Lopatina E., Borodina K. – the 3rd-year students
Scientific leaders - Prof. Chubenko G.I, Katina O.I.

Candidiasis (syn: candidiasis, moniliasis, blastomycosis, the milkwoman, etc.) — is the infectious disease of a person caused by yeast-like fungi of the Candida.

Relevance of a subject: in the last decades the frequency of candida-infection steadily increases, making more than 15% in the general etiologic structure of pyo-inflammatory diseases.

The state of health of modern man from immunobiological positions is characterized by two features: the decrease in immune reactivity as a whole and the increase of incidence by acute and chronic diseases caused by semi-pathogenic microflora. Fungi as a factor of weighing a course of somatic and infectious diseases have

specific weight among microorganisms.

For last two decades Candida fungi became one of the main microorganisms causing intrahospital infections. According to WHO data, the fifth part of the Earth population suffers or sustain, at least once various forms of candidiasis. The increase of disease is connected with the fact that this infection is opportunistic. More than a half of the Earth population is the carrier of fungi. Candida infection affects a human body weakened by influence of various adverse factors: changing ecology of the environment, wide use of chemical substances, use of antibiotics and immunodepressants. The most common causative agents of fungoid infections are Candida fungi that can cause the wide range of infections: from diseases of skin and mucous membranes before invasive processes.

Nowadays the candidiasis disease of the person is caused by 20 species of fungi of the Candida. The main causative agents of candidiasis are C.albicans, C.tropicalis, C.parapsilosis, C.glabrata and C.krusei, C.lusitaniae, C.guillermondii, C.rugosa, etc. are rarely met. In spite of the fact that C.albicans is the most widespread agent for the last 15-20 years significant increase in number of the infections caused by C.tropicalis, C.parapsilosis, C.glabrata and C.krusei is noted.

As they are genetically close to C. Albicans, Candida krusei and some Candida glaratastrains are resistant to Fluconasol. It is necessary to consider the possibility of stability development of these activators to antimycotics at prolonged treatment of candidiasis at patients with an immunodeficiency.

Wide range of candida-infections damages demands as close attention and comprehensive study, so as the formation of a set of laboratory and diagnostic methods for diagnosis verification and definition of treatment schemes.

MODERN PREVENTIVE METHODS OF NOSOCOMIAL INFECTIONS

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

Nosocomial infection means any clinically recognizable infectious disease that affects the patient as a result of his admission to the hospital for treatment or medical care. Also it is infectious disease of hospital staff because of his work in the institution, regardless of the onset of symptoms before or during the hospital stay.

The problem of nosocomial infections and infection control is a priority for a number of reasons, which include:

1) deaths from hospital-acquired infections in medical in-patient departments come out on top;

2) infection that patients received in the hospital greatly increases the cost of treatment, as suggests the use of expensive antibiotics and increases the period of stay;

3) infections are the main cause of illness and death of newborns, especially premature;

4) loss of earning capacity due to nosocomial infection results significant financial problems for the patient and his family.

All health care facilities, especially in the surgical departments, wards and intensive care units and intensive care, measures for the prevention of nosocomial infections are taken and disinfection mode is observed.

There are roughly three types of nosocomial infections:

- Infected patients in hospitals.
- In patients infected when receiving outpatient care.
- In health care workers infected with the provision of medical care to patients in hospitals and polyclinics.

Describing the NCI, it should be noted that this category of infection has different epidemiology, distinguishing it from the so -called classical infections. They are expressed in a distinctive mechanisms and factors of transmission, epidemiological characteristics of the course of infectious processes. And also in the fact that medical staff of medical - care institutions plays an important role in maintaining and distributing centers of nosocomial infections.

LAPAROSCOPIC HOLETSISTEKTOMY

Lopatina E., Pnuykhtin O., Borodina K.- 3rd-year students
Scientific leaders – Cand.Med.Sc. Sergienko A.V., Katina O.I.

Relevance of a subject is that there is an increase of diseases of a gall bladder nowadays. The laparoscopic holetsistektomy combines radicalism with small injury due to what the restoration of working ability of patients is considerably reduced. Cosmetic effect of intervention has important value.

The laparoscopic cholecystectomy is a modern method of gall bladder excision that is performed through punctures of a belly wall and is made with the help of laparoscope.

This operation is performed under the general anesthesia. The special needle is set in the abdomen and a gas (for visualization of an internal) is forced into the cavity. Skin in 4 points the Tracing-paper is dissected. Through these points the puncture of a front and lateral wall of a stomach is made. Then laparoscope is set to transfer the image of internal organs by the built-in camera to the monitor or an eye of the surgeon. After that the working tools are set. When the gall bladder is excised it is necessary to cut the elements of a gall bladder crus (a cystic duct, a cystic, a cystic artery).The metal clips are put on then. The gall bladder is taken out from an abdominal cavity through one of cuts. The thin drainage is brought to a bed of a gall bladder. And seams are put on wounds.

Indications for operation: chronic cholecystitis, sharp cholecystitis, cholelithiasis, polyps and gall bladder cholesterosis.

Advantage of a method is that instead of a wide section there are four small punctures. Postoperative pains unlike open operation are less; the stay of the patient in a hospital also is much less. When performing small cuts the probability of postoperative hernias formation is extremely small, perfect cosmetic effect is observed.

PHENOMEN OF DANGEROUS AND PROBLEMATIC HUMAN CELLS

Naumova D., Gostyaev A. – the 1st-year students
Scientific leaders – Prof. Gordienko E.N., Katina O.I.

The study of one of the fundamental subjects, Biology, is started with the cells. It is the basic level of life organization. It is studied not only as an abstract model, but as a system in its own life cycle. The universal phenomenon of the cell is its ability to specialize. However, a tumor cells is of great interest. It is a special living system due to which one of the leading human pathologies, cancer, occurs. Skin cancer is one of the most pressing problems of oncology and ecogenetics.

Researchers have always been attracted with its main feature - cells cancer athypism. Today scientist search to establish a cancer cell cytology system, the cytologic criteria of malignant cancer cells in general and in particular, and to identify the specific tumor cell morphology. There was an attempt to organize the signs of the tumor cells in comparison with specialized one. Numerous data still show that these are not just features of cancer cell athypism, but their polymorphism, i.e. the variety of their size and shape. Cancer cells are seldom uniform in all areas of the tumor, as their division is not equal at different rates and in different parts of the tumor tissue. To study these cells the fundamental knowledge and participation of many specialists, including geneticists, is necessary.

DIQUERTIN INFLUENCE ON TISSUE REGENERATION AFTER AMPUTATION

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

Dihydroquercetin is effective inhibitor of flavonoid nature platelet aggregation. Dihydroquercetin (DHQ) can lower platelet aggregation invitro. Diquertin has a high antioxidant activity combined with resistance to autioxidation. Trombin inducted MDA formation by platelets decreased under the dihydroquercetin influence. The presence of a pronounced antiplatelet dihydroquercetin activity allows to consider it as a promising antiplatelet agent. Diquertin prevents the cell membranes destruction, inhibits inflammation and has antiedematic effect. Diquertin is referred to as the most powerful antioxidant. Dihydroquercetin is antioxidant of direct action, linking free radicals. Its effect is much higher than the action level of widely known vitamins A, C and E. When exposed to dihydroquercetin free radicals restored to a stable molecular form that is not capable to participate in the chain of autooxidation lipids (POL), which is a universal mechanism of a cell death.

MICROCIRCULATORY BLOOD CHANEL OF ILEOCECAL DUCT MUCOUS MEMBRANE

Bunina O., Pestryak N., Kuznicov V. - the 1st-year students
Scientific leaders – Assoc. Prof. Seliverstov S.S., Katina O.I.

Hemomicrocirculatory blood channel of ileocecal corner mucous membrane

of ileocecal corner was studied by the injection of the different contrasting masses (barium sulfate, India ink, latex) on planoocceous, clarified in glycerin preparations and histotopographic sections taken from 246 people. Veins of ileocecal valve mucous membrane from the caecum side looks as the circinate trunks connected with each other and bordering the intestinal crypt openings, where they take the beginning. Then venous trunks confluenting with one another, form larger vessels that pass into a submucous venous network. The veins of ileocecal valve submucosa membrane from the ilium side form the vivid venous plexus. The different diameter of dendroid branching vessels, located transversal to the intestinal tube, is marked in this plexus. This feature of structure serves as the basis for adding the iliocecal valve to swelling organs, that is in connection with their function as the tubular system sphincter.

SUBSTANCES AFFECTING THE COGNITIVE FUNCTION

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

Cognitive functions are higher brain functions: memory, attention, psychomotor coordination, speech, gnosis, praxis , count, thinking, orientation, planning and the control of higher mental activity.

There is an extensive list of substances that contribute to direct or indirect maintenance of cognitive processes. Nutrients that improve cognitive function are antioxidants, micronutrients, fatty acids, plant extracts and other nutraceutical. Micronutrients are vitamins and minerals necessary for optimal brain function. Lots of micronutrients such as minerals iron, copper, iodine and vitamins B (Folate, Vitamin B12, Vitamin B6, B1, and niacin) play an important role in the functional activity of the brain.

Nootropics, the neurometabolic stimulators, are the means having a direct activating effect on learning, improve memory and mental activity.

ENDOCRINE PHYSIOLOGY

Epova M., Almatov A. – the 2nd-year students
Scientific leaders – Vodopianov A.V, Katina O.I

Humoral regulation - is the regulation of the life processes by substances passing into the internal environment of the organism. Glands that do not have ducts and secretes their hormones in to the intercellular gaps, and then into the blood, lymph or cerebrospinal fluid are referred to the endocrine or endo-exocrine glands.

Hormones - are biologically active substances entering directly into the blood stream and affecting the metabolism, growth, development and function of various organs and systems.

There are 2 types of endocrine glands:

1) glands with mixed function that makes as internal so as external secretion (sexual glands and pancreas);

2) glands that have only the function of internal secretion- pituitary,- thyroid

and parathyroid glands, adrenal (cortex and medulla)- thymus, pineal gland (epiphysis).

GLIAL CELLS IN THE REPAIR OF INJURED NERVES

Koryukova T.-the 2nd-year student
Scientific leaders - Cand.Biol.Sc. Ogordnikova T.L., Katina O.I.

Regeneration of the different parts of the nervous system is not unique. In the brain and spinal cord the ganglion cell tumors do not occur. And at their destruction the functional recovery is possible only at the expense of intracellular regeneration of surviving cells. Glia, especially microglia, is characterized by a form of cell regeneration, so the tissue defects of the brain or spinal cord are usually filled with proliferating glial cells. There are so-called glial scars.

In contrast to the brain and spinal cord, peripheral nervous system has a remarkable ability to regenerate after injury. Nerve fibers in the peripheral nerves are usually well recovered. When a nerve is damaged, glial cells produce the protein neuregulin-1 and so promote the regeneration of nerve tissue. Researchers at the Max Planck Institute of Experimental Medicine in Gottingen have discovered that, following nerve damage, peripheral glial cells produce the growth factor neuregulin-1 that makes an important contribution to the regeneration of damaged nerves.

Few decades ago, it was common misconception that nerve cells do not regenerate. However, the analysis of accumulated experimental data shows that at least some brain interneuron are constantly updated and it is of great importance for the maintenance of neurological and mental health.

COMMON CHIKWEED – STELLARIA MEDIA.
THE CARYOPHYLLACEAE FAMILY.

Dashieva D., Galaktionova S. – the 3rd-year students
Scientific leaders - Cand.Med.Sc. Anokhina R. A., Katina O.I.

The applied part.Grass(informal law)The chemical composition: triterpene-saponins, flavonoids, coumarins, higher aliphatic alcohols, tannins, many vitamins (especially C, K, E), carotene, an essential oil, minerals (zinc, cooper, molybdenum, magnesium), a lot of potassium. Therapeutic effects: anti-inflammatory, hypotensive, antiangialnoe, antiseptic, sedative, analgesic, mild diuretic and cholagogue, expectorant, hemostatic, anti-sclerotic, stimulates blood formation, wound healing, normalizes metabolism, increases lactation, has expressed antihypoxic activity. Application: dystonia by hypertensive type, hypertention, coronary heart disease, prevention of atherosclerosis, in the treatment of hepatic and renal diseases, hyperthyroidism, varicose veins, internal bleeding, anemia, diseases of the gastrointestinal tract, in the initial stages of cataract formation, hypovitaminosis. It is topically applied when mastitis, skin diseases, and for wound healing. In cosmetology it is used for washing. Infusion (1 tbsp. per 200 ml water, leave for 4 hours, take 1/4 – 1/3 cup 3 times a day before meals, fresh plant juice 1 teaspoon 3-6 times a day with meals). Juice and

grass can be frozen for future use and harvested by adding ethanol. When mastitis, grass first is poured hot in water, cooled to lukewarm state and then applied to the chest. Nutritional value: fresh young grass is used in salads, for cooking soups, pasta and sandwich bar, and as a seasoning.

NIKOLAY IVANOVICH VAVILOV – THE PERSON WHO HAS FED THE WORLD. LIFE DRAMA.

Votyakov A.–the 1st-year student
Scientific leaders – Prof. Gordienko E.N., Naumenko V. A., Katina O. I.

It is possible to call Nikolay Ivanovich Vavilov the Encyclopaedist of the XX century and to tell with confidence that for all the time of biology existence as the science there wasn't so protean scientist.

It is impossible to overestimate Vavilov's heritage. His life is a vivid example of devotion to science ideals. He was the first who understood a huge value of genetics for development of plant growing, selection and all agriculture. Vavilov is the outstanding biologist who discovered a number of fundamental regularities of cultural plants evolutions. He is the largest institutor of science and the tireless traveler who has managed to look in a new way at the history of plant growing and agriculture. He was the scientist that made a contribution to geography and even ethnography. It is far the complete list of his advantage.

The destiny of the great scientist was changeable and tragic. Vavilov's violent elimination was a huge loss to genetics and science as a whole. All his life was dedicated to science.

Vavilov's tragedy meant the end of the whole branch of science — genetics. Since 1939 with Stalin support Lysenko's and his supporters made the real defeat of genetic science to the USSR. And in 1940 Vavilov was arrested either.

N.I.Vavilov often said: "Life is short, it is necessary to hurry". And he did everything to manage if not to finish, but to bring into the progress everything that he conceived. And his thoughts, ideas, plans are sufficient for centuries.

MORPHINISM

Berstenjova N., Huna Sh. – the 3rd-year students
Scientific leaders – Assoc. Prof. Simonova N.V., Katina O.I.

Morphinism is a pathological addiction to morphine taking. Morphine has the powder-like structure, odorless. For medical purposes, morphine is produced in ampoules for injection. Morphine is the main representative of narcotic analgesics. Progression of morphinism is caused by extremely fast addiction. In due course the received dose is not enough, forcing to increase the amount of drug. Morphine is injected parenterally (subcutaneously, intramuscularly or intravenously), and orally. With the progression of morphinism the suppression of the reactions of the nervous system is observed. Morphine induces a state of euphoria and drowsiness that are accompanied by an esthesia of carelessness and enervation. An overdose of the drug predisposes falling into a deep sleep, the person's breath is slowing down, and the

temperature decreases. Death occurs as a result of inspiratory center paralysis. The main external signs of morphinism are long-lasting astriction, or, on the opposite, diarrhea, coarctation of the pupil and marks on the injection site with the flat refusal of the drug withdrawal symptoms progress. Morphinism treatment involves the complex of special arrangements. A specific role is given to methods of psychological therapy.

PHYSIOLOGICAL AND REPARATIVE REGENERATION OF SKIN DERIVATIVES

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Scientific leaders – Cand.Biol.Sc. Ogorodnikova T.L, Katina O.I.

The phenomena of regeneration have been familiar to the people in ancient times. By the end of the 19th century the material, revealing patterns of regenerative response in humans and animals, was collected. But the problem of regeneration has been intensively developed since the second half of the 20th century. Tissue regeneration is still very important.

The importance of the regeneration of the body is determined by the fact that on the basis of cellular and intracellular organ renewal a wide range of adaptive fluctuations in their functional activity in a changing environment is supported, as well as the rehabilitation and compensation of disturbed due to various pathogens.

By the type of secretion glands of the skin are holocrine (sebaceous), apocrine (sweat) and merokrine. Physiological processes of regeneration constantly occurred in them due to their secretary activity. Depending on the type the secretion is divided into cellular and intracellular. In old age the regeneration decreases.

Scientists from the University of Michigan founded that after injury the residual sweat glands are founded in the scars tissues. The process of regeneration is noted in them. The experiments revealed that the eccrine sweat glands are the repository of regional stem cells, which are able to restore damaged tissue quickly.

Today, the physiological and reparative regeneration of skin glands are not well studied, so this problem remains relevant today.

Scientists face the problem to understand why the natural processes of regeneration of the skin and its derivatives are violated in certain diseases and how it is possible to influence the decrease or end of these processes.

STRUCTUAL FEATURES OF FETUS FROM 3 – MONTHS TILL THE MOMENT OF BIRTH

Gorshova K., Krivenco A. – the 2nd-year students
Scientific leaders - Zherepa L.G., Katina O.I.

The placenta is the extra germinal organ, through which a connection between the mother and the embryo is established. It performs various functions: trophic, excretory, defensive, and endocrine.

The fetus grows and gradually fills the entire cavity of the uterus; it is covered with the fetal bag that is filled with amniotic fluid. The fetus is fixated to the inner

surface of the placenta through the umbilical cord.

From the third month the increased development of all organs and systems of the fetus occurs. The size of the fetus significantly increases. Fetus takes specific human forms.

At the 4th month there are individual structural features of the fetus. In this period, its length is 12-13 cm and weight – 230-260 g.

During the 5th month fetus has the ability to move. His head is quite large compared with other parts of the body. Heart, liver and kidneys are also disproportionately giant. The whole body is covered with thinner fluffy hair. Sebaceous glands begin to function.

At the 6th month the fetal skin becomes wrinkled and dull-red. It is covered with greasy lubricant, especially in the armpits and in the groin creases. Hair become dark, eyebrows and eyelashes become vivid; nails are beyond the ends of the fingers.

During the 7th month the bones that form the skull cap are convex and eyelids open. Subcutaneous fat adipose, wrinkling of skin disappears, and his head is covered with more dense hair. In boys testes depress in the inguinal canal.

During the 8th month subcutaneous fat layer increases, the skin becomes pale red color and is completely covered with fetal smegma. One teste has already passed through the inguinal canal into the scrotum, but the other is still in the channel.

During the 9th month the deposition of subcutaneous fat continues, his hair grows longer and thicker, lanugo on the body disappears. Both testes in boys descended into the scrotum. The body has more rounded shape and the ratio of body parts changes.

At the end of nine months of pregnancy the fetus is fully viable and by genital tract is expulsed from the mother's body. And the dilated neck of the uterus and vagina form a single tube – the birth canal.

PLACENTA AND ITS MORPHOFUNCTIONAL CHANGES AT GESTOSIS

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Scientific leaders – Prof. Krasavina N.P., Katina O.I.

The placenta is formed in embryogenesis process and fetus developments.

It plays a role of the agent between an organism of mother and a fetus during the pregnancy.

The structure of a placenta causes its diverse functions: gas exchange, endocrine, secretory and protective.

Permeability of a placenta and transport of metabolites changes during all pregnancy according to requirements of a fetus.

They mainly are defined by a condition of a placental barrier. The placental barrier is the filter which passes gases. Late gestosis is the most frequent reason of pregnancy complications and it takes the 2nd place in maternal mortality. The main reason of gestosis is primary enzymatic dysfunction of a placenta. The combined forms of late gestosis lead to the development of a placental failure and a prenatal hypotraphy of a fetus.

THE CYTOLOGICAL BASIS OF SECRETION, THE TYPES OF GRANULOCYTES SECRETIONS

Sakhratulaeva A., Karnitskaya A. - the 2nd-year students
Scientific leaders - Cand.Biol.Sc. Ogorodnikova T.L, Katina O.I.

Secretory glands synthesize and secrete specific products - secrets that are used in important processes in the body. Glandular epithelium composed of secreting cells - granulocytes.

Most glandulocytes are distinguished by the presence of secretory inclusions in the cytoplasm, well-developed endoplasmic reticulum and Golgi apparatus, the polar location of organelles and secretory granules.

The polar differentiation is clearly visible in the glandular cells. It is caused by oriented secretory processes, for example, exocrine from basal to apical cells.

Mechanism for the allocation of secretions in the various glands is uneven. Due to it there are three types of secretion: merocrine (exo) and apocrine Holocrin . When merocrine type of glandular secretion, the cells retain their structure (for example, the cells of salivary glands). In apocrine secretions type destruction of glandular cells (e.g., mammary cell) is partial, i.e. along with the secretory part the products of separated or apical part of the cytoplasm of glandular cells (micro apocrine secretion), or the top of the microvilli (microapocrine secretion).

Holocrine type of secretion is accompanied by accumulation of secretions (fat) in the cytoplasm and the complete destruction of the gland cells. Recovery structure of glandular cells occurs by intracellular or using cell regeneration.

Regulation of secretion is through nevral and humoral mechanisms: the first act by the output of cellular calcium, and the second - mainly by the accumulation of AMP.

EPIDEMIOLOGY OF SPIROCHETOSIS IN RUSSIA

Cherednichenko O., Labunko T.–the 3rd-year students
Scientific leaders – Prof. Chubenko G.I., Katina O.I.

The studying of the modern situation on spirochetosis, the definition of biochemical and immunological status is necessary for the development of science-based system of measures to fight against this disease.

Purpose of the research: to evaluate the epidemiological situation on spirochetosis in Russia for the last 10 years.

Syphilis remains a serious problem and requires special attention of physicians of all specialties.

Cases of syphilis recorded in all regions of the Russian Federation. In 2011, 53 795 cases were registered in Russia.

In 2011, 9942 patients with tick-borne Lyme disease were registered in 69 regions of the Russian Federation.

In 2011, 269 cases of leptospirosis were registered in the Russian Federation.

Findings in recent years, there is a decrease in the incidence of syphilis and leptospirosis. It shows the effectiveness of diagnostic, therapeutic and preventive

measures. The same time one must not forget about the possibility of the existence of hidden and undetected forms of these diseases. Now there is an unfavorable situation on the epidemiology of borreliosis.

THE EXPERIMENTAL MODELS OF CHRONIC PROSTATITIS

Cherednichenko O., Labunko T. –the 3rd-year students
Scientific leaders – Cand.Med.Sc. Brash A.A., Katina O. I.

Chronic prostatitis is known to be the most frequent urological disease at men younger 50 years.

Pathogenesis of chronic prostatitis, its morphological manifestations and the role of immunological violations in mechanisms of development are studied insufficiently. By studying the mechanisms of development chronic prostatitis experimental models are used.

Hemodynamics models of prostatitis are based on violation of a blood-stream and damage of prostate gland blood vessels.

Infectious model of prostatitis. Direct injection of bacterial E.coli suspension in a prostate gland parenchyma the castrated males of previously rats is applied.

Autoimmune model of prostatitis. Chernyshev's model of accusative that caused destructive iron changes in animals.

Hormonal model of prostatitis. Relevance of this model is that the violation of balance of sexual steroid hormones leads directly to prostatitis development.

More economic is carrying out experiments on small animals, especially rats. However the prostate gland physiology at rats differs from that of the person.

Oaring the research all founded experimental models of prostatitises aren't completely adequate to prostatitis at the human body. Nevertheless they can be used and they are used, as it was noted above, for etiology and pathogenesis studying, and prostatitis therapies.

PHYSIOLOGICAL REGENERATION OF THE EPIDERMIS

Akhremenko A., Gorshkova K., Krivenko A. - 2nd-year students
Scientific leaders – Cand.Biol.Sc. Ogorodnikova T. L., Katina O. I.

Skin covers the entire body performing a number of important body functions. The total surface of the skin of adult is about 1.5 m^2, its weight is 16 -18% of body weight.

There are several layers of cells in epidermis - basal, spinose, granular, lucid and horny.

The last three layers are chiefly marked in the skin of the palms and soles.

Keratinocytes make the major part of cells in epidermis. They move from basal to the upper layers on differentiation.

Besides keratinocytes, there are other cells differons in the epidermis - melanocytes (or pigment cells), intraepidermal macrophages (or Langerrhans cells), lymphocytes and others.

Melanocytes with melanin pigment creates a barrier to UV rays at the nucleus

of the basal keratinocytes.

The horny layer of the epidermis consists of flat keratinocytes polygonal in shape. There are horn scales having a thick keratolinin membrane and filled with keratin fibrils packed in an amorphous matrix. There is the cementing substance between scales - a keratinosom product fall of lipids and therefore having flashing properties. The external horny scales loose the connection with each other and other constantly disappears from the epithelium surface.

The value of keratinization in the epidermis is that formed the horny layer is resistant to mechanical and chemical resistance, has low thermal conductivity and is impermecble to water (and many water - soluble toxic substances).

MICROVESICLES TRANSPORT

Orlova D. - 1 -st year student
Scientific leader - Volosenkova Ye.A.

Cells must communicate with each other through signal molecules, adhesion of proteins and intercellular contacts, extracellular vesicles (EV). The explosive growth of extracellular vesicles research in past decade has yielded an unprecedented wealth of information about cellular transport and communication. The principles and bases were conducted by three Nobel's laureates. They are James E. Rothman, Randy W. Schekman, Thomas C. Sudhof. Rotman researched genes of cellular transports in yeast; Schekman investigated cellular transports of yeast also, however he studies proteins such as synaptotagmine, SNARE-complex and others. Zudhof pays attention to cellular transport in nervous system, especially on interactions between Ca+2 dependent proteins, which are located at inner side of cell's membrane. There are more facts that secreted vesicles play important roles in numerous aspects of biology (e.g. intercellular vesicle of traffic, immunity, development of neurobiology and microbiology), contribute to many human diseases (e.g. cancer, neurodegenerative disorders and HIV/AIDS) and have significant biotechnological potential. The most interesting results of these investigations we can apply on the molecular medicine, especially of tumor biology. The scientists revealed that vesicles have been organized into pixels in special compartments - microvesicules. Microvesicules contain exosomes. Exosomes play significant role in tumor progression, invasions and metastasis. They can transfer microRNA, DNA, mRNA and proteins, which influence on epigenetic interactions and posttranslational modifications of cell's proteins.

VENOUS OUTFLOW FROM THE ORGANS OF REPRODUCTIVE SYSTEM

Sozonova Y. - the 2nd-year student
Scientific leaders - Ambrosyeva N.P., Katina O.I.

There is a large number of venous vessels on uterine horn surface of rabbit. They collect blood from all layers of the uterus and form the efferent vessels. Small venous vessels form ansae. A large venous vessel is on mid-line of the front wall between the horns of a large and a small curvature. Large venous vessel anastomoses

with diverting veins that are located in mesometrium. Straight veins pass along the mesometrium and form a closed oval arc. So they form a closed venous ring.

The venous mesometrium system of golden hamster is organized as follows. Segmental veins pass into the uterine vein that is large in size. They are formed at the confluence of the outer circular (it passes between the circular and longitudinal layers of the myometrium) and the inner circular vein (that passes between the circular layer of the myometrium and endometrium).

Only the large uterine vein passes in mesometrium of female rats. It opens in the ovary and is directed caudal in cysts mesenteric in the entire length of the uterus. In the uterine cervix the uterine vein connects with cranial urocystic one that crosses the ureter and passes into the common iliac vein.

GREAT MEDICAL FINDINGS

Belikin A. – the 1st-year student
Scientific leaders – Prof. E.N. Gordieneko, Katina O.I.

Two anniversaries, 50 years since DNA finding and 30 years from «the human genome decoding», can't help drawing the attention of junior students from ASMA that study the fundamental bases of Biology – cytology, genetics and ontogenetics. The aim of our work was to study the history and the participants of the first epochal events of the twentieth century. The history of genetics informs us that the secret of the heredity substance began long before the official dates. But its secret was studied by scientists from the perspective of their science. When grouped they were able to find the DNA.

ACMEOLOGY – A GREAT LANGUAGE AND OBJECTIVES AIMS IN HEALTH EDUCATION

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

Medicine and acmeology are related. This relationship is expressed in the subject, aims and logos of medical acmeology. The essence of medical acmeology–is to support acmeological process - the process of personal and professional development of the individual, as well as to achieve the professionalism by medical staff. The subject of medical acmeology is the study of mechanisms and laws of achieving professional and personal apexes, methods of maintenance and, improvement of mental activity by medical specialist. Effective personal and professional development of specialist acts basing on medicoacmeological conditions and factors reflecting the quality of psychobiological components of the integrity of his personality in the aspect of compliance with occupational health. To achieve the goal of medical acmeology the formation and the effective functioning of the system of medico acmeological process is necessary.

THE BRAIN

Chertek A., Dumen-Baiyr A. - the 1st-year students
Scientific leaders - Yremenko K.S, Katina O.I.

Brain is the frontal part of the central nervous system located in a cavity of a skull.

Its compound parts are double hemispheres of a big brain, a cerebellum and a brain trunk. It operates all vital processes being in a human body, and also is "a reservoir" of all our mental abilities.

Congenital defects can be divided into defects of homeopathy, blastopathy, embriopathy, and fetopathy.

Craneostenosis is the premature closing of cranial. It seams to conduct the restriction of skull capacity, its deformation and to increase the intra cranial pressure.

Hydrocephaly is the condition that occurs due to a congestion of too large amount of liquid in the brain skull. In treatment of hydrocephalus defects the surgical way is applied.

METHODS FOR DETERMINING THE ANTITOXIC IMMUNITY

Ismailova N. - 3rd-year student
Scientific leaders: Prof. Chubenko G.I., Kostina V.V.

Determination of anti-toxic immunity skin reactions (samples) have lost their necessity. Nowadays the practice includes immunological reaction.

The main reaction to determine the level of antitoxic immunity is highly specific and sensitive reaction of passive hemagglutination (PHA). It can detect a low concentration of antibodies. In this reaction involves sheep erythrocytes or human erythrocytes O (I) the group sensitized antigens. The results take into account the nature of PHA sediment erythrocytes. The result is considered positive reaction when red blood cells cover completely the entire bottom of the tube (inverted umbrella). With negative reaction erythrocytes as buttons, they are located in the center bottom of the tube.

Latex agglutination test. It is one of the agglutination reaction, in which the antigen or antibody is used as the synthetic polymer particles. For the preparation of soluble antigen latex diagnosticum, fine antigens adsorbed onto the surface of the colored particles of inert monodisperse latex. Such bacterial antigen loaded latex particles are bonded under the action of the immune serum containing antibodies against this antigen, which leads to the formation of character sludge-the thin film with uneven edges ("umbrella").

Also for determining antitoxic immunity toxin they use neutralizing antitoxin response (PR). The reaction is based on the ability of antitoxic serum to neutralize the effect of exotoxin. It is used for titration of antitoxic serums and for the determination of exotoxin. In the titration of serum in different dilutions of antitoxic serum a certain dose of the respective toxin is added. With complete neutralization antigen and lack of unspent antibodies, the initialism flocculation occurs. Flocculation reaction can be applied not only for the titration of serum (e.g. diphtheria), but titration

toxin and anatoxin.

CAUSATIVE AGENTS OF UROGENITAL CHLAMYDIAL INFECTIONS

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

Urogenital chlamydiosis is one of the most common sexually transmitted infections. Number of cases of chlamydia is increasing steadily, each year 90 million cases are registered in the world. The prevalence of chlamydial infection is caused by the complexity of the diagnosis, the emergence of antibiotic-resistant strains, as well as social factors - an increase in the frequency of non-marital sexual relationships, increased migration, prostitution, and others.

Chlamydiae are gram-negative bacteria spherical small size (250-1000 nm), belonging to the family Chlamidiaceae kind Chlamidia and Chlamidophilia. There are 4 types of Chlamydia: C. trachomatis, C. psittaci, C. Pneumoniae, C. Pecorum. The body has two forms of existence: the elementary bodies (the infectious form, adapted to the extracellular existence) and reticular cells (vegetative form, providing the intracellular multiplication).

Chlamydia is unstable in the environment, it can easy die when exposed to antiseptics, ultraviolet rays, boiling, drying. Infection occurs primarily through sexual contact with an infected partner, transplacental and intrapartum, rarely through social way. The incubation period for chlamydia ranges from 5 to 30 days, with an average of 2-3 weeks.

Laboratory diagnostics includes: immunofluorescence, polymerase chain reaction, seeding for chlamydia with the definition of sensitivity to antibiotics (culture method).

Treatment. Because Chlamydia are intracellular organisms so antibiotics should be used in the treatment of chlamydial infections. Antibiotics can penetrate and accumulate in infected cells and block intracellular protein synthesis. The main medicines are tetracycline.

HELICOBACTER PYLORI INFECTION

Sharvadze N. – 3rd-year student
Scientific leaders: Prof. Chubenko G.I., Kostina V. V.

Helicobacter pylori (Hp) is one of the most common pathogens in the world. The incidence of HP-associated infection depends on the socio-economic situation in the country, so in developing countries this figure reaches 70% of the population from 10 years of age.

In Russia this index of the adult population is about 80% at monodiagnostics and 100% at polydiagnostics.

HP is Gram-negative spiral bacteria with flagella forming a protective glycocalyx around the bacterial cell. After the penetration into the body HP, producing phospholipase, damages epithelial cell and penetrates it and forms an adhesive bacterial layer on the epitheliocytes. The action of enzymes increases inflammatory reac-

tion and the production of pro-inflammatory agents. Because of antigenic similarity of the lipopolysaccharide antigen with blood group antigens of Lewis system and antigens of gastric epithelial cells autoimmune processes may develop. Strengthening of the lipid peroxidation and increasing of the concentration of free radicals increases the probability of carcinogenesis.

For the diagnosis of HP it is used invasive (endoscopic) and non-invasive methods.

The main indications for the diagnosis of HP are:

1. actively progressing ulcers of the stomach or duodenum 12;
2. documentally confirmed ulcer disease without eradication therapy;
3. mature gastric MALT-lymphoma;
4. condition after endoscopic resection of early gastric cancer;
5. unexplored dyspepsia.

HP eradication therapy significantly in 50-80% leads to the regression of MALT lymphoma in the gastrointestinal tract and 49.6% of remission in ITP has no effect on the risk of adenocarcinomas, there is no reliable data about the impact on the course of IDA.

HP eradication therapy includes several schemes, which are divided into two lines. If HP infection was first diagnosed, eradication therapy is performed on the first line, and H.pylori the second line of eradication therapy - quadrotherapy is used as a rescue therapy in resistant flow.

For today the Helicobacter pylori infection is one of the most common abroad and in Russia. This problem requires special attention, because there is a possibility of cancerogenesis and autoimmune processes as a consequence of HP.

CONDUCT BEHAVIOUR

Egorova I. – the 5th-year student
Scientific leaders - Cand.Med.Sc. Volodina M.I., Kostina V.V.

In the article an attempt has been made to define the term of conduct disorder, highlight the criteria of obtaining the correct diagnosis and suggest possible ways of treatment.

Conduct disorder is a term used to describe the syndrome, the key symptom of which is defined as repetitive and persistent inability to control behavior in accordance with the society norms.

Conduct disorder is often resistant and its costs to society are enormous, however, according to the overwhelming evidence it is incurable in most cases.

It is crucial to distinguish conduct disorder from oppositional defiant disorder. Children with oppositional defiant disorder, although argumentative, do not display significant physical aggression and are less likely to have a history of problems with the law. Oppositional defiant disorder may, with time, develop into conduct disorder.

According to medical researches, four types of symptoms of conduct disorder are recognized: aggression or serious threats of harm to people or animals; deliberate property damage or destruction; repeated violation of household or school rules,

laws, or both; and persistent lying to avoid consequences or to obtain tangible goods or privileges.

Conduct disorder is usually accompanied by hyperactivity, restlessness, inattention, impulsivity, and hyperactivity. The differential diagnosis of conduct disorder includes oppositional defiant disorder, attention-deficit/hyperactivity disorder (ADHD), mood disorder and intermittent explosive disorder.

Conduct disorder has a multifactorial etiology that includes biologic, psychosocial and familial factors. Parental substance abuse, psychiatric illness, marital conflict, and child abuse and neglect all increase the risk of conduct disorder.

Taking everything into consideration, conduct disorder has proved to be one of the major problems in child psychiatry.

DEMODEX

Matvienko V., Sibileva D. - the 4th-year students
Scientific leaders – Kostina V.V., Nikishina E.A.

Demodicosis is a skin disease caused by microscopic mites wich are of the genus Demodex. They live in the villous follicles and sebaceous glands of humans and other mammals. Their negative impact is to extract waste products, which provoke the development of allergic reactions.

The disease begins with the appearance of skin rash, acne, sores on the face, chest, back, increasing greasiness of the skin, itching, with affection of hair - itching, loss of hair and eyelashes.

Diagnostics of Demodex

Diagnostics consists of taking samples of human skin scrapings and then they are examined under microscope. If there arein the material more than 10 viable individuals in the visual field,it shows cause of pathological process. In the presence of Demodex it is necessary to examine persons, wich are in direct contact with the infected person. The sources of the parasites can become pets.

Treatment of demodicosis

1. External therapy (application of ointments, creams containing antibiotics - erythromycin, tetracycline, fusidic ointment, mupirocin)

2. Steroids and non-steroidal anti-inflammatory drugs, 20% solution of benzyl benzoate, naphthalene and derivatives of vitamin A.

3. Cream mixed with sulfur (this is the main component that affects the livelihoods of the parasite).

These remedies virtually have no side effects and are well tolerated by patients.

EFFECT OF TEMPERATURE ENVIRONMENT ON THE HUMAN BODY

Hotsanyan K. - the 3rd-year student
Scientific leaders - Plashchevaya T.V., Kostina V.V.

Humidity is one of the most important parameters of the atmosphere, which determines how comfortable a person feels at the moment.

The temperature factor, which is an important component of the climate is undergoing in recent decades, the most pronounced changes . According to NASA, the surface of the Earth over the past 100 years, was kept warm by more than 0,8 ° C , 0,6 ° C of which during last the last 30 years, warming of the Earth's surface is the acceleration . One reason of the increasing warming that is currently in the atmosphere three times more carbon dioxide than is able to «absorb» nature .

The causes of global warming have begun to attribute the destruction of important cooling of the Earth - wetlands, forests and the increase of deserts, increasing of ocean temperatures, volcanic activity and other factors of a natural origin. Thus, an excess of CO2 leads to the «greenhouse effect» and warming, and warming - to the excess of CO2.

In Russia in the last 100 years, the most pronounced increase of mean annual temperature (by 3,5 º C) occurred in Eastern Siberia , the Amur and Primorye regions.

The unusually hot weather, especially in the case of the temperate regions, leads to an increase in morbidity and deaths, as the population of these regions are often perplexed to sudden changes in weather conditions.

PATHOLOGICAL CHANGES IN MASTOPATHY

Hotsanyan K. - the 3rd-year student
Scientific leaders - Cand.Med.Sc. Menshchikova N.V., Kostina V.V.

Breast fibrocystic disease - a benign disease characterized by pathological changes in the tissues of the breast, in the form of violations of the ratio of epithelial and connective tissue components.

There has been a steady increase in the number of women suffering from this disorder. Breast disease is seen in 30-70 % of women of reproductive age, and if a woman has still further any gynecological pathology, the risk of changes in the mammary gland increases up to 98%. It is proved that against the background of mastitis breast cancers (including breast cancer) are 3-5 times higher.

Fibrocystic disease in women of any age, including during the period of menarche (first menstruation), or menopause. As in teenager it is more likely developed diffuse type of mastitis in women age 35 and older) it is worth remembering about the possibility of the formation of large single cysts. Any changes in the mammary glands are most often localized in the quadrant in upper external cancer, which is associated with the peculiarities of their structure and blood supply.

First of all, breast affects the quality of women's live .There's a little pleasant in constant pain and burning sensation in the chest. Moreover, against the background of mastitis it can significantly increase the risk of developing breast cancer. This is due to the fact that the causes that provoke breast, are also risk factors for the development of malignant tumors. Therefore, you should understand the causes.

At the root of mastitis there is the main factor - the hormonal violation balance in women. For example, the presence of a family history of cases hormone-dependent tumors suggests that not all is well with heredity. Abortion and late childbirth - a powerful blow to the woman's hormonal balance of the body.

POSTINJECTION SUPPURATIVE COMPLICATIONS

Hotsanyan K. - the 3rd-year student
Scientific leaders – Prof. Volodchenko N.P, Kostina V.V.

Post-injection abscesses, cellulitis among patients with purulent surgical infections occur from 1.5 up to 9. We have analyzed 35 case histories of patients with soft-tissue complications post-injection for the last 3 years. The age of patients ranged from 21 up to 78 years. The main group consisted of patients with middle and old age. 11 examined patients suffered from diabetes and had 2 or more concomitant diseases so they got multiple injections.

19 patients got injections at home by relatives or themselves, 6 patients were injected by ambulance. The first signs of suppurative inflammation appeared from 5 up to 9 days. The period of admitting to the surgical department was from the moment of injection up to 5- 9 days. All patients were operated on iodine intravenous anesthesia, duration of treatment in the hospital was 8.3 b / day.

Our observations show that the main causes of post-injection suppurative complications of soft tissue were violations of injection techniques, rules of aseptic and antiseptic, comorbidity.

To prevent complications, the injection should be performed only by medical personnel under aseptic and antiseptic rules.

CELIOSCOPIC OPERATIVE RAPID INTERVENTION IN THE UTERUS AND ITS APPENDAGES IN PATIENTS WITH BREAST CANCER

Hotsanyan K. - the 3rd-year student
Scientific leaders - Cand.Med.Sc. Sergienko A.V., Kostina V.V.

Breast cancer continues to be one of the most urgent problems of modern oncology. In the structure of the female population of cancer incidence, both in Russia and in the developed countries of Europe and the United States breast cancer firmly holds the leading position and has a tendency to steady growth. Despite progress of diagnosis and treatment, there is a significant increase in morbidity and mortality from the disease.

The concept of breast cancer as a systemic disease in which during the early stages of development of the primary tumor can be detected micrometastases in distant organs it became the basis for the application of additional methods of drug and radiation treatment. A special place occupies hormone therapy. It involves two basic level: the suppression of the synthesis of endogenous estrogens and the use of antiestrogens.

The particular interest at present a surgical method, because there is not only removed the ovaries , but also takes the is made. At surgical castration endogenous source of estrogen synthesis is blocked permanently, at the same time, this method can prevent the occurrence of metastases in the ovaries.

PREPARATION AND CULTIVATION OF MESENHYMAL STEM CELL

Hotsanyan K. - the 3rd-year student
Scientific leaders - Cand.Med.Sc. Brush A.A., Kostina V.V

Mesenhymal stem cells are cells of the organism, which are localized in primarily bone marrow. These cells possess a high proliferative potential they are self-renewing population of cells, supporting their undifferentiated state, and are capable of differentiating into specific types of cells in response to differentiation stimuli.

They are capable of self-renewal and differentiation in a number of ways: hondrogenic, adipotsitarnom, neuronal, cardiomiotsitarnom, myocyte.

The aim of the work is to develop appropriate methods of isolation and culture of rat bone marrow MSCs and further application. Mesenhymal stem cells are relatively rare progenitor cell population capable of differentiation and maintenance of hematopoiesis in vivo and in vitro.

Therefore, MSC has attracted attention from the point of view of their possible use for the replacement or rehabilitation therapy of diseases, gene or cell engineering, study the possibility of allogeneic MSC transplantation of stem cells of the bone marrow.

DETERMINATION OF CHILDREN'S AGEIN PHOTOS

Kostin I. – the 6th-year student, Gigolyan A. - the 3rd-year student
Scientific leaders: Assoc.Prof. Gigolyan M.O., Kostina V.V.

Forensic medical definition of a person's age is a matter of personal identification.

The study of age in different periods of human life is based on an assessment of signs of evolution and involution of the body. To identify indicators of age there are different methods: visual, measurement, X-ray, osteometric, isotopic, clinical and many others.

The most accurate assessment of the age can be done after the maximum number of attributes. However, the accuracy of the age of the individual output depends not only on the total amount of identified indicators, but also on their identified significance.

The study of such physical evidence as photographic materials with the image of unknown persons, as a rule, makes it possible to obtain small amounts of signs of age due to low information content and specificity of the object of the expert study.

Forensic examination of unidentified age of children in some cases where there are no other data, can be carried out on photographic materials (photos, films, black-and- white and color images and video).

At the first stage of the study there are in the presented photo materialsqualitative, somatoscopic signs of age of unknown persons, such as: lack of body hair on the face , armpits , and pubic hair of the outer genitals, there is underdevelopment of the external genital organs, muscles of the body.

At the second stage of the study of documentary photographs it is studied some of the relative ratio of anthropometric age length of the shoulder girdle and the

distance between the iliac crest, the distance from the base of the nose to the top of the head, the relative increase in the ears compared to the head, the relatively small size of the external genital organs compared with the trunk and limbs, etc.

The third group of identified signs of age is associated with the use of large-scalemeasurements, that is to establish the growth of unknown persons on the length of individual parts of the body, this table is used to determine the age on the length of the body and the length of its individual parts.

Estimating the given signs of age, it is possible to speak about the age depicted in the photographic materials of unknown teenagers.

In our opinion, this kind of technique of expertise age deserves attention, as it isscientific and productive enough, no doubt, requires further development.

TOXOPLASMOSIS. DIAGNOSTICS. TREATMENT. PREVENTION.

Kucherenko T. – the 3rd-year student
Scientific leaders – Prof. Chubenko G.I., Kostina V.V.

Toxoplasmosis - a parasitic disease of humans and animals caused by Toxoplasma Toxoplasmagondii. The source invasion - different types (more than 180) of domestic and wild mammals (cats, dogs, rabbits, carnivores, herbivores, rodents).

The clinical picture. More often runs chronically, with a low grade fever, headache, enlarged lymph nodes and liver, a decrease in efficiency; may be accompanied by lesions of the eye, heart, nervous and other systems and organs. Toxoplasmosis can also proceed in a latent (hidden) form. Studies have shown that with the defeat of immune system and brain, parasite can cause attraction to the smell of cat and schizophrenia.

Diagnostics. The main method of diagnosis of the disease is the serum. A determination of level immunoglobulin G using the indirect ELISA or fluorescence is made. Antibody level reaches the maximum level in 1-2 months after the onset of the disease and later registered indefinitely. ELISA is the method of choice for the analysis level IgM, is detected by its increase in their concentration after 2 weeks after infection. The peak antibody concentrations is achieved after a month, they usually disappear after 6-9 months, but in some cases may show up periodically for 2 years or more , making it difficult to differentiate acute and chronic forms of infection.

Treatment. Most cases are resolved without specific therapy. When there are chorioretinitis or failure of vital organs it is prescribed a combination of pyrimethamine (Daraprim) with sulfadiazine. An alternative may be a combination of pyrimethamine with clindamycin. When treatment it is also used glucocorticoids. HIV-infected patients with encephalitis should receive lifelong suppressive therapy to prevent recurrence of infection. In severe and asymptomatic congenital infection as initial therapy it is recommended combination with pyrimethamine and sulfadiazine tetrahydrofolate. Therapy is usually long, sometimes up to 1 year. Treatment of toxoplasmosis during pregnancy is emerged, including in HIV- infected women should be spiramycin. When infecting women are in the third trimester, or infection

of the fetus after 17 weeks ' gestation, a combination of pyrimethamine with sulfadiazine is used.

Prevention. The fight against toxoplasmosis pets, compliance with sanitary regulations in the care of the animals and processed products, a thorough examination for toxoplasmosis during pregnancy.

OPERATION OF NEPHROPTOSIS

Kucherenko T. – the 3rd-year student
Scientific leaders - Cand.Med.Sc., Assoc. Prof. Sergienko A.V., Kostina V.V.

Nephroptosis - a pathological condition in which the kidney is greater than normal mobility. In a healthy person each kidney is fixed in the so-called renal bed, walks up to it renal artery, and vena and moves the ureter. When nephroptosis, the lumbar region of the kidney may be displaced in the abdomen or pelvis. Due to violations of the progress of vessels (they stretch and contract) and possible inflection of the ureter at nephroptosisthere worsens blood flow to the kidney, as well there are the conditions for the retention of urine in the kidney and the development of inflammatory diseases. Due to the large body of compensatory capabilities of organnephroptosis can for a long time does not manifest itself. However, this period may cause irreversible changes in the renal tissue. Nephroptosis is more common in women than in men.

Surgery of S.P. Fedorov, method V.A. Gorash, Rivoira method are the most prevalent from the methods of nephropexy with renal capsule.

PREVENTION OF FOOD POISONING

Kucherenko T., Gigaev V. – the 3rd-year students
Scientific leaders – Prof. Korshunova N.V., Kostina V.V.

Food poisoning can occur when a person eats food contaminated with bacteria, viruses, small animals or plants (eg, plankton), fungi, parasites or toxins. However, not in all cases, after the transmission to humans such products, it will develop the disease. Some people are more resistant to them, the other is easier to become infected and suffer heavier.

The causes of poisoning. Bacteria and other food borne pathogens fall food by many ways, for example, there may be more when purchasing. Even products packaged in plastic, can be infected. The source of infection can become dirty hands or dirty sellers trays, in which products are kept. The infection may be present in meat products and on fruit and vegetables. The products are dangerous which do not undergo sufficient heat treatment (wet or semi-moist), and the products continuously stored in the refrigerator or at room temperature.

Symptoms of food poisoning. Symptoms of intestinal infection are nausea, vomiting, diarrhea, recurrent pain, and abdominal cramps. Sometimes these manifestations come themselves within one to two days and do not require special treatment. If in some days harassing effects don't go away, and symptoms of dehydration (dry mouth, dizziness, dark yellow urine or decrease the volume and frequency of urina-

tion), are still there, you should consult your doctor immediately.

Prevention: - Wash hands thoroughly with soap and water before preparing food and immediately after our hands were on raw meat or poultry

- Thoroughly wash fruits and vegetables
- Wash boards and devices for cutting raw meat before using them for other products
- Completely thaw frozen poultry before cooking. If possible, thaw it in the refrigerator, the cold will prevent the growth of bacteria
- Good deep fried meat and fish products
- Do not place meat and poultry in one plate with fish and store them separately before cooking
- Cover food to protect it from cockroaches, flies and rats
- Be careful when eating at salad bars, coffee shops and cafes
- Uneaten food stored in the refrigerator, and the products in portable picnic coolers
- Store separately raw and cooked food.

Bacteria multiply rapidly at temperatures between 4.4 and 60 degrees Celsius. Storage of food is unacceptable in this temperature range, use the following guidelines:

- Store food in the refrigerator,
- Cook and reheat food at temperatures below 60 degrees Celsius.

DIABETES MELLITUS MODELLING AT RATS, OWING TO THE COCA-COLA DRINK USE

Kodyakov P., Kucherenko T. – the 3^{-rd} year students
Scientific leader – Brash A.A.

Diabetes mellitus – rather widespread disease, especially at a wide circulation of fast food and its regular use.

To try to solve this problem, we decided to frame diabetes mellitus model. For this rat in a constant, free access used Coca-Cola, and only it. Any other drink was thus excluded.

Rats parted on 3 groups, depending on drink used by them:

1. The rats using usual water;
2. The rats using Coca-Cola;
3. The rats using Coca-Cola + by DKV.

Level of a glucose in a blood defined glyukometry, in connection with simplicity and speed of the analysis.

Having framed this model, we hope to find opportunity to reduce chance of development of a diabetes mellitus, at the use Coca Cola.

LACK OF CONTROL OF BRONCHIAL ASTHMA DURING PREGNANCY AS A PREDICTOR COMPLICATIONS OF PERINATAL

Zasukhina A., Bova E., Otchenashev M. – the 6th-year students
Scientific leaders – Dr.Med.Sc., Assoc.Prof. O.B. Prikhodko, Cand.Med.Sc. S.A. Goryacheva, V.V. Kostina

Asthma belongs to the most common chronic lung diseases. Constant increase in the number of patients explains the growing interest in the problem of asthma in pregnant women worldwide.

In accordance with national and international guidelines on the management of asthma, the primary goal of therapy is to achieve and maintain optimal control of the disease. According to this the aim of our work was to determine the clinical and functional characteristics of bronchial asthma (BA) during pregnancy, the effects of lack of control of the disease on complications of pregnancy , childbirth and the condition of the fetus and newborn.

There were analyzed the clinical and functional characteristics of the course , the outcomes of pregnancy, childbirth and neonatal status in patients with asthma, mild asthma was observed in 61.1 % , moderate - in 30.6 % , severe - the 8.3%. In 62.4 % of patients it was diagnosed a form of allergic asthma, in 10.4% - non-allergic, in 27.2 % - mixed. There were used clinical and anamnesis data, investigations of pulmonary ventilation lungs function with the study of the reversibility of bronchial obstruction. The research of asthma during pregnancy was as follows: in 17.6 % of patients - improved, 33.8 % - without the essential dynamics, while 48.6 % - worsening.

Among pregnant women with asthma there were identified the following groups: those with controlled asthma (I group, 70 patients), with a partially controlled (II group, 70 patients), with uncontrolled asthma (III group of 70 patients), the comparison group - 30 pregnant women without respiratory pathology (group IV). It was found that in patients with bronchial asthma and impaired pulmonary ventilation (PV) the frequency of pregnancy complications was increased. Compared with group I , in group III patients more frequently developed preeclampsia (1.4 times), chronic placental insufficiency (1.2 times), chronic fetal hypoxia (1.4 times) , infection of the amniotic cavity and membranes (1,2 times), indicating a deterioration in conditions of fetal development in the presence of disorders of PV in pregnant and lack of control of the disease. In the group III in 2 times more frequent it was observed babies with Apgar scores 6 points lower than in I - II groups ($p < 0.05$). The children from mothers of II-III groups more frequently ($p< 0.001$) had cerebral ischemia syndrome, intrauterine growth restriction (IUGR) ($p< 0.01$), hypotrophy II-III degree, posthypoxic cardiomyopathy, respiratory distress syndrome (RD) ($p < 0.05$) and toxic erythema .

Revealed pathological conditions adversely affect the further development of the children, leading to increased morbidity in the newborn period. Directly proportional to the degree of abnormality of PV frequency increased of disharmonious development of the fetus and newborn ($p < 0.001$) by reducing the mass-height indicators. The lack of control of asthma during gestation results in a significant higher fre-

quency of serious diseases such as cerebral ischemia, respiratory distress syndrome, a syndrome of fetal development retardation, adversely affecting not only the development of the fetus and newborn, but also on the health of children in the following age periods. Worsening of asthma during pregnancy was accompanied by an increase of multiple organ pathologies in newborns and a significant decrease of the birth of healthy children.

SOME PSYCHOEMOTIONAL FEATURES OF PREGNANT WOMEN WITH BRONCHIAL ASTHMA

Kartashova V., Terekhova N. – the 6th-year student
Scientific leaders - Dr.Med.Sc., Assoc.Prof. O.B. Prikhodko, Cand.Med.Sc. E.I. Smorodina, V.V. Kostina.

The epidemiological researches conducted in recent years in various regions of the world, testify about steady growth of incidence of the population by the bronchial asthma (BA), including, persons of reproductive age. In this regard topical issue is perfecting of quality of diagnostics and complex therapy of this disease. Thus it should be noted importance of studying of influence of psychoemotional factors on character of a course of asthma that will allow to develop recommendations about their well-timed correction.

Materials and methods. At 170 (58,6%) patients with BA during remission of a disease there were revealed the psychoemotional violations influencing on dynamics of a current BA. Research of individual psychological properties of the person at pregnant women included: studying of features of temperament, including, definition of intra-and extroversions, emotional stability and instability (G. Ayzenk's questionnaire), level of personal and situational uneasiness (Spilbergera-Khanin's test), studying of typological reactions of the person on an illness (A.E.Lichko's technique).

For BA patients there was the reference of a dominance of introversive lines of the person who have been most expressed at heavier current of uncontrollable BA and deterioration of dynamics of its current during pregnancy.

Among BA pregnant women it was revealed the dominance of personal uneasiness of very high and high degree – at 105 (70,0%) that in 11,7 times more, than in group of comparison ($p<0,001$) that consisted of pregnant women without diseases of respiratory organs, and high and very high situational uneasiness - at 93 (62%) that by 4,2 times exceeded indexes of group of comparison ($p<0,001$).

It is known that along with common reaction of the patient penetrated by the negative emotional experiences, there are the reactions depending on type of a disease, a stage of a current and features of the person of the patient. Exactly the last are defining options of the relation to an illness. According to A.E.Lichko's technique, the profile from 12 scales characterizes set of separate aspects of the many-dimensional relation of the patient to a disease (health, mood, a dream and awakening from a dream, the attitude towards the family, to study, to people around, to loneliness, to the future). From types of the relation to an illness more often there were met block types I (harmonious, ergopaticy, anosognosicy) – at 103 (68,7%) a patients, characterizing satisfactory social adaptation in connection with a disease. Types of the rela-

tion to an illness of the II block (alarming, hypochiondrial, neurotic, melancholic, apathetic), differing an intrapsychical orientation, met at 35 (23,3%) pregnant women with BA. Types of the relation of the III block (sensitive, egocentric, paranoiac, dysphoric), being characterized an intrapsychical orientation, are noted in 12 (8,0%) cases. The greatest social adaptedness is noted at patients with mild persistent BA while suppressed, the depression, with "leaving in an illness", was more often observed at heavy BA.

If at a controlled current the harmonious type of the relation to an illness – at 37 (52,9%) BA patients was prevailing, at uncontrollable – anosognosicy type – at 33 (47,1%). At an uncontrollable current of BA during pregnancy the emotional instability, high rates of personal and situational uneasiness, anosognostic type of the relation to an illness and depressive – to pregnancy ($p<0,05$) more often met. It is characteristic that the increased uneasiness of mother during pregnancy correlated with high uneasiness of the child in a catamnesis ($p<0,05$).

Thus, the frequency and force of stressogenic factors, psychoemotional loading, features of temperament, expressiveness of a neurotism, uneasiness degree, adequacy of formation of an internal picture of an illness affect both the current BA at pregnant women, and a fetal fetation and the subsequent child development.

PROTEINS OF MICROVESICULAR TRANSPORT

Antonova I. - the 2nd-year student
Scientific leaders – Assoc.Prof. Doroshenko G.K., Volosenkova Ye.A.

Randy Shekman, James Rothman and Thomas Sudhof explained in their work how various substances move inside cells in the membrane vesicles: work of which genes is necessary for this purpose, how fusion of vesicles occurs on the molecular level and how this process is regulated in neurons, where it is particularly important that fusion takes place just at the right time and right place.

Randy Shekman chose for research baker's yeast (Saccharomyces cerevisiae). Scientist discovered 23 gene in yeast. Spoiled genes in mutant yeast were called sec1, sec2, sec3, and so on. R. Shekman discovered the genetic basis of vesicular transport processes having identified key regulatory genes.

James Rothman worked on extracts of mammalian cell cultures, was engaged in the release of proteins involved in vesicle fusion . Rothman used the model of vesicular stomatitis. At first Rothman identified SNF(N-ethylmaleimide-sensitive factor) and then SNAP(soluble NSF-attachment protein). SNF is required for fusion and dividion of membrane vesicles. SNAP binds to the membrane and helps to connect SNF to it.

Continuing work on the identification of proteins be became to examine neural tissue, where he identified SNARE proteins(soluble NSF-attachment protein receptors). 3 SNARE proteins were noted: synaptobrevin (v-SNARE), SNAP- 25, syntaxin (t-SNARE) in a stoichiometric ratio. Synaptobrevin has been associated with the vesicles and SNAP- 25 and syntaxin, with cell membranes. This discovery allowed Rothmann formulate SNARE-hypothesis. According to it in the formation and delivery, vesicles proteins are involved belonging to two groups - v-SNARE ("v –

vesicle") and t-SNARE ("t – target"), which specifically recognize each other. There are more than 35 varieties of such proteins. Bubbles ("vesicles") bud from one organelle membrane (e.g., endoplasmic reticulum), and receive a "key" – one of the proteins of proteins v-SNARE family. Accurate delivery is due to the fact that the target organelle has specific protein of the t-SNARE family, which acts as a "lock".

Thomas Sudhof studied how the fusion of vesicles in the synapse is controlled. Sudhof studied the role of calcium in the release of neurotransmitters in neurons and revealed two major protein in the calcium-dependent fusion of vesicles - complexin and synaptotagmin. Complexin plays an important role in the late stage of fusion of synaptic vesicles. Synaptotagmin is calcium sensor. He also discovered the protein Munc18- 1 which is similar to the protein Sec- 1 discovered by R. Shekman. Munc18- 1 interacts with syntaxin. These proteins are part of an integral part of a protein complex involved in vesicle fusion along with the SNARE proteins.

Intracellular transport system plays an important role in the functioning of a cell, organs and the body as a whole, in fact being a link that binds each component into a single unit.

MODERN METHODS OF STUDYING THE STRUCTURE OF THE HUMAN BODY IN ANATOMY AND THEIR CONNECTION WITH CLINICAL DIAGNOSIS

Vovk. A., Semdyankina Yu. – the 2nd-year students
Scientific leaders – Zherepa L.G., Volosenkova Ye.A.

While studying the structure of the human body various techniques developed in the long history of anatomical science are used.
Modern methods of studying the morphological features of a person are quite numerous and complex. They can be divided into two groups.
The first group includes mainly the methods of classical anatomy, refined according to the level of development of modern science and technology:
-method of dissection, or preparation
-method of soaking corpses
-method of cuts of frozen corpses
-method of infusion, or injection
-method of corrosion
-macroscopic method.
The second group consists of the following methods:
-X-ray method and its variants, such as CT, MRI, based on the methods of the first group. In particular, MRI - This method allows to take pictures using the method of cuts of frozen corpses:
-somatoscopic method
-somatometric method or anthropometric method
-method of endoscopy of internal organs.
The first group of methods is used in the study of the structure of the human body on corpses. These methods are used in clinical diagnostics, allowing to study the structure of the human body and its parts.

The second group of methods is applied to a living person, that allows to assess the overall functional state of the human health and the state of internal organs and to identify metabolic disorder. The use of modern methods of functional diagnostics allows:

to predict the risk of the onset of diseases

to carry out their early diagnosis

to assess the condition of their progression

to get the most comprehensive information about health and the earliest manifestations of a disease

to reveal the individual predisposition to the most serious diseases , such as cardiovascular disease , cancer , diabetes, and to assess their progression

to prevent development of the disease at an early stage and to identify efficient ways to treat it

to to conduct the analysis of the dynamics of changes in the functional state of the body and the treatment process

to diagnose the failure of the functions of vital organs , accompanied by chronic intoxication

to evaluate the functions of the endocrine glands : thyroid , adrenal , pituitary , pancreas

to reveal bacterial, fungal, viral infection

to analyse the main indices of blood and its trace element composition and analyze a variety of other indices of life of the organism .

REPARATIVE REGENERATION

Vovk.A., Semdyankina Yu. – the 2nd-year students
Scientific leaders – Ogorodnikova T.L., Volosenkova Ye.A.

The phenomena of regeneration were known to the people in ancient times. By the end of the 19th century material was collected, revealing patterns of regenerative reaction in a person and animals, but most intensively the problem of regeneration has been developed since 40s of the 20th century. Probably every person in his childhood was surprised to learn that if catch a lizard's tail, it comes off, and later recovers, regenerates. Regeneration (from Lat. Regeneratio-rebirth) is the process of restoring the lost or damaged structures by means of the organism itself. Regeneration supports the structure and functions of the organism, its integrity. There are two types of regeneration: physiological and reparative. Recovery of organs, tissues, cells or intracellular structures after destroying them in the process of the physiological functioning of the body is called regeneration. Restoring structures after injury or action of other damaging factors is called reparative regeneration.

One of the first researchers of reparative regeneration was a Swiss naturalist of the XVIII century A. Trambls (1710-1784), who discovered this phenomenon in the freshwater Hydra polyp.

A typical (gomomorfoz) and atypical (geteromorfoz) reparative regenerations are determined. In a typical regeneration the lost part is replaced by the development of the exactly same part. The cause of the loss can be an external influence (such as amputation), or the animal is intentionally separates part of it´s body (autotomy) as a lizard, breaking off part of its tail to escape from the enemy. In atypical regeneration the lost part is replaced with a structure different from the original one quantitatively or qualitatively. In the regenerated limb of a tadpole the number of fingers can be smaller than in the original one, while in a shrimp instead of the amputated eye antenna can grow. Almost all organisms living on Earth have to some degree the ability to regenerate.However, only a small regeneration of the skin, connective , bone and other tissues is available to a person.

AXON REGENERATION IN THE CENTRAL NERVOUS SYSTEM

Ananenko A., Naumova I. – the 2nd-year students
Scientific leaders - Semenov D.A., Volosenkova Y.E.

Axons damage results in the brain and spinal cord (CNS) damage.

Axons can regenerate, but in peripheral nerves they can bring back the functions. However in the CNS axon regeneration fails. This is the main reason why paralysis and loss of sensation is permanent in conditions such as spinal cord injury.

Axon regeneration in the CNS fails for two reasons. First: the environment surrounding CNS lesions is inhibitory to axon growth and second: most CNS axons only mount a feeble regeneration response after theirdamaeg.

The glial scar that develops after CNS injuries is inhibitory to axon regeneration. The major inhibitory molecules are chondroitin sulphate proteoglycans (CSPGs).

Proteoglycans have a protein nucleus to which highly tense sulfated glycosaminoglycan (sugar) chainsare attached. If the sugar chains are digested away with chondroitinase much of the inhibitory activity of the proteolgycans is lost, and this promotes promotes axon regeneration in the damaged brain and spinal cord.

The proteoglycans in the glial scar also inhibit conduction of action potentials in undamaged nerve fibres close to spinal cord injuries.

While axons in peripheral nerve regenerate well, those in the CNS regenerate poorly. This is not only due to the inhibitory molecules of the CNS.

Many CNS axons have little or no regenerative response after their damage, in contrast to peripheral axons which make a vigorous effort to regrow, and embryonic axons regenerate more vigorously than adult axons.

Even in the adult CNS there are differences, and there are also some axons such as Purkinje cell axons that show no regenerative response while others such as climbing fibres have higher regenerative force.

Protein translation in axons. Axons that have a high regenerative potential have larger amounts of ribosomes and other protein synthesis mechanisms in ot the axon than axons with low regenerative potential. The mRNA species in axons are mostly related to the cytoskeleton and control cytoskeletal polymerisation. It is probable that if CNS axons contained the same mRNAs and protein synthesis mecha-

nisms as PNS axons they would regenerate better. However, CNS axons do not transport ribosomes; we the work is carried out to find the way to change CNS axons so that they will transport these materials.

CLAMIDIOSIS

Teleshev A., Lazarchuk Ye. – the 3rd-year students
Scientific leaders – Cand.Med.Sc. Bubinets O.V., Volosenkova Ye.A.

Clamidiosis is an infectious disease transmitted by sexual way, caused by clamydia (Chlamydia trachomatis).

According to statistics, annually in the world 100 million people get ill with clamidiosis, and the number of people infected with clamydia is approximately one billion.

Clamydial infection mainly affects the urinogenetal system. Existing for a long time hidden under unfavourable conditions (the effects of antibiotics, excessive heat, hypothermia, cold), clamydia can transform into the so - called L- shapes as if “hibernate". This phenomenon contributes to long-term intracellular parasitism without conflict with the host immune system. Only during the period of immunosuppression (reduction of defense forces) clamydia can actively multiply and pass from L - forms.

Women are more susceptible to clamydiosis.

The incubation period is from 2 weeks to 1 month. The main channel of infection is sexual contact. Children can become infected during the passage of the fetus through the birth canal of the mother with clamydia. Contact-household transmission from contaminated hands is also possible.

FOOD HYGIENE

Teleshev A., Lazarchuk Ye. – the 3rd-year students
Scientific leaders –Prof. Korshunova N.V., Volosenkova Ye.A.

Food hygiene is Hygiene section of the rational and healthy eating. Rational nutrition is diet of healthy people based on their gender, age, profession. It must be complete in qualitative and quantitative ratio, provide livelihoods, growth and development of the human body.

For the vital processes the body needs energy and plastic materials. Such materials are organic and inorganic compounds that come from food. In addition, food contains fiber, necessary for normal functioning of the digestive tract.

Energy value of foodstuffs is expressed in kilocalories produced in the body by "burning". Fats and cereal products have the highest calorie content, meat and fish-the lowest one.

The diet composition contains proteins, fats, carbohydrates, mineral salts and vitamins.

Diet. Under the diet one can understand regular meals at set time and expedient distribution of the daily diet according to the individual meals throughout the day.

CONGENITAL MALFORMATIONS OF THE BRAIN

Belukhin V., Titova A., Dubrovnaya A. – the 1st-year students
Scientific leaders - Yaremenko K.C., Volosenkova Ye.A.

Craniocele - is the combined malformation of the development of brain and skull. It occurs when the closing of the front end of the neural tube isdamaged Frequency of craniocele averages 1 case in 5000 newborns.

Microcephaly - is reducing the size of the skull with underdevelopment of the brain. Brain with microcephaly is very reduced in size (2-3 times), cerebral cortex is underdeveloped, the structure of other parts of the brain, is damaged.

Hydrocephalus - (hydrocephaly) is an extension of the cerebral ventricles, the spaces between the brain and its membranes as a result of the increased formation of cerebrospinal fluid (liquor) oras a result of disturbance of reabsorption ofliquor.

Anencephaly - is a rare congenital malformation characterized by the complete absence of the cerebral hemispheres and skull defects. Anencephaly occurs with a frequency of about 5-8 cases per 10,000 infants, and in 70-80% of cases stillbirths are reported.

Craniostenosis - is premature closure of cranial sutures, which limits the amount of skull and bones of the skull squeeze the growing brain. As a result of a skull dysplasia its deformation occurs and compression of the brain leads to increased intracranial pressure.

CLINICAL FEATURES OF MASTOPATHY IN WOMEN OF REPRODUCTIVE AGE LIVING IN THE AMUR REGION

Meleshkina G.-the 3rd -year student
Scientific leaders - Duplij N.A., VolosenkovaYe.A.

Previously, the clinical features of mastopathyin women of the Amur Region, were comprehensively considered in the study conducted by Ismaylov A.Kh.

Subject: to reveal and detail, changes in the clinical course of mastopathyin women of early and late reproductive age, living in the Amur Region.

Materials and methods. 100 women of the city of Blagoveshchensk and districts of the Amur region were examined. Patient related to the following age groups: 19-35 years and 36-45 years, which corresponded to the division groups into of early and late reproductive age. The presence and form of mastopathy confirmed by data of palpation of the mammary glands, ultrasound scanning and mammography, Cytological studywere of puncture material.

Results and discussion. Among patients withmastopathythere isa majority of women with high level of psychological employment. In the clinical course of mastopathy the folloningweremarkedchanges: diffuse fibrocystic breast disease with a predominance of cystic component is 40% of dyshonmonal diseases of the mammonary glands. Diffuse mastopathy with a predominance of ferrous component was more common in women of early reproductive age –(18 persons), the women of late reproductive age - had diffuse fibrocystic breast disease with a predominance of cystic component in (26 persons), nodal mastopathy was only related in 27 patients of

100 persons. In the structure of localized forms of mastopathy in women of early reproductive agefibroadenoma dominated, (11 persons), in women of late reproductive age - nodular was diagnosed (12 people), abnormal discharge from the nipples was revealed mastopaty in 21%.The analysis of the results of the research allowed to establish changes in the clinical symptoms of mastopathy in women of the Amur region in comparison with the data of 1984, and also to present the structure and the incidence of this disease in women, of early and late reproductive age in detail.

STRUCTURE OF THE LIVER

Ananenko A., Naumova I. – the 2nd -year students
Scientific leaders – Pavlova A.Ya., VolosenkovaYe.A.

The liver is located in the upper right-hand portion of the abdominal cavity, beneath the diaphragm, and on top of the stomach, right kidney, and intestines.

The liver consists of two main lobes, both of which are made up of thousands of lobules. These lobules are connected with small ducts that are connected with larger ducts to ultimately form the hepatic duct. More than 500 vital are connected with the liver. Nearly 75% of the blood entering the liver is venous blood from the portal vein. The remaining 25% of the blood supply to the liver is arterial blood from the hepatic artery. Terminal branches of the hepatic portal vein and hepatic artery pass together and enter sinusoids of the liver, providing a major fraction of the body's lymph

Blood flows through the sinusoids and passes into the central vein of each lobule.

Central veins coalesce into hepatic veins, which leave the liver and empty into the vena cava. The biliary system is a series of ducts that conveys bile - a secretory and excretory product of hepatocytes - from the liver into the lumen of the small intestine. A bile canaliculus is not a duct, but rather, the dilated intercellular space between adjacent hepatocytes. Hepatocytes secrete bile into the canaliculi. At the ends of the canaliculi, bile flows into bile ducts—the grouping of bile ducts, hepatic arteriole and portal venule called a portal triad. Small bile ducts, or ductules, anastomose into larger and larger ducts, eventually forming the common bile duct.T he gall bladder is another important structure in the biliary system. During periods of time when bile is not flowing into the intestine, it is diverted into the gall bladder, where it is dehydrated and stored until needed.

ONTOGENY AND ABNORMALITIES OF THE HUMAN LIMB

Plushch D., Telyakova A. - the 2nd -year students.
Scientific leaders - Zherepa L.G, Volosenkova Ye. A.

Despite the high level of development of medical science and practice, a great number of children born with birth defects is noted . It is important to be aware of a causal relationship of ontogeny and anomalies that in the future after birth will affect the health of the child.

Skeletal development of limbs is a gradual process. The process of limb development occurs according to the tree rules. The first rule says that the lower limbs are less developed than the upper ones, and the remaining two rules say about the sequence of development and differentiation of the limbs.

Due to internal or external factors different anomalies and malformations may appear.

Thus, the physician must know the ontogeny of any organ of a person to understand at what stage one or another defect in development can happen and he also should know of the possible malformation and prevent its development.

SKRYABIN K. I. – A GREAT HELMINTHOLOGIST

Dongak T. – the 1st -year student
Scientific leaders – Naumenko V.A., Volosenkova Ye.A.

Starting with simple collection of facts, Skryabin K.I founded helminthology as a science, led it through the periods of forming and founding.

Helminthology is closely connected with many other biological sciences (especially with zoology) medicine, veterinary medicine and plant pathology.

DISCOVERY OF NEW SPECIES

Founding a new science he discovered new species of animals, the existence of which was not previously known. Understanding the importance of helminthology for healthy future of Russia, Skryabin founded sole in the world Institute of helminthology where the diagnosis was developed, detection and control methods with invisible and elusive enemy of a man and animals – helminthes were also worked out.

Scientist has discovered about 200 new species of parasites, together with another Soviet scientist, R. S. Schultz gave a rang of major groups, proposed a method of helminthological complete autopsy, which is used not only by Russian but also by many foreign scientists.

ACHIEVEMENTS

For his scientific work academician Skryabin K. I. was awarded the title of Hero of the Socialist Labor, he was also awarded the Lenin Prize, State Prize twice and I. I. Mechnicov' Gold Medal. During his life Skryabin K. I. spent about four expeditions to the far corners of Russia; his works are fundamental and have obtained world-wide recognition.

ASTROVIRUSES

Paliokha A., .Kalish J. - the 3rd-year students
Scientific leaders – Prof. Chubenko G.I., VolosenkovaYe.A.

According to epidemiological studies, human astroviruses are the second - third most important etiological agent causing acute intestinal infections (AII) . Statistics in recent years shows that children up to 7 years mostly suffer from astroviruses infection.

Astroviruses were first discovered in 1975 by electron microscopy of feces of children with symptoms of diarrhea. Later, using the same method they were re-

vealed in a wide range of pets.

Astroviruses belong to the family of Astroviridae, which in its turn comprises two kinds: Avastrovirus, comprising all known birdsastroviruses and Mamastrovirus, which includes all astroviruses of mammals, particularly human astroviruses. Viruses contain no membranes and have stellate surface of the nucleocapsid. Genome is single-stranded RNA. Astroviruses are hardly cultivated in the human cell cultures and in those of monkeys, however virion is revealed by immunofluorescence in the cell culture. Immunochromatographic test is used for rapid diagnosis.

Due to the high prevalence of astroviruses infection various studies in this field are conducted.

HYGIENE OF CHILDREN NUTRITION

Paliokha A., Kalish J. - the 3rd-year students
Scientific leaders - Prof. KorshunovaN.V., VolosenkovaYe.A.

Pre-school age - is a critical period when the human personality is formed and a sound foundation of physical health is laid. The basis of a complex educational influence is a knowledge of age characteristics of the child. It is important for children of preschool age, as in the period from 3 to 7 years intensive growth and development of the organism, the processes of morphological and functional improvement of the individual organs and systems take place.

One of the most important factors that determine the health of children is full value nutrition. Daily consumption of energy in a child of 1-3 years is 1540 kcal, at the age of 4-6 years -1970 kcal, for 7 -year-old children - up to 2000 kcalories. The diet must include fats,proteins,carbohydrates,water , minerals and vitamins. One of the important principles of good nutrition is its properly organized regime: Keeping the time of meals and the intervals between them, a rational quantity ofmeals, proper quantitative and qualitative distribution of food according to the number of meals; conditions of eating and behavior of children during meals. It is important that the amount of food strictly corresponded to the child's age. Food should not only meet the needs of the growing organism and cause a feeling of satiation, but also correspond to the age capacity of the stomach. The effect of the rationalization of child nutrition is many times higher than the efficiency of any other sanitary measures. Targeted strategy of children nutrition is - adult formation with : maximum potential of longevity, long-term preservation of health and capacity for work, a high level of intelligence and giftedness.

MICROCIRCULATION OF RAT'S MESOMETRIUM

Mironenko A. - the 2nd-year student
Scientific leaders - Ambroseva N.P., Volosenkova Ye.A.

Peritoneum, which has many features and functions, has long attracted the attention of scientists, is a very informative material for the study of microcirculation system. Transmural transport of liquids and substances realizes in microcirculation. Research of the microcirculation of the peritoneum in the pelvic area is worth special

attention. It is the key to understanding and identification of bases of vital functions of the reproductive organs the functional activity of which is closely connected with the level of blood supply.

STEM CELLS: THE FUTURE OF MEDICINE

Anisimova M., Zolnikova V. – the 2nd year students
Scientific leaders – Semenov D.A., Gritcenko S.N.

Stem cell research is transforming the future of medicine. Indeed, as soon as we all begin to live a stem cell, capable of self – renewal and differentiation, develops into all of the specialized cells found in our adult bodies. Studying these events we gain rare insights into the way human body is made. Stem cell research also has an amazing potential for restructuring the way we practice medicine: stem cells may be used to replace or repair damaged tissues and organs and to alter dramatically the way we treat such diseases like cancer.

WHO WAS THE MYSTERIOUS PARACELSUS?

Anisimova M. – the 2nd year student
Scientific leaders – Pavlova A.E., Gritcenko S.N.

A future physician was born in late 1493 (dates are given – November 10th or December 17th) in the Swiss town of Einsiedeln in an ancient but impoverished noble family. His father practiced medicine, and started to prepare his son for medicine since early childhood. It is hard to say when he began to use nickname Paracelsus. Perhaps this is the name he chose himself or his colleagues gave it, by comparing Hohenheim with one of the founders of medicine – a Roman physician Avlom Cornelius Celsius. Officially, this nickname was first announced in 1529, when Theophrastus became to sign astrological calendars issued by him. Philip Theophrastus Bombast von Aureol Hohenheim, better known as Paracelsus in the history of science is better known as Paracelsus, a physician and pharmacist. He explained the nature and cause of silicosis, from which miners suffered. He developed several highly effective drugs, relying not only on homeopathy, but also on the success of , which main task, as he believed, was not to manufacture gold, but to prepare medicine.

BIOPHYSICS OF OLPFACTORY ORGANS

Lobacheva G. – the 2-nd year student
Scientific leaders - Semenov D.A., Gritcenko S.N.

A significant difference in sensitivity to adequate and inadequate irritants is inherent to receptors of all the senses. They play a vital role in getting information about the external environment. It is the receptors of sensory systems that are designed in the body for the perception of the changes of the environment, in the reactions it requires.
Regardless of the structure and functioning, all the receptors do the same – convert stimuli of different modalities into nerve impulses.

The sensor system is analyzers of external and internal environment, which provide adaptation to particular conditions.
In the basis of smell is the interaction of molecules of odorous substances with olfactory cells. Molecules of odorous substances, separating from the main mass and moving with air currents, can act in a distance.
Attempts to explain the odorous molecular properties by their chemical properties and structure failed. Substance with similar properties and structure may have different smells, and vice versa. Currently, of all theories of perception of odour there are 2 worth attention: the quantum and the stereochemical ones.

REPARATIVE AND PHYSIOLOGICAL REGENERATION OF THE URINARY TRACT

Danilov M. – the 2-nd year student
Scientific leaders - Semenov D.A., Gritcenko S.N.

Regeneration – the ability of living organisms to restore damaged tissues and sometimes entire bodies with time.
Physiological regeneration is a regenerative process connected with the destruction and the death of cells in the normal functioning of the body.
Reparative or restorative regeneration is a restoration of cells and tissues in turn to the last ones due to various pathological processes.
Damage to the ureter can be both open and closed, complete and partial. The reasons for them are surgical (usually during gynecological operations) and endovesical interventions.
Regeneration of the bladder. The most common surgical method of treatment (i.e. augmentation cystoplastic) is the imposition of “patch”, removed from a patient’s intestines on a diseases area of the patient’s body in order to increase its size.

HISTORY OF DEVELOPMENT AND ANATOMY FORMATION

Borisov V., Khramova V.-the 2nd year students
Scientific leaders-Zherepa L. G., Gritcenko S. N.

Development and formation of anatomic ideas goes back to ancient days. Ancient people form ideas of structures in human and animal from occasional observations and sacrifice while hunting.

Favorable conditions for development of different sciences developed in Ancient Greece. Ancient Greek doctor and scientist Hippocrates became an authority in medicine. His merit was in collecting and systemization of data about the structure of the human body. Hippocrates described some bones of the skull and their connections by means of seams.

Platon and his apprentice Aristotle were great scientists of the time. Platon established that the brain of vertebrate animals developed from anterior parts of the spinal cord. Aristotle accumulated information in Comparative Anatomy and Embryology.

Gerofil spoke of Anatomy as an independent science. He described men-

inges and venous sinus, the brain ventricles and vasoganglion, the arterial nerve, the eyeball and the prostate gland.

DEVELOPMENT OF ANATOMY IN RUSSIA

Zabirko O., Vasilieva A. - the 2nd year students
Scientific leaders - Zherepa L.G., Gritcenko S.N.

Information on anatomy and medicine entered Russia from the Byzantine Empire after the adoption of Christianity.

A huge role in development of medicine and anatomy belongs to Peter I.

Russian Science Progress of this period is associated activity of a brilliant scientist M.V. Lomonosov.

Invaluable contribution to the development of anatomy and surgery was made N.I. Pirogov (1810-1881).

Anatomy takes an important place in the system of medical education , laying the foundation of a scientific approach to the analysis of vital functions of the human body in health and disease.

EXTRACELLULAR BUBBLES – EXOSOMES

Vasilieva A.-the 2nd year student
Scientific leaders - Feoktistova N.A., Gritcenko S.N.

A necessary condition for the life of a multicellular organism are links that allow to coordinate common biochemical processes. For such coordination, there are microscopic bubbles – exosomes.
The protein composition of exosomes largely reflects their origin from endosomes. Exosomes have a similar set of protein. Proteins provide binding and transport microRNA adhesion and migration of exosomes as well as signal.
Besides proteins, exosomes contain various enzymes which regulate cytoskeletal and membrane change, mechanisms of membrane fusion.
Lipids are main components of exosomes which are involved in the organization of the membrane structures.

HISTOLOGICAL EXAMINATION OF THE EXPERIMENTAL SECONDARY SYSTEMIC AMYLOIDOSIS BASED ON YOUTH INNOVATION CENTER

Vasilieva A. – the 2-nd year student, Lapin D.-the 6-th year student
Scientific leaders – Semenov D.A., Gritcenko S.N.

Amyloidosis (amyloid degeneration) is violation of protein metabolism, accompanied by the formation and deposition of a specific protein - polysaccharide component – amyloid in tissues.
Amyloid is a glycoprotein whose principal ingredient is fibrillar proteins: Albumins, globulins, fibrinogen and fibrin.

The urgency of studying the topic was that amyloidosis is one of the most common diseases. The number of detections of systemic amyloidosis in patients with rheumatoid arthritis varies from 6 to 23% according to different authors, patients with TB to 19%.
There is currently no effective causal and pathogenetic therapy, so it is necessary to apply the development of experimental models, the effectiveness of which can be assessed by histological examination.
The experiment was conducted on 48 male albino rats. As an amyloidogenic agent used native albumin with Freund's complete adjuvant, which was administered at a dose of 1 ml / b within 21 days. On day 22 the animals were taken out of the laboratory experiment. Further histological assessment was carried out by preparing a fixing organs (lung buds) in neutral formalin and embedded in paraffin by pouring a known manner. As histological staining were taken following colors: Haematoxylin - Eosin for evaluation of the morphological structure. Congo red - for the specific detection of amyloid deposits in the organs which is painted in brick- red color.
As a result of our study, we confirmed the effectiveness of the pathophysiological model of secondary amyloidosis, and were able to confirm the presence of the disease by histological methods.

MENTAL HYGIENE AND PSYCHOPROPHYLAXIS

Borodin P., Pasternak I. – the 3rd year students
Scientific leaders – Prof. Korshunova N.V., Volosenkova Ye. A.

People always try to make great efforts to understand the causes of life failures, poor health, and conflicts. A man who is not prepared to solve the life problems spends much more energy, is sicker and does not feel himself comfortable in society. This leads to depression, suicidal orientation, alcoholism, sexual disorders, deviant behavior of young people, etc. Due to that, problem of mental disorders preventing became significant.

Instead of focusing on the treatment of mental illness, mental hygienists emphasized early intervention, prevention, and the promotion of mental health. So, mental hygiene is the science of maintaining mental health and preventing the development of mental disorder. The fields of mental hygiene are:

age-related hygiene
life mode hygiene
family life hygiene
working and studying hygiene

Mental hygiene of childhood should be based on the characteristics of the child's mind and ensure the harmonization of its formation. There are own specific problems in the old age, when the falling metabolic processes decrease overall health and memory function.

Life mode hygiene means interaction with other people. A kind word, a friendly support and activity in discussion create good mood. Conversely, rude, abrupt and disparaging speech can cause psycho trauma, especially for the hypochondriac, sensitive people.

Relationship between family members primary affect for the destiny of man and has great significance for the life of each person. Mutual respect, love, friendship, common ground create the congenial atmosphere in the family. Emotional communication, understanding and flexibility have a great influence on the formation of family relationships.

Emotional attention has a great meaning to the studying and working. Chosen profession should match to the interests, abilities, and personal preparedness of person. Studying processes must promote timely and harmonious mental development of children and avoid excessive mental stress.

Every man can try to improve his mental hygiene by himself, by self-actualizing. Here are some good advices:

Be kind to your enemy! Your revenge interferes with your peace of mind--force or fights will not change anger to peace of mind!

Avoid blaming others but rather take responsibility for anything that you could have handled in a better way.

Find an activity that seems worthwhile to accomplish and get busy.

Help someone that has less than you and wants some help; this helps your mood and your self-concept and you are acting sane! One hour at a time!

Don't hold grudges. If you find yourself remembering and visualizing an old wrong someone did or said, immediately stop, and think of a new pleasant thought. Forgive and forget.

STRUCTURAL FEATURES OF DEVELOPMENT OF A GERM IN THE 3-6 WEEKS OF INTRAUTERINE DEVELOPMENT

Maltseva I., Rusakovich A. – the 2nd-year students
Scientific leader - L.G Zherepa

Process of intrauterine development of a person'sgerm lasts on the average 280 days (9 months

From the 3rd week of development in the germ as a result of reproduction of cells, their differentiation and movement in the middle part of theblastodisk there appears a band –a germinal streak, with aprimitive knot (Hensen's node). On the 17th day a germ axial complex is formed.

On the 20th-21st days the period of isolation of the germ by means of a deep groove of the truncalfolds begins.

From the 4th weekthe germ development is characterized by a differentiation of anlages and germinal leaves from which a formation of tissue and organs take place.

In the second half of the 1st month the expanded head section, with two flexures – cervical and parietal is isolated. On both sides of the cephalic pole the small pits– ectoderm - acoustic fields and ocular vesicle appear.

By the end of the 1st month of intrauterine development the anlages of all tissues are formed. In the 2nd month almost all organs appear. The tissues and organs formedfrom the embryonic anlages of the germ start functioning.

MICROVASCULAR BLOOD BED OF THE MUCOUS MEMBRANE OF GASTRO-DUODENAL TRANSITION

Kozicheva A., Lotkova A., Golovchenko G. – the 1st-year students
Scietific leader - Cand.Med.Sc. S.S. Seliverstov

The study of 456 preparations by anatomical and histological methods showed that the borders of angioarchitectonics of the mucous of the transitional areas had appeared by the end of the third month of fetal development. Thickness of the capillaries with age decreased due to the increase of sizes of the capillary loop. In people aged 22-35 a relative stabilization of the vascular-tissue indices was observed. Hemomicrocirculatory vascular network of the villi of the duodenum in the area of the gastro-duodenal transition was mostly formed by the precapillary and arterial sections of the capillaries with the loops elongated along the axis of the villi. In germs aged 3-5 months the vascular network of the villi was poorly differentiated, but already in the 5th month 1-2 longitudinal venules of the villus began to form. In people aged 35 from the capillary network at the top of the villus not very long post-capillares, which combining the venules formed, appeared. In the individuals aged from 24 to 65 tortuosity of the venous vessels increased. After the age of 60-70 the venous network of the mucous membrane of the gastro-duodenal transition became thin.

THE VALUE OF IMMUNE DISORDERS INFORMING THE SECONDARY WOMEN INFERTILITY

Loktyushina T., Chekulaeva M., Fefelov A. – the 4th-year students
Scientific leaders – Dr.Med.Sc. Pavlenko V.I., Subacheva N.A.

The aim of research is to find characteristics of the development of secondary women infertility in the immune form of infertility.

Infertility –is the absence of pregnancy in the regular sexual intercourse without using tools and methods of contraception during the year, and during half of the year for women older than 35 years.

Inability to have children is very difficult situation for social and psychological life of people, and this have great influence on health and standartof living of people. It is believed that from 8 to 15% of couples in the reproductive period of life facingthe problem of infertility.

Immune system plays an important role in human fertility. Immune cells and products of their secretion take part in ovulation, preparing endometrium for implantation of fertilized ovum, make control of the development of normal pregnancy. The change of immune homeostasis can reduce fertility, cause miscarriage and even infertility. It was determined, that 20% of couples with unknown reason of infertility have problems with immune system.

One of the immune problem leading to infertility is the production of antisperm antibodies, 9-36% of infertility couples have this antibodies, for example only 0,9-4% of couples with children have this antibodies.

Anti-sperm antibodies are produced in different parts of the reproductive tract

both in men and women. They are directed against different parts of spermatozoids and can be present in different amounts and haveinfluence onreproductive processes by various ways.

Detection of these antibodies in the uterine cervix indicates their presence in other reproductive tract. It became clear that antisperm antibodies in women body influence not only on passage of spermatozoids through the cervix, but also dramatically reduce the quality of fertilization.

Thus it is demonstrated innumerous researches that the effect of sperm antibodies is quite diverse. The known mechanisms are the following – reduction of mobility of spermatozoids and violation of their functional activity, the blockade of spermatozoids penetration in cervical mucus (interaction of spermatozoid and ovule), the impact on the stages of preparation of spermatozoids to fertilize, impact on the process of ovum fertilization by spermatozoids, the impact on the process of implantation of the blastocyst, inhibition of growth and development of the embryo.

ACTION OF BIOLOGICALLY ACTIVE SUBSTANCES ON THE ORGANISM

Kolodina E, Trufanova A. - the 3rd-year student
Scientific leaders: Korshunova N.V., Subacheva N.A.

The biologically active additives (BAA) are substances of natural origin, which normalize the balance of nutrients that contribute to the maintenance of health (prophylaxis of the diseases), and accelerate the healing process.

Effects on the body:

Mainly contribute the release of toxins from the body

Restore the lack of them in the body, involve into metabolic processes and take part in the creation of their own "medicine" and the means of protection, provide proteins, hormones, enzymes synthesis, enliven and strengthen the immune system, etc.

Take part in the restoration of disturbed functions of the body: elimination of cardiac arrhythmia, normalization of arterial blood pressure, restoring the normal processes of sleep, removing pain in the joints.

The whole group of BAA acts as a strong antioxidant, inhibiting the activity of free radicals, which, in particular, plays an important role in protecting the body from cancer. Some studies have confirmed a direct inhibitory action of BAA on tumor cells, which slow their growth and prevent metastasis (spreading through the bloodstream) of tumor cells.

Biologically active food supplements can be subdivided:

Nutraceuticals - essential nutrients, natural components of food. They include certain trace elements, vitamins (provitamins, vitamin-agent), some amino acids and their complexes, mono-and disaccharides, dietary fibers (cellulose).

Parapharmaceuticals - products containing ingredients from plant, animal or mineral origin, which can have a regulating effect on the functions of organs and body systems (glycosides, organic acids, tannins, bioflavonoids, biogenic amines, anthocyanins and other substances that have addressed pharmacological effect).

BAA - this is not a remedy. Here we are not talking so much about stimulation, how many of the modulatory effect, which results in an organ or system in a state of physiological norm. This is important!

GENERAL PATHOGENESIS OF CHROMOSOMES PATHOLOGY

Fedotova T. – the 3rd-year student
Scientific Leaders – Assoc. Prof. Maksimenko V.A., Subacheva N.A.

Chromosome pathology are genetic diseases where a large part of the genetic code has been disrupted. Chromosomes are long sequences of DNA that contain hundreds or thousands of genes. Every person has 2 copies of each of the 23 chromosomes, called chromosomes 1..22 and the 23rd are the sex chromosomes, which is either X or Y. Men are XY and women are XX in the 23rd chromosome pair.

There are several common types of chromosome errors that cause disease. The effects of errors in the sex chromosomes (X and Y) differ greatly from errors in the autosomes (chromosomes 1..22).

Most people have 2 copies of each chromosome, but some people are born with 3 copies, which is called trisomy. Trisomy can occur in chromosomes 1..22 (autosomal trisomy) and also in the sex chromosome. Down syndrome is a trisomy affecting the autosome chromosome 21.

When a person has only one of a given chromosome, rather than a pair, this is called monosomy. These conditions are very rare for autosomes (chromosomes 1..22) because body cells without pairs do not seem to survive, but can occur in the sex chromosome (monosomy X is Turner syndrome).

Sex chromosome. Typically men are XY and women are XX in the pair for the 23rd chromosome. However, sometimes people are born with only one sex chromosome (monosomy of the sex chromosome), or with three sex chromosomes (trisomy of the sex chromosome).

There are also some other rarer types of chromosome conditions that may lead to diseases: Translocation disorders: Partial errors in chromosomes can occur, where a person still only has a pair, but accidentally has entire sequences misplaced. These can lead to diseases similar to trisomy. For example, Translocation Down Syndrome is a subtype of Down Syndrome caused by translocation of a large sequence of a chromosome.

The process of translocation can also cause large sequences of DNA to be lost from chromosomes. This creates diseases similar to monosomy conditions.

PYA INFLAMMATORY INVOLVEMENT OF SOFT TISSUE IN DRUG ADDICTS

Kolodina E., Trufanova A. – the 3d-year students
Scientific leaders – Dr.Med.Sc. Volodchenko N.P., Subacheva N.A.

Acute problem today is drug addiction, recently acquiring epidemic, charactery. Drugs and intoxicants, often homemade, having been injected parenterally by drug addicts in violation of asepsis and antisepsis, cause purulent inflammation of

the blood vessels and soft tissues. The results of treatment of 21 patients with a variety of suppurative inflammation of soft tissues, were analyzed.

There are 14 (66.7 %) men and 7 (33.3%) women. Age ranged from 17 to 48 years. Most of the patients were aged between 26 and 35 years. The average age of the onset of drug injectors was 21.2 years.

Duration of drugs taking was, from 1 to 8 years. Only 6 (28.6%) patients were employed, the rest were unemployed, 2 - had a criminal record. The most common drugs had been used by injection, was the heroine -70%, in the second place was the opium extraction -23.1%. In 15 (71.4%) patients pathological process was presented by soft tissue abscesses of the hand and forearm, in 3 (14.3%) patients by–phlegmon ofinner surface of the forearm, and in 3 (14.3%) patients by festering hematoma in the groin area. The localization of festers correspond to projection of the superficial veins, or major arteries, and skin lesions (hyperpigmentation, ulcers, scratches, injection marks, scars along the obliterated vein) are so specific that they can serve as an indirect sign of addiction. Because of the immune lowering in half of the patients suppurative process took place in normal temperature, without the classic local signs of inflammation. Multifocal suppurative processes, their specific appearance, depending on the type of drug, were typical and were characterized by the presence of purulent lesions spontaneously penetrated.

The postoperative period in all patients was characterized by a prolonged course of inflammation,sluggish granulation and slow woundsepithelialization. After surgical operation purulent inflammation with formation of new foci of necrosis very often arised after surgical operationprolonged healing of wounds, development limfademy ware observed also. The combination of the common symptoms of inflammation with the manifestation of drug addiction (withdrawal syndrome or narcotic intoxication) was typical. Thus, drug addicts often have purulent-inflammatory processes, the most often common causes of post-injection inflammatory complications drug addict in patients are: non-observance of the aseptic rules in drug injections by drug addict (non-sterile instruments, non-sterile drug), improper technique (way) of injection, aggressive structure of the injected drug.

THE STUDY OF THE MOST IMPORTANT RISK FACTORS IN THE DEVELOPMENT OF PERINATAL ENCEPHALOPATHY IN INFANTS

Kamchedalova T., Grydin M - the 5th-year students
Palyi A. – the 4th-year student
Scientific leaders – Cand.Med.Sc.Yutkina O. S., Subacheva N.A.

According to the WHO 10% of children have nervous and mental diseases, 70-80% of them are associated with perinatal brain damage. Variety of a harmful effects experienced by the fetus, lead to hemodynamic and metabolic disorders, intrauterine and intrapartum hypoxia.

A complex process of formation of the nervous system of the unborn child takes place during the prenatal period. In this context, women's health protection issues at different stages of gestation, labor, and also developing fetuses and infants occupy one of the leading position in modern health care and scientific researches.

Materials and methods: we investigated 80 patients with perinatal encephalopathy at the age from 1 to 12 months, who were treated at the neurological department of Blagoveshchensk Children's Hospital. Questioning among parents, analysis of the case histories, hospital records, copying from the maternity hospital, objective examination of children were conducted.

Results and discussion. Risk factors assessment was carried out by the criteria proposed by Barashnev Y.I. (2001). They are: demographic risk factors, social risk factors, maternal risk factors, the fetus-maternal risk factors, placental risk factors, high perinatal risk factors (parturient), neonatal risk factors.

Thus, the study has shown the importance of individual perinatal factors in the formation of cerebral pathology in children and the possibility of their use for prediction and early diagnosis of brain damage in newborns, differentiated approaches in their treatment and rehabilitation, and respectively - to reduce the severity of CNS lesions and disability of children.

PNEUMONIA IN CHILDREN IN THE MODERN WORLD

Varda N., Darchieva A. – the 5th-year students
Scientific leaders: Cand.Med.Sc. Yutkina O.S., Subacheva N.A.

In the structure of pulmonary pathology in children of different ages external-acquired pneumonia are about 70-80%. Pneumonias are included in the 10th number of the most frequent reasons of death.

Provacate factor of the development of pneumonia were detected in 80,6% of children (among them: 61% of children, who carried on acute respiratory virus infection on the eve, 19,6% of children carried on super cooling), provocate factors were not determined in19,4% of children.

Stress - is general nonespecifie adaptotive reaction of organism composed in the process of evolution in the reply to strong irritations of any nature action, reaction in which the defence plexiforms with damage.

Pathological reaction such as stress, overaction are tipical to the acute period of disease in children, but passing to recovery in normal must be carried on the back ground of stress passing into untistress reaction, more often into activating reaction through the training reaction and in a number of cases into activating reaction at once.

Conclusions.

Thus, an unheavy development, mainly whithout toxicosis, with some cases of complications. With predominance of one-side, segmentary form is typical for the development of pneumonias in the period of epidemiological situation in the Amur region. Nevertheless, one of the pathogenetic features of the development of these community-aquired pneumonias was reduction of adaptive possibilities of child's organism, that was testified by high – frequency of stress reactions and reduced reactivity which was remained for a long time after clinical recovery and requiring correct therapy.

A RARE CASE OF GENERALIZED TETANUS IN AMUR REGION

Bondarovich K.- the 5th-year student
Scientific leader - Gavrilov A.V.

It is known that tetanus is characterized by tonic tension of skeletal muscle and periodic generalized spasms. This is associated with central nervous system lesion by toxin agent. Infection generally occurs through wound contamination.

Patient K. age 66 was admitted to the regional infectious diseases hospital on 26.09.03. Diagnosis: traumatic tetanus, generalized form, severe course.

It is known, that the patient had injure of the occipital region of the head in 18.09.03. Since 20.09.03, pain in the throat and sore throat began to disturb her. Since 24.09.03 salivation was appeared (trismus of masticatory muscular system). The patient was admitted to the surgical department where she received 3000 IU of anti-tetanus serum, and directed to the Amur regional infectious hospital.

On admission condition of the patient was very severe. Periodically the appearance of spasms, lockjaw chewing muscles and skeletal muscle hyper tonicity were observed. The body temperature was 36,9. The patient was disturbed by salivation and the inability to fully open the mouth, impaired swallowing, muscular pain in the neck.

She was transferred to the intensive care unit, where surgical treatment of the edges of the wound was carried out and 3000 IU of anti-tetanus serum was introduced.

Since 01.10.03, right-sided pneumonia was diagnosed in the patient.

The patient received an adequate course of treatment 250,000 IU of anti-tetanus serum and tetanus immunoglobulin 900 IU.

During the stay in hospital the patient was conducted adequate ventilation, the use of reducing convulsive activity, parenteral nutrition and metabolism correction. From the first day the patient received antibiotic therapy.

The patient spent in the hospital for 32 days and in the satisfactory condition was discharged.

This rare case of generalized tetanus is of interest to physicians in terms of differential diagnosis of the disease occur with central nervous system and spasms.

In conclusion, we can say that irreducible reserve of specific means of prevention must be in all hospitals of the Amur region.

STRUCTURE OF THE PANCREAS

Alisina A., Epova M. – the 2nd-year students
Scientific leaders - Kozlova V.S., Katina O.I.

Pancreas is a complicated alveolar mixed gland that has two parts: exocrine and endocrine.

Pancreas is derived from endoderm and develops from the glandular epithelium of the duodenum.

Islands of Langerhans are oval or circular formations of up to 0.3 mm in size, some to 1 mm in diameter. Islands are located over the entire thickness of the pan-

creas, but most of them are in the tail. Islands consist of epithelial cells surrounded by the connective tissue containing a dense network of blood capillaries of a sinusoidal type. Pancreatic islet cells produce insulin and glucagon hormones regulating blood glucose levels.

Parenchyma consists of pancreatic cancer bubbles and acini having ducts. There are two types of cells in acini: acinocytes and centroacinous cells. Their function is production of pancreatic juice.

DISEASE CONTROL RATE OF BRONHIAL ASTHMA DURING PREGNANCY

Luchnikova T.A. - the Resident of Hospital Therapy
Scientific leaders – Assoc.Prof., Dr.Med.Sc. Prihodko O.B., Prof., Dr.Med.Sc. Landyshev Y.S. Prof., Dr.Med.Sc. Babtseva A.F., Assoc.Prof., Dr.Med.Sc. Romantsova E.B., Smorodina E.I., Kostrova I.V.

In recent years doctors from all around the world paying the high attention to the treatment of bronchial asthma in gestation during pregnancy. The main aim of this research is to get a better knowledge how the DCR of bronchial asthma in gestation during pregnancy influence the course of pregnancy, the fetus and the newborns. The research involves the explorations, descriptions of the bronchial asthmas clinical features, pregnancy and birth outcomes, newborns health (290 women who suffer from bronchial asthma were tested). The information was received through Asthma Control Test. Research results:

62.5% of the patients had have uncontrolled asthma;

37.5% of the patients had have controlled asthma;

The 1st group of the patients (51.7%) took control drugs (inhalation corticosteroids), the 2nd group of the patients (31%) because of the pregnancy took emergency drugs. The patients from the 1st group had had better respiratory function than the patients from the 2nd group ($p<0.05$).

In general, dynamics of bronchial asthma (BA) progression during pregnancy was as follows: 17,6% of patients – improvement, 33,8% - without significant dynamics, 48,6% - deterioration. In the structure of dynamics with the case of BA progression improvement the allergic form of disease was dominant, while in the case of BA deterioration more than ½ of patients had non-allergic and mixed types.

The patients from the 2nd group had had the complications of pregnancy like the threat of termination of pregnancy (2 occasions), early pregnancy toxicosis (2.9 occasions),the gestosis (2 occasions), chronic fetoplacental insufficiency (1.4 occasions), chronic prenatal hypoxia (1.3 occasions), cerebral ischemia, prenatal developmental delays, prenatal infection ($p<0.05$).

In summary, there is a lesser occurrence of developing complications of pregnancy, partus and better indications of newborn infant's state in case of controlled BA progression under the constant baseline anti-inflammatory therapy. Therefore, achieving an optimal control of BA during pregnancy, being a necessary and top-priority direction of therapy, can make it possible to decrease the occurrence of gestational complications development and to improve generation health state

indications.

IN VITRO FERTILISATION

Lapina M., Razdobudko M. – the 6th-year students
Scientific leaders – Shershova O.A., Subacheva N.A.

In vitro fertilisation (IVF) is a process by which an egg is fertilised by sperm outside the body: in vitro. IVF is a major treatment for infertility when other methods of assisted reproductive technology have failed. The process involves monitoring and stimulating a woman's ovulatory process, removing ovum or ova (egg or eggs) from the woman's ovaries and letting sperm fertilise them in a fluid medium in a laboratory. The fertilised egg (zygote) cultured for 2–6 days in a growth medium and is then transferred to the patient's uterus with the intention of establishing a successful pregnancy.

Indications:

IVF may be used to overcome female infertility in the woman due to problems of the fallopian tube, making fertilisation in vivo difficult. Theoretically, in vitro fertilisation could be performed by collecting the contents from a woman's fallopian tubes or uterus after natural ovulation, mixing it with semen, and reinserting into the uterus.

MESOMETRIUM OF BLOOD VESSELS AT DIFFERENT STAGES OF WHITE RAT'S PREGNANCY

Miroshina O., Sudnikova A. - the 2nd-year students
Scientific leaders - Ambrosyeva N.P., Gordienko Ye.N., Subacheva N.A.

Nowadays we can see more information about the experimental modeling of placental insufficiency on the background of vascular pathology during white rat's pregnancy. This information is required to assess the possibilities of uterine bloodstream and features of biologically active substances transport.There were studied twenty pregnant outbred rats aged 3-4 months with body weight 250-280 grams and it was found out that during different phases of rat's pregnancy considerable reconstruction of blood vessels of mesometrium and hemodynamics of uterus took place. Blood vessels are the index of histogeneticprocesses taking place there. The parameters of cellular elements and vessels along the uterine side of mesometrium and veins of the first and second orders situated in this zone, change more actively, which is necessary to take into consideration in modeling different processes in the experiments.

PHYSIOLOGICAL REGENERATION OF THE FUNDUS OF THE STOMACH

Lushnikova A. – the 2nd-year student
Scientific leader – V. S. Kozlova

Regeneration is substitution of different structures (the parts of the cell or the

organ) after the natural wearing out or damage after exposure to a variety of factors.

Although a significant portion of the epithelial cells of the gastric mucosa is capable of intense physiological regeneration the study of the proliferative activity is still difficult due to cellular heterogeneity of different glands of the stomach, in particular the fundus (the bottom and the body of the stomach).

The main (fundic) glands occupy the major part of the mucous membrane of the stomach (and the bottom of the body), which consist of the neck and the terminal portion. The neck is bordered by the bottom of the pit of the main gland. The entrance of the pit opens into the cavity of the stomach. There are five types of the epithelial cells of the main gland: chief and additional (parietal, mucous, neck and endocrine). During normal operation, there is destruction and death of a number of cellular elements of the gastric mucosa.

More often mitoses occur in the deep parts of the gastric pits in the neck of the glands. Only two types of cells are divided (parietal cells of the neck). In the chief and additional cells mitoses are never met. According to these data the next order of replacement of the dying cells of the tegmental epithelium and glands of the stomach is most likely to be. The epithelial cells produced by cell division in the area of the neck and in the adjoining parts of the gastric pits and the upper segment of the glands are gradually shifting in the epithelial layer in two directions. Part of them go up from the areas of divisions. As they move, the cells elongate, accumulate in their apical portions the granules of mucoid secretion and getting into the upper part of the gastric pits, turn into the typical cells of the tegmental epithelium. Furthermore the movement of epithelial cells from the area of division deep into the glands is likely to occur. Here they are mostly turn into the additional cells. As to the replacement of the chief cells there are no definite data, but most researchers believe that the additional cells may turn into the chief ones. Such replacement may occur only in a very limited extent. It should be noted that the process of physiological regeneration in the gastric mucosa passes quite rapidly.

CONGENITAL MALFORMATIONS OF THE BRAIN. CRANIOCEREBRAL HERNIA.

Lushnikova A. – the 2nd-year student
Scientific leaders - A.E. Pavlova, Cand.Ped.Sc. I.A. Bibik

Intensive formation of the nervous system at the intrauterine stage, synchronicity of the development of some its individual components can be easily destroyed when the fetus is exposed to some adverse factors.

According to the literature, the overall incidence of congenital malformations is 15-42 cases per 1000 live births. Of these, the proportion of malformations of the nervous system is 26-28%.

Craniocerebral hernias are the associated malformation of the development of the brain and skull as a result of the defect of closing of the front end of the neural tube. Incidence of this type of hernias is approximately one case per 5000 births.

Depending on the content of the hernial sac meningocele, encephalomeningocele, encephalosystocele are distinguished.

Meningocele

In meningotsele the brain membranes protrude from and the bone defect appears. Hernias fluctuate, are seen in puncturing they go down. The skin over it runs thin, cyanotic.

Encephalomeningocele

In encephalomeningocele in the skull bone with a defect not only the brain membranes protrusion, but also the protrusion of the substance of the brain take place. Clinically, a distinct pulsation of hernia was marked. Focal neurological symptoms depended on the location of the hernia and the degree of involvement of the brain tissue in the pathologic process. The disturbances of vital functions such as sucking, swallowing, breathing might take place. In the localization of the defect in the ethmoid bone the hernias could be placed intranasally. In these cases, the leading clinical symptoms were respiratory disorders due to the lack of nasal breathing. The most common anterior cerebral hernias associated with defects in the ethmoid bone.

Encephalocystocele

Rough malformation of the brain tissue, when the hernial sac, in addition to the medulla, the ventricles of the brain were involved. In this case, the expressed degenerative changes in the nervous tissue, anomalies of the vascular and liquor systems of the brain were marked.

Surgical treatment of the craniocerebral hernias. The prognosis was made according to the length and character of a hernia.

INFLUENCE OF TELEVISION ON MENTAL STATE OF CHILDREN AND TEENAGERS

Prilipko L. – the 6th-year student
Scientific leader – Cand.Med.Sc. M.I. Volodina

It is known that the TV influences negatively on mental and social development of children and teenagers, increases the level of verbal and physical aggression, antisocial behavior, prevalence of gender and ethnic stereotypes, and also increases psychopathological frustration that is connected with anxiety.

35 children and teenagers at the age of seven to seventeen years (23 boys and 12 girls) have taken part in the research. The technique of the screening-diagnostics of mental pressure and neurotic tendencies of children and teenagers was used in the research.

As a result the following facts were found out: about a half of the questionnaired children and teenagers prefered TV-programs, soap operas, films with the negative context, more than a half of the investigated spent more than 2 hours a day watching TV-programs and video films; 37 % of children and teenagers complained of the symptoms of exhaustion after watching TV.

Thus, during the research the specific negative influence of television on a mental condition of children and teenagers was revealed.

AGE FEATURES AND ANOMALIES OF THE SKULL

Krasnopeev Yu. – the 1st-year student
Scientific leader – L.G. Zherepa

The development of the bones of the skull roof on the basis of connective tissue explains the presence of fontanelles in newborns and broad strips of the connective tissue on the places of future sutures.

Among other features of the skull of the newborn, you can specify the following.

- The proportion between the brain and facial skull in an adult and a newborn is different. The ratio of brain and facial skull of an adult is 4:1 / newborn 8:1.
- At the top the skull has a pentagonal shape due to the strong development of the tubera.
- The frontal bone and lower jaw consist of two halves.
- The jaws are underdeveloped.

In the postnatal period the growth of the skull is uneven. There are 3 periods of growth. The 1st period is a period of active growth up to 7 years. In the 2nd period of slow growth from 7 years till the beginning of puberty (12-13 years) the growth of the skull slows down in the area of the base. The 3rd period is from 13 to 22-23 years.

Cranial abnormalities

The age-related features of the skull, their knowledge help the doctor in making a correct diagnosis in various injuries and diseases of the head and skull.

HEARING AS A UNIQUE DYNAMIC TERM

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

Audio analyzer is one of the most important human analyzers, and its role has not yet been adequately evaluated. We did a theoretical research related to three aspects of its study: genesis, morphology, operational features. We focused on the development process, as still all the genetic mechanisms for the formation of both the organ of hearing, and the mechanisms of its connection with the subcortical centers and cortical ones are unknown. It was interesting to answer the question: "At what time the fetus is able to perceive sounds?" The first "hearing" of the fetus is vibrating sensations and all acoustic vibrations the embryo perceives as vibration. The inner ear is formed in the fetus before the 16th week of prenatal development, the beginning of its functioning is the 20th week. Since that time, the sound waves are reaching to it gradually beginning to cause auditory sensations. The phenomenon of auditory perception is the result of the transformation of the world, perceived as the result of the universal surgeturned intoindividual sounds. Primacy belongs to the internalnoises generated by the mother's body: heartbeat, voice, sound of the lungs, intestinal peristalsis and the work of the stomach. The leading among the maccording to the level of volume are the heartbeat and the mother's voice. The tone of the mother's voice has the highest intensity, due to its direct transmission through the tissue (via

bone conduction). These are the main factors, the nature of which begins to define psycho-emotional status of the fetus. It becomes clear that in the very early stages of the development implementation of genomic features is mediated by an important element of the system "mother - placenta -fetus"-the mother's body.

COMPLICATIONS OF DIABETSES MELLITUS

Osintseva A.- the 6-th year student
Scientific leaders- Cand. Med. Sc. Tanchenko O. A., Gritcenko S. N.

Diabetes mellitus (DM) is considered to be "non-infectious epidemic ", embracing more than 300 million patients. Further growth of morbidity is predicted by 2030: there will be 438 million patients.

Type 2 diabetes mellitus is a metabolic disease characterized by high levels of blood glucose, insulin resistance and relative insulin deficiency. If a patient has diabetes and glucose level in the blood is too high, this it can lead to problems with other functions of the organism

Long-term complications from high blood sugar may include heart disease, stroke, diabetic retinopathy, renal failure, which may require dialysis, and poor circulation in the extremities leads to amputation.

Diabetes can also cause a higher risk of development of diseases of bones and joints. Other long-term diabetes complications include skin problems, digestive problems, sexual dysfunction and problems with teeth and gums.

Only constant monitoring of sugars, lipids, blood pressure, weight can prevent these complications. Timely diagnosis and adequate treatment of type 2 diabetes significantly reduces development of its late complications.

ARCHITECTONICS OF THE BRACHIAL PLEXUS

Chernik I., Sidorov A., Lukashov I. – the 3rd year students
Scientific leaders - Cand.Med.Sc., Piskun S.I., Cand.Med.Sc., Sergienko A.V., Gritcenko S. N.

The study of architectonics of brachial plexus is necessary for a surgeon who starts reconstructive surgery in this difficult area of the peripheral nervous system.

It is believed that primary medium tube is a continuation of the C7 segment, and the upper and lower primary trunks are formed by merging of C5 C6 C8 and T1. Each of these primary tubes in its turn is divided into the front and the back branch.

Variants of formation of primary and secondary tubes and their derivatives are quite numerous. The upper primary tube of brachial plexus in 90% of cases is formed from C3 (sometimes involving C4) and C6, and it is divided into the front and the back branches.

Medium primary trunk is usually divided into the front and the back branches.

Lower primary tube is formed by merging of the spinal nerves C8 and T1.

The lateral secondary tube is formed by the anterior parts of the upper and middle primary tubes.

The nature of formation of the back secondary trunk varies considerably. Only in 5% of cases of all back branches in 3 primary trunks merged together at one point, form a secondary back trunk.

MODERN METHODS OF GENE DIAGNOSTICS

Chernik I., Sidorov A., Lukashov I. – the 3d year students
Scientific leaders - Cand.Med.Sc. Bubinec O.V., Gritcenko S. N.

The basis of gene diagnostics of infectious diseases is molecular research methods aimed at detection of genetic material (genes) of infectious agents.

The best method of gene diagnostic is polymerase chain reaction (PCR). PCR is a specific amplification (accumulation) of nucleonic acids performed in vitro system. It is initiated by synthetic oligonucleotide primers specific for identified nucleonic acid.

The major advantage of PCR over other methods, including molecular-biological methods is its high sensitivity enabling identification of single molecules of infectious pathogens.

Each year the use of gene diagnostics is becoming more intense. However, there are a number of reasons preventing the widespread adoption of PCR research into practice. Among them is an extremely small number of well-organized, efficient working PCR laboratories and well-trained professionals, and lack of experience of interpreting the results of PCR tests by clinicians.

ENVIRONMENTAL PROBLEMS OF THE AMUR REGION

Morozevich J. - the 3rd year student
Scientific leaders – Dolgopolov A.S., Gritcenko S.N.

Ecological situation in the Amur Region is not critical as compared with other Russian regions, but it is still acute, mainly as a result of chemical contamination of the soil, air and water pollution, systematic damage to the land, exhaustion of resources, and forest degradation. According to data from the government report on the state of environment in the Russian Federation, the Amur Region is one of Russia's most ecologically safe regions.

At the same time, there are some specific ecological problems in the Amur Region, primarily related to certain features of its development, e.g., the inadmissible condition of the water supply, sewage, and purification systems of the regional public utilities. The problem of recovering, decontaminating, and burying a industrial wastes is burning as well. Most of the numerous dumping sites in the region fail to meet sanitary and ecological improvement requirements and do not fully recover organic matter and other wastes. The main sources of air pollution are emissions from companies of the Ministry of Energy and Russian Housing and Public Utilities and motor vehicle transport. Additional atmospheric pollution by soot and other combustion products from forest fires occurs in certain seasons.

BLOODLETTING IN TRADITIONAL MEDICINE OF THE EAST

Vaschilko M.-the 5-th year student
Scientific leaders - c.m.n. docent Molchanova E.E., ass. Gricenko S.N.

The bloodletting techniques play an important role in traditional Chinese medicine (TCM). It is known in two main variations: with the use of a cupping-glass and of a three-edged needle. The cup-using techniques looks as following. After creating a hyperemia in a desired region of body, up to nine incisions are made on the skin, with following vacuum-extracting of a certain amount of blood through them with the use of a cupping-glass. A punctual bloodletting, is most commonly exercised from the distal (ending or starting) meridian points is performed by punctuating with a three-edged needle to the depth of several millimeters. The amount of blood being let out is rarely more then one milliliter (some little drops only). This bloodletting technique is indicated in energetically excessive states, such as arterial hypertension, high fever, intense pain syndrome, muscular hypertension ect.

BASIC TREATMENT OF SEBORRHEA

Zyabkina A, Dmitrieva A - the 4th year students
Scientific leaders - Nikishina E.A., Gritcenko S.N.

Seborrhea is a painful skin condition, caused by intensified excretion of fat due to violation of the neuroendocrine regulation of the functions of the sebaceous glands of the skin.

The most pronounced manifestation of seborrhea is in areas of the skin where sebaceous glands are located in large numbers: the face, scalp, chest, back.

Modern methods of treatment of seborrhea are based on the evidence for its fungal origin.

«Keto Plus», «Friderm – zinc», «Dermazole».

In milder cases of seborrhea ointment, cream or solution of an antifungal drug are used. In severe disease before using antifungal drugs peeling remedies should be used.

With treatment failure hormonal creams are applied locally, and in the most severe cases external therapy is combined with antifugal medicine intake for one week: ketoconazole, fluconazole.

FUNCTIONAL ASIMMETRY OF THE HEMISPHERES OF THE BRAIN

Shokhin A. – the 4-th year student
Scientific leaders – Cand.Med.Sc. Karnaukh V.N., Gritcenko S.N.

R. Sperri was one of the researchers of functional asymmetry. In right-handed persons the left hemisphere is responsible for speech, writing, arithmetic, memory of words, abstract and logical thinking. The right hemisphere possesses an ear for music, perceives dimensional relations, understanding forms and structures immeasurably better than the left one.

Each hemisphere has the carotid artery. If a drug is given into this artery, the hemisphere which has received it will fall asleep quickly.

When switching off of the right hemisphere, function of the left hemisphere is shown: a person is seized by euphoria: he is excited and talkative, his reactions are maniacal.

The creative abilities not connected with verbalization forms remain. A composer continues to compose music, a sculptor molds, a physicist reflects on the physics. But there are no traces of a good mood left. In his look there is melancholy and grief.

Violation of this interaction in adults can lead to syndrome "the split brain" formation, manifesting in violation of sensory, speech, motor and constructive and dimentional functions.

SMALL-SCALE APPLICATIONS OF HTS SUPERCONDUCTORS

Tursunbaev Sh. - the 1st year student
Scientific leaders - Cand. Sc. Plashevaya E.V., Gritcenko S. N.

Vast research efforts over the past 15 years have been aimed at overcoming these deficiencies. Success has been achieved with HTS small-scale devices that rely on specific properties of superconductors, especially the Josephson quantum tunneling effects.

Perhaps the best-known small-scale device is the SQUID (Superconducting Quantum Interference Device) magnetometer. A SQUID contains a ring of superconduc-tor with one or more Josephson junctions.

When a current is introduced into the SQUID that is larger than the critical current of the Josephson junctions a voltage appears that is proportional to the magnetic flux through the SQUID ring.

Other devices that are widely available on the market are HTS passive RF and microwave filters for broadband connection and radiolocation station. These are based on common microstrip and resonator structures with superconductors used for the microstrips or lines of the metal resonator.

ANALYSIS OF REQUESTS OF PATIENTS WITH RESPIRATORY DISEASES FOR EMERGENT MEDICAL HELP IN BLAGOVESCHENSK

Mirkina A. – the 5-th year student
Scientific leaders – Demidenko N.L.,Gritcenko S. N.

In the structure of all calls there are 13.6% requests for emergent medical help from the population with respiratory disorders. In the structure of all calls regarding respiratory diseases first come acute conditions (73.3 %), the second - pneumonia (25.5%), the third - asthma (6.5%) , the fourth - bronchitis (2.4%), and the fifth - chronic respiratory disease (3.1%).

In the analysis of requests among the population of Blagoveshchensk Emergent

Medical Help (EMH) was examined in different seasons : peak of respiratory diseases occurs in October and November. In 2009 it was 25.3 % , 18.5 % respectively, and for pneumonia of that period it was 20% 27 %, respectively, in March and September - December there was a peak of bronchitis (March - 11.2% in September - 13.6% in October - 10.5% in November - 11.7% , December - 15 %) and in September there was an asthma peak (12.5 %).
Of the total amount applied regarding diseases of the respiratory system in 2009, 76.2 % of the patients were hospitalized whereas in 2010 there were 78.7 %.

All this must be taken into account by a district doctor when he gives his patients preventive treatment. One should increase the number of ambulances working in the periods of peaks of diseases .

FEATURES OF AUTONOMIC REGULATION IN ADOLESCENTS WITH VASONEUROSIS

Mirkina A. – the 5-th year student
Scientific leaders – Chupak E. L., Gritcenko S. N.

The main factors forming the health of children and adolescents in modern conditions are a state of functional resources and adaptive status. To assess them indicators of the autonomic nervous system condition are very important.

In the debut of IRS development an adequate increase in activity of sympathetic and parasympathetic departments of ANS (a compensatory increase in the activity of one of them in response to an increase in the activity of the other) that characterizes a phase of intense adaptation.

With long-term existence of the stimulus (a state of chronic stress) hormonal mechanisms occur. This increases their adaptive significance, but an adaptive role of neural mechanisms relatively decreases . Therefore the next stage of vegetative disorders is characterized by the fact that an increase in activity of one of the ANS departments compensatory change in another one is unidirectional but insufficient. This nature of the vegetative disorders reflects the relative compensation stage.

Asimpathicotonia is a starting mechanism not only in a phase change, but in occurrence of new hormonal and metabolic responses for each stage. Consequently, the growing hypersimathicotonic activity at some stage is transformed into a new state - asimpathicotonia reflecting attrition (failure) of autonomic regulation .

IDENTIFICATION OF THE PERSON ACCORDING TO FEATURES OF TEETH STRUCTURE AND DENTITION

Maslova E. – the 5th year student
Scientific leaders-Cand.Med.Sc. Cheryomkin M.I., Gritcenko S.N.

This part of forensic medicine is especially valuable because teeth as objects of research are steady against various adverse physical and chemical factors, temperature, sour transformation. They also possess unique signs, individualizing the person.

Identification of the person on the stomatologic status can be made by examining features of teeth structure and dentition.

Identification signs can be subdivided in the following way: a) anatomic signs of teeth; b) anomalies of teeth and jaws; c) acquired signs.

Examination of an odontolith and tooth pulp as a blood group element can also be used for identification of the person.

It is possible to use intraoral lifetime and posthumous X-ray for a comparative X-ray inspection.

Currently odontogramms, containing a description of 160 surfaces of 32 teeth to define structural features of the dentition and separate teeth are used for identification of the person.

An odontogramm allows to fix features of an anatomic structure of teeth, orthopedic, therapeutic and surgical treatment, a bite type, paradontium condition, presence and character of fillings and caries, a deviation from dentition (a vestibular or oral slope), existence of a bridge-like, removable prosthesis. An expanded odontogramm shows teeth removed.

PCR-MODERN METHODS OF CLINICAL LABORATORY DIAGNOSTICS

Velchenko E., Artemeva S.-the 2nd-year students
Scientific leader - Feoctistova N.A., Katina O.I.

The rapid progress in the field of molecular biology in the last decade of XX century was accompanied by the emergence of fundamentally new methods of research based on the use of monoclonal antibodies, the method of hybridization on filters and polymerase chain reaction (PCR). These methods are very quickly found use in medicine for the diagnosis of various diseases. As the result there is a new branch of clinical laboratory diagnostics - the molecular clinical diagnostics. It is a science that diagnoses diseases at the molecular level, based on the identification of specific genes and the products of their activity - proteins. PCR method and the method of immunosorbent assay (ELISA) are the most widely used in practice. These methods are currently considered the destiny of the major research centers, and are used in the practice of clinical diagnostic laboratories in the variety of health care institutions. The Amur region is not an exception.

THE CASE OF THE DISEASE OF CENTRAL RETINAL VEIN OCCLUSION WITH CHRONIC LYMPHOCYTIC LEUKEMIA

Ecnoyan S., Vikhreva D.
Scientific leaders – Professor Shtilerman A.L.

Central retinal vein occlusion (CRVO) is a common acute retinal vascular disorder in the central retinal vein or its branches. Impaired patency of CRVO occurs in 214 out of 100,000 people. Among patients with chronic lymphocytic leukemia CRVO meets 4% of cases.

Patient M, was hospitalized at ophthalmological department with complaints of de-

creased visual acuity of the left eye. Complaints emerged to September 2013. Vision gradually improved, the doctor did not address. After 1.5 months again has sharply worsened vision, in connection with which appealed for help.

In the anamnesis the patient suffering from chronic lymphocytic leukemia within 11 years.

Local status:

Vis OD=1,0. Vis OS=0,05 isn't corrected.

The fundus of the left eye: in the course of the lower branch of the CRV the set merged hemorrhage as of smears, has rounded shape. Hemorrhage occupied the entire lower half of the fundus and macular region. There is macular edema zone in the fundus.

The diagnosis was: Occlusion of the lower branch of the central retinal vein of the left eye.

Pathogenetic therapy included: Sol. Emoxipini 1,0; Sol. Dexamethasoni 0.4% -0.5; Sol. Heparini 1000 U. The medications were introduced parabulbarly.

At discharge from the hospital: Hemorrhage in the fundus partially resorbed, macular edema in not hemorrhage in the form of strokes, dots, rounded steel paler. The lower half of the fundus hemorrhage resorbed. The lower branch of the CVC – extended, caliber an uneven. Vis OS = 0,08 to sph +1 D = 0,02.

This case of disease interest in connection with:

The untimely appeal of the patient in the hospital.

Development of occlusion of the lower branch of the central retinal vein in a patient with chronic lymphocytic leukemia.

The progressive of chronic lymphocytic leukemia during the treatment.

ARGININE

Dyvaazhyk A. – the 2nd-year student
Scientific leader – L.Ya. Etmanova

Participation in metabolism and control of vital functions.

Arginine is a protein forming substituted for adults and indispensable for children. It performs different functions in the organism. One of the main functions is participation in the synthesis of creatine which is used like creatine phosphate as the source of energy for the work of a person's muscles.

Arginine is amino acid which exerts a positive influence on the cardiovascular system as it favours the maintenance of cholesterol normal level in the blood. The high level of cholesterol and deposits of salts on the walls of arteries may lead to abnormalities of the cardiovascular system, development of atherosclerosis and other diseases of the cardiovascular system. It also favours the maintenance of the normal level of arterial pressure.

Arginine itself (and not nitric oxide which is formed from it) decreases the level of cholesterol more efficiently than any other amino acid. The daily doses from 6 to 17 grams decrease the level of cholesterol – LDL without decreasing the useful cholesterol- HDL without causing side effects. Besides, arginine favours healthy coronary microcirculation in people with the high level of cholesterol in the blood preventing

the formation of blood clots which may cause infarctions and strokes. Arginine favours blood flow to extremities.
Arginine is the source of nitric oxide in the organism. Nitric oxide which is chemically lettered NO also called “endothelian relaxing factor” plays a key role in guaranteeing blood vessels relaxation and controlling high blood pressure. Arginine acts as the predecessor of nitric oxide which is released from the cells of internal walls of the vessels and favours their dilatation preventing the formation and development of atherosclerotic plaque.
Researchers of our country and from abroad offer different ways of arginine use in connection with the variety of processes which arginine takes part in and possibility of development of diseases in its deficiency in the organism. It is recommended as a medical and prophylactic remedy in the diseases of cardiovascular system, in weakening immunity, for activation of mental activity, loss of the organism’s intoxication etc.

DOCTOR’S WORLD

Bugreeva T., Zeynalov O.- the 2nd-year students
Scientific leaders - Assoc. Prof. Astashova N.M., Katina O.I.

"Doctor" is not a disembodied ghost, not a schematic ideal beam of requirements, but lively, particular person who treats people. He is also influenced by blood and soil, the national character and international community, the traditions and the era, the historical purpose, and destiny of all people and their government.

The basis may be guided by the following principles:

1) Doctoring is ancient and spread medical science. Doctor is universal phenomenon, but he belongs to a particular nation, from where he comes, and where he performs his tasks in accordance with the overall task.

2) The criteria for the physician are the success of the treatment, a method which is predetermined by the terms to which the doctor belongs. There is a dependence on the race, people, history, fate and outlook.

3) Dynamics of historical changes in medicine should not be found only in the expansion of medical knowledge. The belief in scientific progress is a superstition. Thanks to modern science one can not be a better doctor than Hippocrates and Paracelsus. The doctor becomes the great in case when he does his best to perform the task given to him and his era. About the success one can only be judged in relation to a particular task. This task changes, so the modern doctor is not on the same level as that of Paracelsus. And Paracelsus was not on that level, as Hippocrates was. A level is defined by the people living space and its historical task.

4) The dynamics of changes in medicine is the dynamics of history of certain living space and his outlook. Knowledge of the philosophy development laws is the basis of the professional activities of doctor. The physician should have general cultural competencies to be the professional in his field.

BIOLOGY OF FATE

Kuzmenko K., Solodova O.-the 2-nd year students
Scientific leaders- Zherepa L.G., Gritcenko S. N.

Why who led a healthy lifestyle do people die of cancer? What makes some people put on weight steadily, although they do not eat much more than others?

Much is fixed by heredity. There are genes that cause people to become real gluttons. Probably they have inherited different types of the gene INSIG2.

But there are not many diseases or disorders the gene is responsible for. And the people who inherit the gene, do not always fall il . Their carriers are recommended only more intensive program of early diagnosis.

External factors - the quality of sleep, food etc. are also important.

Biology of fate is clearly something more than pure genetics. It is connected with the influence of lifestyle and environment on the body and mind.

However, these questions remain unanswered. Why do people become seriously ill , although they follow all recommendations of medicine? Along with genetics epigenetics plays a crucial role.

It is also worth attention that the way of development laid by epigenome at an early stage are much more stable than the later changes. Therefore, cells in the womb, should be protected from the effects of stress.

FEATURES OF BLOOD SUPPLY OF KIDNEY AND RELATED DISEASES

Lobacheva G. Danilov M. – the 2-nd year students
Scientific leaders – Zherepa L.G., Gritcenko S.N.

Blood circulation in kidneys is a kind of the regional blood-groove, the continuous operated stream of blood on blood vessels of a kidney. Blood supply of a kidney very peculiar; it has an original vascular network.

Interlobular arteries give a large number of short lateral branches which enter a capsule of a ball and serve as arteries bringing in it. In a ball capsule the bringing vessel is divided into the branches passing into a capillary network and forms a vascular glomerulus. Then these arterial capillaries merge again and form taking-out arterioles, or taking-out vessels which have smaller diameter, than bringing vessels. This arterial capillary network received the name of "a wonderful network". Because the arterial taking-out vessel in a glomerular capsule has smaller diameter, in a capillary network conditions for build-up of pressure and filtration strengthening from blood of the liquid, entering a capsule, and then in a proximal canaliculus are created.

To the reasons of violations of functions of kidneys carry the prerenal reasons – violations of blood supply of kidneys. Thus, at critical decrease in amount of blood entering in kidneys the straining action of primary urine becomes impossible, and process of formation of urine stops (anury). This illness is called Nephrosclerosis.

At a nephrosclerosis the main symptom of an illness is the increased arterial pressure. Observed the heart hypertrophy with the subsequent degeneration. The patient with far come stage has diseases, as well as at chronic nephritis, there are phenomena of a failure of kidneys. The kidneys lose their ability to concentrate, to exchange

products of the body, collecting product, which leads to azotemia, and then to a state of uremia.

THE FIRST PRACTICAL SUPERCONDUCTORS

Kazakov A.- the 1-st year student
Scientific leaders - Cand.Sc. Plashevaya E.V, Gritcenko S. N.

In 1961 Kunzler et. al. opened the "Type II" era by drawing a N1 tube filled with Nb3Sn powder into a wire with a current density Jc of ~105 A/cm2, The wire remained superconducting in fields up to 8.8 T It was soon discovered that other highly cold worked type II alloys such as Nb-Ti and Nb-Zr were also able to carry high transport currents at high, technologically useful magnetic fields. In type II superconductor there are two critical temperatures (or magnetic fields at a given temperature). The lower temperature indicates a mixed condition, because the magnetic flux lines penetrate the material accompanying turbulence current superconductivity around nuclei in normal status. High temperature indicates complete loss of superconductivity as the vortex cores overlap.

At low temperatures "hard" or "dirty" in superconductors has defects and impurities, which act as centers bond that lure you into a trap-line flow and turbulence, to avoid their further penetration and loss of superconductivity. The "dirty" superconductors had important technological applications despite the difficulties and problems of work at the temperature of liquid helium .This was particularly true for magnet applications, because stronger magnetic fields could be achieved as compared with conventional electromagnets.

It was even possible to magnetise a superconducting magnet from a current source, then detach and short-circuit the winding, leaving what was effectively agiant permanent magnet that would hold its magnetic field constant for months.

There is a number of extra high field magnets, transmissior cables and generators that have been designed and built using these low critical temperature (LTS) superconductors. Such superconductors are commonly used in the construction of powerful magnets and electric resonators found in big particle accelerators such as CERN and Fermilab. The electric resonators produce very strong oscillating fields tor accelerating the particles, while the magnets focus them and bend their path. Currently LTS superconductors are advertised for large-scale applications. They are NbTi or Nb3Sn superconducting fibers concluded in the copper matrix.

HIGH TEMPERATURE SUPERCONDUCTORS

Eroputko S. - the 1-st year student
Scientific leaders - Cand. Sc. Plashchevaia E.V., Gritcenko S.N.

High temperature superconductors (HTS) appeared in 1986 when Bednorz and Miller discovered a new oxide of a ceramic superconductor $(La,Ba)_2CuO_4$, with a critical temperature of 35 K. High temperature is relative. New HTS oxides were quickly discovered.

The crystal structures of these materials can be described as oxygen-deficient

complex perofskites with CuO_2 planes. It is a strong anisotropy or directed sensitivity in the superconducting state. Overcurrents flow effectively along the CuO_2 planes, which are linked together by Josephson junctions. The HTS materials can be classified as «Type II» superconductors. Their conduct is well described by London and GL theories, but it is not a generally accepted microscopic theory for high temperature superconductors.

The discovery of HTS materials aroused tremendous excitement, because many of them are superconducting and carry a significant current above the boiling point of fluid nitrogen at 77.4 K (-196 °C). Mechanisms for a new type of superconductivity were not well understood, and thought that superconductivity at a room temperature was impossible to overcome.

These grandiose expectations inevitably led to disappoint-ment. Room temperature superconductivity has remained unreal. Critical current densities in HTS materials also tend to be too low for technological applications, while there are persistent problems with poor mechanical properties. Like all types of ceramics, HTS materials are very brittle and very difficult to shape and handle, while long flexible, superconducting wires are necessary for many large-scale applications.

MUSCLE AS AN ORGAN AND ITS VALUE IN VITAL ACTIVITY OF MAN

Mikholap D., Tulskaya S. – the 2nd year students
Scientific leaders – Zherepa L.G., Gritsenko S.N.

Muscles are a living link, which affecting on a bone changes position of the human body or its parts. Muscles consist of a muscular tissue, spongy and compact connective tissue, vessels and nerves. Muscles consist of the following parts: paunch and sinews. The paunch of a muscle consists of transversally striated muscular fibers. The sinew helps to attach muscles to a bone.All muscles are supplied with nerves. Muscles also contain an auxiliary apparatus; they are vagina synovialis tendinis**,** synovial bursa, muscular trochlea, fascia and many others. Muscles are intended to perform various actions: movement of the body, contractions of vocal chords and breathing. Muscles also provide functioning of all physiological systems.

CLINICAL AND ANATOMIC FEATURES OF SLEEP

Dulskaya T. – the 2-nd year student
Scientific leaders – Pavlova A.E., Gritcenko S.N.

The problem of sleep attracts people of different specialties - doctors, biologists, philosophers. Many scientists, such as I.P. Pavlov , A. Strumpell , G. Berger , G. Gred made a large contribution to the studies of sleep.

The state of sleep is provided by a number of reticular formations of cerebral barrel, intermediate brain and the cortex. In addition, some structures of the limbic system, including hypothalamus are involved in it.

The structure of sleep includes: slow sleep and rapid sleep.

Functions of sleep: provides rest to the organism, assists in processing and storage of information, recovers the immunity.

DEUTSCHE ABTEILUNG

DIE AUSSICHTEN DER ENTWICKLUNG DER ULTRASCHALLDIAGNOSTICHEN TECHNOLOGIEN.

Dementjewa N. die Studentien des 2. Studienjahres
Wissenschaftliche Leiter: W.I.Labzin, N.A.Tkatschjowa

Zu ultraschalldiagnostischen Technologien gehoren:
Computertomographie;
Magnetresonanze Tomographie;
Digitall Roentgenographie;
Ultraschalldiagnostik.

Magnetresonanze Tomographie (MRT) ist eine Methode der Untersuchung der inneren Organen und Geweben, die auf Schaffung der Abbildung mit Hilfe des magnetischen Feldes und elektromagnetischen Wellen basiert. Man muss zu erwahnen, dass man mit Hilfe der MRT datailierte Abbildungen der Organen in verschiedenen Enenen machen kann.

Computertomographie (CT) ist eine Untersuchungsmethode bei deren Roentgenstrahlen des Computertomographens verwendet warden. CT wird fur Untersuchung fast allen Teilen des Korpers und Organen benutzt: Brustkorb, Bauchhohle, Becken, Extremitaten,Leber, Bauchspeicheldruse, Darm, Niere, Nebenniere, Harnblase, Lungen, Herz, Blutgefasse, Knochen und Wirbelsaule.

Digitale Roentgenographie lasst effektiever und qualifiziert die Krankheiten und Pathologien diagnostizieren. Die Abbildungen werden augenblicklich registriert, enffernt, modifiziert und auf Bewahrung aufgegeben oder in anderen medizinischen Einrichtungen durch Computer ubergegeben.

Ultraschalluntersuchung (USchU) stellt eine Methode der Untersuchung der inneren Organen und Geweben dar, die auf Analyse der Unterschieden der Spiegelung der Ultraschallschwingungen von Strukturen verschiedener Dichte gegrundet ist. Sie wird fur Uberwachung der Schwangerschaft, Diagnostik der Pathologien und Erkrankungen der Organen des kleinen Becken und Bauchhohle auch bei Diagnostik der Nieren, Brustdrusen und Schilddruse verwendet. In Kardiologie, Phlebologie und Ophthalmologie wird sie genutzt.

Die Abbildung bei Ultraschalluntersuchung erscheint als Strahlergebniss und Einfangen der Wellen, die sich von Objekt wiederspiegeln. Im Grundlage der Gewinnung der deutlichen Abbildung des Organenzustandes liegt die Veranderung der Charakteristik der Ultraschallwellen, die durch verschiedene umwelt gehen.

Innowationseinfuhrungen haben die Schwindigkeit und Gewinnungsumfang der diagnostischen Information bedeutend erhoht. Die Verwendung der modernen Technologien in Ultraschslldiagnostik haben die Moglichkeiten der Fruhdiagnostik bei Erkrankungen erweitert.

DER EINWIRKUNG AUF DEN KORPER DES MENSCHEN VERSCHIEDENEN TOKOPHEROLEN AUS DER STELLUNG DER ANTIOXYDANTEN AKTIVITAT.

Safonowa J. - die Studentin des 2.Studienjahres.
Wissenschaftliche Leiter: N.A.Feoktistowa, N.A.Tkatschjowa.

Tokopherol ist als chemische Verbindung, methylierte Phenole.Es ist Lebensmittel-zusatzstoff registriert: E306 (Mischlung der Tokopherol), E307(α - Tokopherol), E308(γ - Tokopherol),E309(δ - Tokopherol).
Vitamin E gehort zu unersetzlichen Vitaminen, weil es sich in dem Korper selbstandlich hicht bildet. Deshalb muss es unbedingt in dem Korper auBerhalb zusammen mit der Nahrung aufgenommen werden.
E308-Tokopherol ist ein Antioxydant, der die Lagerfahigkeit des Lebensmittels bedeuend erhohen kann und ihre Oxydation und Farbeveranderung vernindert.
E309-Topherol ist hellgelbe zahe FluBigkeit. Es ist zur Wirkung der Mineralsauren und Laugen wiederstandsfahing.
Herkunft:
Zu dem naturlichen Quellen von Vitamin E kann man verschiedene Lebensmittel zahlen:tierischer und pflanzlicher Herkunft sein (Sojaol Weizenkeime, Baumwollsamen). Er kann auch aus gentechnischen modifizierten Lebensmittel gewinnen sein.
Die Auswirkung auf den Korper:
Vitamin У nimmt an zahlreichen biochemischen Reaktionen teil, die im Korper des Menschen verlaufen und ist ein aktivster Antioxydant, der die Zelle vor Zerstorung mit freien Radikalen. Wiederstellung von Geweben,fur neue Schaffung der Zellmembranen schutzt.
E308-Tokopherol vesorgt die notwendige Regenation der verletzten Zellen, schutzt Oxydatyon des im Korper eingehenden Vitamins A und fordert seine beste Aufnahme. Es ist den Menschen empfohlen, Tokopherol mit verschiedenartigen Tumoren aufzunehmen.
E309-Tokopherol ist in Russischen Foderation verboten. Dieser Lebensmittelzusatzstoff ist auch in anderen Landern untergesagt.

ÜBER DIE BIOCHEMISCHE WIRKUNG VON VITAMIN "D".

Kubaj I. – die Studentin des 2. Studienjahres
Wissenschaftliche Leiter: Feoktistowa N.A.; Tkatschjowa N.A.

Vitamin "D" ist nicht nur eine fettlosliche Vitamin, das fur die Gesundheit der Knochen wichtig ist, es dient auch als biologische Hormon. Biologische Vitamine sind Ergosterol (D2) und Cholesterin (D3).

Ein Mangel an Vitamin "D" entsteht bei der Abwesenheit von Sonnenlicht aus irgendeinem Grund, einschließlich die geographische Lage, Verwendung von Sonnenschutzmitteln oder Schutzkleidung kann einen Mangel an Vitamin "D" verursachen.

Eine zu hohe Zufuhr von Vitamin A kann giftig sein und die Toxizitat von

Vitamin "D" kann von jeder Form der Vegetation (D2) oder tierische (D3) Herkunft kommen. Die Symptome der Toxizitat sind Appetitlosigkeit, Ubelkeit, Erbrechen, Bluthochdruck, die Verletzung der Nierenfunktion.

Quelle dieses Vitamins – sind Lebensmittel, die an Vitamin «D» reich sind: fetter Fisch (Lachs, Sardinen), Garnelen , Milch, Kase , Lebertran , Eier, angereicherte Milch. Wildlachs enthalt wesentlich mehr Vitamin «D» als Zuchtfisch .

GASAUSTTAUCH ZWISCHEN BLUT UND GEWEBEN.

A. Schulga—Der Student des 2. Studienjahres
Wissenschaftliche leiter: W. S. Kozlowa, N. A. Tkatschjowa

Gasaustausch in Geweben wird denselben Gesetzmassigkeiten (wie in den Lungen) undergeworten. Es wird durch Fikgesetz beschrieben. Die Diffusion des Stickstoffes, Sauerstoffes und Kohlensaure gescluct in den Geweben under der Eindruck des konzentrtionen. Gradientes dieser Gasen zwischen Blut, das durch Kapillaren fliesst, und intercellulare Flussigkeit. Fur Schatzung der konzentrationen Gradienten muss man nicht nur Angaben der Anstrengung jedes gases im Blut und Jnterstionen sondern auch den Weg, den die Gasen bei ihre Diffnsion uberwinden, kennen. Die Anstrengung des Sauerstoffes betragt im Blut der Gewebskapillaren bis 100 mm QS, in der intercellularen Umwelt 20 – 45 mm QS. Die Unterschiede der Anstrengungen des Sauerstoffes aut der Wand der Kapillaren schwankt von 55 bis 80 mm QS. Die Anstrengung der Kohlensaure ist im Blut etua 40 mm QS, in der Jnderstition von 60 bis 80 mm QS. Die Unterschiede der Anstrengungen der Kohlensaure aut der Wand der Kapillaren betragt 20 – 40 mm QS. Weil Kohlensaure ungetahr 20 mal schneller als Sauerstoff diffundient, so geschient die Entfernung der Kohlensaure leichter als die Sauerstoffversorgung. Aut Gasaustausch in den geweben wirken nicht nur gradienten der Anstrengungen des eingeatmeten Gasen zwischen Blut und interstitionalle Flubigkeit, sondern auch Flache der Austauschflache, die grosse der Diffusionsstrecke und Koeffizient der Diffusion der Umwelt, durch die Gasaustausch verwirklicht. Je kurzer der Diffusionsweg der Gasen ist, desto grosser ist die Flache des Kapillarnetzez.

Die Summenflache der Kapillarbahn ist Z.B. in Skelettmuskel 60 m², im Myokard – 100 m². Die Diffusionsflache bestimmt auch die Zahl der Erythrozyten, die durch Kapillaren fliesst. Aut Sauerstoffausgang aus dem Blut nach Gewebe wirkt Plasmaund interstizielle Flussigkeitkonwektion, auch Zytoplasma in Erythrozyten und in den Zellen des Gewebs. Der im gewebe diffundierte Sawerstoff wird von den Zellen im Gewebsatmungsprozess verbraucht, deshalb ist Underschiede seiner Anstrengung zwischen Blut, interstizielle Flussigkeit und Zellen standing und versorgt die Diffusion. Bei der Steigerung des Verbrauchs der Geweben an Sauerstoff wird seine Anstrengung im Blut weniger, was macht die Dissotiation des Oxyhaemoglobins leichter.

Die Funktion des gasbetorderden Systems wird aut Erhaltung des parzielle Sauerstofflrucbs in zellulare Metbran gerichtet, d.h. die notwendige Menge, die fur Fermentarbeit der Atmungskatde in Mitochonrien notigist. Fur zellen, die Sauerstoff intensiv verbrauchen, betragt kritische PO_2, etwa 1 mm QS. Die Anstrengung des

Sauerstoffes in den Geweben hangt nicht nur von Sauerstoffversorgung, sondern auch von seinem Verbrauch von Zellen ab. Zur Sauerstoffmangel sind die Mernzelle emptindlicher weil Oxydationsprozessen sehr intensiv sind. Deshalb haben die Massnahmen der Reanimation des Menschen Erfolg in solchen Fallen, wenn sie nicht spat als inn 4 – 5 minuten nach Atmungseinsdellung beginnen werden; spatter gehen Neurone zugrunde, vor allem aus Hirnrinde.

DER HERVORRAGENDE BIOLOGE UND GENETIKER.

Safarow N.- der Student des 1. Studienjahres.
Wissenschaftliche Leiter: Prof. Gordienko E.N, Tkatschjowa N.A.

N.W Timofejew-Ressowskij ist ein Biologe und Genetiker. Hauptrichtungen der Forschung sind Strahlungsgenetik, Populationsgenetik, die Probleme der Mikroewolution. Er wurde in Moskau 1900 geboren.

Im Jahre 1925 kam er auf Einladung des Kaiser-Wilhelm-Gesellschaft mit seiner Frau in Berlin zu arbeiten. Erst war er als wissenschaftlicher Mitarbeiter tatig, aber bald ubernahm er die Leitung der Abteilung fьr Genetik und Biophysik im Institut fur Hirnforschung in einem Vorort von Berlin-Buch.

In den 1930 erstellt N.W. Timofejew-Ressowskij das erste biophysikalische Modelle der Struktur der Gene und schlagt die Mцglichkeiten es zu дndern vor.

Im Fruhjahr 1945 war er in einem Konzentrationslager. N.W. Timofejew-Ressowskij lehnte das Angebot, seine Abdeilung nach Bundesrepublik Deutschland zu ziehen und das gesamte Personal und die Ausrustung vor der Ankunft der sowjetischen Truppen gehalten. Im April 1945 ernannte die Sowjetische Militaradministration ihn als Direktor des Instituts fьr Hirnforschung in Buch.

1955 – 1964 war N.W. Timofejew-Ressowskij als Leiter der Abteilung fur Biophysik am Institut fur Biologie in Swerdlowsk. Zur gleichen Zeit halt er mehrere Zyklen von Vortragen uber den Einfluss der Strahlung auf Organismen und Strahlenbiologie an der Fakultat fur Physik der Ural-Universitat und arbeitete an der Biostation, die er an See grosse Miassowo gegrundet hat.

UBER RECHTSHERZIGKEIT.

Bondarik N. - die Studentin des 2. Studienjahres
Die wissenschaftliche Leiter: W.I.Labsin, N.A.Tkatschjowa.

Uber Rechtsherzigkeit sprechen wir dann, wenn das Herz ganz oder größtenteils befindet sich in der Brusthöhle auf der rechten Seite. Rechtsherzigkeit ist noch nach der Herkunft, weder in Bezug auf die klinischen Manifestationen keine einheitliche Erscheinung. Man Unterscheiden:

a) die Unterbringung aller Organen ist gleichsam ein Spiegelbild der normalen Lage. Wahre Rechtsherzigkeit tritt als Folge des anderen normalen Biegung primitiven herzlichen Röhre. Aus den Herzhohle befindet sich der rechten Herzkammer auf der rechten Seite vorne hinter dem Brustbein, der rechten Vorhof - hinter dem linken Rand des Brustbeins, die linke Herzkammer - in der rechten Hälfte hinter der Brusthöhle, den linken Vorhof befindet sich hinter dem rechten. Die Aorta, biegend nach

rechts, liegt entlang der rechten Seite der Wirbelsaule. Die innere Struktur des Herzens ist in der Regel normal.
Bei einer einfachen klinischen Untersuchung wir Herzspitzenstoß finden auf der rechten Seite, die Tragheit des Herzens befindet sich in der rechten Brust. Bei der Palpation und mit Percussion der Leber mussen auch im Auge wir die Möglichkeit des anderen Unterkünften aller Organe behalten.
Die Stellung der Diagnose ist nicht eine schwierige Aufgabe, aber die Klarung der einzelnen Teilen ist nicht ohne Angiokardiographie und Herzkatheter moglich. Bei der Forschung mit der Speiserohre mit Hilfe von Kontrastmittel kann man nur Information über die Position des Aortenbogens und uber den Verlauf der Aorta erhalten. Bei Elektrokardiographie beobachtet man oft schwer gepruften Varianten.

BIOCHEMIE DER MUTTERMILCH.

Butunowa E.- die Studentin des 2. Studienjahres
Die Wissenschaftliche Leiter: N.A. Feoktistowa , N.A. Tkatschjowa.

Die Wissenschaften haben lange Zeit die Zusammensetzung der Muttermilch untersucht und den Zusammenhang zwischen Gesundheit der Kinder und Methoden der Ernahrung im Periode des Neugeborenes gesucht. Sie uberzeugen, dass komplizierte sorgfaltg adaptierte Gemische Muttermilch niemals wiederholt mochten. Die naturliche Ernahrung ist die beste Variante der Ernahrung der Sauglingen und entscheidende Faktor des nachten Wachstums, Entwicklung und Gesundheitsbildung des Kindes.
Nach Geburt beendet Plazentazusammenhang des Kindes und Mutter und entsteht ein neuer Zusammenhang durch Mutterrmilch. Morphologische und funktionelle Unreife der Organen und Systemen des Sauglings leistet den Zufuhr biologisch aktiven Stoffen in Geweben (Hormone, Vitamine, Antikorper u.a.) nicht, den in den letzten Tagen des vorgeburtlichen Lebens war.
Die Zusammensetzung der Sekretion der Milchdruse hangt von Dauer der Laktation. Bei verschiedenen Dauern bezeichnet man dieser Sekrat verschiedenartig: Kolostrum, Ubergangsmilch, reife Milch. In jeder Periode verandert sich dem Zusammenhang der Stoffen- Regulatoren.
Die Muttermilch ist physiologisch vollwertige Nahrung fur den Saunglich, die ihm die Entwicklung im Periode der Neugeborene forfsetzen ermoglicht und allmahlich fuhrt zur Unabhangigkeit vor Muttermilch.
Die Wichtigkeit des Stillens wird von Wissenschaftlern studiert, weil die Erziehung der gesunden Generation davon abhangt.

" PLUS- MINUS - INTERAKTION " HORMONE.

Afonina A. – die Studentin des 2.Studienjahres
Wissenschaftliche Leiter : Feoktistowa N.A. ,Tkatschjowa N. A.

Das Konzept einer "plus - minus -Interaktion" formulierte M. Zawadzkij im Jahr 1933. Es wurde die Grundlage für das Prinzip der " positiven und negativen Ruckbeziehung in der Regulation es . Korrelativen Beziehungen können durch Hormone als

auch un - endokrinen humoralen Faktoren (Metaboliten) induziert werden, was negative Rückkopplung gewahrfeistet. Dabei kann regulierte Metaboliten als Stimulator der Drüsefunktion handeln, wenn Hormon dieser Drüse senkt die Konzentration des Metaboliten im Blut, wie Glucose-Insulin ,Aminosäure- Insulin.

Der Metabolit kann ein Krebs-Inhibitor sein, und wenn das Hormon erhöht die Konzentration des Metaboliten im Blut : Glucose-Glucagon, Wasser - Vasoprossin . Die Effektivitat von Hormonen hängt von der Fähigkeit der Zielzellen zu binden ab. Hohe Konzentrationen von Hormonen führen zu Reduzierungder Regulation die , die Verringerung der Zahl der Rezeptoren in den Zielzellen , was die letzte von übermäßigen hormonellen Effektivitat verhindert . Umgekehrt ist die hochere Reguation des Empfangs , wenn das Hormon die Expression ihrer eigenen Rezeptors erhoht verwirklicht wird.

Das endokrine System befindet sic hunter polyvalenten regulatorischen Maßnahmen seitens der zentralen Systemen , um die von zu halten und Handpumpe Sympathikus und Parasympathikus Abschnitte des vegetativen Nervensystems und der peripheren Nerven , und von den lokalen gewebliche Metaboliten ,die induzieren stimulierende oder hemmende Wirkung auf den neurosekretorischen Zellen – Apudocytesh oder sekretorischen Zellen der Drüsen der inneren Sekretion induzieren.

WELTBERUMTE DEUTSCHE GENETIKER

Petrowez A. – die Studentin des 1. Studienjahres
Wissenschaftliche Leiter: Prof. Gordienko E. N., Tkatschjowa N. A.

Boweri Theodor Heinrich (12. Oktober 1862 Bamberg - 15. Oktober 1915, Würzburg) - Deutscher Wissenschaftler, Zytologe, Embryologe und Zoologe, auslandischede Korrespondent - Mitglied der St. Petersburger Akademie der Wissenschaften (1906), Professor an der Universität Würzburg. T. Boweri ist der Autor von mehreren wichtigen Arbeiten auf dem Gebiet der experimentellen Zytologie, Embryologie und Zoologie. Er entwickelte (mit K. Rabl) Theorie der einzelnen Chromosomen, die die Grundlage der modernen Chromosomentheorie der Vererbung ist. Boweris Entdeckungen machen klar, dass einzelne Chromosomen für bestimmte Merkmale verantwortlich sind.Er war der erste Wissenschaftler, der darauf hinweisn hat, dass die Entwicklung der Zentrosomen des Eies aus dem Zentrosomsperma stammen und dass die Plazmateilung der Eisseeigel auf verschiedene Schichten der primären Organen die Differenzierung bedingt

Heinrich Wilhelm Gottfried Waldeier (seit 1916 Wilhelm von Waldeier Harz, 6. Oktober 1836 - 23. Januar 1921) ist der deutschen Anatom und Histologe. Für seine Arbeit an Schlüsselbein im Jahre 1861 erhielt er den wissenschaftlichen Grad . Er hat das Konzept eines Neurons eingefuhrt, vermutend bereits in Jahre 1881 seine funktionelle Einheit des Nervensystems. 1888 führte er das Konzept von Chromosom zur Beschreibung der Struktur des Zellkerns. August Weismann (17. Januar 1834, Frankfurt am Main - 5. November, 1914, Freiburg) ist deutscher Zoologe und Theoretiker der Evolutionstheorie. Seine Werke sind der Histologie des Muskelgewebes, der Entwicklung von Insekten, der Biologie der Süßwasserorganismen ge-

widmet. Weisman bestatigt, dass die Frage der Vererbung erworbener Eigenschaften nur durch Erfahrung gelöst werden kann. Und er hat experimentell gezeigt, dass die mechanische Beschädigungen vererbt sind. Weisman ist der Autor von Theorien der Vererbung und der individuellen Entwicklung, die falsch im Detail sind, aber im Grunde die moderne Idee der diskreten Träger der Erbinformation und ihre Beziehung mit den Chromosomen entzuckend sind, sowie das Konzept der Rolle der Erbanlagen in die individuelle Entwicklung. Am Ende des 1940 Jahres hat Weismann Lehre gegrunden, die er als Neo-Darwinismus bezeichnet hat.

Kossel (16. September 1853, Rostock - 5. Juli 1927, Heidelberg) ist der deutsche Biochemiker und Physiologe, der mit dem Nobelpreis im Jahre 1910 für Physiologie und Medizin für seine Arbeiten an Proteine und Nukleinsäuren Substanzen ausgezeichnet war, die zur Entwicklung der zellige Chemie bedeutend ist. Kossel hat gezeigt, dass eine Substanz mit der Bezeichnung "Nukleinsäure" aus Protein und unproteine Komponenten bestand. Kossel isolierte und beschrieb ein unroteine Komponent. Dieser Stoff hat genetische Informationen uber alle lebende Zellen und wurde als Nukleinsäure bekannt. Von 1885 bis 1901 beschrieb Kossel und ordnete fünf organische Verbindungen , die in den Nukleinsäuren vorhanden sind : Adenin, Zytosin, Guanin, Thymin und Uracil. Im Jahr 1896 eröffnete Kossel Histidin, dann entwickelte er die klassische Methode der quantitativen Ausscheidung "gexone Gründen" (Alpha-Aminosäuren Arginin, Histidin und Lysin). Kossel hat auch zuerst Theophyllin aus Tee und Kakaobohnen erhielt, das therapeutische Wirkung hat. Kossel wurde mit dem Nobelpreis für Physiologie und Medizin am 10. Dezember 1910 für seine Forschung über die Zellbiologie, die chemische Zusammensetzung des Zellkerns und für seine Arbeiten an der Isolierung und Beschreibung von Nukleinsäuren ausgezeichnet.

DIE TAGESRYTHMEN DER FUNKTION DER AUSSEREN ATMUNG BEI DEN KRANKEN MIT DER LUNGENTUBERKULOSE.

Afanasjewa Ja.- die Studentin des 5.Studienjares.
Wissenshaftliche Leiter – K.m.der W. Sajapin S.R.; Tkatschjowa N.A.

Die bronchiale Obstruktion wird bei den Kranken mit der Lungentuberkulose in 57% - 75,8 % nach den Angaben verschiedenen Autoren beobachtet. Aber die durchgefuhrten Untersuchungen werden auf einmaliger Forschung der Daten der Funktion der ausseren Atmung innerhalb 24 Stunden basiert und haben die zeitige Organisation der funktionellen Aktivitat der Lungen nicht erfasst.

Das Ziel der Arbeit ist das Studium der Tagesrythmen des Atmungssystems bei den Kranken mit verschiedenen Formen der Lungentuberkulose und die Feststellung der fruhzeitigen Diagnose bei diesen Patienten Bronchosiasme.

Es wurden 82 Kranken mit der Lungentuberkulose untersucht: 32 mit infiltrativen, 24 mit disseminierten, 26 mit fibrose-kavernosen Formen. Die Kontrollgruppe bestand aus 15 praktisch gesunden Menschen von gleichem Alter.die in die Klinik beigetretenen Patienten werden die Hauptangaben der Ventilation der Lungenfunktion nach 6 Stunde innerhalb 2 Tagen durch Spiroanalysator “Mikro –Lab” bestimmt, und innerhalb 6-18 Stunden wird inhalatorische Probe mit Salbutamole ge-

macht. Bei gesunden Menschen wird das minamale Volumen der eingeatmeten und ausgeatmeten Luft in 6 Uhr am Morgen und das maximale Volumen in 0 Uhr registriert. Die Angaben bei kranken und gesunden Menschen waren unterschiedlich. Die minimalen Angaben bei den Kranken verschieben von Morgen auf Nacht und sind mit sesunden Menschen ungleich. Cirkodianne Rythmen andern sich nicht und uberstimmen den Angaben der Kontrollgruppe. In der Gruppe der Kranken mit fibrosokavernosen Lungentuberkulose gaschah die Rythmenveranderung der Funktion der ausseren Atmung mit maximalem Durchgang durch Bronchien am Tag und mit minimalen – am Morgen. Bei den Kranken mit disseminierer Tuberkulose geschah die maximale Obstruktion der Bronchien am Nacht.

INTRAUTERINE INFEKTIONEN

Schiwtschenko N. – Studentin des 3. Studienjahres.
Wissenschaftiche Leiter – O. W. Bubenez, N. A. Tkatschjowa.

Intrauterine Infektionen sind verschiedene Infektionskrankheiten des Embryos , Fotus und Neugeborenen, Infektionen, die im Mutterleib und wahrend der Geburt auftritten. Infektionserreger konnen Viren, Bakterien, und (selten) Parasiten sein. Der Weg der Ubertragung: vertikal, von der Mutter zum Fotus .

Das Spektrum der Krankheitserreger, die auf eine Infektion des Fotus in der Gebarmutter fuhren kann, ist sehr breit. Die Gruppe von Infektionen wird bei der Bevolkerung beobachtet und hat ahnliche klinische Manifestationen und verursacht anhaltende fetale strukturelle Defekte der verschiedenen Systemen und Organen. Diese Gruppe wurde kombiniert und abgekurzt als " TARZH ", wo T - Toxoplasmose (Toxoplasmose), A - andere (andere Infektionen , darunter absolute - Syphilis , Chlamydien, Enteroviren , Hepatitis A, B , Gonorrhoe, Listeriose , wahrscheinlich - Masern, Mumps und hypothetischen - Influenzia-A- Virus-Infektion) , R - rubeola (Masern), Z - Zytomegalie (CMV), H -Herpes (Herpes - Virus-Infektion) .

Risikofaktoren der fetalen Infektion.

Die Verscharfung einer zur Verfugung stehender chronischen Infektion werdender Mutter sind chronische Erkrankungen der Atemwege , Verdauungs-, Mandelentzündung, Zahnkaries).

Urogenitale Infektionen (Pyelonephritis, Bakteriurie , Colpitis , Endocervicitis , STI), Dysbakterie und bakterielle Vaginose.

Komplikationen bei der Schwangerschaft : Anamie, Praeklampsie, isthmisch - Zervixinsuffizienz, Verscharfung von chronischen Erkrankungen und akute respiratorische

Virusinfektionen, die in der zweiten Halfte der Schwangerschaft durchgefuhrt wurden.

In den Geweben der Amnionmembranen befinden sich bewegliche Zellen Kashchenko - Gofbauer, die die Eigenschaften von Makrophagen haben . Die antimikrobe Aktivitat des Fruchtwassers ist fur viele Arten der patogenen Mikroorganismen schwach und kann ihr Wachstum innerhalb weniger Stunden (3-12 h) zu verzogern , aber nicht uberwaltigen .

Erreger verdringt leicht in das Fruchtwasser , wo intensive Multiplikation und Akkumulation geschah. " Fetale " Stufe bedeutet die Ausbreitung des infektionen Agents auf Organen des Fotus, die einen Ausfall nicht nur des utero - plazentaren aber plazentare - fruchtbare antimikrobe Barriere spricht.

GENERELLE PRINZIPIEN DER MENSCHLICHEN MUSKELAUFBAU

Kubaj I. – die Studentin des 2. Studienjahres
Wissenschaftliche Leiter: Pawlowa A.E.; Tkatschjowa N.A.

Muskeln (von Lat. Musculus - . Maus, Mauschen) sind die Organe des Korpers von Menschen und Tieren, die aus elastischem, Muskelgewebe bestehen, das unter dem Einfluss von Nervenimpulsen schrumpfen kann. Sie sind fur vur verschiedene Handlungen bestimmt: fur die Bewegung des Korpers, Verkurzung der Stimmbander, die Atmung.

Im menschlichen Korper sind uber 640 Muskeln. Die kleinsten sind an den kleinsten Knochen befestigt, die im Ohr sich befinden. Die große sind die gluteale Muskel, sie bewegen die Fuße. Die starksten Muskeln sind Kalber und Zah, Zunge.

Die Form der Muskeln ist sehr vielfaltig. Die haufig bemerkte Muskel sind spindle, fur den Gliedern typisch sind und die breiten Muskeln bilden die Wande des Korpers. Wenn die Musckel die gesamte Sehne und Kopfen haben, zwei oder mehrere so werden sie, als zwei - , drei - oder Quadrizeps bezeichnet.

Je nach den strukturellen Besonderheiten der menschlichen Muskeln sind sie in 3 Arten oder Gruppen aufgeteilt: (Skelett- , glatt- , Herzmuskel)

Bauelement Muskel ist die Muskelfaser, von denen jeder einzelne nicht nur die zellige, sondern die physiologische Einheit ist und sie konnen reduzieren. Muskelfaser ist eine Multikernzelle , deren Durchmesser im Bereich von 10 bis 100 Mikrometer ist.

SECTION du FRANCAIS et du LATIN

TROUBLES METABOLIQUES CHEZ LES NOUVEAU-NES DES MERES ATTEINTES D'OBESITE

Bronnikova E., Alieva G. – et-tes de la 5-me annee
Les dirigeants scientifiques – Skatchkova O. V., Nasarkina S. I.

L'obesite survient chez 30-40% de femmes en age de procreer et c'est un facteur de risque eleve de la morbidite peritonale (V. I. Kulakov, 2003).

Le but de ces recherches: le diagnostic de troubles metaboliques chez les nourrissons nes des meres atteintes l'obesite.

On a examine 36 femmes souffrantes d'obesite (groupe d'etude essentiel) et 10 femmes, qui etaient sans la pathologie endocrinienne (groupe de comparaison). Dans le groupe d'etude on a divise les femmes en 4 groupes: 1-er groupe, ce sont 10 femmes, qui etaient en surpoids; 2-eme groupe – 10 femmes obeses de I degre; 3-eme groupe – 10 obeses de II degre; 4-eme groupe – 6 femmes avec l'obesite de III degre. L'age moyen parmi des enceintes du groupe essential sur les premieres regles constituait 11,8 ans, mais dans le groupe de comparaison – 12,8. 18 femmes (50%) avaient des troubles menstruels dans les antecedents. La frequence de ces complications de la grossesse dans le groupe d'etude a compose 112 maladies en 36 cas, mais dans le groupe de comparaison – 75%.

Dans le groupe d'etude 11% des nouveau-nes avaient un poids du corps pres de la naissance 4000 grammes ou plus, mais dans le groupe de comparaison est en 5 fois moins rare. Les meres du groupe de comparaison ont accouchees 100 % nouveau-nes avec l'evaluation de 7 a 10 points d'après l'echelle d' Apgar et les meres du groupe d'etudes ont accouchees - 28 %. Le nombre d'enfants qui etaient accouches en asphyxie, a compose 7%, est plus souvent dans le 4- eme groupe. Dans le groupe d'etude, ce sont l'ichemie cerebrale (22%), l'ictere conjugue (18%) et l'hypoglycemie transitoire (7%), qui ont prevolu a la structure des maladies des nouveau-nes.

Le contenu de glucose dans le sang des enceintes du groupe d'etude a constitue 4,68 mmol/1, dans le groupe de comparaison – 3,65 mmol/1 . Le contenu de glucose dans le sang du cordon ombilical du groupe essential a constitue 3,72 mmol/1, dans le groupe de comparaison – 3,24 mmol/1. Le contenu de l'insuline dans le sang des enceintes constituait de 16+ 2,6 mkMEd/ml dans le groupe d'etudes, ce qui est en 3 fois plus haut a celui du groupe de comparaison. La teneur de l'insuline dans le sang de cordon ombilical sans le groupe d'etudes de 7,0 + 0,2 mkMEd/ml, dans le groupe de comparaison – 8,6 + 0,5 mkMEd/ml. Dans le groupe d'etudes 12 enceintes (33,3%) de 36 femmes avaient l'indice Caro 0,33, ce qui indique a la presence de l'insulinoresistance. Cinq nouveau-nes qui etaient accouches par des meres avec l'insulinoresistence, avaient l'indice Caro de 0,26 a 0,31 et on a surveille une hypoglycemie transitoire.

Ainsi, ces enfants se presentent le groupe de risque dans le developpement des troubles metaboliques. Surtout, les fillettes de meres avec l'insulinoresistance a l'indice Caro au-dessous de 0,33 et en etat d'une hypoglycemie transitoire se presentent aussi le groupe de risqué dans le developpement des troubles metaboliques.

APPENDECTOMIE ENDOSCOPIQUE

Semis-ool N., Tonkonogova M. – et-tes de la 3-me annee
Les dirigeants scientifiques – ass. de prof. Sergienko A.V., Nasarkina S.I.

L‘appendicite aiguë c‘est un des plus frequentes maladies, qui occupe la premiere place parmi des maladies aiguës chirurgicales des organes de la cavite abdominale. Malgre que le diagnostic et le traitement de cette affection sont bien etudies, mais il y a des erreurs diagnostiques et des complications, qui restent assez eleves. Ce sont K.Semm (1982) et J. Schrieber (1987), qui ont fait penetrer les operations de l‘appendectomie endoscopique a la pratique clinique de la chirurgie endoscopique. Le premier a elimine l‘appendice pendant l‘operation gynecologique, puis au cours de l‘appendicite chronique; le deuxieme a elimine l‘appendice pendant l‘appendicite aiguë.

Technique de l‘operation. On met le patient a la position de 30 degres de Trendelenbourg, quand on fixe les mains lateralement. Il y a l‘acces dans la cavite abdominale avec l‘utilisation du trocart en 12 mm a l‘aide de la methode fermee (l‘aiguille de Vereche) et a l‘aide de la methode ouverte (trocart de Chesson). Si la pointe ou le corps de l‘appendice se sont change gangrene et la base est intacte, tout d‘abors il faut transverser la base et puis il faut faire la dissection du mesentere et segment affecte. Cette methode porte le nom de “appendectomie retrograde”, limite le coup du contenu de l‘appendice dans la cavite abdominale et facilite la dissection. On peut realiser l‘appendectomie retrograde avec succes comme une laparoscopie. On utilise l‘installation “Liga Sure” (Valleylab. Boudier, CO), ou on peut utiliser le stepler.

Les premieres operations laparoscopiques reproduisaient dans la methode des travaux ouverts avec le mesentere: on faisait une ligature et un clampage, on transversait le mesentere a l‘aide de l‘electrocoagulation ou des endociseaux, on faisait l‘anse autour du moignon de l‘appendice. La mise en application du stepler endoscopique a permis d‘economiser le temps et diminuer la quantite des abces intrabdominaux post-operatoires.

Il n‘y a pas longtemps on a mis en pratuque une installation biopolaire nouvelle, qui agit au principe des liaisons de retour et qui coagule les vaisseaux au diameter a 7 mm avec la dissemination minimale de l‘energie thermique. On a prouve sa surete pendant les differentes operations chirurgicales.

Les resultats de l‘appendectomie endoscopique d‘apres les statistiques de l‘Organisation Mondiale de la Sante. En tout, l‘appendectomie laparoscopique donne les resultats excellents. Dans le groupe d‘etudes des patients la conversion en appendectomie ouverte a compose 6 %. On a note les complications graves en 3% de cas et les infections de blessure en 1,4% de cas. On peut marquer plus souvent les complications graves des abces pelviens, qui predominaient pres de la laparoscopie des appendectomie difficiles (l‘appendicite gangrene et perforative).

En conclusion. Il faut marquer: au temps dernier l‘appendectomie laparoscopique recoit la grande popularite. Cette operation se distingue par le retablissement rapide de la capacite de travail, la possibilite de faire l‘inspection de la cavite abdominale et de realisation des operations sans dilation de l‘intervention chirurgi-

cale. On peut noter encore que l'appendectomie laparoscopique a plus de surete et donne peu de complications. Mais le chirurgien doit etre prêt de faire l'operation par le procede ouvert.

ÉTAT DU SYSTEME FOETOPLACENTAIRE CHEZ LES ENCEINTES AVEC L'OBESITE

Schegortsova Y., Kuloverova A. –et-tes de la 5-eme annee.
Les dirigeants scientifiques – Skatchkova O. V., Nasarkina S. I.

D'après les statistiques de l'Organisation Mondiale de la Sante, la prevalence de l'obesite constitue 25 – 30 % des habitants de la planete. L'obesite est un facteur de risqué eleve de la morbidite et de la mortalite perinatale. Les complications de la grossesse chez ces femmes se retrouvent dans 84% de cas , dont la gestose et une insuffisance placentaire chronique sont plus frequentes.

Le but de ces recherches: l'etude de l'état du système placentaire chez les femmes souffrant d'obésité .

Sujets: On a examine 30 femmes obèses (groupe d'étude) et 10 femmes, qui n'avaient pas les troubles endocriniens (groupe de comparaison). . L'âge des femmes enceintes dans les deux groupes composait de 23,5 ± 4,5 ans. L'enquête des femmes enceintes a permis de découvrir que les femmes du groupe d'etude était chargé des maladies héréditaires telles que l'obésité , l'hypertension, le diabète sucré chez 86,6% (26 femmes), dans le groupe de comparaison - 40% (4 femmes) .

Dans la structure des maladies extragénitales dans le groupe d'étude a été dominée par une maladie rénale - 60% (18 femmes), chez 46,6 % (14 femmes) on a observe la dystonie neurocirculatoire d'après le type hypertensive et mixte, dans 43,3% (13 femmes) cas sont survenus les maladies de la glande thyroide, dans 30% (9 femmes) – maladies de l'appareil respiratoire .

Les principales manifestations cliniques qui accompagnent l'obésité sont l'hypertension et des troubles menstruels . 13 femmes de 30 enceintes étaient en surpoids (IMC = 25-30) , 11 - I de l'obésité degré (IMC = 30-35) , et 6 - degré II de l'obésité (IMC = 35-40) . Chez les femmes enceintes, le groupe principal dans 60% de cas (18 femmes) , il y avait la tension artérielle elevee. Les troubles menstruels dans l'anamnese du groupe principal etaient observée par le type opsomenorrhee chez 15 femmes, hyperpolimenorrhee - chez 7 femmes. L'âge moyen des premières règles était marquee de 11,8 ± 1,2 dans le groupe d'etude et 12,4 ± 1,5 ans dans le groupe de comparaison. Les complications de la grossesse des enceintes du groupe essentiel etaient identifiees dans 100 % de cas, ce qui est près en 2,5 fois plus élevée que dans le groupe de comparaison. La menace d'interruption de grossesse chez les femmes obèses survient dans 36% de cas, la gestose premature et tardive dans 60 % de cas, l'insuffisance rénale chronique dans 100% de cas. On a marquee dans la periode de 10 - 14 semaines de la grossesse pres de l'examen echographique de 30 femmes 6 cas de la presentation du chrion, dans la periode de 22 – 23 semaines – 4 cas de la presentation du chrion. Dans la periode de 32 – 34 semaines de la grossesse toutes les enceintes du premier groupe avaient les particularites suivantes de la placentographie: le vieillissement de la placenta, la calcinose et son epaissement diffuse et la

dilatation de l'espace et intervilleux. Le syndrome de la retention de croissance intra-uterine de I degre etait diagnostique en 3 cas. Dans le groupe de comparaison les signes de l'insuffisance renale chronique etaient marques en 6 cas.

Ainsi, les femmes obeses avec les complications frequentes de la grossess ont la menace de l'interruption de la grossess en premier trimestre. L' insuffisance renale chronique et la gestose sont caracterisees par le traitement long et par l'effet insuffisant de ce traitement. L'etat present de la sante des femmes obeses se caracterise par une hypofonction du corps jaune, par les troubles de l'endometre dans la 2-eme phase du cycle, tous ce qui combine avec un facteur infectieux, est une cause principale du developpement de l' insuffisance renale chronique.

L'APPLICATION D'ACTOVEGUINE AU TRAITEMENT COMPLEX DE LA MALADIE OBSTRUCTIVE CHRONIQUE DES POUMONS.

Kuloverova A., Bronnikova E..- et-tes de la 5-eme annee.
Les dirigeants scientifiques – ass. de prof. Lakotsenina O.J. ,Chpiltchouk L.I.

La maladie obstructive chronique des poumons est un vecteur des problemes medicosociales a la sante publique moderne et a la societe. Les donnees epidemiologiques temoignent de la diffusion en masse de la maladie (E.I.Chmelev , 2010; S.I.Ovtcherenko, 2011). La reduction de la capacite de travail, l'invalidite et la mortalite de la population fermement augmentent malgre la diagnostique moderne et la correction therapeutique de la maladie obstructive chronique des poumons (A.I.Sinopalnikov, 2007; A.G.Tchutchalin, 2008; A.S. Afonso et al., 2011). Le facteur essential du risqué du developpement de la maladie obstructive chronique des poumons est tabagisme (G.G. Semenova, 2010).

Le but: l'evaluation de l'effectivite d'actoveguine chez les malades avec la maladie obstructive chronique des poumons du 2-3 eme stade au fond de la therapie de Spiriva en conditions polycliniques. Materiaux et methodes: 45 patients avec la maladie obstructive chronique des poumons ont ete examine en conditions ambulatoires. Le premier groupe des patients est compose de 15 personnes qui ont recu le medicament "Spiriva" en dose 18 mcg. par jour et le medicament "Actoveguine" en dose 1000 mg.par voie itraveineuse coulement par jour pendent 10 jours. Le troisieme groupe des patients a recu le medicament "Actovegine" en dose 1000 mg. par jour par voie intaveineuse coulement pendant 10 jous. Les points de controle de la recherché sont devenus: les donnees de depart, dans 3 et 6 mois de l'observation. Le questionnaire specialise et commun ont utilise pour determiner la qualite de la vie. Conclusions: l'application d'Actoveguine au fond de la therapie Spiriva chez les malades avec la maladie obstructive chronique des poumons du 2-3 stade ont ameliore ferme la qualite de la vie, la function de la respiration exterieure, a diminue les symptoms cliniques.

LES TECHNOLOGIES PREVENTIVES MODERNES EN MEDECINE.

Alieva G., Schegortsova Y,.- et-tes de la 5-eme annee.
Les dirigeants scientifiques – ass. de prof. Lakotsenina O.J., Chpiltchouk L.I.

Au quart dernier de la XX et au commencement de la XXI siecles beaucoup de chercheurs notent l'aggravation globale de l'etat de sante de la population en Russie. Le processus social et economique de la reorganisation de la societe a donne l'impulsion a cette tendance. Cela actualise le probleme de l'etude du developpement, de la formation et de l'epargne de sante de la population particulierement des etudidients, qu'on envisage comme la base pour le succes de l'activite de profession. Le but important de l'introduction de la technologie instructive du management de sante au processus de l'instruction est la formation de la culture de la sante d'etudient. Les efforts de l'ecole superieure notamment doivent etre dirige a la culture de la sante. La priorite de ce probleme est l'education sur l'instruction. La culture de la sante ne doit pas etudier,mais cultiver. La base psychologique c'est la motivation de la conduite du mode sain de vie. La partie integrante de la culture de sante est l'information aux questions de la sante et du mode sain de vie. Comment obtenir du succes a la vie, comment ne pas devenir la victime d'alcool et de narcotique que l'etudient forme la culture de la sante du pedagogue. L'information recu des pedagogues a toutes les chances etre utilise a la pratique. Le cercle est ferme: l'instruction aux questions de la sante, l'education de la culture de sante,l'utilisation des technologies du management de sante comme l'instrument essential du travail pedagogique composent un tout unique,comme la voie a la sante. Le principe essentiel du management de sante compose de quelle valeur pour la sante l'etudient concret avec ses traits individuels et de l'etat de sante,doit expier ses connaissances recu, des habilites, la pratique. Le critere utilisant des technologies du management de sante serve le mesure au pedagogue pour l'activite pedagogique.

QUORUM COMME UNE ASSOCIATION DES BACTERIES

Tonkonogova M., Semis-ool N. – et-tes de la 3-me annee
Les dirigeants scientifiques – prof. Tchubenko G.I., Nasarkina S.I.

A la fin du XX-eme sciecle on a presente l'idée d'une forme particuliere de l'organisation: c'est une interaction bien organise des micro-organismes, appeles comme l'association – le quorum.

Le phenomene, maintenant connu comme "Quorum-Sensing", "la sensation du Quorum", donne une puissante impulsion au developpement de la socialogie. La possibilite des microbes de se changer de l'information a ete decouverte dans les annees soixante du sciecle dernier. Pour la premiere fois ce systeme a ete decrite par A, Eberhard en 1981 dans la bacterie marine Photobacterium fisheri. La notion de "Quorum-Sensing" a eu lieu en 1994. Il s'agit d'une integration des mecanismes moliculaires qui controlent la densite de la population de la culture bacterienne et le facteur de la reaction sur les changements des milieux, quand la population atteint un certain nombre de seuil.

Le quorum c'est une association, fondee dans le mecanisme de signalation, qui

est porte par les bacteries isolees avec une densite de population elevee de substances chimiques specifiques, qui cooperent avec des proteines du recepteur regulateur. La plupart des bacteries gramo-negatives utilise en qualite de molecules signalees les N-acylgomoserinlactones. Les certains systemes des micro-organismes se trouvent sous le controle d'autres mecanismes de reglementation y compris des mecanismes dependants de l'AMP cyclique. Les systemes evaluent non seulement la densite de la population, mais aussi d'autres parameters de l'environnement par les regulateurs de genes correspodantes. Le quorum joue un role cle dans la regulation de nombreux processus metaboliques des micro-organismes, tels que la bioluminescence des bacteries marines, la formation de la sporulation des baciles et les actinomycetes, la stimulation la croissance des streptocoques, la synthese des antibiotiques et beaucoup d'autres.

L'un des types de quorum sont des biopellicules. Les biopellicules, c'est une association structure des cellules bacteriennes continues dans matrice polymere et attache a la surface inerte ou vivante. La matrice est transperee par les canaux, auxquels circulent les substances nutritives, les produits de l'activite vitale, les ferments, l'oxygene. Les bacteries dans les biopellicules se communiquent entre eux au moyen de signaux, qui sont les stimulus chimiques.

Les recherches sociales ont montre que dans les biopellicules se passent de nombreux processus biologiques en comparaison avec les cultures pures des bacteries. Pas bien compris les mecanismes par lesquels les micro-organismes forment les associations qui provoquent les processus pathologiques dans l'organisme humain.

Il s'est avere que les cellules microbiennes entrent en contact avec l'hote possible (le vegetale ou l'animal), quand se forme un signal que la population microbienne a atteint une densite suffisante. La question: "Pourquoi ne travaille pas uu systeme de protection du corps?" Quand une population est au-dessus d'un certain seuil et la pathogenese reste sans surveillance adequate. Les bacteries ont les caracteristiques suivantes:

une activite proliferative faible;

une incapacite de s'acquitter de bacteries par des methods classiques;

- une resistance aux facteurs de defense non specifique et specifique;

une resistance aux antibiotiques.

La decouverte de l'etat du quorum fait regarder a la nouvelle maniere sur la pathogenese de la maladie et d'identifier les voies et les moyens de la lutte avec les agents.

L'ANENCEPHALIE

Apryshkina H – et-e de la 2 annee
Dirigeants stientifiques – Pavlova A.E, Nasarkina S.I

L'anencephalie est une malformation congenitale du systeme nerveux central qui découle de l'absence de la fermeture normale du tube neural a l'extremite anterieure (du cerveau), generalement entre le 23e et le 26e jour de la grossesse. Cette malformation est l'absence partielle ou totale de l'encéphale, du crâne, et du cuir chevelu. Le fœtus avec cette malformation est sans prosencephale, et alors il n'a ni les capacites de penser ni de se coordonner. Le cerveau qui reste est souvent expose

a cause du manque de crâne et de cuir chevelu. Ces problemes sont parfois associes a l'absence de moelle epiniere (amyelencephalie).

Chaque annee, aux Etats-Unis, environ 1 000 à 2 000 enfants naissent anencéphaliques. Le risque d'etre affecte est plus grand pour les nouveau-nes de sexe feminin. Environ 95 % des femmes qui apprennent que leur fœtus est affecté choisissent d'interrompre volontairement leur grossesse. Des 5 % qui restent, 55 % sont mort-nés. Les autres vivent quelques heures ou quelques jours.

ARTICULATION TEMPORO-MANDIBULAIRE, SA PATHOLOGIE ET LE TAITEMENT

Pachkevitch E., Gourtsieva A. – et-tes de la 1-ere annee
Les dirigeants scientifiques – Eremenko K.S., Nasarkina S.I.

L'articulation temporo-mandibulaire (provient du mot latin *"articulatio temporomandibularis"*), c'est un diarthrose gemine sur le crane, qui reunite la mandibule avec la base du crane. L'articulation temporo-mandibulaire se rapporte aux condyles. Il est possible de se mouvoir en 3 directions: l'axe vertical, l'axe sagittal, l'axe frontal.

La pathologie: la dysfonction de l'articulation temporo-mandibulaire. C'est un trouble de tous les fonctions des articulations temporo-mandibulaires. On l'appelle parfois comme un syndrome de Costen, par le nom de l'oto-rhino-laryngologue des Etats-Unis, il etait le premier qui avait etudie ce trouble de la fonction l'articulation temporo-mandibulaire et il a decouvert le lien avec le mal aux oreilles.

Les signes: le mal a la tete, le mal aux oreilles, les claquements dans l'articulation temporo-mandibulaire, la tension et la douleur aux muscles de la face et de cou, l'occlusion pathologique. Il est possible du developpement de la photophobie.

Les causes: le manque des dents, la presence du plomb avec l'occlusion elevee, la prothese dentaire mal faite.

Le traitement. Ce sont les stomatologues, qui doivent traiter les causes de cette pathologie.

Les complexes necessaires des mesures: le traitement orthodontique, une intervention chirurgicale, une prothese, les procedures physiotherapeutiques, l'acupuncture reflexe. Le medecin peut aussi prescrire une attelle articulaire.

Tous ces mesures peuvent faciliter les troubles des fonctions de l'articulation temporo-mandibulaire.

LE THORAX ET SES CHANGEMENTS PATHOLOGIQUES

Terentieva E., Savelieva K – et-tes de la 1-ere annee
Les dirigeants scientifiques – Eremenko K.S., Nasarkina S.I.

Le thorax est forme par la charpante osseuse, les fascias, les muscles, les vaisseaux et les nerfs. La charpente osseuse du thorax se compose de sternum, 12 paires de cotes et 12 paires de vertebres thoraciques.

Le sternum, c'est un os plat allonge, couvert a l'exterieur par la substance com-

pacte et a l‘interieur par la substance spongieuse. Le sternum se compose du manibrium sternal, du corps et de l‘apophyse xiphoide.

Les cotes se divisent en cotes vraies (1-6 paires), en cotes asternales (7-10 paires) et cotes asternales (11-12 paires). Les cotes vraies s‘articulent avec le sternum par ses cartilages. Les cotes asternales, articulant l‘un a l‘autre, se joignent au cartilage du 7-eme cote et forme l‘angle costal. Les cotes flottantes sont finies a l‘interieur des tissues moux. En dehors le thorax est couvert de la feuille fine de la fascia propre, qui joint avec le perioste et le perichondre des cotes et du sternum.

La pathologie du thorax: la deformation du thorax. C‘est un changement congenital et acquis de la forme de la poitrine.

Les deformations congenitales. Cette deformation presente une hypoplasie du sternum et des muscles, l‘absence du l‘hypoplasie des cotes. La deformation infundibulaire du thorax est caracterisee par le changement de la forme de la poitrine avec la retraction du sternum, des cotes anterieures et des cartilages costaux. La deformation en careen du thorax presente la pathologie comme la croissance abondante des cartilages costaux. Le sternum du patient depasse en avant ce qui donne la forme de la poitrine comme la quille. Le thorax direct presente le developpement irregulier de la poitrine avec la diminution de la dimension antero-posterieure.

Les deformations acquises.

Le thorax emphysemateux se developpe avec l‘emphysema pulmonaire chronique. Sa dimension antero-postereure du thorax augmente et la poitrine du patient devient comme le tonneau. Le thorax paralytique est caracterise par une diminution de la dimension antero-posterieure et laterale de la cage thoracique. Le thorax scaphoide surgit chez les personnes avec la syringomyelie. C‘est une maladie chronique evolutive du systeme nerveux, quand dans la moelle epiniere se forme la cavite. Tout cela est caracterise par la fossette naviculaire dans les parties moyennes et superieures du sternum. Le thorax cypho-scoliotique se developpe par suite du processus pathologique dans la colonne vertebrale, accompagne par le changement de la forme. Ce sont les causes des troubles du travail du coeur et des poumons.

ГИППОКРАТ КОССКИЙ (ХИОССКИЙ)

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История полупрофессионального и профессионального врачевания насчитывает несколько тысячелетий.

Свыше 100 медицинских сочинений собрано в так называемом «Гиппократовом сборнике» («Corpus Hippocraticum»). С «Гиппократова сборника» фактически начинается история европейской медицины и медицинской терминологии.

Древнегреческого врача Гиппократа называют «отцом медицины», реформатором античной медицины. ок. 460 до н. э. — ок. 377 до н.

Начинал свою деятельность Гиппократ при храме. Будучи двадцатилетним юношей, он уже пользовался славой превосходного врача. Именно в этом возрасте Гиппократ получил посвящение в жрецы, что было необходимо тогда для

врача, и выехал в Египет для пополнения знаний и усовершенствования в искусстве врачевания. Через несколько лет вернулся на родной остров, долгие годы занимался там врачебной практикой и основал свою медицинскую школу, называемую Косский.
На этом основании считается, что Гиппократ и его последователи явились основоположниками клинической медицины.
Разработка принципов и правил диагностики и лечения, по Гиппократу, должна быть основана также на изучении «природы тела».
Школа Гиппократа рассматривала жизнь как изменяющийся процесс. Гиппократ — один из основоположников научного подхода к болезням человека и их лечению. В трактате «О священной болезни».
Гиппократ был сторонником пребывания больных на свежем воздухе, купанья, массажа и занятий гимнастикой; придавал большое значение лечебной диете.
С именем Гиппократа соединяют учение о четырех темпераментах: сангвинический, холерический, флегматический и меланхолический.
Связанные с учением о темпераментах понятия «холерик», «флегматик», «меланхолик», «сангвиник» продолжают жить и в современном языке, что было бы невозможно, если бы они не «подкреплялись» реально наблюдаемыми различиями человеческих типов
Древнюю теорию темпераментов отличала еще одна особенность. За основные элементы организма принимались жидкости («соки»). Эту точку зрения принято называть гуморальной (от греч. — «жидкость»). В этом плане ей созвучно учение о зависимости темперамента от желез внутренней секреции, от «химизма» тела (а не только от его устройства или свойств нервной системы).
Подобно многим врачам древности, Гиппократ занимался практической медициной. Рекомендуя тщательное обследование пациента, он указал на необходимость обращать внимание на его положение во время сна, частоту пульса и температуру тела.
По мнению Гиппократа, хороший врач должен определить состояние пациента уже по одному его внешнему виду
Лечил Гиппократ пациентов целебными травами, которых знал свыше двухсот; возражал против применения сразу многих лекарств и провозглашал повсеместно принцип «noli nocere» (не навреди).
Гиппократ умер в Лариссе в 377 году до н.э. на 83 году жизни. После смерти афиняне воздвигли ему железную статую с надписью: «Гиппократу, нашему спасителю и благодетелю». Клятва Гиппократа является выдающимся памятником гуманизма и исходным пунктом развития профессиональной врачебной этики.

ФИЛОСОФЫ, ПОЭТЫ, ДРАМАТУРГИ И ПОЛИТИЧЕСКИЕ ДЕЯТЕЛИ ДРЕВНЕЙ ГРЕЦИИ И ДРЕВНЕГО РИМА.

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Научный руководитель: Субачева Н. А.

На сегодняшний день ни для кого не является секретом, что Древняя

Греция и Древний Рим – это колыбель мировой культуры, взрастившая великие умы, которые стояли у истоков развития современной цивилизации. Не смотря на огромный временной зазор между современностью и Античностью, голоса выдающихся философ, поэтов, драматургов и политических деятелей доносятся до нашего сознания, оставляя следы своей мудрости и поражая актуальностью своего звучания.

Человек всегда задумывался о смысле жизни, о моральной основе человеческих взаимоотношений, о взаимоотношениях между человеком и окружающим его миром в целом. Получить представление об этих непростых вопросах нам во многом помогают Гиппократ, основатель медицинской этики, Платон, философ и теоретик, Гомер, знаменитый поэт и драматург, Геродот, «отец истории» и многие другие сыны Древности, чей жизненный путь и научные и социальные заслуги мы представим вашему вниманию в данной исследовательской работе.

Цель: ознакомить современное поколение с жизнью и деятельностью бессмертных мыслителей Древней эпохи и помочь понять слушателям важность знания и уважения великого наследия прошлого.

ЛАТИНСКИЙ ЯЗЫК В АНТИЧНЫЕ ВРЕМЕНА

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Научный руководитель: Шпильчук Л.И

Возникновение латинского языка.Исконная зона бытования латинского языка - небольшая область Лаций вокруг Рима.В истории латинского языка выделяют: до- архаическая латынь (до 754 г. до н.э).До-классический - литературный период (III в. до н.э).Золотая или классическая латынь (I в. до н.э -1 в. н.э).Серебряная латынь (II век н.э).До-архаическая латынь. Разрастающемуся государству требуется письменность. Сначала приняли у этрусков символьную письменность, но не смогли её освоить и приняли греческую фонетическую письменность. Доклассический-литературный период.Классическая, или «золотая» латынь получила свою грамматическую, синтаксическую и стилистическую законченность.Золотая или классическая латынь.Подразумевается литературный язык, достигший наибольшей выразительности и синтаксической стройности в прозаических сочинениях Цицерона и Цезаря и в поэтических произведениях Вергилия, Горация и Овидия (43 до н. э. — 18 н. э).Серебряный век. К II в. н.э. уже окончательно сложились фонетические и морфологические нормы литературного языка, были установлены правила орфографии.Заключение.Вплоть до XVIII века латинский язык оставался языком дипломатии и международным языком науки. Постепенно, с усилением национальных языков, латынь теряла свои позиции. И уже к началу XIX века латынь почти вышла из употребления. Латинский язык наряду с древнегреческим с давних пор до настоящего времени служит источником для образования международной общественно-политической и научной терминологии.

ЛАТИНСКИЙ ЯЗЫК КАК НЕИЗМЕННЫЙ ЯЗЫК МЕДИЦИНЫ

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Научный руководитель: Ткачёва Н.А.

Non est via in medicina sine lingua Latina
(Нет пути в медицине без латинского языка)

Для полноценного овладения любой профессией человек должен обязательно знать терминологию своей специальности. История Европы развивалась так, что базовая терминология большинства наук, в том числе и медицины, основывается на словах латинского и греческого языков. Но , нет, пожалуй, другой такой профессиональной деятельности, в которой мировой многовековой опыт отразился бы столь непосредственно, как на составе профессионального языка врача, потому что одной из дисциплин, имеющих большое значение при подготовке специалистов в области медицины и фармации, несомненно, является латинский язык, с которым приходится встречаться в повседневной работе — при чтении названий болезней, анатомических и клинических терминов, названий лекарственного сырья, ботанических терминов, принятых в Международной номенклатуре названий химических соединений и особенно в рецептуре. Современный врач, даже когда на профессиональную тему говорит по-русски, употребляет более 60% слов латинского и греческого происхождения. И это не удивительно, ведь общеизвестно, что терминологии самых разных наук, в том числе и сравнительно недавно возникших, пополнялись и продолжают пополняться за счет активного привлечения, прямого или опосредованного, лексики и словообразовательных средств именно этих двух классических языков античного мира.

Латынь в наше время используется как международный научный язык в ряде медико-биологических дисциплин и номенклатур, что изучают и используют врачи и медицинские работник и со всего мира. Поэтому является абсолютно очевидным, владение любым специалистом, работающим в области медицины, принципами образования и понимания латинской медицинской терминологии. Во всех медицинских науках: в анатомии, гистологии, эмбриологии, микробиологии, микробиологии, патологической анатомии и клинических дисциплинах, а также в фармакологии эта традиция номинации никогда не прерывалась и продолжается по сей день.

ЛАТИНСКИЙ ЯЗЫК ВОКРУГ НАС.

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Латинский язык продолжает оставаться важным культурным явлением современного мира. Без этого, казалось бы, "мертвого языка", невозможно представить себе многие области человеческой деятельности. Если внимательно разобраться, то окажется, что сфера применения латыни весьма широка и отличается значительным разнообразием.

Латынь как официальный язык используется современной Католической

церковью. На латинском ведется документация Ватикана, и составляются послания римских пап. Согласно западной богословской традиции на латинском языке до сих пор пишутся ученые диссертации и даже проводятся диспуты.

В медицине латынь традиционно используется как международная терминология анатомии и фармакологии, а также при составлении рецептов.

Во многих областях науки, прежде всего, в ботанике и зоологии, терминология основана на латинских или латинизированных греческих словах.

Разумеется, большая часть медицинской или научной терминологии отличается специальным характером, а потому известна немногим. Но в интернациональной лексике имеется наиболее общий слой, который состоит из самых употребляемых слов - преимущественно общественного или политического значения, которые должны быть известны и понятны всем. На основе интернациональной лексики, в конце 19 века был создан целый международный язык - эсперанто, использующий по преимуществу латинскую и романскую лексику.

Несмотря на то, что сейчас латинский язык считается мертвым языком, то есть, не употребляемым людьми в обиходной жизни, латынь занимает особенное место среди прочих языков планеты. Латинский язык оказал сильнейшее влияние практически на все сферы жизни, и именно в них он продолжает жить!

МЕДИЦИНА В СИМВОЛАХ И ЭМБЛЕМАХ

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Символ в обычном понимании (от греч. simbolon) - условный знак, широко известный и используемый для чисто практических целей.

Эмблема - условное изображение какого-либо понятия, идеи в рисунке и пластике. Общие медицинские эмблемы: просто змея; змея, обвивающая посох (посох Асклепия-Эскулапа); змея, обвивающая чашу, сердце на ладони и др.

Частные медицинские эмблемы: изображение ландыша; капля крови - эмблема хирургического профиля; ступки, ступки с пестиком - эмблемы фармации, эмблемы медицинских обществ; военно-медицинские эмблемы и др.

История Красного Креста и Красного Полумесяца. В Женеве в 1863 году на Международной конференции была утверждена эмблема: красный крест на белом фоне, в качестве отличительного знака обществ оказания помощи раненым военнослужащим - будущих национальных обществ Красного Креста и Красного Полумесяца.

Происхождение символа "Снежинка". Каждый из 6 лучей синей (голубой) Звезды жизни означают одну из функций службы экстренной медицинской помощи: обнаружение, извещение, отклик, помощь на месте, помощь при транспортировке, транспортировка для дальнейшей помощи.

Посох Асклепия - суковатая палка, вокруг которой обвилась змея головой вверх - является одним из наиболее узнаваемых символов медицины примерно с VIII в. до н. э.В настоящее время вертикально расположенный посох, обвитый змеей, изображаемый на фоне окаймленного лавровыми ветвями земного шара, является эмблемой Всемирной организации здравоохранения (ВОЗ) при

Организации Объединенных Наций.

Чаша со змеей и её история. Первые изображения чаши со змеей относятся к 800--600 гг. до н. э. В наше время чаша в медицинской эмблеме представлена как чаша человеческого разума, объемлющего весь мир.

Символы и эмблемы медицины издревле играли обобщающую и направляющую роль.

ЛАТИНСКИЕ ЗАИМСТВОВАНИЯ В РУССКОМ ЯЗЫКЕ

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Русские с древних времен имели различные связи с другими государствами, что привело к языковым заимствованиям. Заимствования из латинского языка сыграли значительную роль в обогащении русского языка, особенно в области научно-технической, медицинской, общественной и политической терминологии.

Заимствования иностранных слов — один из способов развития современного языка. Язык всегда быстро и гибко реагирует на потребности общества. Заимствования становятся результатом контактов, взаимоотношений народов, государств.

Особое место занимает заимствованная лексика ограниченного употребления. Это: книжные слова, экзотизмы, варваризмы, иноязычные вкрапления в русскую лексику.

Сколько латинизмов в русском языке? На этот вопрос пока нет ответа. И потому, что по-разному понимается сущность лексических латинизмов: слова, пришедшие в «готовом виде» из латинского языка, - и слова, образованные в русском или языках-посредниках из латинских корней или с помощью латинских аффиксов. И потому, что, даже понимая термин латинизм в широком смысле, то есть как слово, имеющее латинский корень, в русистике до сих пор нет подсчетов, которые стали бы численной характеристикой для латинской по происхождению лексики в словарном составе русского языка.

Все латинизмы в русском языке можно разделить на прямые и опосредованные. Прямые - это те, которые пришли в русский язык непосредственно из латинского языка, а опосредованные - это те слова латинского происхождения, которые не сразу попали в русский язык, а предварительно были заимствованы другими языками Европы, из которых и пришли в русский язык.

Латинские слова, функционирующие в русском языке, имеют свои внешние признаки: фонетические, словообразовательные, объединение латинского и иноязычного корней. Проникая в русский язык, латинские слова переживают целый ряд изменений. Видоизменяется их звучание и ударение, грамматическая форма, морфемный состав и членимость, лексические и словообразовательные значения.

Заимствование латинских слов способствовало созданию международного фонда научной терминологии, которая была освоена многими европейскими языками, в том числе и русским. В настоящее время латынь является языком

науки и служит источником для образования новых, никогда не существовавших слов и терминов.

О СУДЬБЕ НАШЕГО СООТЕЧЕСТВЕННИКА, С.С. Четверикова, ОПЕРЕДИВШЕГО ВРЕМЯ

Миргян М., Мелконян А. – студенты 1 курса
Научные руководители: проф. Е. Н. Гордиенко, ст. преп. С.И. Назаркина

С. С. Четвериков – генетик, основоположник современной синтетической теории эволюции. Заслуги великого ученого не могут скрыть трагизма его судьбы в нашей стране. Родился 24 апреля 1880г. в Москве в семье фабриканта- владельца сукновальной фабрики.

Будучи студентом физико-математического факультета Московского университета, в 1900 году опубликовал свои первые работы в области биологии, посвященные чешуекрылым. В том же году совершил свою первую большую зоологическую экспедицию, во время которой коллекционировал бабочек Минусинского края и Западных Саян.

В 1905 году опубликовал статью о дополнениях к фауне бабочек Московской губернии. В том же году вышла очень интересная его книга под названием «Волны жизни», где был дан анализ колебаний численности популяций организмов.

С 1909 по 1918 года Четвериков преподавал энтомологию на высших женских курсах.

В качестве объекта исследования при написании магистерской диссертации был выбран пресноводный равноногий рачок-водяной ослик. Четвериков успешно защитил диссертацию, и ему была присуждена ученая степень магистра зоологии.

Занял должность доцента экспериментальной зоологии в Московском университете в 1919 году. Спустя пару лет становится заведующим отделом генетики Института экспериментальной биологии.

В 1929 году был арестован и выслан в Свердловск на три года .Не имея разрешения на возращение в Москву ,он в 1932 году переезжает во Владимир, где продолжает свою ученую деятельность.

В 1945 году был утвержден в ученой степени доктора биологических наук без защиты диссертации. Во второй половине 1950-х годов началось возрождение советской биологической науки.

На юбилейном конгрессе в апреле 1959 года 18 биологов мира были награждены почетной медалью «Планшета Дарвина» за развитие и укрепление эволюционного учения и генетики. В числе награждённых был С.С.Четвериков. Его заслуги сравнимы с великими открытиями Менделя и его соавторов.

«Люди в белых халатах» - так назвали наших великих соотечественников за их заслуги и за их беззаветный труд на благо мировой и отечественной науки, и в связи с их трагической судьбой.

Оглавление

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