Materials of Conferences

STUDY HORMONALSTATUS YOUNG HANDBALL PLAYERS IN THE STATE OF MUSCULAR REST

Didenko S.N.

FSBEI HPE «Kuban State University of Physical Education, Sport and Tourism», Krasnodar, e-mail: sndidenko@mail.ru

Nowadays studying hormone levels is an important elements of maintaining permanent and strict control over organisms of young sportsmen. Thus, defining hormones of suprarenal cortex makes it possible to judge on condition of adaptive metabolic processes. At the same time, it is known that saliva contains a number of biological markers that reflect impact of physical strain and stress upon vital regulative systems of an organism (Khaustova S.A., 2010). The objective of this research is to study hormonal composition of saliva at the example of hormones: testosterone, cortisol, 17αOH – progesterone among young handball players in condition of relative muscle idleness.

Observation was he;d over young male sportsmen in age of 12–13 years. The first group of the observed was formed of young sportsmen at the stage of sporting specialization ($n = 23$). The second group consisted of 21 young sportsmen of initial training stage. The control group of 30 people included practically healthy (taken medical observation) peers who don't participate in sports. The research was undertaken during preparation period of a year's training macrocycle. The research took place at the foundation of medical budget institution of additional children education city children-youth sporting school of Krasnodar

Saliva was collected with usage of SaliCap Set (system of collecting saliva samples). Definition was carried out on immune-ferment sets for quantifiable determination by Diagnostics Biochem Canada Inc, with facilitation of analyzer SANRAIS (TECAN, Switzerland). All calculations were carried out with application set STATISTICA® 6.0. As the received data shown, reliably-significant differences in testosterone contents have been revealed among sportsmen of the first group in comparison to their peers who don't go in for sports ($p < 0,05$), and it can be defined as adaptive reaction to systematic physical strain. Regarding comparative analysis of cortisol and 17αOH – progesterone hormone contents in idle condition, no reliable differences have been established.

The work is submitted to the International Scientific Conference "Innovative medical technologies", France (Paris), March 18–25, 2015, came to the editorial office on 26.02.2015.

ADVANTAGES AND PROSPECTS OF THE TRANSPLANTATION OF HEMATOPOIETIC STEM CELLS FROM THE UMBILICAL BLOOD. THE MODERN CRYOGENIC TECHNOLOGY TO CREATE PRODUCTS BY CRYOPRESERVED UMBILICAL CORD BLOOD IN UKRAINE

Karnaukh E.V., Nekrasova Y.V.

Kharkiv national medical university, Kharkov, e-mail: ella69k@mail.ru

Stem cells have long attracted attention in experimental researchers and practitioners. This is due to their unique ability to breed, self-reproduction and differentiation. Irreversible damage of the nerve, muscle and other tissues it is possible to "restore", replacing them with tissues "patches", which consist of appropriately trained stem cells. Every year millions of people are suffer fnd die from the degenerative diseases of the brain, heart, liver, kidney, pancreas, retina, muscle dystrophy et al., in the treatment of which can help to stem cells.

Currently, there are several sources of stem cells: bone marrow, umbilical cord blood, skin, gonads. Preparation of stem cells from sources such as umbilical cord blood, bone marrow or skin, does not require any special ethical constraints. The umbilical cord blood – the best source of hematopoietic stem cells c very high ability to reproduce and multidirectional differentiation, when introduced into the body does not cause rejection, so transplantation of umbilical cord blood can be carried out and part of tissue incompatibility. The use of cord blood stem cells does not cause any ethical objections. The umbilical cord and placenta, with previously considered as biowaste, are a source of valuable biological material today. The procedure for obtaining of the cord blood stem cells is simple and safe for mother and child. During labor, the umbilical cord is clamped with special clamps, and the remaining blood inside (its volume is approximately 60–80 ml) flows into the syringe. The blood in sterile containers are delivered to a specialized laboratory, where the sample is prepared (remove ballast elements) to freeze. There are more than three thousand cases of transplant umbilical stem cells instead of embryonic and bone marrow cells in the world clinical practice today. The modern technologies allow to maintain cryogenic cells at low temperature almost indefinitely. The Institute of Cryobiology and Cryomedicine, Academy of Medical Sciences of Ukraine, Ministry of Health of Ukraine (Kharkiv) developed a unique product based by the cryopreserved cord blood – drug "Gemokord, which assigned to the group of biogenic stimulators. This is a suspension of hematopoietic, immune, and other dendritic cells, frozen in autologous plasma at a temperature of –196°C and stored in sterile plastic containers at 0,5; 1,0; 1,5; 1,8; 4,5 or 10,0 ml. Shelf life in the annealed form – up to 2 hours at +4°C.

In addition, the Ukrainian company "Hemafund" one of the first established family cord blood bank, whose ultimate goal is the preservation of cells and the ability to transplant. Thus, Ukraine can take its rightful place in the hierarchy of the modern world of medical science, and the inhabitants of the country – to get a new level of health care.

The work is submitted to the International Scientific Conference "Modern problems of experimental and clinical medicine", Thailand, February, 19–27, 2015, came to the editorial office on 22.12.2014.

PHARMACOLOGICAL GEROPROTECTION – IS IT AN ILLUSION OR REALITY TODAY?

Karnaukh E.V., Bayrachnyy K.A., Tkachenko K.N.

Kharkiv national medical university, Kharkov, e-mail: ella69k@mail.ru

Since ancient times, old age is concerned about humanity. From an evolutionary point of view of modern humans entered the stage of elevated rates of aging. And modern science is obliged not only to increase the human lifespan, but also increase the population of active working age. This is very important in terms of social and economic development of modern civilized society. The aging process is studying gerontology science that examines the various methods and systems (physical, natural, chemical and other) life extension. Among the most innovative – indian technique of the autoplazmolifting "Dracula therapy", gene expression cell aging skin "Sciton BroadBand Light" (Stanford University), microsurgical implantation Aptos threads (Research Center of Surgery by B.V. Petrovsky, Russia), product line "Transfer Factor" based on concentrated extracts of bovine colostrum and chicken egg (professor A. Chizhov, Russia).

Pharmacological agents wiht prolonging life called geroprotectors. And now there are more than 20 substances with geroprotective properties: antioxidants (vitamins A, E, C, carnosine, carotenoids, SkQ and other mitochondria-addressed quinones, lipoic acid, coenzyme Q, a trace mineral selenium and other); succinic acid; Inhibitors of protein biosynthesis (olivomycins, actinomycin); growth hormones, thyroid hormones, adrenocortical hormones, sex hormones, melatonin, the hormone FGF21); peptide bioregulators (timalin, Epithalamin, DSIP); biguanides (phenformin, buformin, metformin); adaptogens (Ginseng, Siberian Ginseng and other); chelators (activated carbon, pectins).

In modern gerontological literature the geroprotectors beneficial effects attributed to their specific effect on certain mechanisms that slow down the rate of aging and increase the functionality of the body (for example, free-radical theory of aging, normalization of immunity, endocrine and nervous system). But most scientists still believe that today there is no one true geroprotector with scientifically proven undeniable positive effect without the dangerous side effects (without carcinogenesis). All known tsitogerontologicheskoy models (for example, Hayflick model) based only on certain assumptions and correlations do not directly relate to the essence of the aging process. So the secret to longevity and immortality for mankind yet remains closed.

The work is submitted to the International Scientific Conference "The quality of life of patients with various nosological forms", Mauritius, February, 17–24, 2015, came to the editorial office on 22.12.2014.

THE NEW NOOTROPIC MECHANISM OF ACTION OF THE MODERN ANTIDEPRESSANT ROLIPRAM ON COGNITIVE FUNCTIONS

Karnaukh E.V., Kalyuzhka V.Y., Markevych M.A.

Kharkiv national medical university, Kharkov, e-mail: ella69k@mail.ru

Nootropic drugs – a substance that has a specific effect on the higher integrative functions of the brain, improve memory, facilitate learning, stimulate intellectual activity, increases the resistance of the brain to the damaging factors improving cortical-subcortical connections. Now the main mechanism of action of nootropic agents considered the impact on the metabolic and bioenergetic processes in the nerve cell and the interaction with the neurotransmitter systems of the brain.

The activation of neurons in specific metabolic pathways involving the nuclear-cytoplasmic CREB-protein is one of the most promising in terms effective influence on the central nervous system mechanisms of action of neuroprotective drugs. The CREB (cAMP responsive element binding protein) is a protein, which initiates the transcription of genes involving cAMP sensitive elements in their promoter. Increasing the concentration of calcium or cAMP can trigger the phosphorylation and activation of CREB. This transcription factor is a component of the signaling system and regulates a wide variety of processes, including circadian rhythms and memory formation.

Antidepressant Rolipram stimulates cAMP / PKA / CREB signaling pathway by a specific inhibition of phosphodiesterase type 4 (PDE4), the isoform of the enzyme that catalyzes the hydrolysis of cAMP. Rolipram can increase long-term potentiation and accelerate the consolidation of short-term memory to long-term.

Using Rolipram expedient to for improving cognitive abilities in healthy people, and for the treatment of neurological disorders of different etiologies.

The work is submitted to the International Scientific Conference "Integration of science and education", Maldives, February, 13–20, 2015, came to the editorial office on 22.12.2014.