

*Materials of Conferences***STUDY HORMONAL STATUS YOUNG  
HANDBALL PLAYERS IN THE STATE  
OF MUSCULAR REST**

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Nowadays studying hormone levels is an important element 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,  $17\alpha\text{OH}$  – progesterone among young handball players in condition of relative muscle idleness.

Observation was held 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  $17\alpha\text{OH}$  – progesterone hormone contents in idle condition, no reliable differences have been established.

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**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**

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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 find 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  $-196^{\circ}\text{C}$  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  $+4^{\circ}\text{C}$ .