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АКТУАЛЬНІ ПРОБЛЕМИ ТА СУЧАСНІ ДОСЯГНЕННЯ**

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та молодих вчених з фізіології з міжнародною участю

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Tymbota M., Chernobay L.V.

**RESEARCH OF INTERSYSTEM INTEGRATION IN PROCESS  
OF ADAPTATION TO PSYCHO-EMOTIONAL STRESS IN CONDITIONS OF PHYSICAL LOAD**

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The article features modern research data about physiological mechanisms of development of resistance to psycho-emotional stress that appears in medical students in dynamics of studies in university (during first 3 years).

The research was carried out within the scientific research work of physiology department of KNMU "Peculiarities of integrative and autonomic functions in process of adaptation to intellectual, emotional and physical loads" (№ of registration 0115U000239, execution period 2015–2017).

Results showed that development of adaptation syndrome in those conditions greatly depends on speed of formation and intensity level of intersystem integration in cardiorespiratory system. That relation is revealed most of all on the background of physical activity (load on bicycle ergometer to the full). The variability of stages of adaptation development was found out.

In first group of students the first stage of adaptive syndrome is characterized by activation of non-specific adaptive mechanisms (1<sup>st</sup> year of studies), that is naturally replaced by second stage – specific adaptive reactions, when the intellectual work capacity increases on the background of rationalization of its autonomic supply.

In second group of students the second variant of adaptation development occurs – non-specific adaptive mechanisms (1<sup>st</sup> stage) on the 2<sup>nd</sup> year of study are changed by the stage of specific adaptation (2<sup>nd</sup> stage), that is accompanied by excessive psychophysiological indexes. On the 3<sup>rd</sup> year of study it leads to the depletion of adaptive capabilities (3<sup>rd</sup> stage).

In third group of students the stage of activation of non-specific adaptive mechanisms was rapidly changed by their depletion that was accompanied by decrease of intersystem integration and intellectual workability.

Therefore, the formation of adaptive optimum occurs only in 40% of students. The majority (60%) of students-young women show either the initially insufficient adaptive capabilities, or excessive adaptation. Both insufficient and excessive adaptation naturally leads to psychological and autonomic disorders followed by appearance of psychosomatic neurotic manifestations.

The prospects of future research from our point of view should lie in further investigation of gender peculiarities of adaptive reactions development up to psycho-emotional stress that develops in conditions of studying in university. That will make an opportunity to reveal the features of mechanisms of resistance formation depending on gender.

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**PHLEBOANGIODYSPLASIAS AND POSSIBILITIES  
OF THEIR CORRECTION AT KLIPPEL-TRENAUNAY-WEBER SYNDROME**

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Phleboangiodyplasias relate to rare diseases of lower extremities' veins and combine the pathology of congenital origin in both the veins and in extravascular tissues. They are often connected with the presence of abnormal arteriovenous communications. Klippel-Trenaunay-Weber syndrome (KTWS) is one of the most common forms of hereditary phleboangiodyplasia and represents an abnormality of deep trunk veins of the limbs that appears as the limbs' hypertrophy, varicose veins and hemangiomas.

**Objective.** To study the clinical manifestations of phleboangiodyplasias and possibilities of their correction at KTWS.

**Materials and methods.** 17 patients with the clinical diagnosis and the presence of KTWS syndrome and phleboangiodyplasias were observed. The age of patients ranged from 3 to 26 years, female patients dominated (10(59 %) female, 7(41 %) male).

**Results and their discussion.** All patients were consulted by a vascular surgeon. Patients underwent the duplex scanning of the limbs' venous system, according to which all of observed patients had the symptoms of congenital lesions of the lower limbs' venous system. The choice of therapy was performed individually, taking into account the concomitant genetic background.

Clinical example: patient B., 16 y.o. At the admission he complained to the swelling and varicose veins of left leg from the 5 y.o.age. The phenotype peculiarities are: the nevi on the skin of 2–8 mm size, angiomas on the left knee, the hypertrophy of the left lower extremity with varicose subcutaneous veins, increased skin