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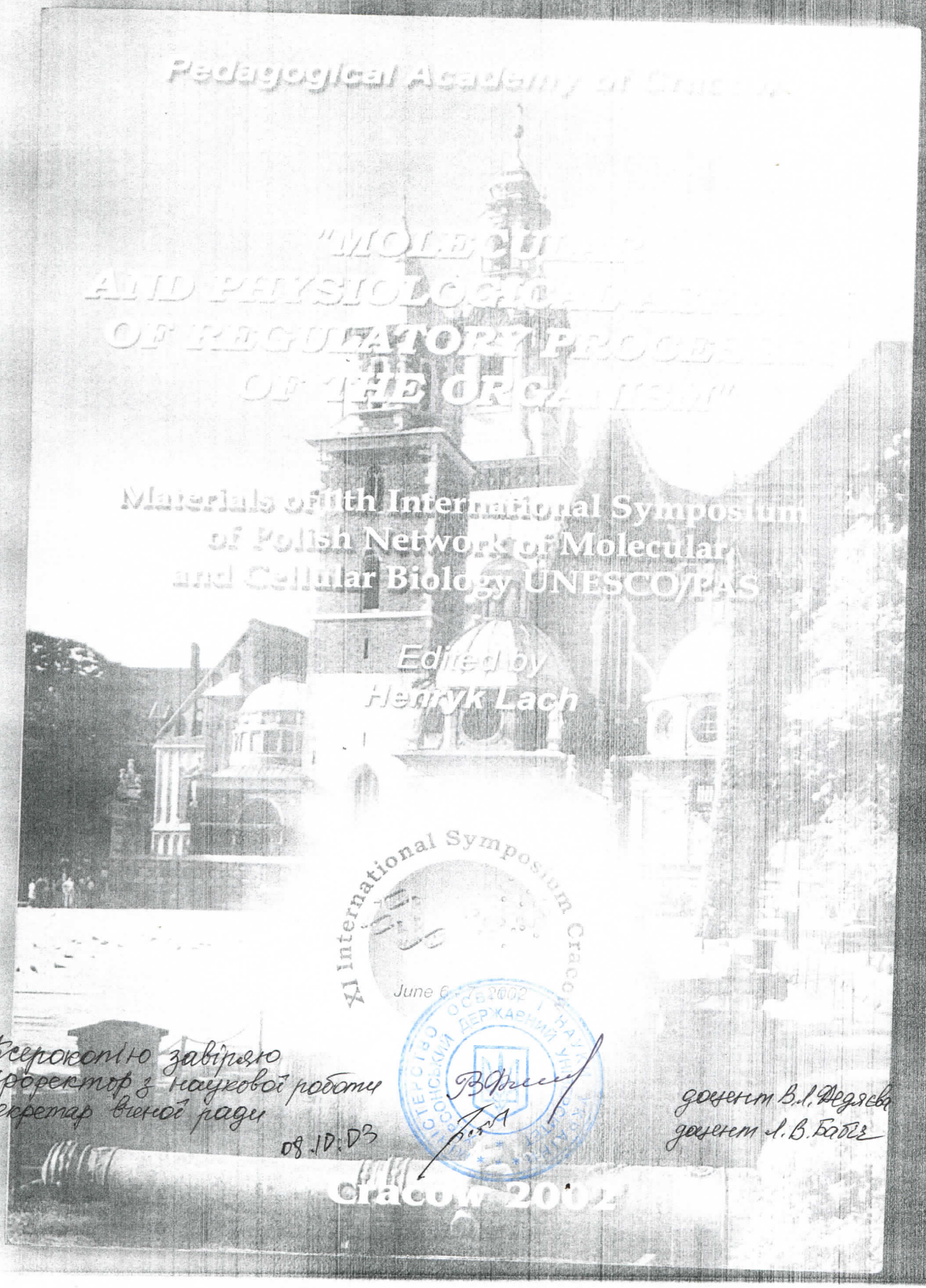

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Some particular qualities of ontogenesis of the cardiovascular system in conditions of the hearing deprivation

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A study of indicators of the cardiovascular system activity at the hearing deprivation allows to reveal and estimate an efficiency of work of the compensatory mechanism, providing the adaptation in ontogenesis.

The research was conducted on two age groups. The first group consisted of 84 persons - children with the hearing defect at the age of 7-10 (control group – 100 persons), the second group – deaf people and persons with the hearing disorders at the age of 19-21, 100 in number (control group – 80 persons).

The method of electrocardiography was used to study a transistance of heart. The state of the cerebrum vessels was examined by methods of RVG and ophthalmoscope. The indicators of arterial pressure, frequency of heart contractions and indicators of the cardiovascular system activity, such as: the minute blood volume, the systolic blood volume, the economy coefficient of blood circulation, the Ruffie index, the Kerdo index, the adaptation potential, were also investigated.

The obtained outcomes passed a statistical treatment.

At the analysis of the data of electrocardiogram the following outcomes were discovered among the people with the hearing disorders (table 1). All experimental people had the sinusoidal heart-beat. The duration of R – R', P-Q and QRS intervals statistically do not differ for the people with the hearing disorders and for healthy people. The authentic distinctions were found in the duration of ST-interval (it is smaller for the experimental group), that testifies about the functional disorders of the excitement realization in heart.

The ophthalmology research of blood vessels of the eye-ground has revealed that in both experimental groups 80% of the girls and 62% of the boys had

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the functional disorder – angiopathia of retina. The narrow crimped arteries along all extent (sometimes the arteries are wide - the Twist symptom); wide, saturated, crimped veins define it. The certain vascular loops and aneurysm of vascular wall are to be observed. Sometimes there is a correlation of veins and arteries 1:4, that does not correspond to the norm.

It was discovered at the analysis of REG-curves that 90% of the children and 97% of the youth with the hearing defect had angiodystonia of the cerebrum vessels.

For both age groups the indicators in the carotid basin are higher, than in the vertebra-basilar basin. The right cerebral hemisphere prevails more distinctly for the adults, it is explained by the fact of an adaptation process realization in the very right hemisphere, where both the activity and the vegetative regulations from the side of hypothalamus are expressed more obviously.

During the research of hemodynamics there were discovered the acceleration of heart contractions for the children (70 %) and the adults (67%); the lowering of the systolic arterial pressure (children - 57 %, adults – 60%); the lowering of the diastolic pressure (children - 55 %, adults – 50%). A satisfactory coefficient of blood circulation had 7% of the children and 6% of the adults, the rest had a fast development of tiredness owing to insufficiency of the compensation mechanism.

The Kerdo index (an indicator of the vegetative balance) serves as the integrative indicator of an interaction between the nervous and the cardiovascular systems. For 8% of the children and 16% of the adults vagotonia is characteristic, and for 69% of the children and 78% of the adults – sympatheticotonia.

The influence of sympatho-chromaffinus system on heart and vessels dominates among the people with the sensory defect, that becomes apparent in the form of the functional disorders of anglopathia of retina and angiodystonia of the cerebrum vessels.

The adaptation of the cardiovascular system to physical and psychological loads for the given contingent occurs due to increase of frequency of heart contractions, but not due to the systolic volume.

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