Material and Methods. Spinal trauma was created by free fall of 50 g weight on T8–10 segments. Epobel was administered 5000 iu/0.5 ml by iv route 1 hour after the trauma. Ionising radiation was applied at 60 and 200 cGy doses 2 hour after the trauma.

Results and Discussion. The results were evaluated by locomotor tests, ultrastructural tissue analysis, Tunel apoptosis test, ependymal stem cell identification, gliosis scores, proliferation analysis, enolase and S100 beta analysis methods.

Conclusions. Combination of eritropoetin with low dose raidation is beneficial for protection from secondary effects of spinal cord trauma.

THE ASSESSMENT OF THE GROWTH PROCESSES OF LATVIAN PRESCHOOL CHILDREN IN COMPARISON WITH WHO GROWTH STANDARDS

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Key words: *children, physical activity, body mass index (BMI), WHO Growth Standards*

Background. Due to worldwide growing problem of overweight and obesity the World Health Organization (WHO) has recently issued recommendations and guidelines for regular collection of data on weight, height and waist and hip circumference in children.

Aim. The aim of the research is to determine body composition of Latvian children in the last decade and to compare most important anthropometric characteristics of the Latvian children with the WHO Growth Standards 2007.

Material and Methods. Research was made using anthropometrical and questionnaire methods (about their lifestyle) trying to conclude if the increase of the excessive body mass and adiposity in Latvian preschool and a youngest grade schoolchildren is similar to one in other countries in the world, because the risk of health problem development increases in proportion with the body mass index enlargement or decrease. Total of 1235 healthy children were surveyed from all regions and different socio-economic groups.

Results and Discussion. After loosing the independence in year 1940 and especially in the post war period, the ethnic situation in Latvia has had major changes — due to emigration the amount of Latvian, and other nationality inhabitants in the country significantly decreased. This also includes a high number of multi national marriages, majority of them between Russians and Latvians. The correlation between BMI and fatness in children is influenced by age, sex, pubertal status and ethnicity. Since 2007 WHO growth reference charts was prevalent distributed, but child growth depends from geographic area and social and economic conditionals.

Conclusions. Comparing Latvian schoolchildren BMI values with the WHO Growth Standards, we can see that BMI percentiles values are significantly different. The WHO growth standards do not reflect the phenotypic range of the Latvian preschool and school children and we recommend using the Latvian growth curves (1998) to evaluate the growth processes of the Latvian children.

ULTRASONIC DOPPLEROGRAPHY APPLICATION FOR THE EVALUATION OF THE ARTERIAL PALMAR ARCHES FORMATION TYPES

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Key words: *ultrasound dopplerography of the upper limbs arteries, palmar arcs, radial artery, ulnar artery*

Aim. The study is devoted to the blood flow analysis in the basins of the radial and ulnar arteries and the evaluation of the prevalence of the palmar arcs formation types.

Material and Methods. The research was performed on a dispensary basis using the technique of ultrasound dopplerography supplemented with a functional Alain probe on the Samsung Medison R7 and Aloka SSD 3500 devices. 50 patients of both sexes aged from 32 to 85 years (mean age of 51 years) were examined. Data analysis was processed with Microsoft Excel 2007 software.

Results and Discussion. It was found that the average diameter of the radial and ulnar arteries in the total sample remains constant and is practically equal for the both radial artery — 1.77 mm (minimum diameter 1.3 mm, maximum — 2.7 mm) and ulnar — 1.78 mm (minimum diameter 1.4 mm, maximum — 2.9 mm). Peak blood flow rates obtained with pulsed wave doppler ultrasonography were also characterized for both arteries with a small difference, in the radial artery — 31.16 cm/sec (minimum speed is 5.6 cm/sec, maximum — 62.4 cm/sec), in the ulnar — 34.45 cm/sec. (minimum speed is 5.2 cm/sec, maximum — 77.55 cm/sec). The median for the both arteries estimation was also not significantly different: for the radial artery — 31 cm/sec, for the ulnar artery — 33.8 cm/sec.

When the Allen test was performed, it was found that in 50% of cases the pronounced blood supply of the palmar arcs from the ulnar arteries basin was observed, in 18% of cases it was registered in the radial arteries, and in 32% as a result of the measurement there was no significant change in the blood flow parameters or the result was doubtful.

Conclusions. As a result of observation, the dominant role of the ulnar artery in the formation of arte-