

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**104-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького персоналу  
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ  
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Конференція внесена до Реєстру заходів безперервного професійного розвитку,  
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**Чернівці – 2023**

Comparative analysis of algorithmically reproduced tomograms of linear birefringence of the polycrystalline component of histological sections of biological tissue and blood films found the following: a successive decrease in the average values of tomograms of linear birefringence of histological sections with increasing postmortem time. The set of tomographic maps of linear birefringence is characterized by a smaller number of local domains of optical anisotropy. The greatest sensitivity and growth of the linear range of changes in the value of the statistical moments of the 3<sup>rd</sup>- 4<sup>th</sup> orders, characterizing the asymmetry and excess of distributions of the linear birefringence of histological sections of biological tissue and blood films of those who died from CO and ethanol poisoning according to the postmortem time up to 20 hours were established.

Quantitatively obtained values of  $SM_4$  for brain samples vary within: control group - from 0,43 to 1,68; group 1 – from 0,87 to 3,06; group 2 – from 1,42 to 4,22; for blood films: control group - from 0,78 to 3,48; group 1 – from 1,34 to 3,75; group 2 – from 1,56 до 4,89; for liver samples: control group - from 0,86 to 3,89; group 1 – from 1,47 to 6,32; group 2 – from 2,02 to 7,07; adrenal glands: control group - from 0,78 to 3,48; group 1 – from 1,34 to 3,75; group 2 – from 1,56 to 4,89; myocardium: control group - from 0,34 to 1,22; group 1 – from 0,67 to 2,26; group 2 – from 1,24 до 3,79.

**Conclusions.** A qualitatively new level of research results was obtained, the effectiveness and statistical reliability ( $p < 0.05$ ) of the method of polarization-phase Mueller-matrix tomography in identification of the postmortem time in case of acute CO and ethanol intoxication was demonstrated.

**Karatieieva S.Yu.**

## **THE DETERMINATION OF UPPER LIMBS LENGTH DEPENDING ON THE KING OF SPORT**

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**Introduction.** One of the means of studying an athlete's state of health is the assessment of anthropometric parameters with the determination of overall and component indicators. So, the establishment of anthropometric parameters depending on the type of sport is a current issue in modern sports and requires further study in order to solve the issue of sports orientation and professional selection of future athletes.

**Aim.** To establish of upper limbs length of students of higher educational institutions of Bukovyna depending on the sport type with the further construction of forecasting model.

**Material and methods.** The research was conducted on 132 students of the first and second years of higher education institutions of Bukovyna aged from 16 to 18 years. Of them, 86 (65.15%) were young boys and 46 (34.85%) young girls. The main group consisted of 92 (69.70%) students and the control group - 40 (30.30%) students. Among the students of the main group, there are 65 (70.65%) young boys and 27 (29.35%) young girls. The control group consisted of 21 (52.5%) young boys and 19 (47.5%) young girls. Students of the main group were engaged in the following sport types: football players – 46 (50.00%), of them 38 (41.30%) young boys and 8 (8.70%) young girls; volleyball players – 19 (20.65%), of them 10 (10.86%) young boys and 9 (9.78%) young girls; handball players – 14 (15.21%), of them 8 (8.69%) young boys and 6 (6.52%) young girls; basketball players - 13 (14.14%), of them 9 (9.78%) young boys and 4 (4.43%) young girls. Students of the control group did not additionally do sports, except for hours of physical education, in accordance with the curriculum. All students were subjected to an anthropometric study according to the method of V.V. Bunaka modified by P.P. Shaparenka.

**Results.** According to the results of the study, that included the distribution of the length of the right and left upper limbs for gender, there was a significant difference in the average length of young boys and young girls in the main group. This is also evidenced by Welch's t-test:  $t(49.3) = -7.253$ ,  $p < 0.05$ . The result of the distribution of the length of the right and left upper limbs in the control group for gender also indicates that there was a significant difference in the length of the upper limb of young boys and young girls of the control group on average. This was also confirmed

by Welch's t-test:  $t(25,971) = -5,670$ ,  $p < 0.05$  (right upper extremity) and  $t(26,175) = -5,754$ ,  $p < 0.05$  (left upper extremity). Taking into account the results of the distribution of the lengths of the upper limbs depending on the sport type, it shows that there was a significant difference in the average value of the length depending on the sport type. Since  $p = 0.25 < 0.05$ , the difference between the medians of the groups is statistically significant. As a result of the Conover-Iman test, significantly differs from all other lengths of upper limbs of football players. When comparing the lengths of both upper limbs of the studied young boys and young girls, no significant difference in the average length of the right and left upper limbs was found  $t(255.92) = -0.172$ ,  $p = 0.864$ .

**Conclusions.** By comparing the length of the right and left upper limbs of the studied students of the main group, depending on the sport type, there was a significant difference in the average value (football players have the smallest length of the upper limbs: right -  $69.77 \pm 2.0$  cm, of them  $70.39 \pm 2.00$  cm in young boys and  $67.90 \pm 2.00$  cm in young girls, left -  $70.28 \pm 2.0$  cm, of them  $71.41 \pm 2.00$  cm in young boys and  $68.72 \pm 2.00$  cm in young girls, while volleyball players have the largest: right -  $76.20 \pm 2.0$  cm, of them  $77.32 \pm 2.00$  cm in young boys and  $74.22 \pm 2.00$  cm in young girls, and left -  $77.00 \pm 2.0$  cm, of them  $78.43 \pm 2.00$  cm in young boys and  $75.92 \pm 2.00$  cm in young girls). A significant factor for the length of both upper limbs is height (based on the conducted regression analysis). A model for predicting the length of the upper limbs was derived:  $y = 0.422 * x$ , (where  $y$  – the length of the right upper limb,  $x$  – height).

**Kavun M.P.**

## **DEVELOPMENT OF THE LIVER IN HUMAN FETUSES**

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**Introduction.** The importance of embryological research for the correct understanding and clarification of the causes of congenital diseases, variants of the structure and abnormalities of the development of organs is currently not in doubt. Their results contribute to the development of new effective methods of surgical interventions and the prevention of errors in the diagnosis of birth defects.

**The aim of the study.** The purpose of the work is to establish the peculiarities of the structure and morphogenesis of the liver in the intrauterine period of development, in particular, in human fetuses.

**Material and methods.** We have studied the characteristics of liver in fetal period of human ontogenesis. 15 human preparations fetuses of the different age groups were studied by the methods of histology, making image reconstruction, by the methods of usual and subtle dissections and morphometry.

**Results.** Peculiarities of construction of the liver at the beginning of the fetal period (4 – 5 months of prenatal development) were investigated on 15 corpses of fetus with CRL 81,0-185 mm. We have established that the largest organ of the abdominal cavity of the fetuses of this age group is the liver, which almost completely occupies its upper floor. The liver reaches the lateral surface of the abdominal cavity by its lateral surfaces and covers the stomach, duodenum, transverse colon and loops of the small intestine in the front. In the early fetal period two venous systems are found in the liver. The first one is afferent and consists of the umbilical and the portal veins, through which the blood accumulates from the placenta and the intestines in the liver. The second one is the efferent venous system, consisting of the hepatic veins for blood outflow from the liver parenchyma to the heart. Through the venous duct the oxygenated blood flows to the heart from the umbilical vein system, bypassing the liver. In four-five month old fetuses (with CRL 81,0-185 mm) the umbilical vein entered the abdominal cavity in the middle of the falciform ligament in the upward direction at an angle to the liver. Through the anterior edge of the organ the vessel passes cranially through its lower surface. Later it joins the venous sinus. The venous sinus is presented as an L-shaped broad vessel, connecting the right and the left branches of the intrahepatic part of the portal vein.

In this group of fetuses, the venous duct originates from the venous sinus, which is located at an almost right angle to the right lobe of the liver. The vessel is hourglass-shaped, does not give