МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

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Конференція внесена до Реєстру заходів безперервного професійного розвитку, які проводитимуться у 2023 році №5500074

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the degree of limited proteolysis, resulting in "opening" hidden amino groups of proteins. Digital copies of the image were obtained using a Delta Optical Evolution 100 microscope (planachromatic lenses) and an Olympus SP-550UZ digital camera. The obtained images were analyzed in the computer program ImageJ (1.48, W. Rasband, National Institutes of Health, USA).

Results. The results are presented in Table.

Optical color density (relative to optical density) in fibrinoid of the chorionic and basal plates of the placenta (histochemical method for free amino groups of proteins by the method of A. Yasuma and T. Ichikava) with a combination of different forms of inflammation of manure and iron deficiency anemia in gravidas $M \pm m$)		
Study Group	Observation of inflammation of the manure	Observation of inflammation of the manure
Chorioamnionitis acute (fibrinoid of the chorionic plate is studied)	$0,311 \pm 0.0024$ $p_1 < 0.001$ (n=23)	$0,315 \pm 0.0031$ $p_2 > 0.05$ (n=21)
Chorioamnionitis chronic (fibrinoid of the chorionic plate is studied)	$0,316 \pm 0.0024$ $p_1 < 0.001$ (n=20)	$0,339 \pm 0.0036$ $p_2 < 0.001$ (n=21)

Note: p_1 - the probability of the difference between the two means between physiological pregnancy and the study group; p_2 - the probability of the difference between the two means between inflammation of the studied placental plate and inflammation in combination with IDA in gravidas.

Observation of physiological pregnancy (n=20) of fibrinoid of basal plate is $0,285 \pm 0,0024$ optical color density. Observation of iron deficiency anemia in gravidas without inflammation of the manure (n=21) is $0.312 \pm 0,0026$ (p<0,001).

Conclusions. Iron deficiency anemia in gravidas intensifies the processes of limited proteolysis according to the optical density of histochemical staining for free amino groups of proteins in the fibrinoid of the chorionic and basal plate of the placenta in comparison with physiological pregnancy. Comorbid iron deficiency anemia in gravidas activates the processes of limited proteolysis only in the chronic form of chorioamnionitis.

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DETERMINATION OF THE POSTMORTEM TIME IN ACUTE CO AND ETHANOL INTOXICATION USING POLARIZATION-PHASE MUELLER-MATRIX TOMOGRAPHY

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Introduction. Determination of postmortem time remains a relevant area of research of scientists around the world. Despite much efforts applied in this area, there is no a method that is sufficiently accurate, reproducible and suitable for the practical work of forensic medical experts, in particular in case of poisoning by toxic substances. To solve this issue, we suggest the use of polarization-phase Müller-matrix tomography of human biological tissues.

The **aim** of this work is assessment of the possibilities of applying the method of polarization-phase Muller-matrix tomography of biological tissue samples of the human internal organs died due to CO and ethanol poisoning.

Materials and methods. The object of the study were histological sections of the brain, liver, adrenal glands, myocardium and polycrystalline blood films taken from 60 cadavers who died of cardiac pathology (control, n=20), as a result of ethanol (n=20) and CO poisoning (n=20). The research was carried out in the standard location of the laser polarimeter.

The method of differential Müller-matrix polarization-phase tomography is implemented by multichannel probing with differently polarized laser beams of histological sections of the brain, myocardium, adrenal glands, liver, and polycrystalline blood films of the deceased and multichannel polarization filtering of a series of microscopic images with algorithmic reproduction (reconstruction) of coordinate distributions (tomograms) of average size linear birefringence of polycrystalline networks.

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 3rd- 4th 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 ($\rho < 0.05$) 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.

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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 from16 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