

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



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Конференція внесена до Реєстру заходів безперервного професійного розвитку,
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individual sacral elements into a single rudiment begins in the prenatal 22.0-23.0 mm PCL. In the pre-fetal 25.0 mm PCL begins to develop the sacroiliac joint, in the pre-fetal 50,0 is in the continuous connection stage.

The main value of the cartilaginous layer is greatest in the lumbar region, relative - in cervical by the time of birth. The height of the intervertebral cartilages is greater than the height of the vertebral bodies in the early stages. Intervertebral discs in prenatal ontogenesis do not reach a definitive structure. The chordal canal is also found in the sacral region of adult, so the intervertebral discs L4 – L5 and L5 – S1 are referred to as hemi-arthrosis. The ribs depart from the spine perpendicularly to its axis in pre-fetal 15.0-19.0 mm PCL. The transverse processes of the thoracic vertebrae are arranged transversely. Therefore, rotation of costal-vertebral joint in the pre-fetal period is perpendicular to the spine.

Material and methods. The study was conducted on dead embryos during the fetal period and in pre-fetal period of development.

Results. The formation of joints is closely related to the development of the neuromuscular system. Intra-vertebral foramina are formed in the pre-fetal 13.0-15.0 mm PCL. At first, the articulation processes appear, and then the transverse ones. The spine processes develop in fetal period. The caudal region of spinal cord can influence on the lumbar region long retain the characteristic of "embryonic" features due to developmental delays. Embryo's articulation processes of the lumbar and thoracic vertebrae are located in the frontal plane. Newborns have them situated in the middle between the frontal and sagittal planes. The articular joints of the arches occur later than the joints of the vertebral bodies with the help of intervertebral cartilages (intervertebral discs).

Conclusion. The degree of development in the sacral-spinal nerves in the pre-fetal and fetal periods, which provide innervation of the joints in the spinal cord and muscles in the area of SC can suggest that these connections can possibly have single movements, which is important for the formation of joints.

In pre-fetal 24.0-28.0 mm PCL the main components of joints in the spinal cord are formed: the articulation surface, the joining capsule and joint gap. The connection of sacro-vertebrae joint begins in the pre-fetal 22.0-23.0 mm PCL, and the sacroiliac joint begins to develop in the pre-fetal 25.0-27.0 mm PCL.

Ilika V.V.

CHARACTERISTICS OF LIMITED PROTEOLYSIS IN PLACENTAL FIBRINOID IN COMBINATION WITH CHORIOAMNIONITIS AND IRON DEFICIENCY ANEMIA IN GRAVIDAS

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Introduction. After analyzing domestic and foreign literature, we noticed that the morphology of chorioamnionitis on the background of iron deficiency anemia in pregnancy is not given much attention, the study of which is essential to establish morpho-functional features and optimize diagnosis and development of complications and diseases of newborn.

The aim of the study. To determine the quantitative characteristics of limited proteolysis in fibrinoid of the chorionic plate of the placenta in acute and chronic chorioamnionitis on the background of iron deficiency anemia in gravidas by histochemical method in combination with computer microdensitometry.

Material and methods. 126 placentas from parturients at 37 – 40 weeks of gestation were studied. Including, for comparison, the placenta during physiological pregnancy and the observation of iron deficiency anemia in gravidas without inflammation of the manure. Pieces of placenta were fixed for 24 to 48 hours in neutral Lilly-buffered 10% formalin solution, followed by ethanol dehydration and paraffin pouring according to standard procedures. On serial histological sections of 5 µm thick there was performed histochemical technique using ninhydrinoschiffian reaction to free amino groups of proteins by the method of A. Yasuma and T. Ichikava, which allows to assess

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±0.0024 $p_1 < 0.001$ (n=23) | 0,315±0.0031 $p_2 > 0.05$ (n=21) |
| Chorioamnionitis chronic (fibrinoid of the chorionic plate is studied) | 0,316±0.0024 $p_1 < 0.001$ (n=20) | 0,339±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±0,0024 optical color density. Observation of iron deficiency anemia in gravidas without inflammation of the manure (n=21) is 0.312±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.