

The strips then form a ligament joint that defines in this joint earlier than in others. The small coccygeal vertebrae, which have reached maximum in number already, are also connected by intervertebral cartilages. The connection of 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 height of the intervertebral cartilages is greater than the height of the vertebral bodies in the early stages. The main value of the cartilaginous layer is greatest in the lumbar region, relative - in cervical by the time of birth. 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. In the pre-fetal period 70,0-75,0 mm PCL the components of the sacroiliac joint are detected: the joint cavity, articulation surfaces and the joint capsule. The articular joints of the arches occur later than the joints of the vertebral bodies with the help of intervertebral cartilages (intervertebral discs). 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 formation of joints is closely related to the development of the neuromuscular system. Intra-vertebral foramens are formed in the pre-fetal 13.0-15.0 mm PCL. 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.

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IMMUNOHISTOCHEMICAL STUDY OF TROPHOBLASTS PROLIFERATIVE PROCESSES IN CHORIOAMNIONITIS COMBINED WITH IRON-DEFICIENCY ANEMIA IN GRAVIDAS

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The placenta is a biological monitoring organ, a pregnancy reflector, and a prognosticator of health. The processes of cell number regulation play an important role in the growth of organs in the process of their development. In the absence of risky effects, the regulation of cell number is carried out mainly by regulating the intensity of cell proliferation and apoptosis (death) processes, which are normally in a certain balance.

Objective: to establish quantitative parameters of cell proliferation in the trophoblast of the chorionic villi of the placenta in acute and chronic choriomnionitis with iron-deficiency anemia in gravidas by means of the immunohistochemical method.

The placental tissue was preserved in phosphate buffered neutral 10% formalin solution with further passing the material and preparing paraffin blocks. By means of a sliding microtome the cuts were made 5 micrometers thick keeping to appropriate requirements. Histological examinations were conducted on the base of histological samples stained with hematoxylin and eosin. According to DAKO recommendations by means of immunohistochemical method further detection of antigen Ki-67 expression in nucleus of trophoblast structures was determined (polymeric system of detection with the stain diaminobenzidine). The number of Ki-67-positive nuclei was calculated in per mille. Statistically significant were differences with 0,05. The results are presented in Table.

Research groups	Ki-67 – positive nuclei in trophoblasts of chorionic villi (‰)	
	Observation of inflammation of the manure during pregnancy without anemia ($n=23$)	Observation of inflammation of the manure in iron deficiency anemia in gravidas ($n=21$)
Acute chorioamnionitis	54 ± 2.3 $1 < 0.001$ $2 > 0.05$	56 ± 3.8 $3 > 0.05$ $4 = 0.03$
Chronic chorioamnionitis	$(n=20)$ 57 ± 3.5 $1 < 0.001$ $2 > 0.05$	$(n=21)$ 59 ± 3.6 $3 > 0.05$ $4 = 0.02$

Note: 1 – the probability of difference between the physiological pregnancy and the study group; 2 – the probability of difference between the group of placentas with iron-deficiency anemia and the study group; 3 – the probability of difference between the inflammation and comorbid inflammation in iron-deficiency anemia; 4 – the probability of difference between the inflammation in combination with iron-deficiency anemia and without inflammation in iron-deficiency anemia.

The results of our research can serve as additional criteria for making pathological diagnosis of acute and chronic forms of chorioamnionitis with the determination of morphological differences caused by iron-deficiency anemia in gravidas out of inflammatory foci. Iron-deficiency anemia in gravidas leads to the intensification of proliferative processes in the trophoblast of the chorionic villi of the placenta relative to the placenta from physiological pregnancy. In case of acute as well as in chronic chorioamnionitis the proliferative activity in the trophoblast of the chorionic villi of the placenta increases.

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DIFFERENTIAL DIAGNOSIS OF ALCOHOL AND CARBON MONOXIDE POISONING BY MEANS OF STATISTICAL ANALYSIS OF DIFFUSIVE TOMOGRAPHS OF OPTICAL ACTIVITY FLUCTUATIONS OF THE ADRENAL GLANDS HISTOLOGICAL SPECIMENS

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The currently known diagnostic signs of death from acute poisoning such substances as alcohol and carbon monoxide are relatively evidential, and sometimes subjective, which determines the search for new diagnostic methods to differentiate the cause of death from poisoning in forensic practice.

Objective of the research is to evaluate the possibility of objective differentiation of the cause of death in cases of ethanol and carbon monoxide poisoning by statistical analysis of diffuse tomograms of fluctuations in the optical activity of histological specimens of the adrenal glands.

The object of the study were histological sections of the adrenal glands, selected from 110 corpses that died of coronary heart disease (1 control group, $n = 20$), due to ethanol (group 2, $n = 45$) and carbon monoxide poisoning (group 3, $n = 45$). Histological sections of the adrenal glands were made according to standard methods on a microtome with rapid freezing. The research method is based on the implementation of polarization reconstruction of the distributions of the average values of birefringence of the polycrystalline component of the adrenal glands specimens in cases of ethanol and carbon monoxide poisoning.

The statistical analysis (calculation of the mean Sr , dispersion Dp , asymmetry As and excess Ek , which are systematized and presented in table) identified the following scenario of changes in tomographic manifestations of necrotic changes in the molecular structures of the adrenal tissue in cases of alcohol and carbon monoxide poisoning – reduction of the magnitude and ranges of changes in the values of fluctuations of circular birefringence (FCB), which are quantified in the reduction of statistical moments of the 1st and 2nd orders, as well as in the increase of the statistical