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MORPHOFUNCTIONAL ASYMMETRY OF THE HUMAN BRAIN HEMISPHERES

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Introduction. In the present time researching of the functional asymmetry of the human brain hemispheres is important general scientific problem of neuropathologists, physiologists and geneticists. Functional potential of the human brain is more developed in the left hemisphere than in the right hemisphere, as there is better parasympathetic activity in left center of cerebral trunk than in right one. According to many researches it's known that left and right hemispheres of the human brain have different functions. The left hemisphere of the human brain is responsible for speech function and takes a part in prediction of difficult motor and mental acts and right hemisphere is responsible for the orientation in space.

The aim of the research is detection the asymmetry of hemispheres of the human brain in the middle part of the anterior central gyrus.

Materials and methods. The research was carried out on preparations of the human brain. Quantitative changes of neurons, glial cells and capillaries in hemispheres of the human brain were researched. During researching of the middle part of the anterior central gyrus it was detected that the average of the quantity of neurons, glial cells and capillaries is higher in the left hemisphere than the right hemisphere.

Conclusion. Thus, it may be suggested that for this research there is more right-handed people in a random select of objects, so the left hemisphere is more developed in right-handed people than the right hemisphere.

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MORPHOLOGICAL PECULIARITIES OF THE NERVES OF THE HUMAN SUBOCCIPITAL MUSCLES

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Introduction. Motor activity of human body is provided by his muscular system which functions are closely related to other organs and integrated by the central nervous system. Considering this studying motor apparatus anatomy, its innervations and functional features should be assumed as an actual task. Lack of full information about anatomy and structural organization of the nerves of the suboccipital muscles, scientific and practical value of the problem determine actuality of this topic.

Aim. To study macro-microscopic anatomy and structural organization of the extra- and intravisceral nerves of the human suboccipital muscles.

Materials and methods. We were first to perform complex macro-microscopic and microscopic research of the suboccipital muscles of human considering their individual variability and age features to show age-depending dynamics of formation of structural organization of the conductor element of innervations of the suboccipital muscles. It was found that the process of myelogenesis of the nerves of the suboccipital muscles fits to the common stages of the peripheral nerves development.Wherein the stage of productive myelogenesis could be divided into two phases. During the period of embryogenesis the formation of myelin component of nerves of different muscles proceeds asynchronously and subordinates to the common regularities of the systemogenesis. Analysis of the morphometric parameters of the studied muscles allowed to define the appurtenance to the

certain functional type. Besides there were identified four forms of the short dorsal occipito-spinal muscles according to their external structure. The nerves of suboccipital muscles (rectus capitis posterior major and minor muscles, obliquus capitis inferior and superior muscles) were examined on the 20 cadavers of different sex and age. In total there were studied 150 macro-microscopic materials of nerves of the certain suboccipital muscles and 50 histological materials of the human muscle nerves. The source of innervations of the suboccipital nerves no the all materials are posterior rami of the C_1 and C_2. Topography of this rami in the all examined groups is equal.

Results. The location of "hilus" is defined for each muscle. Nerves enter the rectus capitis posterior major muscle trough the lateral part of its posterior surface, the rectus capitis posterior minor – through its posterior surface. The "hilus" of the obliquus capitis posterior major muscle is located on the superior and inferior edges of the muscular ventricle. Fetuses, newborns and children have "hilus" located near one of the extremities if the muscle and juveniles and another age groups – in the middle part of mucle. Posterior rami of the C_1 and C_2 are connected by a small nervous trunculus. We defined three forms of the location of this trunculus of the obliquus capitis inferior muscle: 1 – the nervous trunculus perforates the muscle (29,3%), 2 – the trunculus lays on the posterior surface of the muscle (8,5%), 3 – the connection is formed by two trunculi, one of them perforates the muscle and another one lays on its posterior surface (62,2%). In the thick of majority of the examined muscles the nervous trunculi are distributed mostly in mixed form and only in the thick of the rectus capitis posterior minor muscle the nerves branch in the magistral form. These forms of distributing of the intramuscular nerves take place on the materials of all age groups. Zones of the maximum concentration of the intramuscular nerves on the materials of fetuses, newborns and children are shifted toward the one of the ends of the muscle according to the "hilus" location. Juveniles and another age groups have them in the middle part if the muscular ventricle.

Conclusion. Locations of the "hili" where the nerves enter the muscles were defined. During the postnatal life they move from the end of the muscular ventricles to their middle parts. According to the situation of the "hili" the concentration of the nerves are different.

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TEAR GASES AND IRRITANT INCAPACITANTS: APPLYING, TOXICOLOGY, POISONING PREVENTION AND MEDICAL AID

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Introduction: Partial demilitarization of international relations on the background of sustainable economic contradictions and existing local armed conflicts threaten the peacekeeping process. Current unstable sociopolitical situation necessitates it not only for military doctors but , what's not least important and sometimes even more crucial, for civil doctors and health workers to know toxicology of poisonous military substances and also be able to provide prevention of poisoning , first aid and treatment.

The purpose of this study is to review toxicology and treatment guidelines of tear gases and irritant incapacitants that are in service of Ukrainian army and several foreign armies.

Results: Irritant incapacitants, also called riot control agents, lacrimators and tear gases, are aerosol-dispersed chemicals that produce eye, nose, mouth, skin and respiratory