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СОСУДИСТО-НЕРВНЫЕ СТРУКТУРЫ ОРГАНОВ ВЕРХНЕГО ЭТАЖА БРЮШНОЙ ПОЛОСТИ

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Данные о нервных структурах, которые находятся в паравазальной соединительнотканной клетчатке в адвентициальном слое стенки кровеносных сосудов, весьма важны для разработки новых оперативных методик, а также в практике рефлексотерапии.

Нами проведено исследование паравазальных нервов печени, желудка, 12-перстной кишки, селезенки на 95 трупах людей разных возрастных групп (плоды, новорожденные, грудной возраст, зрелый и пожилой возраст). Анализ полученных данных показал, что архитектура этих нервов находится в определенной зависимости от топографии и характера ветвления сосудов указанных органов. Нервные стволики, располагаясь вдоль артериальных ветвей, образуют между собой многочисленные связи. При этом зональные нервные сплетения чаще формируют нервные связи в виде петель. При дихотомическом делении артерий основные нервные стволы сплетений, подходя к воротам органов, формируют зональные сплетений. Проникая в орган, паравазальные нервы дают начало внутриорганным сплетениям, которые сопровождают одноименные артериальные ветви. Внутриорганные артерии сопровождают от одного до четырех нервных стволиков, которые образуют между собой связи в виде сплетений.

Анализ миелоархитектоники нервов, формирующих паравазальные сплетения изученных органов, показал, что в них (преимущественно вблизи ворот органа) по количеству волокон преобладают миелиновые волокна тонкого диаметра (от 1,0 до 3,0 мкм). Миелиновые волокна среднего и большого диаметров встречаются в начальных отделах указанных нервных сплетений. Мы также установили взаимосвязь между внешним и внутриствольным строением нервов. Так, при рассыпной форме ветвления желудочных ветвей блуждающих нервов наблюдается многопучковая форма их внутриствольного строения.

Указанные особенности анатомии изученных сосудисто-нервных структур следует учитывать при органосохраняющих операциях в практике абдоминальной хирургии.

MORPHOLOGICAL CHANGES OF THYROID GLAND IN CONDITIONS OF EXTRACELLULAR DEHYDRATION OF ORGANISM

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A thyroid gland has a high ability to morphofunctional reformation under the impact of exo- and endogenous factors. Presently, the most studied are: the influence on the thyroid of ionizing radiation, temperature rate, physical activity, traumatic stress, tobacco smoke, various hormones, xenobiotics, drugs. However, in the modern scientific literature, the morphological changes in conditions of water-salt metabolism dysfunction is highlighted insufficiently.

The experiment was conducted in autumn-winter period on 12 sexually mature thoroughbred white male rats. The experimental animals were divided into 2 groups: control group (6 animals) and experimental (6 animals). The later were exposed to the artificial extracellular dehydration of a mild degree.

The histological structure of the thyroid of the control-group rats is characterized by the prevalence of small and medium-size, oval-shaped follicles in the lobules of the gland. The follicle cavity is filled with a homogenous colloid pink in color. Follicular endocrine cells are mainly dark-colored containing vacuoles in the cytoplasm; the shape is cubic. At the periphery of the lobules, there are based large follicles with brightly stained colloid.

During the microscopic investigation of the experimental animals' thyroid, it was found that the major area of the organ in occupied by lobules of small sizes without clear division into center and periphery. The overall histological picture depicts tiny structure of the follicles. In the lumens of the majority of the follicles, there is an inconsiderable amount of desquamated epithelium. There are some lobules, which are separated from each other by interlayers of the hydropic stroma that has visually empty slots. In-between collagen interlayers of the interfollicular stroma there are found numerous flattened cells. In the other zones there are lobules, which are demarcated by the hydropic stroma to a lesser extent; the follicles vary in size: central lobules are tiny and those at the periphery are larger. In the tiny follicles and cellular aggregates, light-colored cells with vacuolated cytoplasm are prevailing. The inner contours of the tiny follicles are unclear in some areas. The lumen of the tiny follicles is filled with dimly eosinophilic colloid. Large follicles are generally filled with a colloid pink in color, some contain interfollicular epithelial outgrowths.

Thus, on the preparations of the experimental animals, we note evidences of the enhancement of the thyroid functional activity, which is indicated by vacuolated cytoplasm, rarefaction of the colloid and the increased formation of follicles. In the peripheral areas, folliculogenesis is implemented by follicle fragmentation with liberation of smaller "daughter" follicles.

GLOBAL METHYLATION STATUS IN MALIGNANT BRAIN TUMOR TISSUE.

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The DNA methylation is one of the main epigenetic inheritance form, which contributes in the regulation of gene expression. Abnormalities in DNA methylation processes can provide information about many pathophysiological conditions, including tumorigenesis. DNA hypomethylation was the initial epigenetic abnormality recognized in human tumors. Glioblastoma (GB) is the most common and the most aggressive primary brain tumor in adults and therefore is considered one of the major issue in modern medicine. The aim of our study was to compare global methylation status of DNA in peripheral blood cells and in biopsy tumor tissue from patients with diagnosed GB using Imprint® Methylated DNA Quantification Kit. Results of our study show global hypomethylation DNA status of GB tissues compare to global methylation DNA status of peripheral blood cells. Quantification of global methylation status confirm DNA hypomethylation in malignant brain tumor tissue, which may contribute in deregulation process of gene expression and subsequent tumor cell survival. Furthermore, detection of specific DNA methylation changes in GB tissue can subsequently help in understanding of specific genes activation and silencing through epigenetic events in tumor cells.

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STRUCTURAL CHANGES OF RED BLOOD CELLS UNDER THE CONDITIONS OF VIOLATION OF WATER-SALT BALANCE

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Erythrocytes are important cells in your body that travel in the blood. They are involved in a gas exchange that is essential to human life. Erythrocytes – unique cells in our body, which lose their nucleus and other cytoplasmic organelles in the period of growth.