Conclusions. Fulfilling the requirements of the Act of dissertation can be sure that the results of experimental research, obtainings them in the process, will be accurate and reproducible.

Topchii S.V., Izmailova L.V.

STRUCTURAL ORGANIZATION OF NERVES OF THE SUPERFICIAL TEMPORAL AND FACIAL ARTERIES

Research Advisor: PhD, Associate Professor Kulish A.S.
Department of Human Anatomy
Kharkiv National Medical University
Kharkiv, Ukraine

Actuality: Nervous system of vessels, in particular arteries, has attracted the attention of the morphologists and clinicians for a long time. Currently, in addition to practical requests of agiosurgions, accurate data on the structural organization of the nervous apparatus of adventitial plexuses of arteries are of great theoretical value for a more complete understanding of the nerve supply of each organ.

The aim of this study was to clarify the sources of nerve periarterial plexuses of superficial temporal and facial arteries, quantify the structural organization of myelin nerve component constituting their adventitial plexuses.

Materials and Methods: The study was conducted by conventional and macromicroscopic and gistotopographic methods. Complex modern morphological methods were used to obtain data on the structural organization of the nerves. Cross-sections of the neurovascular complexes stained according to methods of Weigert Pal and Krutsau were studied.

Results: Macromicroscopic preparation methods using a binocular microscope revealed that sources of the adventitial nerve plexuses of the superficial temporal and facial arteries are branches of the superior cervical ganglion of the sympathetic trunk and branches of the facial, trigeminal, vagus and glossopharyngeal nerves. Studying histograms of neurovascular complexes of the superficial temporal and facial arteries showed that their adventitial plexuses forming nerve trunks of various sizes. Thus, adventitia of the temporal artery of the newborn in its proximal part the number of trunks ranges from 3 to 8, in adulthood - from 7 to 15. The adventitia of the facial artery has from 2 to 5 trunks, in newborns, in adulthood - from 5 to 12. The nerves of newborn they are represented only by thin (1-3mkm)

fibers. In adulthood, the spectrum of myelin fibers is mainly represented by fine fibers, their content is 82-85%, the content of the medium-sized fibres (diameter 3-7mkm) - 7-11%, and thick ones (7-10mkm) - 5-9%. The total number of myelin component in the nerves of the superficial temporal artery in newborns was 9 ± 3,3, in middle age - 56 ± 11,8. In the nerves of the adventitial plexus of the facial artery in newborns total number of myelin fibers was 7 ± 1,8, while in adulthood - 37 ± 9,6.

Conclusion: Thus, the main sources of studied plexuses are branches of the superior cervical ganglion of the sympathetic trunk, the branches of the facial, trigeminal, glossopharyngeal and vagus nerves. The nerve plexuses in the adventitia of the superficial temporal and facial arteries are formed by macroscopically visible as well as by microscopic nerves with diameter less than 70 microns. Quantitative and qualitative data of myelin fibers in the nerves of adventitial plexuses of studied arteries vary according to the age and the widths of studied vessels.

Tsimokh I., Zhuravleva P.

COMPLEX GENETIC DISORDERS

Research advisor: Shmulich O.,Candidate of Biological sciencis
Department of Medical biology, Kharkiv National Medical University, Kharkiv, Ukraine

Introduction. The problem of studying genetic mechanisms of predisposition to diseases, inheritance of which does not fall under the Mendel's rules and depend on a significant number of genes with additive effect (genetic component) and on the environmental factors (environmental component) is one of the less examined.

The actuality of this problem solving lies in the fact that on the modern stage the multifactor diseases make 94% of all human diseases.

The aim of our research is to determine influence of the environmental factors and genetic predisposition on diabetes mellitus development.

Material and methods. The research method is data collection from the controlled group of 46 persons, among whom were sick and healthy people of different ages. Data collection took place over several days.