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MORPHOLOGICAL FEATURES OF THE GUINEA PIG BRAIN STEM ARTERIES DISTRIBUTION

Different types of laboratory animals are used in experimental practice for modeling pathological conditions of the cerebral vascular system. Among them is a guinea pig. Guinea pigs are mature born mammals in which the formation of organs and systems is completed by the time of birth.

In the available literature, we did not find any data on the features of blood supply to the brain of a guinea pig.

The purpose of recent study was identification of the morphological features of the guinea pig brain arteries, especially its trunk.

For this aim, the main brain’s stem arterial vessels of a guinea pig brain were examined macroscopically on 14 preparations taken from animals of the experimental study control group. Animals were subjected to aftonasia in accordance with the rules of bioethics.

To study the way and branching of the arteries, we performed the filling of the cerebral artery through the vertebral and internal carotid arteries. The liquid latex painted red aniline dye used for. The filling of the vessels was performed with an insulin syringe.

As a result of these invistigation, the following morphological features of cerebral arteries in the guinea pig were established.

Vessels that form the Willi’s Circle and participate in the blood supply of the stem part of the guinea pig’s brain, are located in four planes that converge with each other at obtuse angles of different magnitudes in their places of origin.

The branches of the internal carotid artery supply the optic chiasm, tuber cinereum and tractus opticus with the blood. It is a nasal, caudal connective and sometimes middle cerebral artery. The main source of blood supply to the optic tract is the anterior villous artery, which gives the branches to the cerebral peduncle and the lateral cranial body. The posterior lateral and medial villous arteries supply blood to the thalamus along with the large branches of the caudal cerebral artery. The blood supply of the quaternary plate is performed by the upper, middle, and lower quaternary arteries, which branches of the caudal or main arteries. The arteries of the cerebral peduncles branch from the caudal cerebral and caudal connective arteries. They are immersed in the intercostal fossa and supply blood to the midbrain reaching the ventral parts of the thalamus. The dorsal sections of the thalamus supply the blood by branches of the posterior villous arteries and large branches of the caudal cerebral artery. Extraorganic anastomoses are formed not only by branches extending from the Willi’s Circle, but also by vessels that supply blood to the large hemispheres of the brain.