

## 297. OXYGEN CONSUMPTION DETERMINATION ADMINISTERING BENZITURONE

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**Introduction.** Research of new isothioureia derivatives has reached significant proportions in recent years. Generally, they are known as effective vasoconstrictor substances possibly to be used in arterial hypotension. The last studies of these compounds undermined a substance with hypotensive effect chloride-S-benzilizotiourone (benziturone).

**Goals.** Benziturone influence experimental elucidation of oxygen consumption in laboratory animals.

**Materials and methods.** Oxygen consumption was determined within 3 min using S.V. Miropolski system at the time intervals: 1-3 min; 5-8 min; 15-18 min; 30-33 min; 60-63 min; 120-123 min. The experience included 2 groups of rats of the Wistar line, 10 in each, weighing 208-320g. The rats from the control group were administered 2 ml of saline solution intraperitoneally, those in the test group, benziturone in the dose of 2 mg / kg. Statistical study according to t-Student criterion.

**Results.** In the time intervals 1-3 min; 5-8 min; 15-18 min; 30-33 min significant statistical differences of the mean value of oxygen consumption between the test group and control group were not determined. Conversely a difference in the mean value of the control group was observed:  $19.61 \pm 0.95$  in 60-63 min;  $17.54 \pm 0.43$  min in 120-123 and test group:  $14.36 \pm 1.33$  in 60-63 min;  $11.22 \pm 1.55$  in 120-123 min, where  $p = 0.004$  for 60-63 min; and for 120-123 min  $p = 0.001$

**Conclusions:** As a result of experiments a decrease in oxygen consumption was observed due to benziturone administration comparing with the control group. The decrease was significant starting with the minute 60.

**Keywords:** benziturone, oxygen consumption.

## 298. MORPHOFUNCTIONAL VARIABILITY OF THE LATERAL VENTRICLES OF THE BRAIN AND CHOROID PLEXUSES

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**Innovation:** The study is devoted to the study of macro-microscopic anatomy of the choroid plexus and lateral cerebral ventricles. This theme remains up-to-date, because each of neuroscience and neurophysiology stages of development require the review of previous formulated conceptions. In this

contest, continuously arise additional questions; they refer to histogenesis, structure, variability and their functions. Choroid plexuses of lateral cerebral ventricles, as an organ, are connecting two organized systems vascular and nervous ones. The interest in studying the vascularization of the central nervous system and the innervations of cerebral and meningeal vessels persists throughout the years.

Researches carried out on brain ventricles and choroid plexuses are needed not only in terms of theory but they also are important for neurology practice.

Choroid plexuses of the cerebral ventricles derived from the pia mater (leptomeninge) play an exclusive role in producing and regulating the cerebrospinal fluid being arranged between two components of the body, blood and cerebrospinal fluid. Due to the insufficient study of plexuses and lateral cerebral ventricles from the macro-microscopic and microscopic way, the interest in their research persists.

**Research purposes:** To establish the morphofunctional variability of the lateral cerebral ventricles and the components of choroid plexuses.

**Research Methods:** Anatomic method of preparation: Brain extracted carefully from the skull of the corpse was introduced into formalin solution of increased concentration. Besides this, through the lower wall of the third ventricle was performed an additional fixation by injecting from 15 to 20 ml of 3% solution of formalin. Thereafter with the knife for brain were carried out a number of horizontal sections from the dorsal surface of the brain to transverse fibers of the corpus callosum. Then were opened the anterior horns of the lateral ventricles and pointing the oblique knife downward the basal nuclei were sectioned. Additionally, with the help of the scalpel and scissors were opened lower and posterior walls of the horns of the lateral ventricles, where the choroid plexus were discovered. To demonstrate the central part of the lateral ventricles the corpus callosum is removed and the fornix commissure is sectioned.

During the process dissection, brain preparations were photographed layer by layer.

**Results and discussions:** Choroid plexuses from the lateral cerebral ventricles of the human body represent the vascular organs which are composed of base and villosities which in children and newborns are in form of clamps (trabeculae) of gray or purple color. At the age of sexual maturity the choroid plexus almost cannot be distinguished by external appearance from those in adults, representing granulated cords of red or pale red color.

Thus, choroid plexus of the cerebral ventricles are made up of loose connective tissue, epithelium and blood vessels. They differ in the villous area which contains numerous villosities covered by uni-layered epithelium. Villosities may be of different size from tiny to large, being arranged solitary or in various components. In the center of bulky villosities are arranged blood vessels that are larger than the capillaries located in the center of small villosities.

Some capillaries have wide lumen and can be found in the vicinity of the epithelial lining, others with narrow lumen are arranged in the deeper layers of the choroid plexuses. Many blood vessels are located in the conjunctive tissular stroma of the plexus. As noted, choroid plexuses of the human brain ventricles are provided with human blood supply and complex structure of microcirculatory bed. This is the reflection of the general principle of vascularization of the brain, which is in special hemodynamic conditions. The blood reaching the brain is subjected to gravity forces. The blood that goes from the

heart to the brain through the arteries must amount upward against gravity. Vascular bed from all cerebral segments, including that of the ventricles of the brain, is found in a confined space limited by rigid walls of the skull. Brain ventricles represent interconnecting cavities located in the brain lined with ependyma forming a whole network through which cerebrospinal fluid circulates. The lateral ventricle is located in the hemisphere, with a horseshoe or the letter "C" shape, acquired from the consecutive development of different compartments of the hemisphere and is distinguished by lower, anterior and posterior horn. Ventricular wall consists of the temporal lobe caudate nucleus and fornix. As a result of investigations were found different variations of form and structure of the lateral cerebral ventricles and their choroid plexus. These variabilities are dependent on age, level of development of the brain, the secretion of choroid plexus and of same neurological pathologies.

**Conclusion:** The development, form and structure of lateral cerebral ventricles and choroid plexus arise while developing brain microvascular network and indicating a correlation between them.

It is important to know the morphology and the variability of lateral ventricles and choroid plexuses in the field of neuroscience and neurosurgery, in order to establish a correct diagnosis and to indicate the effective treatment of neurological pathologies.

**Key words:** plexus, ventricle, brain, development.

## 299. STUDY ABOUT VARIABILITY OF THIGH VASCULARIZATION

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**Introduction:** Besides the rate of development, the XXI century also means the shift to individualized medicine, in all its areas and especially including surgery. Due to this, a bibliographical and practical study was elaborated in order to determine the variability of vascular branches of high caliber variability, in the region of anterior thigh, this being very important in achieving angiography, arterial punctures, local surgical maneuvers.

**Materials and Methods:** In order to achieve the proposed goal, a bibliographical study was elaborated with reference to blood vessels distribution, as well the several thighs dissection of cadavers with and different gender and constitution.

**Discussion and results:** The results of dissections give the right to mention that they coincided with the bibliographical result, which will be exposed. It was found a particular case, characterized by a circumarterial bifurcation of the femoral vein around a perforating branches of the deep femoral artery, it was also determined in some bibliographical sources that this case is common in 40% of cases. With reference to deep femoral artery, it may be defined by its direction: 48% of cases with a lateral or dorsal-lateral direction to femoral artery, in 40% it has a dorsal direction, 10% of cases, a medial or dorsal-medial orientation, and 2% of cases it may be double, medial and lateral directions. [T. F. Massoud si E.W.L. Fletcher (1997), Siddharth, P., Smith, N.L. s.a. (1885), Munich (1860)].