

Increase that occurred both through internal and tunica artery to a greater extent by internal, as evidenced dostovernoe increase I / M in all groups compared with the control. The thickness of the inner lining of arteries and the average was significantly increased compared to control in all groups and reached the maximum performance in Group III. Increasing the thickness of the inner and middle shells occurred due to hypertrophy and proliferation of smooth muscle cells, increasing the content of collagen.

The internal elastic membrane with areas of thickening and thinning, razvoloknetion and destruction.

Conclusions. Thus, it was found that the changes of the arteries begin at the early stages of the disease and increase as the disease progresses. The thickening and hardening of the blood vessels leads to increase its rigidity, change the functional activity, which in turn increases the risk of cardiovascular complications in these patients may lead to inadequate perfusion of the brain and contribute to the development and progression encephalopathy. It talks about the importance of early diagnosis and prevention of vascular disease in patients with COPD, which will improve the course and prognosis of the disease, as well as to improve the quality and duration of life of these patients.

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Cognitive and emotional components of the general adaptation syndrome of rats at short-term social isolation

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Abstract. Adaptation is a process of functional and structural reconstruction of an organism in whole or its systems under the varieties environment or conditions social (zoo social) to optimization of its functions which result is adaptoneself completely. One of types of physiological adaptation is search activity or search behavior which is always closely connected to the higher functions of a brain and first of all with cognitive abilities.

There are 2 kinds of adaptation:

1. Biological, evolutionary it structural or slow which occupies a millennium, centuries, years, months. 2. Physiological, functional, behavioral or fast which occupies hours, minutes, seconds. Fast behavioral adaptation is a subject of our analysis of a modern state of a problem which is effected on the basis of two new sciences which have appeared in the end of the XX-th century - psychobiology, psychophysiology and some our researches within the limits of the given scientific problem in this direction for the last few years.

Usually, in vivariums for rats of animals contain on five and more unisexual individuals in one cage where the zoosocial medium which, undoubtedly, makes the impact on their individual emotional and cognitive a state is formed, and also on their adaptive abilities. It is known, that long-term social isolation at early age is essential breaks the higher functions of a brain and behavior of rats, but it is not known, how can change a psychobiological and psychophysiological state short-term isolation in adult individuals.

Numerous forms of behavior of animals and the person share on two big categories: the congenital and acquired kinds of behavior. Congenital kinds of behavior have genetical determined program, and therefore in preliminary training of animals and the person is not present necessity. On the contrary, long preliminary training, especially for complex forms always is necessary for the acquired of behavior. In the researches spent by us in an equal measure both these have been presented forms (kinds) of behavior in an equal measure. For achievement of this purpose various methods of carrying out of experiments have been used.

We use concept of "ability": the rat has basic signs of psychophysiological features distinguishing one rat one another, which concern success of performance of search of an exit out from our problem chamber (search activity), but also ease and speed of acquisition

The work purpose - consisted in defining as short-term social isolation on Behavioral Adaptability- Acquired Behavior Cognitive Abilities, on Acquired Behavior - Emotional State and Exploratory Activity of rats in relative aspect influences.

Keywords: Behavioral Adaptability, Cognitive Abilities Test in Rats, Problem-Solving Box (PSB) or Hexagonal Labyrinth by Grigor'ev, Congenital Behavior, Acquired Behavior, Elevated Plus Maize (EPM), Anxiety (Emotionality).

Material and methods:

Experiments were performed on 32 adult mongrel male rats aged 5–6 months. Each animal had its own individual labeled cage. Animals were kept separately in groups of six individuals in spacious cages with free access to feed and water.

All animals have been divided into 2 bunches on 16 individuals. Primary testing of 16 animals was spent in the first day. In the beginning experiments used an EPM. The test duration was 3 min and the periodicity of testing was as in the first series. The integral assessment of investigative activity in points was as per our system: the time spent in the open arms of the maze and the duration of movement activity were assessed at the rate of 0.1 point per sec, and hangings and vertical rearings were assessed as 1 point per episode. Anxiety was assessed by counting the time spent in the closed arms of the maze (0.4 points per sec), the number of boluses (1 point per bolus), and the number of grooming acts (1 point per act). Individual assessments of all measures were expressed in relative units, taking 100% as the largest total number of points accumulated by any one of the test animals. Measures for all other animals were expressed relative to this level (2).

Second the Cognitive Abilities Test in Rats was modeled experimentally in a problem-solving box (1). Measures of the productivity of seeking activity were recorded on video camera. Testing was performed after initial acquisition of unilateral active reflex avoidance of an aversive stimulus applied to the paws with an impulse threshold current (0.1–0.2 mA, duration of stimulation 1 sec, presentation 3 sec after the animal was placed in the box). When first placed in the box, the animal investigated the box, found the exit, opened the door with the head or paws, and exited into the free space around the box. After three days of this investigative training, acquisition of the active avoidance reflex was started with delivery of current to the electrode floor of the box. After 10 combinations of being placed in the box and activation of the current, this skill was present in 100% of the experimental animals. The door selected by the animal was locked when the animal was tested after an excursion through this door. The selected door became unavailable, which created a problem situation and motivated the search for another, as yet unused, door. This process was repeated cyclically until the last, sixth, exit from the box was found, this completing one search cycle. Excursions were correct when each used a previously unused door. Excursions were erroneous when directed to a locked door, i.e., a dead end. The total numbers of erroneous and correct

excursions performed by the animals was taken as 100% and the number of correct excursions as x%. The maximum possible number of correct excursions was six. Cognitive Abilities in Rats or Effectiveness seeking activity was 100% when there were no erroneous excursions in the search cycle.

After testing animals were located in separate opaque bell jars occluded with a lattice from above and from below, well aired where rats were in full isolation from each other. Animals received also nutrition to uptake individual and were in full isolation of 2 days. After this exposition testing on at the same time days and under the same program again was effected. Data were analyzed statistically using Statistic 6.0 running correlation analysis.

Results and discussion.

Studying of all congenital forms of behavior in EPM has revealed and has specified what they more all is subject to uniform deformations and deviations. So, for example, time of stay in open arm of a labyrinth after two-day social isolation of rats authentically decreases with $41 \pm 6,3$ sec to $12 \pm 4,1$ sec ($p=0,02$). Also time of movement activity with $26,4 \pm 3,2$ sec to $10,2 \pm 1,4$ sec, ($p=0,016$) simultaneously decreased. At the same time, the quantity hanging and vertical rearing after social isolation has increased authentically with $4,61 \pm 1,1$ to $7,62 \pm 1,5$ ($p=0,05$) in spite of that this indicator concerns investigative activity.

Emotionality or disturbing as the inwardness of all organisms and a brain is congenitally inherent property. Negative emotions (anxiety) in test EPM determinestay time an animal in the closed arms of a labyrinth, to this state increases quantity grooming and boluses. The emotionality assessment is given in points. The average size before social isolation was equal $56 \pm 2,3$ and after isolation practically remained invariable and was equal $57 \pm 2,7$.

Cognitive Abilities Test in Rats measured individual level of informative abilities(1, . Average level CA was equal $34,15 \pm 2,9$ %, and after social isolation it has raised to $40,5 \pm 3,2$ %, the augmentation at 6,24 % has revealed only the tendency. Reliability received difference has appeared statistically insignificant. However, statistical processing of individual parameters of an emotionality and Cognitive Abilities has revealed statistically authentic law - dependence parameters of Cognitive Abilities parameters from level parameters emotionality. Correlation and regressive analysis has revealed existence of strong correlation communication between these sizes. Quotient of rank correlation $r = - 0,76$ ($p=0,0001$). Level Cognitive Abilities expressed in % of successful and correct decisions on the attitude erroneous, that more than is less level of disturbing Anxiety. At comparison of individual parameters of increase or fall of efficacy of search of an exit from the problem chamber in various rats on the abilities one more law is revealed. The quantity of animals raised cognitive level after stay in the chamber isolated from a society has compounded only 30 %, and those which have lowered cognitive level there were 70% (4).

Why decreases horizontal Investigative activity after stay of rats in isolation. The answer is simple - there was a short-term adaptation to the varieties conditions of existence. In the occluded space there is no need for the constant control of permanent changes as it is necessary and was actual in a social environment. The chamber for isolation of animals in experience was narrow in horizontal space, but enough high in upwards, that allowed rats to do vertical rearings constantly. It is represented to us, what exactly therefore has authentically increased quantity of vertical rearings.

Cognitive abilities in animals and humans are relevant in problem situations, when there is no ready algorithm for solving a task and stereotypical actions are non-productive and do not lead to the achievement of the predicted result. This situation generates an urgent need for a solution of the logical task regardless of its complexity. The individual levels of cognitive abilities in animals determine the greater or lesser effectiveness of the directed search for the correct solution of a standard cognitive task. On testing in the problem box, this task was identical for all animals - not to need in Cognitive abilities in animals and humans are relevant in problem situations, when there is no ready algorithm for solving a task and stereotypical actions are non-productive and do not lead to the achievement of the predicted result. This situation generates an urgent need for a solution of the logical task regardless of its complexity. The individual levels of cognitive abilities in animals

determine the greater or lesser effectiveness of the directed search for the correct solution of a standard cognitive task. repeated excursions along already used channels, each time searching a new pathway to achieving the step-wise result, The Emotion will be positive only when the brain has sufficient level Information, Knowledge, Skills, their presence depends on I.Q. for Rats or Cognitive Abilities, what exactly and determine test CA. GAS includes concept Distress and Eustress, animals which on weak irritant - the labyrinth or the problem chamber and form Distress - 70 %, and only 30 % form in such situation Eustress.

Results of behavioral tests showed that negative emotion and defect of level Information, Knowledge, Skills decryes levelCognitive Abilities, a contrary - positive emotion and high level Information, Knowledge, Skills highlevelCognitive Abilities.

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The principles of medical care of the patients with metastatic brain tumors

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Abstract. The frequency of metastatic tumors of the brain; the sources of the metastatic spread were analysed in this work; the possibilities of methods of neurovisualization in the diagnosis and surgical removal of secondary tumors of the brain were shown. The low of the revelation of metastatic tumors dictates the necessity of the union of neurosurgeons, oncologists, chemotherapeutists and radiologists to render the assistance to patients with the secondary injury of the central nervous system.

Key words: metastatic tumors, the frequency of occurrence, sources of metastatic spread, surgical treatment.

Exact figures of tumors morbidity of the brain are not clear and according to Russian oncologists they make up about 15 per 100000 of the population a year, this significantly exceeds the morbidity of primary tumors of the brain [5]. According to the data of the cancer-register of the USA the morbidity of metastatic tumors of the brain achieves 35 per 100000 of the population [1, 2, 3]. At present the majority of patients with disseminated cancer does not consult neurosurgeons and the number of them in the neurosurgical hospital does not exceed 8-10% among all intracranial neoplasms. Till recently this group of patients was considered to be with no prospects and got only the symptomatic treatment. At present due to the introduction of new modern methods of neurovisualization there appeared the possibility of the exact diagnostics of the character, localization of secondary injury of the brain using the choose of optimal methods of treatment. It allows to reduce risk factors and indices of mortality during surgical removal of metastases from the brain including the located functionally significant zones [4, 6].