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Статья в номере:

Дозозависимый эффект галоперидола на сократимость миокарда предсердий и желудочков взрослых крыс

Ключевые слова: галоперидол сердце крыса сократимость миокарда

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Изучено влияние галоперидола разной концентрации на сократимость миокарда предсердий и желудочков у крыс 100-суточного возраста.

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Dose-dependent effect of haloperidol on the myocardial contractility of the atria and ventricles of adult rats

Keywords: haloperidol heart rat contractility myocardial

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Proved the role of the dopaminergic system in the cardiovascular system, in the implementation of motor, and neuroendocrine func-tions, as well as its possible involvement in the pathogenesis of several neuropsychiatric diseases. Dopamine (DA) is synthesized as an intermediate or end product in many cells and organs. So DA is an intermediate product of norepinephrine synthesis in sympa-thetic nervous system, chromaffin cells of adrenal gland and paraganglia. Despite the fact that the majority of DA in these organs is converted into norepinephrine, it is believed that it can be released into the General circulation system as a standalone product. There is a presumption that the heart is as capable of synthesizing DA. It was shown that intracardiac ganglia have chromaffin cells. In addition, grafts of myocardial tissue have a surprisingly high concentration of DA. The action of dopamine on the heart is me-diated mainly as adrenergic and dopamine receptors. It is known that in heart of rats found D1 - and D2-receptors, but the functional role of these receptors remains unclear.
Haloperidol is known as a drug that has a calming effect on all spheres of mental activity, is an antagonist of dopaminergic neurons. Thus, the effect of haloperidol is pharmacologically adequate in examining the role of the dopaminergic system. On the "PowerLab" was recorded isometric contraction of strips of myocardium of the Atria and ventricles of rats of 100-day-old age on the action of ha-loperidol. 100 - day-old animals antagonist of dopamine receptors causes a dose-dependent reduction of the myocardium of the Atria and ventricles of rats in the concentration range 10-6-10-4M. Haloperidol at a concentration of 10-6M causes an increase in contrac-tility of the myocardium in 100-day-old rats to 1-5 minutes after addition. The maximum positive inotropic effect in the ventricles is 12,79%, in the Atria 14,99%. 100-day-old animals haloperidol at a concentration of 10-5M causes an increase in contractile activity of the myocardium and to 19 minutes in the ventricles is 13,7%, and in the Atria to 5 minute 1,72%. The effect of haloperidol at a concentration of 10-4M causes a dramatic decrease in the contractility of the myocardium in 100-day-old rats as early as 1 minute after addition. The maximum negative inotropic effect of 10 min in the Atria is 90.7 %, in the ventricles is 15,98%. Therefore, the in-fluence of a nonselective antagonist of dopaminergic receptors haloperidol on myocardial contractility of rats depends on the concen-tration of the substance.

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