Prolonged use of drugs often enough faced with the development of tolerance. Increasing doses of drugs are usually used to achieve a pharmacological effect. Tolerance is often formed during therapy with antipsychotic drugs in the clinic of mental illness [1–4]. It was important to develop an appropriate experimental model for studying the mechanisms of development of tolerance to antipsychotics.

The work aimed to study changes in the severity of haloperidol catalepsy in rats that were given the neuroleptics haloperidol and risperidone.

Material and Methods. The experiments were performed on 80 white non-linear rats males weighing 300–350 g. Animals divided into four groups of 15 animals each. Rats of the first group were chronically administered with haloperidol at a dose of 0.1 mg/kg, of the second group, 0.5 mg/kg. The animals of the third group were injected with risperidone – 0.1 mg/kg, the fourth group – 0.5 mg/kg. The drugs were administered intraperitoneally for 30 days. In those days, when the severity of haloperidol catalepsy was determined, neither antipsychotics nor saline were administered. Catalepsy was recorded on days 15 and 30 using antipsychotics. It served as a control group of rats (20 animals) to obtain the same amount of saline.

The cataleptogenic effect of haloperidol was recorded in the «lecturer’s pose» test, which makes it possible to assess the ability of an animal to maintain an artificially attached position. The front paws of rats were placed on a horizontal bar located at the height of 10 cm, the time of posture preservation in seconds was recorded, and the number of animals in the group holding the «lecturer’s pose» for 60 s was determined. To obtain catalepsy, haloperidol was administered intraperitoneally at a dose of 2 mg/kg. The severity of the cataleptogenic effect was assessed 60, 90, and 120 minutes after the injection of the drug.

The results were subjected to statistical processing using a software package Statistica 6.0 (StatSoft, USA). The studies were carried out following the Rules of Good Laboratory Practice of the Russian Federation (Order of the Ministry of Health of the Russian Federation № 199n dated 04/01/2016) and the guidelines of the «Guidelines for conducting preclinical studies of drugs. Part One» [2].

Results and Discussion. When evaluating the cataleptogenic effect of haloperidol 15 days after the chronic use of antipsychotics, a tendency to reduce the time of preservation of the «lecturer’s pose» by rats was revealed in comparison with the control group of animals. These differences were noted already at the first test (after 60 minutes) and increased with subsequent determinations (90 and 120 minutes after the injection of...
Ultrasonic Diagnosis for Fetal Aortic Coarctation

Dyuzhikov A. A., Duyzhikova A. V., Zhivova L. V., Likhachev-Mishchenko O. V.

Rostov Regional Clinical Hospital, Rostov-on-Don, Russian Federation

The ultrasound assessment of the isolated coarctation of the aortic arch in the fetus was analyzed. Unfortunately, the features of the fetal blood circulation do not allow relying on the ultrasound criteria characteristics of a newborn because of the equal pressure in the ventricles of the fetal heart. This study provides ultrasound criteria for defects, which allows suspected pathologies to be verified in the fetus.

Keywords: aortic coarctation, fetus, prenatal ultrasound diagnosis, B-mode