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THE ASSESMENT OF THE INFLUENCE OF 2-OXOINDOLIN ON APOMORPHINE EFFECTS

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Abnormal anxiety and depressive disorders present one of the main problems for modern medicine [3]. So, further study of aetiopathogenesis and methods of treatment of mental disorders is actual for modern science [2]. The aim of the paper is to study the influence of amide 2-hydroxy-N-naphtalen-1-il-2-(2-oxo-1,2-dihydro-indole-3-yliden) substances 18 and ethyl ether 4-[2-hydroxy-2-(2-oxo-1,2-dihydro-indole-3-yliden)-acetamin]-butyric acid substance 38 on the effects of high doses of apomorphine in rats.

Materials and Methods. Experiments were done on rats of Wistar line. Animals were kept in standard conditions of vivarium with normal diet and water balance in 12 hours light regimen. Substance 18 and E-38 were injected intraperitoneally in the dose of 12 mg/kg before 1 hour of apomorphine use (10mg/kg) subcutaneously. Diazepam (2mg/kg) and imipramine (25 mg/kg) were used by analogical way. Test is concerned with animals investigation, which was done in 30 minutes after injection and the time and duration of stereotypy and expressed stereotypy and presence of hypothermia was determined [1]. The processing of received results was done by Microsoft Statistics 6.0 and Student's t-test was used.

Results. During apomorphine injection stereotyped movements were seen and they lasted for 130 minutes. Based on preventive use of imipramine the latent period of such movements decreased by 1,2 times ($p<0,01$) and the duration of stereotypy increased by 1,2 ($p<0.001$). Traditional tranquillizer Diazepam increased the time of beginning of stereotyped movements by 1,3 times ($p<0,001$) compared with control pathology ($p<0,01$). The time duration of stereotyped reactions – by 1,2 times compared with apomorphine without pharmacological correction ($p<0,001$). Preventive injection of substance 18 possibly did not affect latent period duration and duration of apomorphine stereotype. Imipramine injection caused the increase of apomorphine stereotype on 30 minutes by 1,5 ($p<0,05$) and possible decrease of body temperature compared with dopamine agonist. Such action of imipramine was seen during 60 and 90 minutes during investigation. On 120 minutes antidepressant possibly increased only stereotypy. Diazepam significantly did not cause the development of stereotyped behavior and hypothermia, caused by the use of apomorphine. Preventive injection of E 38 did not intensity the stereotypy on the 30^{th} minute of the investigation, but it possibly prevented the development of hypothermia. On the 60^{th} minute after the beginning of the experiment, E 38 increased the intensity of stereotypy by 1,3 ($p<0,05$) and prevented decrease of rectal temperature. Analogue direction of investigated parameters was also seen. Preventive injection of amide 2-oxoindolin possibly did not affect the intensity of behavior and temperature during the whole period of the experiment. Derivative 2-oxoindolin E 38 changed the effects of high doses of apomorphine. It is manifested by decrease of the latent period of the beginning of the stereotypy, increase of its duration and intensity and prevented the development of hypothermia. E 18 did not cause apomorphine effects in experimental animals. So, neurological and pharmacological interaction of E 38 with apomorphine allows indicating the participation in dopaminergic and serotonergic activity during mechanisms of antidepressive action of ethyl ether of 2-oxoindolin. Conclusions: substance E 38 in 12 mg/kg intensifies stereotypy and decreases hypothermia, caused by high dose of apomorphine (10 mg/kg). Effects of ethyl ether of 2-oxoindolin against the background apomorphine were correlated with reference preparation such as imipramine (25 mg/kg).

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Key words: *derivatives of 2-oxoindolin-3-glyoxilic acid, rats, apomorphine.*

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NEW DIAGNOSTIC POSSIBILITIES FOR DETERMINING THE NATURE OF RESPIRATORY SYMPTOMS IN PATIENTS WITH COPD

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Respiratory symptoms in COPD patients are due not only to the action of air pollutants, and hypersensitivity to household, epidermal allergens; perhaps these are the cases of overlap syndrome. We used the Phadiatop in serum (as a comprehensive study that identifies a predisposition to an allergic reaction to the main inhaled allergens with an increase of specific IgE level simultaneously to allergens of different groups).

Materials and Methods. We conducted a pilot study in 34 patients (average age − 65.0 ± 3.8 years, 28 men, and 6 women) with a long verified diagnosis (more than 5 years ago) of COPD stage III. Determining the level of eosinophils and total IgE in the blood, as well as the study of the Phadiatop test were conducted in the dynamics on the background of the planned treatment of patients − at their inclusion in the study, after 6 and 12 months.

Results showed that the presence of signs of respiratory allergosis in COPD patient (according to Phadiatop test) are most often accompanied by increased levels of eosinophils and / or total IgE level in blood. However, in a certain proportion of patients with laboratory evidence of respiratory allergosis these indicators can be normal.

Conclusions: increased total IgE levels in the blood of COPD patient without the confirmed presence of signs of respiratory allergosis (according to the Phadiatop test);

1) the data that the Phadiatop test results may change in the dynamics of patients follow-up, it can be assumed that the manifestations of respiratory allergosis may change over time;

2) since the Phadiatop test is more sensitive and specific for the detection of symptoms of respiratory allergosis, it should be more widely used at the stages of screening and follow-up of patients with COPD (instead of determining the level of blood eosinophils and / or total IgE).