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GETTING TECHNOLOGY ICE CREAM CAKE

Annotation

This article considers the development of ice cream production in Kazakhstan and abroad. In the paper the technology of ice cream cake production is described. The results of sampling from different companies are presented. The results of the study showed that the sample number 1 from the companies "Coppy Italia Trady" belongs to the exstra variety.

Key words: Ice-cream cake, pasteurizer, frisizer, homogeneous mixture, microbiological researches.

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STUDY OF PHARMACOLOGICAL PROPERTIES OF CYTOTOXIC SERUMS

Abstract

This article presents data on pharmacological properties of two cytotoxic serums in comparative aspect: hypophysial cytotoxic and ovariocytotoxic serums (HCS, OCS). The preparations in following concentrations have been studied: 1:200; 1:500; 1:1000; 1:2000; 1:5000 и 1:10000. The isolated heart of a frog with a HCS dilution 1:2000; 1:5000 and 1:10000 the increase of heart contraction rate by 8-12% were recorded, while dilutions 1:500; 1:200, in contrast, caused decrease of heart contraction rate by 10-30%. OCS in concentration 1:10000; 1:5000 and 1:2000 has not influenced the vessels lumen significantly, but they were tend to contraction, while in concentrations 1:1000; 1:500 и 1:200 the preparation caused contraction of the vessels lumen, i.e. the amount of drops flowing out decreased by 30-37% respectively. The results of experimental researches that HCS has a more expressed generally stimulating effect and OCS is of more organotropic action.

Key words: pharmacology, cytotoxic serums, pituitary, sexual of the ferric.

Introduction

The progress in veterinary science is characterized by constant search and creation of new more perfect and effective bioactive medicines. Many of these medicines are used in order to correct the productivity and reproductive function of animals [1, 2, 3, 4, 5]. It is prospectively in this direction to study the application of immune cytotoxic serums, enabling to specifically influence vital functions of organs and tissues in order to correct their functions until reaching physiological standard.

Medicines of such kind include ovariocytotoxic and hypophysial cytotoxic serums (OCS, HCS). On the ground of the above scientifically substantiated methods of correction of immune status, productivity and reproductive function in animals can be authorized only on the ground of comprehensive study of biochemical, morphological, immunological, hormonal and other organism characteristics [1, 2].

Of the main characteristics, enabling judging of biological activity, is studying pharmacological properties of the medicines produced.

The main aim of the present work is to study some pharmacological properties of OCS and HCS on laboratory animals (frogs, rabbits).

In order to achieve the above aim the following tasks have been set:

1. To study the influence of OCS and HCS on the heart contraction range;
2. To study the influence of OCS and HCS on vascular permeability;
3. To study the influence of OCS and HCS on cardiac activity.

Materials and methods of research

The tests were carried out in the laboratory at the department of clinical veterinary medicine at Kaz NAU. To study pharmacological action of the serums to the heart, the tests were carried out on isolated toad hearts (Straub's method) of frogs [3]. Tests on blood vessels of frogs carried out according to Gramenitsky method [4]. To study the action of cytotoxic serums the data of electrocardiogram were used. ECG of rabbits were taken with the help of two-channel electrocardiograph with ink recording type EKPS–4. The study of vascular permeability of rabbit's skin were carried out by methods of I. A. Ayvin and K. N. Minakova [5].

Results and discussion

We have studied pharmacological properties of two cytotoxic serums in comparative aspect: hypophysial cytotoxic and ovariocytotoxic serums (HCS, OCS). The preparations in following concentrations have been studied: 1:200; 1:500; 1:1000; 1:2000; 1:5000 и 1:10000.

In course of the experiment we found out, that in case of influence upon the isolated heart of a frog with a HCS dilution 1:2000; 1:5000 and 1:10000 the increase of heart contraction rate by 8-12% were recorded, while dilutions 1:500; 1:200, in contrast, caused decrease of heart contraction rate by 10-30%.

OCS dilutions in concentration 1:2000; 1:5000; 1:10000 increased the rate due to increase of heart contraction rate by 6-8%, and in concentration 1:500; 1:200 decreased the rate due to decreasing the heart contraction rate by 10% with an insignificant change of the range.

We have also carried out tests of blood vessels by Gramenitsky method. At the beginning the test Ringer's solution was let through the vessels, amount of liquid drops, passing through the vessels in 1 minute within 10-15 minutes, was calculated. Then the tested solutions were let through. On letting the solutions through the vessels were washed with Ringer's solution. By the amount of drops, which passed through the vessels in 1 minute we judged on the change of their lumen. The decrease of amount of drops witnessed of changes of vessels lumen, and the increase, vice versa, of vasodilatation.

As a result of the experiment we have found out that under the influence of stimulating doses of the tested serums certain changes in vessels lumen were observed. Thus, OCS in concentration 1:10000; 1:5000 and 1:2000 has not influenced the vessels lumen significantly, but they were tend to contraction, while in concentrations 1:1000; 1:500 и 1:200 the preparation caused contraction of the vessels lumen, i.e. the amount of drops flowing out decreased by 30-37% respectively. Such an influence remained unchanged, until the preparation was let through, and since its removal the tone of vessels recovered very quickly to its prior state.

To find out pharmacological action of HCS to the vessels of the body of a frog the preparation was taken in the same concentrations as OCS. Thus, HCS in concentration 1:10000 has not influenced the vessels lumen significantly. In concentration 1:500; 1:2000 и 1:1000 the increase of flowing out liquid was observed, what made 13; 70 and 80% respectively. The increase of drops amount was noted in case of HCS concentration of 1:500 and 1:200 by 42-49%. Therefore it can be noted, that the degree of vasodilatory action depends directly on the solutions concentrations.

In order to study the influence of HCS and OCS on the heart activity we used the data of electrocardiogram (ECG). The recording was carried out before and then in 5, 10, 30, 60 and 180

мminutes on administering. The tested serums in 10% concentration were administered intravenous in various doses. Each preparation was tested on 5 rabbits. As a result of tests carried out we found out that changes in ECG data in rabbits depend on the preparation itself and its dose. In case of intravenous administering of HCS preparation in the dose of 0,05 g/kg no particular changes in heart activity were observed. Administering HCS in the dose of 0,1–0,125 g/kg influences specifically the PQ interval and QP complex and causes the increase of P-P interval by 18-24%, essentially due to the increase of PQ interval duration by 48-56% within one hour. The change of P wave amplitude was observed, mostly P voltage, which increased by 56-62%.

Besides retarding of atrioventricular conduction was observed, which sometimes was accompanied by the retardation of intraventricular conduction. When analyzing ECG data we came to a conclusion that ACS moderately stimulates contractive activity of the myocardium and increases diastole duration of the heart. ACS most probably influences heart activity positively.

OCS was administered to the rabbit in the same doses as OCS and the ECG was taken. When analyzing the data collected we found out that under OCS influence the increase of QP-T voltage.

When analyzing ECG data we came to a conclusion that the tested serums moderately stimulate contractive activity of the myocardium and increases diastole duration of the heart.

The study of vascular permeability of the skin was carried out by methods of I. A. Ayvin and K. N. Minakova. The tests were carried out on 10 white rabbits which were divided into test and control groups. The tested rabbits hat their fur in the area of peritoneum carefully cut. Then the test group of rabbits was admitted intravenously 1%-dilution of tripan blue in the dose of 1 ml/kg. In 5 minutes the sheared area of the abdomen was treated with 0,02 ml xylene, and thus the time of blue stain formation in the source norm as compared to the exertion of tripan blue through the damaged capillary walls was stated.

On determining the needed norm the rabbits from test group was administered 10%-dilutions of HCS and OCS in the dose 0,2 ml/kg subcutaneously, and the control group was administered physiological solution in the same dose. The state of capillary permeability was judged by the time of appearance of the blue stain as a result of treatment with xylene in 5, 10, 30, 60, 180 minutes and in 24 hours as of HCS and OCS administering.

On the ground of the test data it has been found out that rabbits, which had OCS in the dose of 0,2 g/kg administered, the appearance of the blue stain within the first hour was 1-1,5 times higher, that is 5±0,4 minutes, which witnesses of small vascular strengthening effect of the OSC. In 2-3 hours the time of blue stain appearance reached 4±0,5 minutes, gradually reaching the source norm. Thus it should be noted that OCS insignificantly, but still briefly strengthens endothelial walls of capillaries.

During administering HCS in the same dose as OCS a significant strengthening of endothelial wall of capillaries, as compared to OCS, occurs. The time of blue stain appearance within the first hour on HCS administering was 2,5-3 times higher, i.e. as compared to the norm 3±0,5 minutes and reached in average 6±0,5 minutes and such a state lasted much longer time (up to 6-8 hours), what witnesses of a significant vascular strengthening action of HCS. The control animals, receiving physiological solution the time of blue stain appearance was 3±0,2 mines and no vascular strengthening effect was observed.

Conclusions

Thus on the ground of studying pharmacological properties of preparations tested we have found the following:

1. HCS and OCS solution in concentrations 1-5% haven’t had expressed local effect on skin and hypodermic tissue and caused insignificant hyperaemia of eyes mucous membrane.

2. HCS and OCS solutions in concentration 1:10000; 1:5000 and 1:2000 on isolated toad hearts (Straub's method) of frogs had stimulated action, and in concentration 1:200 и 1:500 – inhibitory action.

3. ECG data witness that HCS and OCS in the dose EKG 0,05 g/kg has significant stimulating action on heart work, whereby a more expressed effect is observed with HCS.

4. HCS and OCS cause strengthening of endothelial wall of capillaries, such an action is better expressed in case of HCS administering, and OCS has a short-time effect.

The results of experimental researches obtained bring us to the conclusion that HCS has a more expressed generally stimulating effect and OCS is of more organotropic action.

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ИММУНДАЛҒАН ЦИТОТОКСИКАЛЫҚ ҚАН САРЫСУЛАРЫНЫҢ ФАРМАКОЛОГИЯЛЫҚ ҚАСИЕТТЕРІ

Андатпа

Бұл мақалада гипофизарлық және овариоцитотоксикалық қан сарысуларының (ГЦҚС, ОЦҚС) фармакологиялық қасиеттері салыстырмалы түрде зерттелінген. Олардан 1:200; 1:500; 1:1000; 1:2000; 1:5000 және 1:10000 концентрацияларында ерітінділер дайындалып, фармакологиялық көрсеткіштері анықталды. ГЦҚС 1:2000; 1:5000 және 1:10000 концентрацияларында жеке бөлініп алынған бақаның жүрек жиырылу амплитудасын 8-12%-ға жоғарылатса, ал 1:500; 1:200 арақатынасында, керісінше, жүрек ритмі

жиырылуының сиреуіне байланысты жүрек амплитудасын 10-30%-ға дейін азайтты. ОЦҚС 1:2000; 1:5000 және 1:10000 концентрацияларында жүрек ритміне айтарлықтай әсер етпейді, ал 1:500; 1:200 арақатынасында қан тамырларын тарылтты. Сонымен, тәжірибе жүргізу барысында алынған мәліметтер ГЦҚС-ның жалпы қуаттандырып, ал ОЦҚС-ның органотропты әсер ететіндігін көрсетеді.

Кілт сөздер: фармакология, цитотоксикалық қан сарысуы, гипофиз, аналық бездері.

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ФАРМАКОЛОГИЧЕСКИЕ СВОЙСТВА ИММУННЫХ ЦИТОТОКСИЧЕСКИХ СЫВОРОТОК

Резюме

В данной статье в сравнительном аспекте изучены фармакологические свойства гипофизарной и овариоцитотоксичесой сывороток (ГЦС, ОЦС). Из низ изготовлены разведении в следующих концентрациях 1:200; 1:500; 1:1000; 1:2000; 1:5000 1:10000 и изучены фармакологические показатели. ГЦС в концентрации 1:2000; 1:5000 и 1:10000 на 8-12% повышает амплитуду сердечных сокращении изолированного сердце лягушки, а в концентрации 1:500 и 1:200, наоборот, вследствие урежение ритма сердечных сокращений амплитуду сердца снижает до 10-30%. ОЦС в концентрации 1:2000; 1:5000 и 1:10000 значительного действия на ритм серца не оказывает, а в соотношений 1:500 и 1:200 суживает кровеносные сосуды. Таким образом, полученные результаты исследований свидетельствуют об выраженном общестимулирующем действий ГЦС, а ОЦС в большей степени обладает органотропным действием.

Ключесвые слова: фармакология, цитотоксическая сыворотка, гипофиз, половые железы.

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ОПРЕДЕЛЕНИЕ ОПТИМАЛЬНОЙ ИММУНИЗИРУЮЩЕЙ ДОЗЫ АТТЕНУИРОВАННОГО ШТАММА PASTEURELLA MULTOCIDA ARO/A НА ЖИВОТНЫХ

Аннотация

В работе представлены результаты определения оптимальной иммунизирующей дозы аттенуированного штамма Pasteurella multocida Aro/A у мелкого и крупного рогатого скота. По результатам исследований выбрана оптимальная иммунизирующая доза