

## BIOCHEMICAL INDICATORS OF BLOOD SERUM DURING THE TREATMENT OF POSTPARTUM ACUTE PURULENT-CATARRHAL ENDOMETRITIS IN COWS BY DIFFERENT METHODS

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### Annotation

In experiments on the treatment of acute purulent catarrhal endometritis in postpartum cows, oxytetrocyclocline 10 g + ASD-2 4 ml + tannin 1.5 ml + fish oil 50 ml + prepared emulsion in distilled water 35 ml intrauterine and penstrip -400-20 ml intramuscularly in normal amounts, improving blood and lymph circulation in the pathological focus, reducing inflammation, enhancing regeneration processes and reducing treatment time, as well as total serum protein by 11.8 % and albumin by 25 % and beta-globulin by 18.1 % and alpha globulin by 33 % and gamma globulin by 16.4 %.

**Keywords.** In cows, ASD-2, oxytetrocyclocline, biochemical indicators, total protein, albumins, alpha-globulin, beta-globulin, gamma-globulin indicators.

### Introduction

After giving birth to cows and heifers, the reproductive organs do not quickly return to their condition and they do not fertilize on time, the death of the zygote and fetus even after giving birth, complications after giving birth (placental retention, reproduction a inflammation of the ovaries, disorders of the ovaries, etc.) is an obstacle to the increase in the number of animals and the development of the livestock sector. The main causes of all these diseases are various infections, including conditionally pathogenic microorganisms (intestinal bacilli, streptococci and staphylococci, pseudomonads, proteus, etc.). Several tools and methods have been developed that work against them [5; 11; 4; 1; 7; 8;].

Postpartum necrotic metritis is a severe disease of the uterus, characterized by deep destruction (necrosis) of tissues around the placentomas or in the greater part of the uterus. During fibrinous endometritis, a large amount of fibrin leaks into the uterine cavity, and during necrotic endometritis, it accumulates directly in the mucous membranes. As a result, its thickening is observed. In the injured part of the mucous membrane, the nutrition of the tissues is lost, it rots and migrates, the surface of the blood and lymph vessels is exposed, and through

those places, the transmission of infection to the body is observed. The animal dies due to septicemia or pyemia. Destruction of tissues in the muscle and even in the serous layer can end with perforation of the uterine wall. Uterine necrosis is often noted in cows [10; 3; 12;].

According to the author's information, during cytological examinations of smears made from mucous fluid taken from the vagina during acute endometritis in cows, an increase in the number of macrophages, lymphocytes and neutrophils was found, and in healthy cows, a sharp decrease in the number of macrophages, lymphocytes in general absence and reduction of neutrophils with segmented nuclei and rod nuclei up to 3 times is noted [13].

In their research, scientists in cows with postpartum endometritis showed hematological tests with leukocytosis, lymphocytopyemia, and hypoeosinophilia, neutrophilia, and an increase in rod-shaped nuclear cells. According to the author's data, when endometritis is in an acute form, the amount of total protein, albumin and globulins in the blood serum decreases [2].

In their investigations, the authors also found a decrease in the immunity of endometritis in cows, a decrease in the activity of lysozyme and bactericidal activity in blood serum, 25.9% of albumins,  $\beta$ -globulins - 53.0%, glucose - 30.3%, cholesterol - 12, compared to healthy animals. 6%, carotene - 44.9%, vitamin A - 32.6% and vitamin E - 33.3% decrease, ALT and AST enzyme activity increased by 49.0% and 59.4%, respectively. Scientists have proven in experiments that endogenous intoxication during endometritis is accompanied by a violation of protein-carbohydrate metabolism, a decrease in the amount of vitamins and carotene. [6; 9].

**The purpose of the study.** Development of improved methods of treatment of cows with acute purulent-catarrhal endometritis after childbirth in dairy farms of our republic, based on the use of a certain amount and procedure, and the biochemical indicators of blood serum is to study its changes.

**Materials.** Scientific examinations and experiments were conducted at the Samarkand Institute of Veterinary Medicine, at the "Farovon Grand Invest" livestock farm of the Okdarya district of the Samarkand region, and at the laboratories of the Samarkand regional hospital.

15 cows with a body weight of 380-400 kg were isolated from the "Farovon Grand Invest" livestock farm of Okdarya district, 5-9 days after giving birth, and were infected with acute purulent-catarrhal endometritis after childbirth. based on the principle of similar pairs, they were divided into three groups of 5 heads each. In order to determine the sensitivity of microbes to antibiotics and other drugs in the samples taken from the vagina and cervix of infected cows, specially prepared emulsion and penstrep - 400 moistened disks showed staphylococcus 29 mm, streptococcus 23 mm, Escherichia coli 25 mm, blue pus bacillus 23 mm, the fungi were 27 mm, while the oxytetrocycline soaked discs were 28 mm, staphylococcus 21 mm, Escherichia coli 26 mm, blue pus bacillus 23 mm, fungi 25 mm.

In order to treat post-partum purulent-catarrhal endometritis, limoxin-200 10ml was administered to animals of the third control group, the uterus was washed with a 1:5000 solution of  $K_2MnO_4$ , and 2 pieces of furazolidone were injected into the uterus.

The animals of the first experimental group were injected intrauterineally with a tared emulsion consisting of oxytetrocycline 10 g + ASD 4 ml + tannin 1.5 ml + fish oil 50 ml + 35 ml distilled water, and Penstrip - 400 to 20 ml was injected intramuscularly. Animals of the second experimental group were injected intrauterineally with 1 tablet of trichopol and yodopen, 20 ml of Penstrip - 400 and 10 ml of acidvit were injected intramuscularly.

Animals were clinically examined before and during the experiment, and serum biochemical parameters were checked twice before the experiment, and on days 3, 5, 7 and 14 of the experiment after the start of treatment.

**Results.** The analysis of the obtained data showed that in the treatment of acute purulent-catarrhal endometritis after childbirth, oxytetrocycline 10 g + ASD 4 ml + tannin 1.5 ml + fish oil 50 ml + 35 ml of emulsion prepared from distilled water intrauterine and Penstrip - 400 to 20 ml intramuscular injection in the cows of the first experimental group showed the beginning of biochemical changes in the blood at the beginning of the experiment, when the amount of total protein in the blood serum increased by 3.3% on the 3<sup>rd</sup> day compared to the beginning of the experiment. it was noted that it increased by 6.3 % on the 5<sup>th</sup> day of the experiment, 9.1 % on the 7<sup>th</sup> day, and 11.8 % on the 14<sup>th</sup> day. The increase in the amount of total protein in the blood serum of animals in this group was mainly due to albumins and beta-globulins, that is, the amount of albumins increased by 3.1% on the 3<sup>rd</sup> day of the experiment, by 13% on the 5<sup>th</sup> day of the experiment, and by 18% on the 7<sup>th</sup> day and on the 14<sup>th</sup> day increased by 25 %, while beta-globulins increased by 12 % on the 3<sup>th</sup> day of the experiment, 18.6 % on the 5<sup>th</sup> day, 29.6 % on the 7<sup>th</sup> day, and 38.4 % on the 14<sup>th</sup> day. It was noted that it increased by %. The amount of gamma-globulins and alpha-globulins in the blood serum of animals in this group decreased during the experiment, and the amount of alpha-globulins decreased by 3% on the 3<sup>th</sup> day of the experiment, by 19 % on the 5<sup>th</sup> day, by 28 % on the 7<sup>th</sup> day, and by 16.5 % on the 14<sup>th</sup> day. It was found that gamma-globulins decreased by 3.9 % on the 3<sup>th</sup> day of the experiment, by 5.5 % on the 5<sup>th</sup> day, by 7.3 % on the 7<sup>th</sup> day, and by 16.4 % on the 14<sup>th</sup> day. The amount of total protein in the serum increased by 2.7 % in the animals of the second experiment group, on the 3<sup>th</sup> day of the experiment, when 1 tablet of trichopol and yodopen was injected into the uterus, Penstrip - 400 of 20 ml and acidivite 10 ml were injected into the muscle for the purpose of treatment. then it increased again during the experiment and at the end of the experiment it was shown to increase by 11.5 % compared to the initial values. The increase in the amount of total protein in the blood serum of animals in this group was mainly due to albumin and beta globulin, that is, albumin increased by 3.8 % on the 3<sup>th</sup> day of the experiment, and at the end of the experiment it increased by 23% compared to the initial values.

it was shown that Beta globulins also increased during the experiment, and it was noted that it increased by 10.1 % on the 3<sup>th</sup> day of the experiment, by 19.5 % on the 5<sup>th</sup> day, by 24.4 % on the 7<sup>th</sup> day, and by 39 % on the 14<sup>th</sup> day. The amount of gamma-globulins and alpha-globulins in the blood serum of the animals in this group also decreased during the experiment, while the amount of alpha-globulins decreased by 4.5 % on the 3<sup>th</sup> day of the experiment and by 20 % on the 14<sup>th</sup> day. It was found that it decreased by 17.9 % at the end of the experiment.

### Biochemical indicators of blood serum of cows of the first experimental group

Table 1

T/r	Indicators	Unit of measure	Until treatment begins (n=5)	After treatment (n=5)	P
1	Total protein	g/l	69,8±1,39	78,1±0,95	< 0,05
2	Albumins	g/l	32,2±1,38	41,6±0,71	< 0,05
3	Alpha-globulin	%	20±1,2	13,4±0,78	< 0,05
4	Betta-globulin	%	9,1±0,74	12,6±0,75	< 0,05
5	Gamma-globulin	%	38,5±1,7	32,2±2,2	< 0,05

A smaller change in the amount of total protein in the blood serum was mainly shown in the animals of the third control group, which for treatment received 10 ml of the antibiotic Limoxin-200 intramuscularly, the uterus was washed with a solution of K<sub>2</sub>MnO<sub>4</sub> in a ratio of 1:5000, and 2 units of furazolidone were injected intrauterinely, the 3rd day of the experiment it was found that it increased by 2.7 % per day, and by 7.5 % at the end of the experiment compared to the initial values. The increase in the amount of total protein in the blood serum of animals in this group is mainly due to albumins and beta globulins, that is, albumins increased by 4.3% on the 3rd day of the experiment, and at the end of the experiment compared to the initial values, it increased by 18.7%. It was shown that it increased by %. Beta globulins also increased during the experiment, and on the 14th day of the experiment, it was noted that it increased by 22.7%. The amount of gamma-globulins and alpha-globulins in the blood serum of animals in this group decreased during the experiment, while the amount of alpha-globulins decreased by 3.4 % on the 3rd day of the experiment and by 14.5 % on the 14th day, while gamma-globulins it was found that it decreased during the experiment and decreased by 13 % at the end of the experiment.

In the treatment of acute purulent-catarrhal endometritis, based on the tests, a tared emulsion consisting of oxytetrocyclyne 10 g + ASD-2 4 ml + tannin 1.5 ml + fish oil 50 ml + 35 ml of distilled water is injected into the uterus and Penstrip-400 from 20 ml intramuscularly. in the experimental group of cows with purulent-catarrhal endometritis, the amount of total protein in the blood serum of cows before the start of treatment was 11.8 % lower, it was associated with the moderation of metabolism in the body, and the cessation of diarrhea in animals , that

is, as a result of diarrhea observed in sick animals, it causes dehydration of the body and thickening of the blood.(table 1) It was noted that after treatment procedures were applied to sick animals, the amount of protein increased as the physiological processes in their bodies began to improve. It should be noted that before the treatment of cows with purulent-catarrhal endometritis, the amount of albumin and beta globulin in their blood serum was 25 % and 38.4 % lower, respectively, which is due to the amount of protein that is used in large amounts for the active immune defense process in the body depending, and after the application of treatment procedures, an increase in their amount was observed.

### **Conclusion**

1. From the results obtained in the experiment, it was found that in the treatment of acute purulent-catarrhal endometritis of cows after parturition, a preparation consisting of oxytetroccline 10 g + ASD-2 4 ml + tannin 1.5 ml + fish oil 50 ml + 35 ml of distilled water is effective. injecting the emulsion into the uterus and between the muscles of a pen strip - 400 to 20 ml improves blood and lymph circulation in the pathological focus, reduces inflammatory processes, strengthens regeneration processes, and shortens the duration of treatment from 3 to 7 days.

2. In the treatment of acute purulent-catarrhal endometritis after childbirth in cows, injecting the emulsion prepared into the uterus in the amount of 100 ml and penstrip - 20 ml from 400 to 20 ml of a certain standard and amount between the muscles increases the amount of total protein in the blood serum by 11.8 %, the amount of albumin It was characteristic that beta-globulin increased by 25 % and beta-globulin by 18.1 %, and alpha-globulin decreased by 33 % and gamma-globulin by 16.4 %.

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