



DOI: **10.5958/2249-7137.2021.01927.3**

CAUSES, EARLY DIAGNOSIS AND FEATURES OF LATENT ENDOMETRITIS IN COWS

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ABSTRACT

This article provides information on the causes, early diagnosis, and transient characteristics of acute endometritis in cows. In this type of endometritis, infertility of cows is observed due to excessive amounts of mucus, which impedes the movement of sperm through the genital tract, as well as the lethal effect of uterine exudate on spermatozoa. During estrus, more fluid comes out of the uterus than usual, sometimes with an admixture of purulent exudate. Although females are regularly in heat and fertilize, they do not become pregnant.

KEYWORDS: *Acute Endometritis, Diseases Of The Uterus, Colds And Purulent, Subinvolution Of The Uterus, Endometritis, Preventive Treatment, Ultrasound, The Index Of Sperm Entering The Female Cell.*

INTRODUCTION

In recent years, the republic has paid great attention to the introduction of scientific achievements and advanced experience in improving pedigree livestock, enriching the gene pool, strengthening the fodder base and increasing production. To this end, it is important to identify, develop and recommend in practice the timely detection, prevention and treatment of endometritis, which is one of the most common obstetric and gynecological diseases in productive cows brought into the country from foreign countries in recent years.

According to the literature, the frequency of retention of the placenta among cows on dairy farms is 8.5%, clinical endometritis is 9.7%, and the effectiveness of treatment of these pathologies does not exceed 70-80% when the conditions for feeding animals deteriorate and ineffective treatment methods are used. Therefore, it is necessary to organize preventive treatment of these diseases without clinical manifestations, even in the latent period (B.G. Pankov, 2003).

The absence of an active mutation is a minor factor in the development of acute endometritis in cows: when it was observed that only 36.4% of cows had a normal lifespan, when cows were kept in one place for a long time, and 46.0% of cows had uterine inflammation in various forms. Of these, catarrhal - in 20.9% of cows, purulent-catarrhal - in 60.0% of cows, fibrin - in 12.1% of cows, necrotizing endometritis was observed - in 6.9% of cases (I.S.Koba, 2009). Endometritis often develops in a latent state without any clinical manifestations, which leads to long-term infertility of the animal (Eshburiev B.M., Khamidov M.Kh., 2013).

According to I.S. Koba (2003), in a seasonal study, acute endometritis in cows was recorded in 67.3% of cows in winter-early spring and 21.9% in summer. As a result, the process of sexual intercourse in the sperm of cows was delayed by an average of 47 days, and the fertility index increased by 1.2 times. After calving, infected cows had a mean time between sperm and female gametes of 156 days, 87 days longer than healthy cows.

According to R.G. Kuzmich (2000), as a result of contacting obstetric and gynecological dispensaries, 16.2% (13.8 - 19.9%) of newborns have retained placenta, 20.1% (17.9 - 36.2%) have subinvolution of the uterus in cows and 22.3% (18.5 - 38.1%) of endometritis in cows. Of these, 22.9% of cows in winter (22.4 - 23.3%), 23.5% in spring (23.1-23.8%), 16.6% in summer (12.9-20.4%)) and 21.8% (20.2-22.8%) in autumn cows reported postpartum endometritis. That is, the incidence rate of endometritis in cows was the highest in the spring, here the main place was occupied with catarrhal endometritis after childbirth.

Research object and methods. An obstetric and gynecological dispensary was conducted to study the types, economic damage and characteristics of the transmission of endometritis in cows 5-6 years old, 70 Golishtinsko-Friesian breed, belonging to the "Dustlik" state farm of the Pastdargom region of the Samarkand region.

The level of satisfaction of the needs of the animal organism is studied on the basis of comparison with the food norms of the zootechnical analysis of the conditions of keeping cows, the composition and nutrition of the feed ration, the amount of digestible protein, sugar, calcium, phosphorus, carotene, clove, sugar-protein and phosphorus-calcium ratios in feed.

From the 2nd month of lactation in dairy cows, clinical examinations were carried out once every 3 days with an emphasis on general condition, appetite, obesity, and response to external influences. Conventional clinical examination methods were used to determine mucous membranes, skin and skin, musculoskeletal health, 5-minute anterior abdominal movement, body temperature, 1-minute heart rate, and respiratory rate. During an external gynecological examination, the state of the labia minora, the vaginal cavity, the discharge of the mucous membrane from the genital tract, the color of the vaginal mucosa, the state of the cervix were studied.

In cows with latent endometritis, ultrasound examination (USE) was carried out using the "AKU Vesta" device to determine the state of the uterus and ovaries of cows.

In blood samples of cows with latent endometritis, the number of erythrocytes and leukocytes (Goryaev's account), hemoglobin (Sali's hemometer), total serum protein (refractometric method), leucoformula (in Romanovsky-Giemsa smears) were detected once every 3 days.

The results obtained and their analysis. At “Dustlik” farm, milking cows are kept in one place, they lack active mating and sunlight. The cows are milked 2 times a day using milking machines. Average milk yield is 13-15 liters.

The ration of cows is silage-concentrate, containing 20 kg of medium quality silage (59.7%), 5 kg of alfalfa hay (14.9%), spring straw 5 kg (14.9%), soybean meal 0.5 kg (1, 5%), wheat porridge 1 kg (3%), cotton flour 0.5 kg (1.5%), barley porridge 0.5 kg (1.5%), corn porridge 1 kg (3%), consists of 11,425 food units, metabolic energy 144,465, dry matter content 16,450 g, 1.65 g less than normal, digestible protein 1976 g, crude fiber 4641 g, sugar 330 g, salt - 135.1 g, calcium and 43.25 g phosphorus, carotene 680.9 mg.

According to the results of clinical and gynecological examination of 70 cows belonging to the farm, endometritis was diagnosed in 14 cows (20%) of cows on the farm. Of these, acute catarrhal endometritis was detected in 3 cows (21%), acute catarrhal-purulent endometritis in 2 cows (15%), chronic purulent endometritis in 3 cows (21%) and latent endometritis in 6 cows (43%).

In cows with acute catarrhal-purulent endometritis, general weakness, decreased appetite, average body temperature $0.5-1^{\circ}\text{C}$, increased heart rate - 10-15 times per minute (on average for 1 minute - 82.2 times), on average, there was a decrease in the number of contractions in 5 minutes up to 6.1 times (the norm is 8-12 times in 5 minutes), pallor of the mucous membranes (anemia) and cyanosis, catarrhal-purulent exudate from the vagina, episodic discomfort and tension.

Ultrasound examination of cows with catarrhal-purulent endometritis through the rectum was characterized by a delay in catarrhal-purulent exudate in the uterine cavity, thickening of the uterine wall, unevenness of the mucous membrane, subinvolution of the uterus, preservation of the corpus luteum in the ovaries of the uterine cavity.

Cows infected with latent endometritis show no clinical signs between estrus and no abnormal changes are found on rectal or vaginal examination. During estrus, more fluid comes out of the uterus than usual, sometimes with an admixture of purulent exudate. Although cows are regularly in heat and inseminated, sperm does not enter the female reproductive cell. In this type of endometritis, infertility of cows is observed due to excessive amounts of mucus, which impedes the movement of sperm through the genital tract, as well as the lethal effect of uterine exudate on spermatozoa.

The average hemoglobin in the blood of cows with acute endometritis is up to 70 ± 0.12 g / l compared to the physiological norm, the number of erythrocytes - up to 4.1 ± 0.47 million / μl , total protein - up to 7.7 ± 1 , 37 g / l and an increase in the number of leukocytes to 13.2 ± 2.34 thousand / μl . In cows with acute endometritis, a decrease in the number of erythrocytes and hemoglobin, total protein, can be explained by the absorption into the blood of toxins released by microorganisms from the focus of inflammation.

It was noted that the number of leukocytes in the blood of cows increased by thousands / μl compared with the norm. These indicators indicate an increase in the activity of the leukopoietic apparatus in acute catarrhal-purulent endometritis.

When studying leukoformula in cows with acute endometritis, the percentage of granulocytes was 2.92% higher than the physiological norm, averaging 39.63%. The increase in the percentage of granulocytes was mainly due to basophils and eosinophils, with a decrease of 7.37% compared with the control group of neutrophils.

In sick cows, the leuko-formula index is mainly due to an increase in basophils up to 2.1% (the norm is 0-0.2%), stab neutrophils - 21%, monocytes - up to 17% and eosinophils - 1%, segmental nucleus neutrophils - 7.%, lymphocytes - characterized by a decrease of up to 51.9%. This indicates acute inflammatory processes that occur when the nucleus is displaced to the right.

Ultrasound examination (USE) in cows was characterized by the accumulation of catarrhal-purulent exudate in the uterine cavity, diphtheria changes in the mucous membranes of the uterus and cervix, thickening of the uterine wall, preservation of the corpus luteum in the ovaries.

CONCLUSIONS:

1. The main etiological factors in the development of endometritis in cows are incomplete satisfaction of the body's needs for nutrients, vitamins, macro- and microelements, a low ratio of sugar-protein and phosphorus-calcium in the diet, lack of diffusion and sunlight and unsanitary storage of a cow and the sexual transmission of various microorganisms. Among cows with endometritis in cows 20%, of which acute catarrhal endometritis - 21%, acute catarrhal-purulent endometritis - 15%, chronic purulent endometritis - 21% and latent endometritis - 43%.

2. Acute catarrhal-purulent endometritis in dairy cows leads to a decrease in appetite, whitening and cyanosis of the mucous membranes, an increase in pulse rate by 10-15 times per minute, an increase in body temperature by an average of 0.5-1⁰C, an average contraction of the anterior gastrointestinal tract - 6.1 times in 5 minutes. characterized by a decrease in catarrhal-purulent exudate from the vagina, uterine suinvolution, episodic discomfort and tension, delayed catarrhal-purulent exudate in the uterus on ultrasound, thickening of the uterine wall, preservation of the corpus luteum in the ovaries.

3. When diagnosing latent endometritis in sick cows, no clinical signs are observed between estrus, and no abnormal changes are found during rectal and vaginal examinations. During estrus, more fluid comes out of the uterus than usual, sometimes with an admixture of purulent exudate. Although females are regularly in heat and fertilize, they do not become pregnant. In this type of endometritis, infertility of cows is observed due to excessive amounts of mucus, which impedes the movement of sperm through the genital tract, as well as the lethal effect of uterine exudate on spermatozoa.

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