ISSN: 0975-8585

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Infertility Of Imported Dairy Cows In The Stavropol Territory.

Valentin Sergeevich Skripkin, Nikolay Vasilyevich Belugin*, Natalya Aleksandrovna Pisarenko, Andrey Nikolaevich Kvochko, and Petr Anatolyevich Khorishko.

Stavropol State Agrarian University, Zootekhnicheskiy lane 12, Stavropol, 355017, Russia.

ABSTRACT

The main goal of our work was to identify the most common causes of infertility of imported livestock and the development of preventive measures, and the task was to determine the specific causes of infertility in cows according to the classification of A.P. Studentsov and the development of effective methods of treatment of cows with obstetric and gynecological diseases. The study was conducted in the SEC collective farm named after Voroshilov, CJSC State Farm named after Kirov of Trunovsky district, LLC Agrofirm "selo Voroshilova" of Predgorny District and LLC "Privolye" of Krasnogvardeysky District, SEC collective farm "Kazminsky" of Kochubeevsky District, OJSC Urozhaynoye of Novoaleksandrovsky District and others. Under our more than 5161 Holstein cows were observed. It has been established that among all forms of infertility in cows the most common are: alimentary, artificially acquired, symptomatic and climatic.

Keywords: imported cattle, dairy cows, forms of infertility, prevention, treatment.

Corresponding author

ISSN: 0975-8585

INTRODUCTION

Infertility in cows occurs in all regions of Russia, including the Stavropol Territory. Every year, out of every 100 cows in the Russian Federation, they receive less than 30-40 calves.

In the Stavropol Territory, Holstein breed heifers come from abroad every year, which are used to increase milk productivity and improve the genetic potential of the local dairy herd, but infertility is common among imported cattle [3, 4].

Infertility is manifested mainly in the form of alimentary, symptomatic, climatic and operational, but most often there are mixed forms: alimentary-symptomatic and alimentary-climatic.

Eliminating infertility means getting a calf from a cow every year every 10 months.

Purpose and objectives of the study. The main goal of our work was to identify the most common causes of infertility of imported livestock and the development of preventive measures, and the task was to determine the specific causes of infertility in cows according to the classification of A.P. Studentsova and the development of effective methods of treatment of cows with obstetric and gynecological diseases.

MATERIALS AND METHODS

The study was conducted in the SEC farm them. Voroshilov, ZAO State Farm. Kirova Trunovsky district, LLC Agrofirma "selo Voroshilova" Predgorny district and LLC "Privolie" Krasnogvardeisky district, SEC kolmkhoz "Kazminsky" Kochubeevsky district, OJSC "Urozhaynoye" Novoaleksandrovsky district, etc. Under our supervision there were more than 5161 Holstein cows.

RESULTS AND DISCUSSION

We found that among all forms of infertility in cows are most common: alimentary, artificially acquired, symptomatic and climatic.

Symptomatic sterility is a violation of the reproductive ability resulting from the pathology of the reproductive and other organs of the body. Most often caused by inflammation of the uterus (cervicitis, endometritis) and ovarian dysfunction (hypofunction, follicular and luteal ovarian cysts, persistent corpus luteum). We focused our attention on these diseases [2].

The causes of endometritis are non-compliance with sanitary and veterinary requirements for obstetrics and artificial insemination (mechanical injuries and infection of the uterus with microflora).

Often, endometritis in many women in labor is detected in the first days after birth (70-75%). This indicates the presence of latent endometritis (placentitis) in pregnant animals that occur when the farm is in an unsanitary state and if the rules of asepsis and antisepsis are not followed during artificial insemination of cows. In this case, the inflammation of the uterine mucosa proceeds hidden, and after birth for 3-5 days it manifests itself in a clinically expressed form.

Acute endometritis often manifests itself in the form of postpartum catarrhal or catarrhal-purulent inflammation. In this case, first, mucous is secreted, and then mucopurulent exudate.

The prognosis for catarrhal and catarrhal-purulent endometritis in cows is favorable, if not converted to the chronic form of the course.

Treatment for inflammation of the uterus should be comprehensive, aimed at removing exudate from the uterus, restoring the contractile function of the organ, suppressing microflora and activating the body's defenses.

In order to normalize the motility of the uterus and remove exudate from its cavity, during the first 3-5 days, the uterus is massaged through the rectum in combination with the use of uterine agents, and then

antimicrobial agents are administered to the uterus at intervals of 24-48 hours, to which microorganisms are sensitive.

To increase the resistance of the organism, pathogenetic therapy was used by the method of the suprapleural novocainic blockade according to V.V. Mosin, or intra-aortic injection of a solution of novocaine by D.D. Logvinova and V.S. Gontarenko. During the blockade by V.V. Mosin 0.5% solution of novocaine was injected at the rate of 1 ml per 1 kg of animal weight, and 100 ml of a 1% solution of novocaine were injected into the aorta.

It must be admitted that every veterinary specialist has his own arsenal of drugs in the treatment of cows with endometritis; Indicator of normalization are the absence of clinical signs and the fertility of animals.

In chronic endometritis, a prolonged period of more than two weeks is observed, accompanied by periodic exudate excretion, a creamy or liquid consistency. Often it is found in the form of crusts on the vulva, tail and puddles in the place of lying cow. The cervical canal is ajar, the lumen contains exudate, and smears from cervical vaginal mucus reveal deformed epithelial cells of the uterine mucosa, leukocytes, and sometimes microbes.

Treatment of cows with chronic endometritis as well as acute should be complex, used uterine drugs, antimicrobial and stimulant drugs. We also recommend to increase the resistance of the body tissue preparations in the form of suspensions from the liver, spleen, placenta, preserved according to V.P. Filatov (subcutaneously in a dose of 25-30 ml every 5-7 days), 2 ml ASD-2 with 7-10 ml of trivit or tetravit intramuscularly every 7-10 days or ASD fraction 2, subcutaneously in the form of a 5% solution on serum salmonellosis or colibacillosis with the addition of 0.05 g of novocaine, or three times with an interval of 48-72 hours, 15-20 ml or intravenously in the form of a 10% solution in isotonic sodium chloride in a volume of 100-150 ml), intramuscularly and their glucose dose 10 -15 ml, three times in 48-72 hours or autohemotherapy, as well as vitamin preparations [5].

To enhance the contractile function of the uterus and remove exudate during the first 3-5 days - parenterally oxytocin or pituitrin 8-10 U per 100 kg, aceclidine (2% solution in a dose of 3-5 ml), brevicollin (1% solution at a dose of 8 ml per 100 kg of mass), ergotin (at a dose of 5-15 ml), 0.5% solution of proserin. Intramuscularly to maintain dilation of the cervix and reduce its muscles, we recommend intramuscular administration of 2 ml of prostaglandins of the F2α group - dinolitic, estrophan or galapan.

We recommend the use of antimicrobial agents for which microflora is sensitive, of which intrauterine urethrafuragin, iodine bismuth sulfamide emulsion, iodinol, lefuran, iodoxide, iodosol, 10-15% second fraction of ASD with 0.5% novocaine solution were used more often. The most effective drugs of prolonged action are furazolidonovye sticks, iodopen, furopen, ichthyofur, tetrasolvin, levoeritrotsiklin 75-100 ml every 3-5 days.

With latent endometritis, it was not recommended to inseminate at the next stage of sexual arousal, but to introduce 20-30 ml of a 5% oil suspension of spermosan-3 or tricillin, emulsion of jodwismuth sulfamide, masticide or mastisan A, B, E, combining local therapy with 2-3 multiple use of tissue therapy. In the next stage of sexual arousal, cows were inseminated, and after 6-12 hours they were injected into the uterine cavity of neomycin sulfate 0.5 g, levomycetinum-sodium succinate 0.5-1.0 g or polymyxin-M 0.5-1.0 g (preferably in combination with penicillin, dissolving them in 10 ml of 1% sodium chloride or 0.25-0.5% novocaine).

Based on our practice, we came to the conclusion that the therapeutic and economically effective introduction of a complex of drugs into the abdominal aorta, which ensure the destruction of microflora, contraction of the uterus muscles in order to remove exudate and increase body resistance. This is 100-150 ml of a 1% solution of novocaine, 50-60 U of oxytocin and any antimicrobial substance shown in the blood and to which the microflora is sensitive. The drugs are injected with Jané's syringe in the complex every 48-72 hours until recovery. This intra-aortic therapy is acceptable in the treatment of cows with acute and chronic forms of endometritis.

Ovarian hypofunction - is characterized by a weakening of the functional activity of the ovaries, leading to anaprodisia and infertility.

It appears more often after childbirth and is characterized by a violation of sexual cyclicity. Cows do not come to the stage of stimulation of the sexual cycle, and when manifestations of estrus and hunting occur, they are inseminated, but they are not fertilized. The main signs of ovarian hypofunction are the absence of yellow bodies and mature follicles in them, their surface is flattened, smooth, without bulges.

When rectal examination, most often palpable dense ovaries, in which there are no follicles and yellow bodies. The uterus is often weakly rigid.

We believe that treatment is possible only in cows that are in optimal feeding and housing conditions with good fatness, and we recommend using intramuscularly 10 ml of 1% solution of iodinol, 10 ml of trivite or tetravit intramuscularly with 2 ml of ASD - 2.10 ml of surfactant on 1,3,5 days, and also massage of a uterus and ovaries daily within 3-5 days.

Restoration of ovarian function and increased fertility, we installed 4 ml of 2.5% progesterone after 1, 3, 5 days, and then on day 7, 10 ml of a surfactant solution or 5 ml of fertagyl. At 1 and 7 days intramuscular injections of a complex of vitamins with ASD-2.

A persistent corpus luteum also leads to symptomatic infertility. Its diagnosis is based on the results of double (with a 2-3-week interval) rectal palpation of the ovaries. During this period, the persistent yellow body retains its functional activity, which is characterized by its elastic-smooth consistency and rather large sizes (2 cm or more in diameter). At the same time, it is necessary to simultaneously examine the uterus in order to exclude pregnancy and its disease.

The prognosis is favorable, and treatment should be aimed at removing the persistent corpus luteum. Enucleation of the corpus luteum was used more often or estrophan, galapan or dinolitic in a dose of 2 ml intramuscularly, intramuscularly, enzaprost - F in a dose of 5 ml and others were administered intramuscularly. 2500-3000 IU. The ovary massage works well for 3 days, lasting 3-5 minutes and providing active exercise with full feeding and fortification.

Ovarian cyst also leads to dysfunction of the ovary and infertility. This is a rounded cavity formation that develops from follicles, less often from corpus luteum, a cyst consists of a shell or capsule lined with follicular epithelium, and a liquid mucous or colloidal content rich in estrogen or progesterone.

Predisposing factors in the formation of cysts are: feeding peroxide pulp or silage, mineral starvation, lack of vitamins, especially carotene, concentrate feeding; lack of exercise; high milk production with unbalanced feeding; inflammatory processes in the uterus, egg tubes, ovaries; large doses of hormonal drugs used to stimulate ovarian function.

With the development of a follicular cyst in the ovaries with liquid contents, nymphomania appears in cows, and the small cystic ovary and corpus luteum anaprodisia. Cysts are not rarely accompanied by endometritis.

It is believed that the cause of follicular cyst in the ovary is an insufficient amount of luteinizing hormone in the blood (LH), therefore the mature follicle does not ovulate, but undergoes atresia or turns into a cyst. In order for ovulation of the follicle to occur, a ratio (FSH) of follicle-stimulating hormone and (LH) luteinizing 1:10 is necessary. In a follicular cyst, the estrogens from the cystic follicle enter the blood and act on the uterus, causing estrus and hunting, the follicle does not ovulate. The amount of estrogen in the blood decreases and estrus stops, after 3-4 days everything repeats and the cow comes into the hunt every week. This phenomenon is called nymphomania. The diagnosis is made by palpation of the ovaries through the rectum and the behavior of the cow.

A medication, operative or combined treatment is proposed for follicular cysts.

Prevention should include full nutrition, from the diet should be eliminated or reduced to a minimum bard, bagasse, concentrates, and at the same time include additives containing macro-microelements, vitamins. It should be obligatory to provide cows with an exercise for 3-4 hours a day, timely launch of pregnant women, treatment of animals with inflammation of the genitals, as well as prevention of lactation

prolongation and early kneading after calving. For the treatment of a cow with a follicular cyst, we prescribe 5 ml of surfactant or 2.5 ml of fertagil.

When a cyst of the corpus luteum in the ovary there is a lack of sexual cycles. In the luteal cyst, the hormone progesterone accumulates, which through the blood inhibits the growth and development of follicles and, accordingly, this leads to anaprodisia. Restoration of ovarian function is carried out with injections of prostaglandins of the F-2 alpha group.

To monitor the state of the reproductive organs, it is necessary to regularly conduct obstetric and gynecological examinations of cows.

Obstetric and gynecological clinical examination is a system of measures aimed at the earliest possible detection of animal diseases and their timely treatment.

The normal state of reproduction is considered if at least 60% of cows and 70% of heifers are fertilized from the first insemination. The interval from calving to fruitful insemination should not exceed an average of 80 days in a herd, and the average number of insemination per fertilization should not exceed 1.6. The output of calves for every 100 cows is desirable to 100 [1, 3, 5].

CONCLUSION

In Holstein cows, infertility is widespread, which occurs when cattle are imported from countries with sharply different geographic conditions. Under our conditions, the leading forms of infertility are alimentary, climatic and symptomatic [2, 4].

For the prevention of infertility of cows, we consider the most important factors: the isolated keeping of dry animals, their full feeding, providing them with daily active exercise for 3 to 4 hours.

In order to reduce premature culling and death of imported livestock, to conduct regular obstetric and gynecological medical examination.

It is advisable to purchase sperm from high-quality producers of proven offspring quality instead of heifers abroad.

Professionals need to remember that the work on reproduction should be carried out on a daily basis, to carry out the motto - "For every day of pregnancy against every day of infertility."

REFERENCES

[1] Nikitin, V.Ya. Infertility of imported livestock and measures for its prevention / V.Ya. Nikitin, V.S. Skripkin, N.S. Paraschenko // Russian Veterinary Journal. - 2007. - p. 4-5.

[2] Nikitin, V.Ya. Symptomatic infertility in cows and their treatment / V.Ya. Nikitin, N.V. Belugin, V.M. Mikhailyuk, N.A. Pisarenko, N.S. Paraschenko // Scientific Notes of the International Scientific and Practical Conference, dedicated. 135th anniversary of the Kazan State Academy of Veterinary Medicine. Bauman. - Kazan, 2008. p. 100-102.

[3] Nekrasova I.I., Pisarenko N.A., Fedota N.V., Grabik V.A. Correction of mineral metabolism in order to prevent alimentary infertility in highly productive cows. Proceedings of the Kuban State Agrarian University. 2013. No. 43. p. 168-170.

[4] Nekrasova I.I., Pisarenko N.A., Fedota N.V., Grabik V.A. The trace element composition of the blood of cows in different periods of reproductive function. Proceedings of the Kuban State Agrarian University. 2013. No. 43. P. 196-198.

[5] Trukhachev V.I. Recommendations for the prevention and treatment of infertility in highly productive imported cows and heifers / V.I. Trukhachev, V.Ya. Nikitin, V.V. Marchenko, V.I. Sviridov, V.M. Mikhailyuk, N.V. Belugin, N.A. Pisarenko, V.S. Skripkin, N.S. Parashchenko. - Stavropol: AGRUS, 2008. - 40 p.