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COMPARATIVE STUDY OF GENERAL INJECTION AND INTRA UTERINE TRANSFUSION OF FLUNIXIN MEGLUMINE IN THE TREATMENT OF COWS WITH ENDOMETRITIS

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ABSTRACT

Endometritis is one of the most common uterine disorders in dairy cows, causing decreased fertility and high economic losses. Endometritis is inflammations of the uterus. It is a localized inflammation of uterine wall and usually a cause for bovine infertility. Flunixin is a non-steroidal anti-inflammatory drug (NSAID), analgesic, and antipyretic used in horses, cattle and pigs. It is often formulated as the meglumine salt. In the United States, it is regulated by the U.S. Food and Drug Administration (FDA), and may only be lawfully distributed by order of a licensed veterinarian. There are many trade names for the product, as stated below. The aim of this study was comparative study of general injection and intra uterine transfusion of Flunixin Meglumine in the treatment of cows with endometritis.

100 cows under study were divided into 3 groups. In the first group of cows 3000 mg oxytetracycline 5% by intrauterine was used. In the second group of cows in addition to oxytetracycline 5%, 100 ml Flunixin Meglumine by intrauterine was used and in third group of cows, 3000 mg oxytetracycline 5% intrauterine and 20 ml Flunixin Meglumine by intravenous was used. After 10 days cows in each group received a single dose of PGF2α and observed in estrus were inseminated. The fertility rate in cows treated by statistical methods, Fisher's exact test was used for statistical analysis. According to the results, the study shows that the use of Flunixin Meglumine with antibiotics, such as oxytetracycline play a role in the treatment of endometritis and increase fertility in cows with endometritis.

Keywords: Flunixin Meglumine, Endometritis, Cows

INTRODUCTION

The key for an optimal fertility in dairy herds is a healthy uterine environment. A healthy uterus is the basis for high submission and conception rates [1]. Endometritis is one of

the most common uterine disorders in dairy cows, causing decreased fertility and high economic losses [2]. Endometritis is inflammations of the uterus. It is a localized inflammation of uterine wall and usually a cause for bovine infertility. The causal organisms usually reach the uterus at coitus, insemination, parturition and post-partum. The retention of foetal membrane, abortion, dystocia, mounting by infected bull, unhygienic practices at insemination, hypocalcaemia, season and poor nutrition are the main factors associated with the development of endometritis. The presence of a whitish yellow muco- purulent vaginal discharge is the main clinical sign.Volume of discharge increases at estrus. Cows rarely show systemic illness. On rectal examination thick uterine wall with doughy feel will be noticed [3].

Flunixin is a non-steroidal anti-inflammatory drug (NSAID), analgesic, and antipyretic used in horses, cattle and pigs. It is often formulated as the meglumine salt. In the United States, it is regulated by the U.S. Food and Drug Administration (FDA), and may only be lawfully distributed by order of a licensed veterinarian. There are many trade names for the product, as stated below. The aim of this study was comparative study of general injection and intra uterine transfusion of Flunixin Meglumine in the treatment of cows with endometritis.

MATERIALS AND METHODS

100 cows under study were divided into 3 groups. In the first group of cows 3000 mg oxytetracycline 5% by intrauterine was used. In the second group of cows in addition to oxytetracycline 5%, 100 ml Flunixin Meglumine by intrauterine was used and in third group of cows, 3000 mg oxytetracycline 5% intrauterine and 20 ml Flunixin Meglumine by intravenous was used. After 10 days cows in each group received a single dose of PGF2α and observed in estrus were inseminated. The fertility rate in cows treated by statistical methods, Fisher's exact test was used for statistical analysis.

RESULTS

Study was conducted to comparative study of general injection and intra uterine transfusion of Flunixin Meglumine in the treatment of cows with endometritis. Study done in three group of animal that each group has 100 cows in farms located in suburb of Tabriz.

In the first group of cows 3000 mg oxytetracycline 5% by intrauterine was used that after 10 days cows received a single dose of PGF2α. In this group number of fertile cows were 24 (24% fertility) and the number

of infertile cows were 76 (76% of infertile), respectively (**Chart 1**).

In the second group of cows in addition to oxytetracycline 5%, 100 ml Flunixin Meglumine by intrauterine was used that after 10 days cows received a single dose of PGF2α. In this group number of fertile cows were 38 (38% fertility) and the number of infertile cows were 62 (62% of infertile), respectively (**Chart 2**).

In third group of cows, 3000 mg oxytetracycline 5% intrauterine and 20 ml Flunixin Meglumine by intravenous was used. And after 10 days cows received a single dose of PGF2α. In this group number of fertile cows were 38 (38% fertility) and the number of infertile cows were 62 (62% of infertile), respectively (**Chart 3**).

Compare fertility rates in group one than in group two showed that there are significant differences between the two groups (P= 0.0464). Also compare fertility rates in Group one than in Group three shows that there aren't significant differences between the two groups (P= 0.2702) and Compare fertility rates in group two than in group three showed that there aren't significant differences between the two groups (P= 0.4587).

According to the results, the study shows that the use of Flunixin Meglumine with antibiotics, such as oxytetracycline play a role in the treatment of endometritis and increase fertility in cows with endometritis.

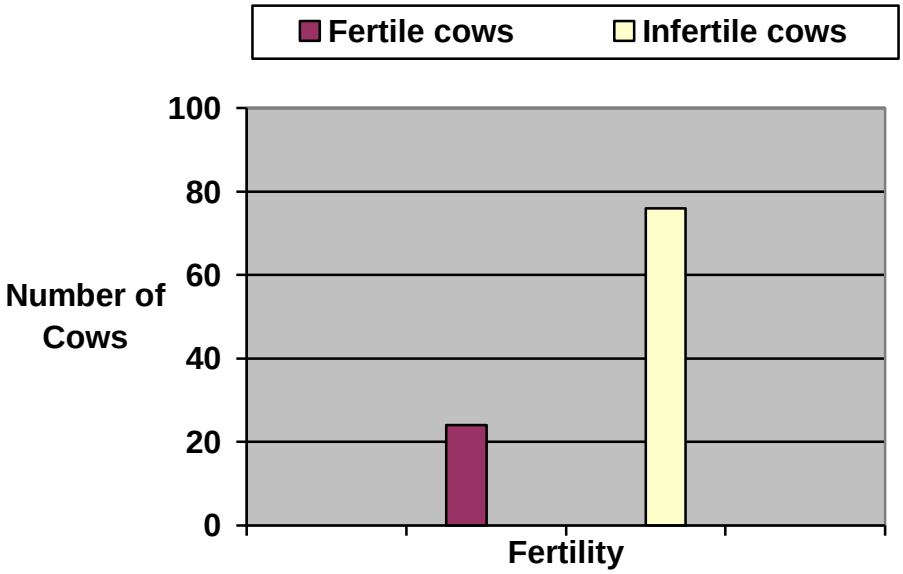

Chart 1: Fertility of the first group (cows that receive 3000 mg oxytetracycline 5% by intrauterine)

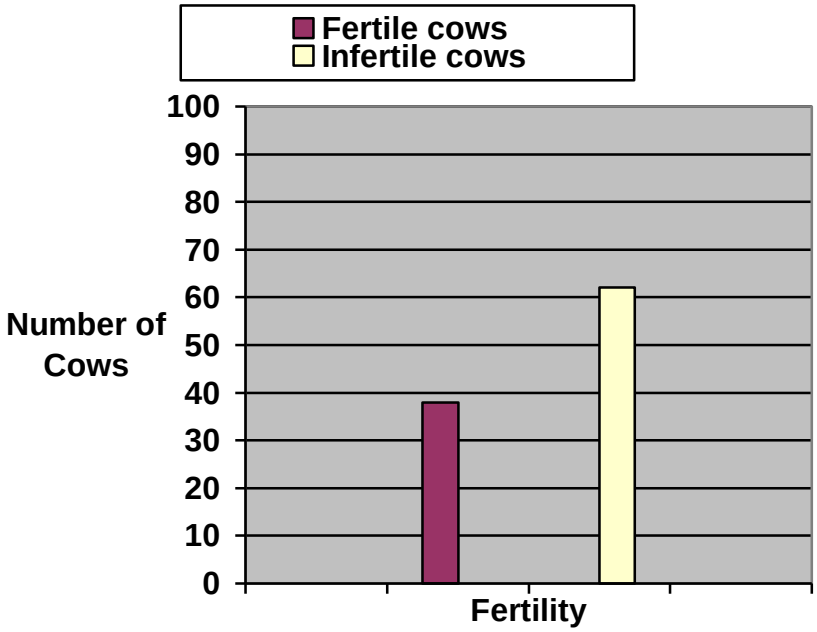

Chart 2: Fertility of the second group (cows that receive oxytetracycline 5% and 100 ml Flunixin Meglumine by intrauterine)

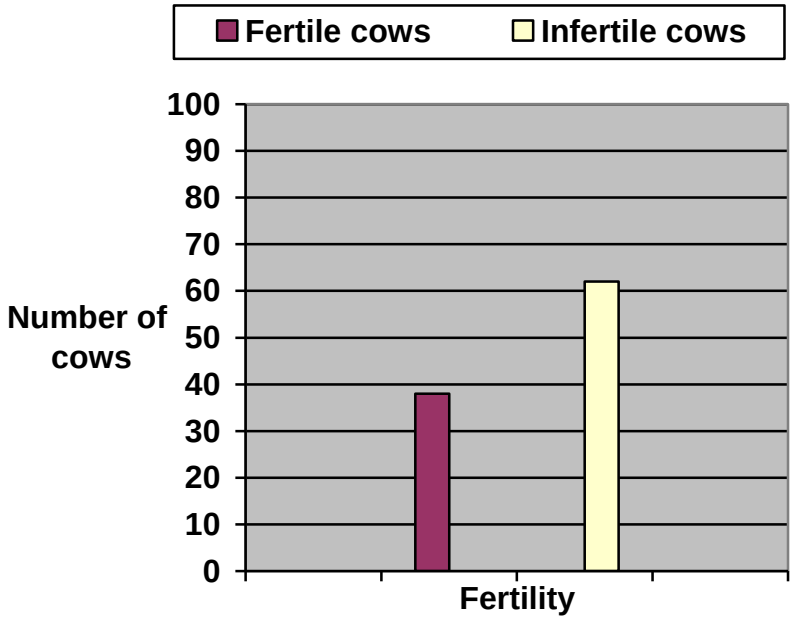

Chart 3: Fertility of the second group (cows that receive 3000 mg oxytetracycline 5% intrauterine and 20 ml Flunixin Meglumine by intravenous)

DISCUSSION

A variety of antibiotics have been infused into the uterus of cows in attempts to treat postpartum infections [4]. oxytetracycline or one of its synthetic analogs is most commonly recommended for parenteral administration to cows with uterine infections. Stephen and his colleagues demonstrated that chronic endometritis a negative impact on the activities of the estrous cycle and reproductive [5]. Endometritis included as a factor in reproductive disorders. Bosu and *et al* were suggested that PGF2a and cortisol hypersecretion of intrauterine infection may be associated with changes in ovarian cycles [6] while Lopez and *et al* have shown that the frequent use of PGF2a in reproductive periods to reduce risk of ovarian cycles [7]. To have better reproductive performance in dairy cattle reproduction is necessary for the proper management and calving interval and milk production in cattle should be appropriate [6, 8 and 9].

Time detection of estrus, good sperm quality, uterine environment and reproductive efficiency, the important parameters that must be considered [2]. However, many of the cattle show some degree of infection after delivery [1 and 10]. Natural defense mechanisms in normal uterine infections, uterine infections and inflammation have been removed but the remaining 20-10% of cases and causes infertility [11]. Resistant infections, uterine cause's poor reproductive performance are at the mercy of uterine infections, bacterial pathogens accumulate in their head which helps Arcano bacteria pyogenes [11 and 12]. The results of this study indicate that the use of Flunixin Meglumine with antibiotics such as oxytetracycline play a role in the treatment of cows with endometritis and Flunixin Meglumine injection in the treatment of endometritis and increased intrauterine general fertility rate is very important. Other researchers' findings also showed that injection of non-steroidal anti-inflammatory such as Flunixin Meglumine with antibiotics play a role in reducing inflammation and increase deterrence against many bacteria in the uterus, resulting in improved reproductive health and to improve standards. Therefore, it is recommended for the treatment of endometritis with antibiotics, nonsteroidal anti-inflammatory drugs such as Flunixin Meglumine may be used. Also proposed that the PGF2a as a complementary therapy for the treatment of infections with antibiotics and Flunixin Meglumine used.

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