

**COMPARATIVE STUDY OF GENERAL INJECTION AND INTRA UTERINE
TRANSFUSION OF MELOXICAM 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. Meloxicam is a nonsteroidal anti-inflammatory drug (NSAID) with analgesic and fever reducer effects. The aim of this study was comparative study of general injection and intra uterine transfusion of Meloxicam in the treatment of cows with endometritis.

100 cows under study were divided into 3 groups. In the first group of cows 9 million penicillin by intrauterine was used. In the second group of cows in addition to penicillin, 100 mg Meloxicam by intrauterine was used and in third group of cows 9 million intrauterine penicillin and 200 mg Meloxicam by intravenous was used. After 10 days cows in each group received a single dose of PGF₂ α and observed in estrus were inseminated. The fertility rate in cows treated by statistical methods, Fisher's exact test was used for statistical analysis.

In the first group of cows number of fertile cows were 24 (24% fertility) and the number of infertile cows were 76 (76% of infertile), respectively. In the second group number of fertile cows were 38 (38% fertility) and the number of infertile cows were 62 (62% of infertile), respectively and in the third group of cows number of fertile cows were 40 (40% fertility) and the number of infertile cows were 60 (60% of infertile), respectively. According to the results,

the study shows that the use of Meloxicam with antibiotics, such as penicillin play a role in the treatment of endometritis and increase fertility in cows with endometritis.

Keywords: Meloxicam, 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].

Meloxicam is a non-steroidal anti-inflammatory drug (NSAID)

with analgesic and fever reducer effects. It is a derivative of oxicam, closely related to piroxicam, and falls in the enolic acid group of NSAIDs [2]. It was developed by Boehringer-Ingelheim. Meloxicam starts to relieve pain about 30–60 minutes after administration [3]. The aim of this study was comparative study of general injection and intra uterine transfusion of Meloxicam in the treatment of cows with endometritis.

MATERIAL AND METHODS

100 cows under study were divided into 3 groups. In the first group of cows 9 million penicillin by intrauterine was used. In the second group of cows in addition to penicillin, 100 mg Meloxicam by intrauterine was used and in third group of cows 9 million intrauterine penicillin and 200 mg Meloxicam 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 Meloxicam 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 9 million penicillin by intrauterine was used that after 10 days cows received a single dose of PGF2a. 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

penicillin, 100 mg Meloxicam by intrauterine was used that after 10 days cows received a single dose of PGF2a. 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 the third group of cows 9 million intrauterine penicillin and 200 mg Meloxicam by intravenous was used and after 10 days cows received a single dose of PGF2a. In this group number of fertile cows were 40 (40% fertility) and the number of infertile cows were 60 (60% of infertile), respectively (**Chart 3**).

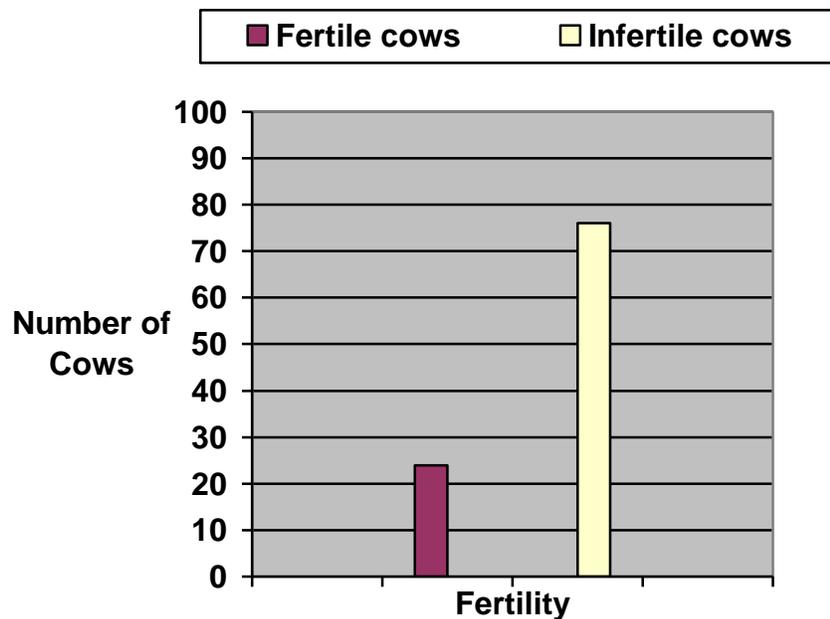


Chart 1: Fertility of the first group (cows that receive 9 million penicillin by intrauterine)

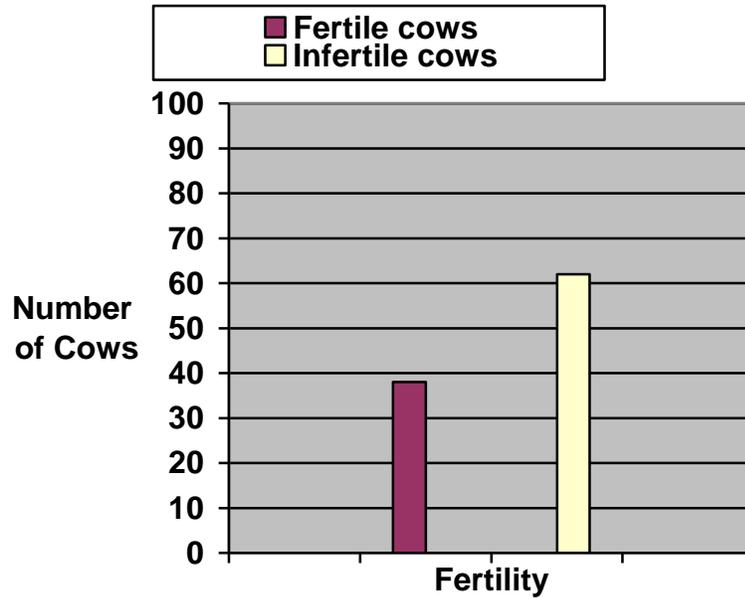


Chart 2: Fertility of the second group (cows that receive penicillin and 100 mg Meloxicam by intrauterine)

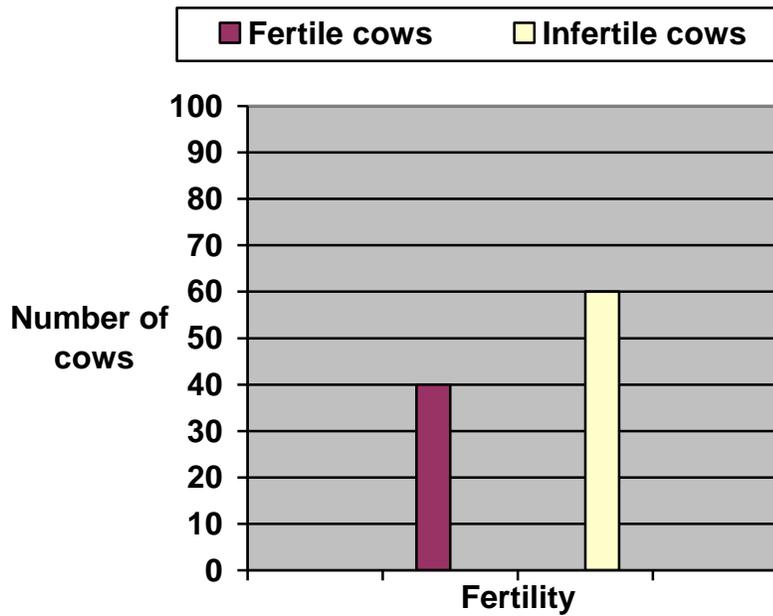


Chart 3: Fertility of the second group (cows that receive 9 million intrauterine penicillin and 200 mg Meloxicam by intravenous)

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 are significant differences between the two

groups ($P= 0.0226$) and Compare fertility rates in group two than in group three showed that there aren't significant differences between the two groups ($P= 0.4751$).

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

DISCUSSION

A variety of antibiotics have been infused into the uterus of cows in attempts to treat postpartum infections [4]. Penicillin 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 PGF_{2a} 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 PGF_{2a} 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 [5]. 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 Meloxicam with antibiotics such as penicillin play a role in the treatment of cows with endometritis and Meloxicam 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 Meloxicam 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 Meloxicam may be used. Also proposed that the PGF2a as a complementary therapy for the treatment of infections with antibiotics and Meloxicam used.

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