

Efficacy of Various Drugs for Clinical Management of Endometritis in Buffaloes

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Abstract

Cases of repeat breeding due to endometritis are frequently seen in field, which has very high negative impact on farm economy. In this paper various drugs and drug combination is discussed. 40 cases have been treated and combination of Oxytetracycline 30ml + Povidine iodine 5% 30ml are found more effective in treatment of endometritis followed by Levofloxacin, ornidazole, Alpha tocopherol, then Cephalexin, and Ofloxacin ornidazole.

Introduction

Production of one calf per milch animal annually contributes substantially to efficacy and profitability of dairy farming operation. It is generally assumed that for a farmer the relative economic value of production is 10 times greater than the value of production. Uterine health plays important role in post partem, feed efficacy of milch animal, excess bacterial load and infection leads low dry matter intake, leading low/no milk production. Fertility after parturition in dairy animals is considered as the principle economic factor of milk producing farms. Basically, to produce ova, provide nutrition to zygote and fetal development to initiate a mechanism for the birth of the calf is the function of uterus. In uterine involution, physical shrinking, necrosis and sloughing of caruncles and the regeneration of endometrium, the reduction of post-partum uterus from 10kg to 0.8kg occurs within 25 days most of post calving size reduction take place first few weeks and being completed in few days. Epithelial regeneration is completed by about 25 days after parturition. Whereas deeper tissue fully restored after six a week of calving.

Endometritis is a localized inflammation of uterine wall characterized by presence of purulent uterine discharge in the vagina at 21 days post-partum or mucopurulent approximately 50% pus and 50% mucous discharge in the vagina after 26 days of parturition. Commonly endometritis pathogens are *E.coli*, *Truepeccella pyogenes*, *Fusibacterium ecrophorum* or *purvotella* spp which get access to uterus at coitus, insemination, parturition and post-partum [1]. The Retention of placenta, abortion, dystocia, mounting by infected bulls, unhygienic practices at insemination, hypocalcaemia, season and poor nutrition are the main factors associated with the development of endometritis [2].

Uterine pathogens affect reproduction both by causing direct endometrial damage and by producing toxin [3]. Bacterial endotoxin has numerous effect on reproduction [2].

- A. Affect estrodiol and progesterone secretion altering follicular growth and development of corpus luteum
- B. Interfere in LH production
- C. Increases PGE2 secretion and prolong the life of CL
- D. Causes embryo mortality.

Tools for diagnosis of endometritis

- I. Endometrial cytology, biopsy, ultrasonography, white slide test.
- II. In this study White slide test was used to ascertain the degree of endometritis.
- III. Procedure of White slide test [4].
- IV. Cervical mucous is collected and mixed with equal amount of 5%NAOH in a test tube and heated at boiling point and change of colour is graded as (Table 1).

Table 1: Cervical mucous is collected and mixed with equal amount of 5%NAOH in a test tube and heated at boiling point and change of colour is graded.

Colour	Degree of Endometritis
Turbid	Normal
Light Yellow	Mild
Yellow	Moderate
Dark Yellow	Severe

- V. Sample size- 40 numbers of buffalo were selected randomly from villages near by Rania Veterinary Hospital Kanpur Dehat U.P.

Clinical signs and history

Presence of white/pale mucopurulent discharge from vagina was observed, volume of discharge increases during estrus. Animal shows systematic illness by reduction of milk yield and feed intake, and all are repeat breeders.

Treatment

40 animals were divided randomly into 4 different group each comprising of 10 buffaloes. Each group was treated with different intrauterine medicine for three days, with below mentioned intrauterine medicine. Parenterally PGF2 alpha analog cloprostenol 2ml (Pregma) intramuscularly one first day of treatment with butaphosphan 15ml (Metaways) melxicam 15ml (Melonex) and bolus of Isofluid with serretiopeptidase (tikola) 2 bolus once daily for three days with Multivitamin 30ml (Multistar) for 7 days to all the groups (Table 2).

Table 2: 40 animals were divided randomly into 4 different group each comprising of 10 buffaloes.

Group	Medicine Used Intrauterine
I	Levofloxacin, ornidazole, Alpha tocopherol (Lenovo AP 60ml)
II	Cephalexin 4g (LixenIU)
III	Oxytetracycline 30ml + Povidine iodine5% 30ml
IV	Ofloxacin ornidazole 60ml

Result

(Table 3-6).

Table 3: Group I: Levofloxacin, ornidazole, Alpha tocopherol (Lenovo AP 60ml).

Colour	Result
Turbid	6 number
Light Yellow	2 number
Yellow	1 number
Dark Yellow	1 number

Table 4: Group II: Cephalexin 4g (LixenIU).

Colour	Result
Turbid	5 number
Light Yellow	2 number
Yellow	2 number
Dark Yellow	1 number

Table 5: Group III: Oxytetracycline 30ml + Povidine iodine5% 30ml.

Colour	Result
Turbid	7 number
Light Yellow	2 number
Yellow	1 number
Dark Yellow	0

Table 6: Group IV: Ofloxacin ornidazole 60ml.

Colour	Result
Turbid	3 number
Light Yellow	3 number
Yellow	2 number
Dark Yellow	2 number

Conclusion

After three day of treatment Group III (Oxytetracycline 30ml+Povidine iodine 5% 30ml) intrauterine medicine was found to more effective combination for clinical management of endometritis in buffaloes followed by Group I Levofloxacin, ornidazole, Alpha tocopherol (Lenovo AP 60ml) then Cephalexin 4g (LixenIU) then followed by Ofloxacin ornidazole 60ml. Results are based on only one parameter, larger sample size and further study is recommended.

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