

Effect of PGF₂α and antibiotics in ameliorating postpartum metritis in Murrah buffaloes*

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ABSTRACT

The study was conducted on 40 postpartum Murrah buffaloes suffering with metritis. Animals were divided in to four groups, each consisting of 10 animals. Buffaloes in group I were treated with oxytetracycline by intramuscular and intrauterine route for 3 days. Buffaloes in group II were treated with prostaglandin F_{2α} @ 25 mg intramuscular as a single dose. Buffaloes in group III were given combination of oxytetracycline as in group I and prostaglandin F_{2α} as in group II. Group IV buffaloes were kept as control. Efficacy of treatments was adjudged on the basis of clearance of uterine discharge, uterine involution and onset of postpartum estrus. The difference for clearance of uterine discharge, uterine involution and onset of estrus was significant (P<0.05) between control and three treatment groups (I, II and III).

Key words: PGF₂α, Antibiotics, Buffaloes.

Postpartum metritis is one of the important reproductive disorders of dairy animals which cause high economic losses due to infertility and involuntary culling (Esslemont and Peeler, 1993). A stress condition like dystocia, assisted parturition, retension of fetal membranes may cause metritis (Rajala and Grohn, 1998 and Huszenicza et al; 1999). The present study contemplates to relate the efficacy of PGF_{2α} with and without antibiotics in ameliorating postpartum metritis.

Postpartum buffaloes of second to fifth lactation suffering from metritis at different dairy farms in nearby area of Durg and Bhilai were selected as experimental animals. The buffaloes were randomly divided into 3 groups, each comprising of 10 animals. A fourth group of 10 buffaloes suffering from metritis which remained untreated, was used as a control group.

Group I animals were treated with oxytetracycline hydrochloride (Wockhardt Ltd. Mumbai India) @ 5mg/kg body weight by intramuscular route for 3 days and oxytetracycline @ 4 boli by intrauterine route for 3 days. Group II animals were given prostaglandin F_{2α} (Lutalyse-Marketed by Novartis India Limited) @ 25mg by intramuscular route as a single dose. Group III animals were treated with oxytetracycline as in group I and prostaglandin as in group II. Group IV animals were not given any treatment and were kept as control.

Efficacy of different treatment groups was evaluated on the basis of clearance of uterine discharge, return of the uterus to normal non pregnant state (uterine involution) by per rectal examination and onset of postpartum estrus.

The efficacy of different treatment groups used in the present study in terms of mean time (days) required for clearance of uterine discharge from start of treatment, uterine involution and onset of

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postpartum estrus are presented in table 1. The treatment in different groups (Group I, II and III) resulted significantly ($P < 0.05$) earlier clearance of uterine discharge, uterine involution and onset of postpartum estrus than in untreated control group (Group IV). Similar results of using antibiotics (Kaikini and Deshmukh 1984, Ambrose and Pattabiraman 1993, and Mulei and Gitau 1993) and Prostaglandin $F_{2\alpha}$ (Steffan *et al.* 1984, Heuwieser *et al.* 2000 and Sood *et al.* 2003) were reported. Comparison with regard to different treatments showed that statistically there was no significant difference between the group II and III. However, apparently the response in group III was better.

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Table 1. Comparative efficacy of different therapeutic regimens in postpartum metritis in buffaloes.

Parameter	Treatment Groups			
	Group-I Antibiotic	Group- II Prostaglandin	Group-III Antibiotic + Prostaglandin	Group-IV Untreated Control
Clearance of uterine discharge (days)	14.3 ± 1.05 ^a	11.9 ± 0.54 ^b	10 ± 0.85 ^b	32.5 ± 0.65 ^c
Uterine involution (days)	37.3 ± 1.87 ^a	34.7 ± 1.19 ^{ac}	31.3 ± 0.88 ^{bc}	45.2 ± 2.18 ^d
Appearance of first postpartum estrus (days)	69.3 ± 6.40 ^a	66.9 ± 5.49 ^a	59.1 ± 4.82 ^a	95.3 ± 7.33 ^b

Values within rows bearing different superscripts differ significantly ($P < 0.05$)

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