Comparative study of pre and post Artificial Insemination after antibacterial drugs infusion in repeat breeding crossbred cows

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ABSTRACT

The study was conducted on 144 normal and repeat breeder cows. In the case of normal cow higher conception rate (63.63 %) was observed with pre Artificial Insemination Amoxicillin -Cloxacillin treatment than the Ceftriaxone sodium treatment, 53.84 %, while in post Artificial Insemination treatment higher conception rate 57.14 % was recorded with Ceftriaxone than Amoxacillin-Cloxacilin. In repeat breeding cow, pre and post A. I. treatment with Amoxacillin-Cloxacilin showed higher conception rate 60.60 % and 63.63 % respectively as compared to 50.00 % and 50.41 % in the case of Ceftriaxone infusion.

Keywords: Amoxacillin-cloxacilin, ceftriaxone, crossbred cows, repeat breeder
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INTRODUCTION

One of the most important and commonly encountered sub fertility conditions in cattle which play a vital role in dairy economics is repeat breeding efficient dairying and breeding demand that an animal shall give birth of a healthy calf every 12 months and be in the milk for at least 300 days per lactation. Effort should therefore be made to enhance fertility in dairy animals by narrowing down their dry period to be minimum range of 80 to 90 days. Thus, fertility of milch animals appears to plays a major role in dairy economics. Repeat breeding is one of the most vexing problems in dairy cattle and account for huge economic loss to the farmer. The reason for repeat breeding are tow fold viz. failure of fertilization (39.7%) and early embryonic mortality (93.2%) most due to infection of female genitalia (Tanabe and Casida, 1949). In the present experiment, single dose of Ceftriaxone sodium (Vetaceph) and Amoxicillin-Cloxacillin (Crilmox) were tried through intrauterine route for improving conception rate in repeat breading cows.

MATERIALS AND METHODS

The trial was carried out on 144 cross bred repeat breeding cows belonging to private organized farms at Ranchi. The cows which failed to conceive for three or more than three either naturally or artificially bred were included in the trial. All these animals had normal estrus cycles estrus periods, and had clear & transparent cervical mucus discharge hanging from vulva. The experimental animals were grouped into two treatment and control group and treated as pre the following protocol (table 1).

The animals under all the treatment and control groups were observed and efficacy of each treatment schedule was judged on the basis of pregnancy diagnosis by rectal palpation on D50-60 post artificial insemination. The comparative efficacy of

Table 1: Treatment profile for different groups

Groups	Drugs	Doses	Routes
Group-I	Ceftriaxone sodium	1 gm, dissolved in 30 ml distilled water	infused I/U 8-12 hrs pre or post insemination
Group II	Amoxycillin+ Cloxacillin	1.25 g, dissolved in 30 ml distilled water	infused I/U 8-12 hrs pre or post insemination
Group III	Distilled water	only 30ml of distilled water	infused I/U 8-12 hrs pre or post insemination

medicine was worked out by comparing the conception rate in treatment groups with the control one.

RESULTS AND DISCUSSION

The Conception rate with intrauterine infusion of ceftriaxone sodium and Amoxicillin –Cloxacillin during pre or post A.I. in normal and repeat breading animals have been presented in table 2. The table shows that the conception rates both in pre & post A. I. ceftriaxone sodium and Amoxicillin –Cloxacillin treated animals were significantly higher in repeat breeder & normal animals.

Though higher conception rates obtained in normal cows in the case of pre A..I. amoxicillin–Cloxacillin infusion (63.53%) and post A.I. Ceftriaxone sodium (57.14%) infusion, the difference was statistically non- significant. In the repeat breeding cows, conception rate was higher (60.00%) in pre A.I treatment with Amoxicillin –Cloxacillin than with Ceftriaxone sodium (50.00%). Where as in post artificial insemination treatment with amoxicillin –Cloxacillin showed higher (63.63%) conception rates than the ceftriaxone sodium (50.00%) table 1. When the ceftriaxone sodium was done either pre or post A.I. in repeat breeding cows, the conception rate was almost equal (50.00 and 50.14%). The present observation is comparable to the reports of Mutiga (1978), Purbey and Umashankar (1985), Saha and Chaudary (1987), Panchal et al. (1991), Rao and

Table 2. Comparative effect of intra –uterine (Pre and post) Ceftriaxone sodium and Amoxicillin–Cloxacillin infusion on conception rate in normal and repeat breeding cases

Animals	No. of Animals treated		No. of Animals conceived		C.R.(%)		χ^2 Value
	Ceftriaxone sodium	Amoxicillin–Cloxacillin	Ceftriaxone sodium	Amoxicillin–Cloxacillin	Ceftriaxone sodium	Amoxicillin–Cloxacillin	
Normal							
Pre A.I.	13	11	7	7	53.84	63.63	0.235^{NS}
Post A.I.	14	11	8	6	57.14	54.54	0.342^{NS}
Repeat breeder							
Pre A.I.	12	10	6	6	50.00	60.00	0.220^{NS}
Post A.I.	14	11	7	7	50.14	63.63	0.465^{NS}

NS= Non –significant

Table3. Comparative effect of intra –uterine (8-12 hrs Pre and post insemination) Ceftriaxone sodium and Amoxicillin–Cloxacillin infusion on conception rate in normal and repeat breeding cases.

Animals	No. of Animals treated	
	Ceftriaxone	Amoxicillin–Cloxacillin
Normal		
Pre A.I.	13	11
Post A.I.	14	11
Repeat breeder		
Pre A.I.	12	10
Post A.I.	14	11

Naidu (2000) and Das et al. (2002).

In the present study, a difference in conception rates in different treatment groups was observed Amoxicillin–Cloxacillin combination (1.25 g) has given satisfactory results. Therefore, it can be concluded that the (8-12 hours) pre or post insemination intra-uterine infusion can be preferred in such cases where the exact causes of repeat breeding is difficult to be ascertained.

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