

## Comparative Efficacy of Fertivet and Janova in the Treatment of Post Partum Anestrus in Cows

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### ABSTRACT

Two groups of anestrus cows consisting six cows each were selected for trail. The cows were apparently healthy with history of post-partum anestrus more than 60 days. Per-rectal examination of all the cows revealed normal genital organs but smooth inactive ovaries on two subsequent examinations at 10 days apart. Cows in Group-I were administered Fertivet (Ar-Ex Laboratories Pvt. Ltd. Mumbai) orally 300 mg daily for five days. Treatment was discontinued if cow exhibited estrus earlier than 5 days. In second group, Janova capsules (Dabur Ayurved) were administered orally with Jaggary at the dose rate of 3 capsules per animal for two consecutive days. Those cows failed to exhibit estrus within 10<sup>th</sup> days were given second dose on day 11<sup>th</sup> and 12<sup>th</sup>. Both the groups were observed for estrus symptoms thrice daily and animal in estrus was confirmed by per-rectal examination. Signs of estrus were exhibited by all the animals treated with Fertivet and 83.33 per cent cows treated with Janova, respectively. Duration of estrus induction was 4.33+0.91 and 8.2+2.33 days in cows treated with Fertivet and Janova, respectively. Conception rate with Fertivet and Janova was found to be around 50 and 40 per cent, respectively. It is concluded that efficacy of Fertivet on exhibition of estrus, duration for estrus induction and conception rate is superior as compared to Janova.

**Key words:** Post partum anestrus; Estrus induction; Ovulation; Conception rate ; Treatment protocols;

Anoestrus condition is responsible for long inter-calving periods leading to reduced calf crop and decrease milk yield during reproductive life span of the cow, resulting in economic loss. In the present era of the crossbreeding, "Calf a Year" is the only solution to boost 'White Revolution'. It is observed that several cows show prolonged post-partum anoestrus condition irrespective of the fact that these animals received ideal feeding and managerial conditions. Prolonged postpartum anestrus is the main constraint of cattle reproduction (Kamal et. al.2012) resulting from inefficiencies in nutritional management and poor estrus detection (Shamsuddin et. al.2006) both giving rise to a significantly extended calving interval. Environmental factors like heat stress and poor condition of barns also

potentially prolong the postpartum anestrus (Opsomer et. al.2004). In suckled beef cows, an extended postpartum anestrus is the single most important reason that cows fail to rebreed during defined breeding seasons and is recognized as a major cause of infertility (Whittier et. al.2008).

Prevalence of postpartum anestrus was 16.4 per cent and 24 per cent in cross bred dairy cows in Debre Zeit and in central high lands of Ethiopia, respectively (Befekadu, 2007), while it was 18 per cent in crossbred cows of Bangladesh (Md Mostofa et. al.2014). It was, therefore felt necessary to find out an economic and easily available non-hormonal preparation to bring them in regular sexual cycle and to improve the fertility. While exact cause of the problem remains unknown, the use

of hormones for induction of estrus has met with little success. Thus some cheap and safe (having minimum or no side effects) therapeutic remedy is required to combat the problem of anoestrus. Therefore, the study on efficacy of non hormonal drugs namely Fertivet and Janova for estrus induction in postpartum anoestrus cows was proposed.

## METHODOLOGY

The present study was carried out at department of Animal Reproduction, Gynaecology and Obstetrics, Nagpur Veterinary College, Nagpur (M.S). Animals for the trial were selected from Cattle Breeding Farm Telenkhedi, Nagpur Veterinary College, Nagpur. Apparently healthy cows of 2nd to 4th parity were selected at first instance along with the history of postpartum anoestrus for more than 60 days. These cows were subjected to gynaeco-clinical examination twice with an interval of 10 days apart. Cows with normal genitalia with smooth inactive ovaries were considered to be true anoestrus. Such 12 cows were selected for the trial.

Twelve cows with the history of post partum anoestrus were divided into two groups and were subjected to treatment with Fertivet (Gr. I, n=6, Clomiphene citrate) orally (300 mg), daily for five days and Janova capsules (Gr. II, n=6), (Dabur Aurvet) orally in jaggary @ 3 capsules / day / animal for two consecutive days. All the cows were observed for estrus. Copper sulphate solution 150 ml (1% w/v) was drenched before Fertivet was administered. Treatment was discontinued if the cow exhibited estrus earlier than 5 days in group I. In group II the cows which failed to exhibit estrus within 10 days, were given second dose on day 11<sup>th</sup> and 12<sup>th</sup> and were observed for estrus.

Estrus was detected by visual observations thrice a day i.e. morning (7.00 to 8.00 am), afternoon (12.00 to 1.00 pm) and evening (5.00 to 6.00 pm) and was confirmed further by per rectal examination. Ovulatory status was decided by palpation of mature corpus luteum

on day 10<sup>th</sup> of the estrous cycle. These cows were bred by artificial insemination. Fertility status was decided by confirming pregnancy at 60 days post service by per rectal examination. The collected data was statistically analyzed following the methods as described by *Snedecor and Cochran (2004)*.

## RESULTS AND DISCUSSION

All the six cows (100%) treated with the Fertivet, responded to the treatment and exhibited estrus with an average period of  $4.33 \pm 0.91$  days. These findings are in agreement with those of *Deshpande et. al. (1976)* who also reported 100 per cent estrus induction within one to three days in buffaloes treated with Fertivet. All the cows recorded ovulatory estrus with Fertivet treatment. However conception rate was recorded to be only 50 per cent in the present study. *Sudhirchandra et. al. (1990)* recorded 60 and 85 per cent conception rate in cows and buffaloes, respectively and the respective duration for estrus induction was  $8.42 \pm 0.98$  and  $6.01 \pm 0.41$  days following Fertivet treatment. The present result indicates that Fertivet (Clomiphene citrate) is effective for inducing ovulatory estrus with acceptable conception rate in post partum anoestrus cows.

In Janova treated groups, five out of six (83.33%) cows exhibited estrus within an average interval of  $8.2 \pm 2.33$  days (range 2-16 days). Almost similar induction rate 88.2 per cent was recorded by *Singh et. al. (2002)*. Out of the six cows, four responded to the single dose and remaining two received a double dose, of which only one exhibited estrus on sixteen days from the start of treatment. Out of the five cows bred through AI, only one cow had anovulatory estrus indicating 80.00 per cent ovulation. *Ahmad et. al. (2003)* treated 30 anoestrus cows with Janova (single/double dose) and reported overall response of 43.39 percent likewise induction rate was lower than recorded in the present study. The conception rate was recorded 40 percent in Janova treated cows, which is slightly higher than (30 to 34%) the report of *Kadu et. al. (2001)*. From these

**Table 1. Treatment response for estrus induction, ovulation and conception rate in experimental cows**

Group No.	Treatment regimens	Cows exhibiting estrus (%)	Duration for estrus induction (days)	Ovulation (per cent)	Conception Rate
I	Fertivet	100.00	$4.33 \pm 0.91$	100.00	50.00
II	Janova	83.33	$8.2 \pm 2.33$	80.00	40.00

studies, it can be inferred that Janova, a herbal preparation is effective in estrous induction and ovulation.

## CONCLUSION

From this study it can be concluded that Fertivet and Janova can be used successfully for estrus induction, ovulation and to restore fertility in anoestrus cows.

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