

## CONCEPTION RATE IN EARLY POSTPARTUM DAIRY COWS TREATED WITH OVSYNCH + FTAI

KANTHARAJ, S\*., HEMALATHA, H., MURUGAVEL, K. AND ANTOINE, D.

Department of Veterinary Gynaecology and Obstetrics, Rajiv Gandhi Institute of Veterinary Education and Research, Mettupalayam, Puducherry

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### ABSTRACT

A total of 18 early postpartum dairy cows were randomly divided into two groups and Group-I cows (n=9) were subjected to AI at observed estrus and Group-II cows (n=9) were subjected to Ovsynch protocol with Fixed Time Artificial Insemination (FTAI). The conception rate in Group-I and II was 22.22 and 44.44 %, respectively. Though there was no significant difference in the conception rate between the two groups, cows subjected to Ovsynch had an appreciable conception rate.

**Key words:** Postpartum Dairy Cows, Ovsynch, FTAI, Conception rate

One of the traditional methods for detecting cows in estrus is visual observation and this method is considered as time consuming procedure (Firk *et al.*, 2002). Since, most of the commercial dairy farms have switched over to AI than natural service-leading to poor expression of estrus. In recent decades, the estrus detection rates in commercial dairy farms have decreased to 60 % (Dobson and Esslemont, 2002) and to overcome this obstacle, Pursley *et al.* (1995) developed TAI using Ovsynch protocol having a combination of GnRH and PGF<sub>2α</sub> to synchronize ovulations in lactating dairy cows. Hence, the present study was undertaken to evaluate the effect of ovsynch protocol in early postpartum dairy cows in farm conditions, as these cows have poor reproductive efficiency because of low fertility and low rates of estrus detection (Pursley *et al.*, 1997).

The study was conducted in Instructional Livestock Farm Complex (ILFC) of the institute. Eighteen early postpartum dairy cows with a BCS ranging from 2.5 to 3.5 and Days in Milk (DIM) ranging from 68 to 96 days were used in the study. All the cows were maintained under uniform farming conditions and were fed with concentrates and ad libitum green roughages. The cows were selected based on the absence of postpartum

genital infections. The cows were divided into two equal groups with 9 cows in each group. Group-I cows (AI at observed estrus) were inseminated based on estrus detection using the am-pm breeding rule. Cows in Group-II (FTAI) were subjected to Ovsynch protocol. The first injection of GnRH (Gynarich, 10 µg) was administered i/m on Day 0 followed by Inj. PGF<sub>2α</sub> (Pragma, 500 µg) i/m on Day 7. A second dose of Inj. GnRH (Gynarich, 10 µg) was administered i/m on Day 9 and FTAI was performed at 16 h after the second GnRH. Pregnancy diagnosis was performed 60 days after AI in both the groups by rectal examination and the conception rate obtained between the two groups was statistically analyzed using Chi square test and compared.

The conception rates obtained in both the groups are summarized in Table. 1. The first service conception rate obtained for cows subjected to AI at observed estrus was 22.22 %. The conception rate is comparable with the result obtained by Lakher *et al.* (2019) who reported a conception rate of 16.66 % for postpartum Sahiwal cows. On the other hand, Pursley *et al.* (1997.) reported a very low conception rate of 5 % for postpartum dairy cows.

**Table. 1 Conception rates in early postpartum dairy cows inseminated after detected estrus (Control) or done FTAI after Ovsynch (Treated)**

Sl. No.	Group/No. of animals	Pregnant (n)	Non-Pregnant (n)	Conception Rate(%)
1	Control (9)	2	7	22.22
2	Treated (9)	4	5	44.44

\* Corresponding author: E-mail address: drkanthvet@gmail.com

Early postpartum dairy cows subjected to Ovsynch protocol and FTAI had 44.44% conception rate. Pursley *et al.* (1995) reported a first service conception rate of 35 % for cows in Ovsynch group. Vasconcelos *et al.* (2001) reported a higher percentage of pregnancy (47.7 %) which is almost similar to the results obtained in the present study. The Ovsynch protocol offers many advantages and can be applied in all the cows regardless of whether they are cycling or not, regardless of the stage of estrous cycle. There is reduction in the heat detection and gynaecological examination, shortens the voluntary waiting period and inter calving interval (Nowicki *et al.*, 2017).

There was no significant difference in the conception rate between the control and treated groups probably because of less number of cows used in each group. However, there was insignificantly higher conception rate of 44.44 % with Ovsynch protocol. Hence, it was concluded that Ovsynch protocol during early postpartum period results in to enhanced conception rate.

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