EFFICACY OF HORMONES IN CYSTIC OVARIAN DEGENERATION IN CROSS BRED DAIRY COWS

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ABSTRACT
A field study was conducted on 40 cross bred cows to study the efficacy of hormones in cystic ovarian diseases on the basis of gynaeco-clinical examination. Based on the conditions, dairy cows were divided into four groups. Group I consisted of 10 dairy cows having the normal cyclic activity. Group II of 10 dairy cross-bred cows with history of anoestrus were selected as control groups. Group III and IV consisted of 10 dairy cross bred cows each, with the history of anoestrus (> 6 months after calving). The results indicated that in control group I, the conception rate was 50, 80 and 90 per cent after 1st, 2nd and 3rd inseminations respectively. In group II none of the animals became pregnant. In group III and IV, the animals which received only PGF2α (Ilirin) and PGF2α (Juramate) had lesser conception rate than those received additional dose of RECEPTAL through intra-vulval route.

Key words: Cows, Cystic ovary, GnRH, ILIRIN, JURAMATE, Prostaglandins.

INTRODUCTION
Infertility or sterility due to hormonal changes in cross bred dairy cattle and other animals are secondary to basic nutritional, hereditary and stress or other factors. In rural areas most of the cross bred cows are underfed or undernourished leading to anestrous or repeat breeding.

Cystic ovarian condition in cross bred dairy cows is becoming one of most common conditions causing infertility. This results in increase in inter-calving period, affecting production potential of the animal and economic losses to the animal owners (Barlett et al., 1986). Cystic ovaries in cattle are characterized by follicular cysts or cystic degeneration of the graffian follicle, luteal or luteinized cyst and cystic corpora lutea. Follicular and luteal cysts are anovulatory cysts while the cystic corpus luteum is an ovulatory cyst. Prostaglandin F2α because of their luteolytic action, have been used for treatment of ovarian cysts (Eddy, 1977 and Kumar and Jha, 2001). Gonadotrophin releasing hormone plays an important role in correction of ovarian dysfunction such as follicular cysts (Whitmore et al., 1979 and Kumar and Jha, 2001). The present study was undertaken to study the effect of hormones on ovarian cysts in cross bred dairy cows under field conditions.

MATERIALS AND METHODS
The study was conducted in 40 cross bred dairy cows selected from four villages located closer by in Kundgol taluka, Dharwad district of Karnataka.
State. The efficacy of hormonal treatment in cystic ovarian diseases on the basis of gynaeco-clinical examination was carried out. Based on the conditions, dairy cows were divided into four groups.

**Group I:** Group I consisted 10 dairy cows having the normal cyclical activity, producing 10 kg of milk/day, and were kept as control. This group of animals were not given any treatment, but were inseminated as and when required.

**Group II:** Group II also consisted of 10 dairy cross-bred cows with average daily milk yield of 10 kg/day and with a history of prolonged anoestru. This group was kept as control and they did not receive any treatment, but artificial insemination was carried accordingly.

All the cows were thoroughly examined for induction of oestrus. All the cows were inseminated twice a day. Morning before 10 a.m. and evening after 4:30 pm for two consecutive days. Pregnancy were confirmed on 90th day post insemination.

**Group III:** Consisted of 10 dairy cross-bred cows with average daily milk yield of 10 kg/day and with a history of prolonged anoestru (even more than 6 months after calving). Five animals of this group were given single injection of prostaglandin F2α (Ilirin) 3.5 ml intravenous route. The rest of the five animals were given PGF2α (Ilirin) followed by 1ml of RECEPTAL through intra-vulval route on the side where follicle was present on the day of insemination.

**Group IV:** Consisted of 10 cases of follicular cysts. Cows showing continuous, frequent and irregular oestrus with copious discharge, unilateral or bilateral cystic ovarian degeneration and not conceiving even after 6-10 insemination. The five animals were given 5 ml of PGF2α (Juramate) 5ml intramuscular single injection. The remaining five animals were given PGF2α (Juramate) 5ml intramuscular injection followed by 1ml of RECEPTAL through intra-vulval route on the day of insemination, on the side where the follicle was present.

Per-rectally palpable corpus luteum was ascertained in each case before administering the medicine. All the cows were thoroughly examined for induction of oestrus. All the cows were inseminated twice a day. Morning before 10 a.m. and evening after 4:30 pm for two consecutive days. Pregnancy were confirmed on 90th day post insemination.

**RESULTS AND DISCUSSION**

The group I normal cyclical animals which did not any treatment, five animals got conceived and the rest 3 animals got conceived by the 2nd and, one animal got conceived in 3rd insemination. The animal which did conceive became a repeat breeder and it did not conceive even after 5th insemination. The conception rate was 50 per cent, by the first insemination, and it was 80 and 90 per cent by the 2nd and 3rd inseminations.

In the Group II, not a single animal became pregnant, since the animals were cystic, repeat breeders which did not receive any treatment. The conception rate was Zero per cent.

The group III, out of 10 cases of cystic ovaries treated with PGF2α (Ilirin), the complete lysis of cyst and resumption cyclic activity occurred in all the cases. Single injection of PGF2α was found to be effective. Similar findings were reported by earlier workers (Kumar and Jha, 2001). The single injection of PGF2α (Ilirin) resulted in pregnancy in four animal, indicating 80 per cent conception rate. The PGF2α (Ilirin) followed by RECEPTAL injection group, all the five animals became pregnant and conception rate was 100 per cent. Cows which received a single injection of PGF2α (Juramate), three become pregnant leading to 60 per-cent conception rate. The intra-vulval injection of 1 ml of RECEPTAL followed by PGF2α (Juramate) injection lead to 80 per cent conception (four animals got conceived). The injection of RECEPTAL on the day of insemination leads to timely ovulation which might lead to increase in conception rate (Vishwanath Reddy., 1994).

In control group I, of 10 normal cyclic cows, the conception rate was 50 per cent, by the first insemination, and it was 80 and 90 per cent by the 2nd and 3rd inseminations. In group II none of the animals becomes pregnant, this might be due to animals did not receive any treatment and had a cystic condition which made them infertile. The increase in conception rate in group I during the study might be due to a timely artificial insemination in cooler parts of the day. The variation of conception rate in group III and IV might be due to the additional injection of RECEPTAL (GnRH).
which might have lead to the rupture of follicle thereby increasing the conception rate. The PGF2α (Ilirin) treated animals showed better results. However, further studies in large number of animals needed to know the efficacy of the drugs.

REFERENCES