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RESEARCH PAPER

Efficacy of PGF_2~ ADMIN[1] istration by IVSM route for estrus introduction in post partum cyclic cows

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ABSTRACT

The experiment was conducted to study the clinical efficacy of PGF_2-a (clostenol) by intravulvo-submucosal route for induction of estrus in cows. Total 30 postpartum cows were selected from Red Kandhari Research and Instructional Farm, COVAS, Parbhani. The animals from group-I (intramuscular route) reported 80 per cent induction of estrus with mean time interval between treatment and onset of estrus as 78.16 hr., average duration of estrus was 20.5 hr while conception rate was found to be 50 per cent. The animals from group-II (IVSM route) also reported 80 per cent induced estrus with mean time interval between treatment and onset of estrus as 76.03 hr, average duration of estrus was 15.78 hr, while the conception rate was 62 per cent.

Key words : $PGF_2\alpha$, Conception rate, Intravulvo-submucosal route

The multiple role of livestock in the socio-economic structure underlines the need for sustainable livestock development particularly in developing countries including India. India has 209.66 million cattle population (Nivsarkar, 1999), which not only produces milk but also draft animals. Livestock is the backbone of India's economy in terms of income, employment, foreign exchange and earning etc. Reproductive efficiency in dairy herds has a marked effect on profitability.

However, various reproductive problems encountered by the dairy farmers have limiting effect on optimum reproductive performance of dairy animals. Over the past 25 years, researchers have developed reproductive management protocol that synchronized the time of estrus using PGF_2-α. Synchronization with PGF_2-α was successful when cow was bred to a detected estrus. Any disease, pathological condition, hormonal, genetic and nutritional imbalance may cause infertility (Robert, 1971). Early maturity, high fertility and short dry period and early post-partum conception are main factors to increase productivity in livestock. Reduced efficiency of reproduction may be caused by various factors like under feeding, hormonal imbalance, disease condition and careless management. These factors are acting either alone or in combination to reduce the fertility. Various studies have shown that fertility of PGF2-α treated cows has improved with successive induced heat. PGF2-α (cloprostenol) induces an additional heat resulting in better fertility. In view of the above, it was planned to study the response of PGF2-α (cloprostenol) for estrus induction and characteristics of the induced estrus in post partum cyclic cows.

MATERIALS AND METHODS

Thirty post-portum cows were selected from Department of Livestock Production and Management, College of Veterinary and Animal Sciences, Parbhani. These animals were examined gynaeco-clinically for presence of corpus luteum on either of ovaries. Information regarding age, number of calving, milk production was derived from farm record. The experimental cows were divided into three groups.

Group-I (n=10) intramuscular route:

All the cows in this group were administered PGF_2a analogue (clostenol) 0.5 mg (526 mg) by intramuscular route and 2nd dose was given for the animals which have not exhibited estrus after treatment on day 11 of the previous treatment.

Group-II (n=10) intravulvo-submucosal route:

The cows in this group were administered PGF_2a analogue (clostenol) 0.25 mg (263 mg) by intravulvo-submucosal route. Second dose was given for the animal, which have not exhibited estrus after 11 days of previous treatment.

Group-III (n=10) control group:

No treatment was given to these animals throughout the study. All the animals from all the groups were observed at 12 hrs intervals for manifestation of heat signs.