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Using of some hormones in the creation of estrus and ovulation to improvement reproductive in local cows

Makki khalaf hussein AL dulaimi

Department of Animal production / College of Technical Almusiab- University of Al-Furat Al-Awsat Technical – 51009, Babylon, Iraq

Email : makkikhalaf@yahoo.com

Abstract .The current study included 77 local cows suffering from an interruption of estrus cycle, despite having been born for more than 150 days or having frequent irregular estrus. In the area of the Al-Mashroaa district, Mahaweel, Babil province. Several hormones have been used to treat cows infected with luteal cystic ovary and follicular cystic ovary. The cows were divided into two main groups according to the type of infection. Each group was divided into three groups according to the type of treatment group A used three hormones (Prostaglandin PGF₂ , Estrogen and a mixture of Prostaglandin + Progesterone P4), group B used three hormones, Pregnant Mare Serum Gonadotropin PMSG, Gonadotropin Realizing Hormone GnRH, and Human Chorionic Gonadotropin HCG. The results in group A showed that the highest response was for the use of estrogen by 66% followed by the prostaglandin + progesterone mixture by 53% and the use of hormone prostaglandin 45%. Group B had the highest rate of human chorionic hormone 80% followed by the hormone gonadotropin 57%. When hormone record serum pregnant mare lower rate of 37.5% in response. The study showed that the use of estrogen was the best in the treatment of luteal cystic ovary while giving the human chorionic hormone achieved the best results in the treatment of follicular cystic ovary.

Key words: Hormones, Reproductive, Local cows.

1. Introduction

Cattle breeding is of great importance in animal production locally and globally and has a major role in providing milk and meat as well as other products. The productivity of domestic cattle is still low despite the diversity of their breeds and their suitability to the weather conditions (1), (2). Lacks breeding cows especially ruminants in general in Iraq to health care, malnutrition and successful management, as well as to scientific programs in individual education and large herds (3). Therefore, the definition of the importance of these programs requires a great effort to reach economically fruitful results to maintain livestock and solve the problems that lead to non-increasing numbers (4). , After birth must return the shortest period of estrus, a 55-90 day until we get the birth of the calf every year (5), Because the delay estrus cycle for a long after birth caused economic losses as a result of the cost of feeding and the loss of the useful life of the number of births cow (6). The use of hormonal treatments contributes to shortening the period between the two births and restoring the function of the reproductive system to its normal state (7), (8).



The aim of this study is to compare the various hormonal treatments in the treatment of luteal cystic ovary and follicular cystic ovary and the return of the ovary to its proper position and thereby reduce the productivity and economic losses.

2. Materials and Methods

Selected 77 cows suffer from a local lack of estrus or the presence of estrus repeatedly without the descent of their eggs after birth for a period of more than 150 days.

She age ranging between 3 - 8 years for the period from 1/5 to 1/10/2018 in the area of the Al-Mashroaa district, Mahaweel, Babil province. the diet was dependent on the hay, green fodder and a little wheat bran. After the diagnosis by the veterinarian by a cross-rectal lesion, it was found to have of luteal cystic ovary or follicular cystic ovary depending on the presence of the corpus luteum on one of the ovaries with a diameter of 1.5-2 cm and the lack of rumen or the presence of follicle with an irregular estrus. cows were divided into two groups depending on the type of infection and each group was divided into three groups depending on the type of treatment.

Group A consist of 50 infected cattle luteal cystic ovary (no estrus) in which cows were divided into three groups.

First group 20 cows were given prostaglandin 23 mg / cow muscle, second group of 15 cows given the hormone estrogen trade name (Estradiol) dose 5 ml / cow muscle, third group 15 cows were given prostaglandin 22.5 mg / cow muscle + progesterone 130 mg / cow muscle.

Group B 27 cows with follicular cystic ovary (irregular estrus) in which cows were divided into three groups.

Fourth group 8 cows was given Pregnant Mare Serum Gonadotropin PMSG a commercial name (falligon) in the form of a 5 ml bottle and the dose was 1000 international muscle units, fifth group of 14 cows was given the hormone Gonadotropin Realizing Hormone GnRH trade name (Fertagyl) dose 0.5 mg / cow muscle, sixth group 5 cows were given Human Chorionic Gonadotropin HCG 4 ml / cow muscle.

3. Statistical analysis

The use of Chi-square on the way according to the probability tables (9) in the statistical analysis to determine the moral differences between the ratios studied using (10).

4. Results and discussion

The cost of any treatment and its usefulness is affected by the economic value of the use of the treatment. The genetic factor of the treated animal also plays a major role in treatment (11), (12), (13). The delayed of estrus cycle after birth for a large period is considered a satisfactory condition must be treated with hormones or nutrition on some vitamins and that the presence of ovarian bag for a long period may lead to temporary infertility (13). The weakness of ovarian activity or cystic ovary leads to the retention of the corpus luteum and the cessation of the estrus cycle for a long period may reach a year causing significant losses due to lack of births (14). Table 1 of this study shows that cows infected with cystic ovary have responded significantly to hormonal treatments with a response rate of the hormone prostaglandin 45% because of the effect of prostaglandin (naturally separated from the lining of the uterus) directly on the corpus luteum, which leads to decay quickly and result in a rapid decline in the level of progesterone in the blood, thus reversing the negative effect of reflex on the pituitary gland, which leads to the release of the hormone stimulating the ovulation LH, which is the

cause of the start of a new reproductive role (15). The number of cows responding to injections with estrogen was 66% in the second group, surpassing the remaining experimental groups

Table 1. Effect of hormones used in cattle infected with luteal cystic ovary and its response rates

Treatment	dose	Number of infection caws	Response	Rate of response
Prostaglandin PGF2	23mg/muscle	20	9	45%
Estrogen Estrodiol	5ml/muscle	15	10	66%
Prostaglandin PGF2 + Progesterone P4	22.5mg + 130 mg/muscle	15	8	53%

Table 1 showed that the response rate for progesterone therapy with prostaglandin was 53% and our study did not agree with the findings (19), (20). The use of both hormones gives weak proportions but gave good rates because progesterone works on the positive feedback mechanism for the hormone estrogen and returned a normal estrus cycle (20). This is the result of an increase in the quantity given as opposed to previous studies.

Result in table 2 showed that fourth group was treated recorded pregnant mare serum hormone lowest rate of 37.5% in response to either the fifth group and treatment with the hormone gonadotropin recorded 57% The human chorionic hormone HCG was 80% responsive to treatment and was consistent with(16) (17). The high response rate is due to the inclusion of this extract (human chorionic) on the reproductive hormones FSH and LH (18).

Table 2. The effect of hormones used in infected cows with follicular cystic ovary and response rates

Treatment	dose	Number of infection caws	Response	Rate of response
Pregnant Mare Serum Gonadotropin PMSG	5ml/muscle	8	3	37.5%
Gonadotropin Hormone GnRH	Realizing 0.5ml/muscle	14	8	57%
Human Gonadotropin HCG	Chorionic 4 ml/muscle	5	4	80%

Cows were injected in response to the hormone estrogen fast as it showed signs of estrus after 48-72 hours after intramuscular injection. As the injection a few doses of the hormone estrogen in the stage after birth stimulates the release of the hormone burst of LH before ovulation by feeding positive feedback on the pituitary gland, as in the normal ovulation (22). The fourth group injected with the hormone pregnant mare serum formed the incidence of estrus 37.5% after 15-23 days of giving the hormone and this hormone is used frequently for super ovulation range widely, but use this experience to the crate of estrus, which stimulates and develops follicles (23). The results of this study did not agree with what was reached.(24) The fifth group with gonadotropin was 57% response rate and showed estrus after 13-19 days after injection because it stimulates the pituitary gland to release FSH and LH hormone (25).

We can conclude that hormonal injections in the treatment cystic ovarian and folliculitis of infected cows Achieved good response rates. The human chorionic hormone HCG was highest in group B . estrogen was significantly higher in group A.

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