

Diagnosis and treatment of cyclic corpus luteum and trophic inactive ovary in cattle

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Abstract: The objectives of this study evaluating induction of ovulation, of a total number of 75 cows in the farm were examined transrectal (manual) supported by ultrasonographic examination, a number of 13 cows (17.33%) were diagnosed suffering reproduction disorder (trophic inactive ovaries and cyclic and persistent corpus luteum), all 6 cows (8%) from the total number of cows in the farm were suffering trophic inactive ovaries and treated with (Serigon product) i.m, 3 cows (50%) remained pregnant after treatment, the conception rates after first and second insemination were 33.33%, 50% and 16.66% respectively ($P < 0.05$). 7 cows (9.33%) diagnosed with cyclic and persistent corpus luteum and treated with Prostaglandin F_{2α} (Dinolytic product) i.m, a number of 6 cows (85.72%) ($P < 0.05$) remained pregnant after treatment.

Key Word: Diagnosis, ovary, persistent, treatment, trophic.

1. Introduction:

Economic losses are high due to reproductive disorders leading to fewer calves, milk production, higher treatment costs and not least the large number of animals to be reformed (Peter A.T et al., 2009). Farms with large numbers of animals and the increased frequency of reproduction disorders is recommended to mirror the regular production of animal metabolic not to interpret pathology is more real gynecological disorders and recommend a more appropriate therapeutic conduct (Martinez J et al., 1984).

Lack of ovarian activity is characterized by the absence of estrus manifestation, which corresponds to clinical examination of normal sized ovaries, smooth (Groza I. et col. 2006). The causes that predispose to the disease are feeding: the amino acids, protein-mineral imbalance, Zoo-hygiene conditions, and overfeeding, reduced lightness in shelters. Causes determining the affection is neuroendocrine and consists of a hyposcretion of follicle stimulating hormone (FSH), which leads to lack of ovarian activity (López-Gatius F et al., 2008).

Persistent corpus luteum means the luteum formation that maintains its size and function without physiological regress (Hafez E.S.E., 1993). Most of the times, CL persistent block occurring preferably cycle in cows with severe endometritis, pyometra if a uterus or other content. Since it is a pathological uterine content is protected by the presence of corpus luteum, is right to be called corpus luteum pseudopregnancy (Mackey D.R., 1999). Among the predisposing causes include: high milk production, leading to insufficient secretion of FSH; Instead, low secretion of LH and LTH serving mammary gland hyperactivity and corpus luteum, doing the latter to persist (Parkinson T.J., 1994). The determining factor lies in a hormonal imbalance characterized by a lack of FSH or on the contrary, in excess of LH (Groza I., Pestean C., 2001). Diagnosis specified by transrectal examination, that there is little or no opportunity

reactivity of the uterus; palpate the ovary are looking cupuliform corpus luteum sponge elastic, which makes the ovary entirely be wrapped in volume. For confirmation are successive checks every 10 days and always note the size, shape and consistency of CL. If during the control CL remains at its original size, it is considered persistent. The differential diagnosis of CL to early pregnancy by ultrasound, it can reveal the presence or absence of pregnancy before the 30th day of gestation (Foley G.L, 1996).

The aim of this paper is to detect the reproduction disorder in cattle such as trophic inactive ovary and cyclic corpus luteum and treating them after performing transrectal examination.

2. Material and methods:

The research was conducted at a dairy farm has a number of 75 cattle aged more than 16 months. For this, an transrectal and ultrasonographic examination was performed for all studied cows and the information from individual history and clinical examination were passed in an "individual gynecological Sheet".

After performing ultrasonographic examination, diagnoses and infertility ovarian causes were divided into two groups:

- Group I: The diagnosis of trophic inactive ovary took account of history, which shows that the cows had a service-period over 100 days. On transrectal examination, ovaries had the size of thumb pulp, a dense elastic consistency and without formations.
- Group II: Diagnosis was performed by transrectal examination putting the ovaries out on a spongy elastic formation between 1.5 and 2.5 cm in size, the shape of a champagne cork, cracker or pear shaped. The diagnosis of cyclic corpus luteum, was established in conjunction with persistent history, where it is apparent that the cows had a 60 days anestrus after insemination (Fig. 1, 2).



Fig. 1. Cyclic corpus luteum



Fig. 2. Persistent corpus luteum

Person Chi-square and exact Fisher test were used to analyze the data.

3. Results and discussion:

Following the preparation and conduct gynecological investigation we followed the recovery and re-treatment of animals in the reproductive cycle.

- Group I: Total number of 6 cows were diagnosed with trophic inactive ovarian and treated hormonal therapy with PMSG (serigon product) 1500 IU/cow i.m, all of 6 treated cows had estrus, as follows:
 - 2 cows (33.33%): Had estrus to 4 days after treatment, showing normal estrus duration and intensity;
 - 3 cows (50%): Showed estrus between 6 and 8 days of treatment, one cow presented on the day of estrus blood in the mucus was and diagnosed as hemorrhage oestrous and eas not mounted, another showed a smoky mucus at the end of estrus, white spots in the mucus and was diagnosed with occult chronic endometritis;
 - 1 cow (16.66%): Showed estrus after 8 days, was artificially inseminated, but had since the second day after insemination blood to the lower part of the vulva and was diagnosed with post-estrus bleeding.

A number of three cows in group I (50%) remained pregnant after treatment (table. 1).

Table. 1- The results obtained after Serigon1500 IU/cow treatment in group I with Diagnosis of trophic inactive ovary

Serial Number	Estrus appearance (d)	Diagnosis	Discussion
1	4	trophic inactive ovary	Pregnant
2	6	trophic inactive ovary	Estrus bleeding
3	4	trophic inactive ovary	Pregnant
4	7	trophic inactive ovary	Pregnant
5	6	trophic inactive ovary	Occult chronic endometritis
6	9	trophic inactive ovary	Metestrus bleeding



Fig. 3 – Occult chronic endometritis



Fig. 4- Estrus bleeding



Fig. 5 – Metestrus bleeding

- Group II: 7 cows (9.33%) diagnosed with cyclic and persistent corpus luteum and treated with Prostaglandin F2 α (Dinolytic product) 5 ml/cow i.m,
 - 4 cows (57.14%): Showed estrus in 48 hours after treatment. In three cows, estrus was physiologically expressed clinically, and one of them presented a removed estrus, estrus detection was performed after clinical examination transrectal.
 - 2 cows (28.58%): Showed estrus within 72 hours without evidence of clinical signs of the cycle.
 - 1 cow (14.29%): Showed estrus to 96 hours after treatment, it is not mounted because the estrus mucus showed whitish spots, a sign of occult chronic infection (table. 2).

The six cows (85.72%) after a single insemination all remained pregnant.

Table.2 - The results obtained after treatment with the product Dinolytic (5 ml/cow) in group II

Serial Number	Estrus appearance	Diagnosis	Discussion
1	72 h	CL cyclic on ovary	Pregnant
2	48 h	CL cyclic on ovary	Pregnant
3	48 h	CL persistent	Pregnant
4	72 h	CL persistent	Pregnant
5	48 h	CL persistent	Pregnant
6	96 h	CL persistent	Occult chronic endometritis
7	48 h	CL cyclic on ovary	Pregnant

4. Conclusions:

1. Cattle infertility diseases caused by ovarian disorder present about 70% of cows in a farm, reducing these causes can be achieved through a rigorous control of ovarian activity (drawing up individual gynecological records) and periodical gynecological investigation.
2. The investigation established that the individual gynecological farm, causes infertility consisted of the following conditions: trophic inactive ovaries, the persistent cyclical corpus luteum, the proportions presented in the paper. Following diagnosis and treatment of the recovery of the reproductive cycle by entering the following:
 - Group I: 6 cows were diagnosed with trophic inactive ovaries and treated with PMSG (Serigon product), a total of 3 cows (50%) remained pregnant;
 - Group II: 7 cows were diagnosed with cyclic and persistent corpus luteum treated with Prostaglandin F_{2α} (Dinolytic product), a number of 6 cows (85.72%) remained pregnant after treatment.
3. Incidence of ovarian disease with implications for infertility in dairy cows is dependent on race, feeding and monitoring the development of puerperium and the resumption of ovarian activity after calving. For the veterinarian must monitor parturition, conduct puerperium, puerperal and treat when necessary, appropriate therapy for the resumption of ovarian activity.

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