

Treatment of some infertility problems in cows using Dalmarelin and Dalmazin

S. Y. A. Al-Dahash and M. F. Bensassi

Department of Surgery and Theriogenology, Faculty of Veterinary Medicine, Alfateh University, Tripoli, Libya

Abstract

During the routine Veterinary clinical examinations around Tripoli, 275 cows were suffering from different reproductive disorders. Between these cows, 63 cases (23.6%) were diagnosed as true anoestrus with inactive ovary. Dalmarelin was injected to each cow in a dose of 0.2 ml (50 mcg) intramuscular. Fifty four cows (85.7 %) showed positive by showing estrous signs, response within first week. Twenty four of them were inseminated and showed pregnancy in 22 cases (91.66 %). From the rest 30 cows, 26 of them received Dalmazin in a dose of 0.3 ml (0.225 mg) intramuscular and inseminated on day of estrous. Pregnancy was diagnosed in 25 cases (96.15 %). The 16 non respond cows were reinjected by Dalmarelin and inseminated on day of estrous. Thirteen cows were positive for pregnancy diagnosis. It could be concluded that the use of Dalmarelin and, or Dalmazin at late postpartum stages parallel with balanced nutrition will help a lot in reducing ovarian dysfunctions.

Keywords: Dalmarelin, Dalmazin, Infertility, Cow.

Available online at <http://www.vetmedmosul.org/ijvs>

علاج بعض مشاكل العقم في الابقار باستخدام Dalmarelin و Dalmazin

صلاح يوسف الدهش، مختار بن ساسي

فرع الجراحة وعلم تناسل الحيوان، كلية الطب البيطري، جامعة الفاتح، طرابلس، ليبيا

الخلاصة

خلال الفحص البيطري الروتيني للمناطق حول طرابلس، وجد ان ٢٧٥ بقرة كانت تعاني من مشاكل تناسلية. من هذه الابقار ٦٣ حالة (٢٣,٦٪) شخّصت على انها انعدام شبق حقيقي بسبب خمول المبايض. الـ Dalmarelin استخدم للابقار وبجرعة ٠,٢ مل (٥٠ مايكروغرام) حقن في العضل. ٥٤ بقرة (٨٥,٧٪) استجابت للعلاج وظهرت عليها علامات الشبق وكانت الاستجابة خلال الاسبوع الاول. ٢٤ من الابقار المستجيبة لقحت وحدث الحمل في ٢٢ بقرة (٩١,٦٦٪). اما الابقار المتبقية وعددها ٣٠ بقرة، ٢٦ بقرة اعطيت الـ Dalmazin بجرعة ٠,٣ مل (٢٢٥ ملغم) حقن بالعضل بعدها لقحت في يوم الصراف. شخّص الحمل في ٢٥ بقرة (٩٦,١٥٪). الابقار المتبقية وعددها ١٦ بقرة تم معالجتها مرة ثانية بالـ Dalmarelin ولقحت في يوم الصراف. ١٣ بقرة اعطت نتيجة موجبة لفحص الحمل. يستنتج من ذلك ان اعطاء Dalmarelin و، او Dalmazin في المرحلة المتأخرة بعد الولادة متزامنا مع اعطاء التغذية المتوازنة يمكن ان يساعد كثيرا في تقليل مشاكل المبيض.

Introduction

It is well known that cattle play an important role in the agricultural economy in many countries in the world. Many previous studies on bovine reproductive evaluation noted that Reproductive disturbances in cows are the main cause of their Infertility, or even Sterility, and productive

reduction (1,2). The ovaries play key roles in reproduction and any impairment in their functions can result in either sterility or infertility (3). Many research studies have been done to evaluate the uses of GnRH during early stages after parturition to improve the reproductive efficiency in cows with attempts to overcome the problems of ovarian function (Richardson et al. (4-7). The aim of this work is to

study the effect of Dalmarelin and Dalmazin (FATRO-Italy) in restoring the ovarian function in cows suffering from ovarian dysfunction.

Materials and methods

During routine clinical examinations at a governmental farm of dairy cows near Tripoli as well as some private Veterinary Clinics around Tripoly, 275 cows were suffering from different Reproductive. Between these, 63 cases (23.6%) diagnosed as true anoestrus due to inactive ovary ovarian inactivity included in this study. Each cow was injected with 0.2ml (50 mcg) Dalmarelin (FATRO-ITALY) intramuscular, with the advice to improve the cow's feed at least two weeks in advance. Each treated cow was under observation, by its owner for the private cows and by the oestrus detection responsible man at the governmental farm. Those cows h showed signs within about a week from time of treatment were examined rectally to insure their response to the dalmarelin treatment. Cows respond to the Dalmarelin (FATRO-ITALY), (54 cows), were divided into two groups: cows of the First group (24 cows) were examined on day of oestrus, while cows of second group (No.: 30 cows) were examined rectally a week later and each one found to have a corpus leuteum in the ovary received an injection of Dalmarelin (FATRO-ITALY) 3ml (0.225 mg) intramuscular and inseminated, about three days post injection, Artificially or Naturally by a known bull. All inseminated cows were re examined rectally after about two months to insure their pregnancy or other structures in the ovaries. All non-respond cows were re injected by Dalmarelin (50 mcg) intramuscularly and inseminated on day of estrous artificially (2-3 days later).

Results

It is clear that ovarian dysfunction represented nearly one quarter of the total reproductive disorders in the cows involved in this work (23.6 %, 63 cases out of the total 275 cows).

From the rectal palpation, which was done to the cows (No.: 63) within a week after first injection of Dalmarelin, 54 cows (85.7 %) showed clear response to the treatment (Table 1), while nine cases failed to show any response. Of the respond cows, the ovarian activity was clear on the right side in 26 cases (41.3 %), and 16 cases (25.4 %) on the left side, while both ovaries were active in 12 cows (19.0%).

The thirty cows which were left without inseminations to be rechecked another week later found to have corpora lutea in their ovaries in 26 cases (86.66 %) while the other four cows (13.33%) were affected with cystic ovaries (Table 2).

After injection of Dalmarelin and insemination on day of estrus, the results of pregnancy diagnosis were clear in

table No. 03. Twenty two cows (91.66 %) were pregnant out of 24 which received Dalmarelin only, while the second group of cows which received Dalmarelin followed by dalmazin about 2 weeks later showed a positive pregnancy in 25 cows out of 26 cows treated (96.15 %).

The total nonpregnant and nonrespond cows at first try (16 cows) which received a second injection of Dalmarelin showed a good response (87.5 %) as ovarian activity (Table 4). That means only two cows were unable to respond the treatment. Positive pregnancy was clear in 13 cows out of the 14 retreated cases (92.85 %) and only one cow was negative (7.15%).

Twinning, which seemed to be unusual in Libya, better improve after Dalmarelin injections. Five cows out of 22 (22.72 %) delivered twins in the first group (Table 3), and four cows out of 13 (30.76 %), which received a second injection of Dalmarelin delivered twins.

Table 1: Results of rectal examination within the first week after first injection of Dalmarelin.

Results	Positive		Negative		Total
	No.	%	No.	%	
Rt. ovary	26	41.3	---	---	26
Lt. ovary	16	25.4	---	---	16
Both ovaries	12	19.0	09	14.3	21
Total	54	85.7	09	14.3	63

Table 2: Results Of rectal examinations at two weeks after injection of Dalmarelin.

Results	C. Ls.		Cysts		Total
	No.	%	No.	%	
Rt. ovary	12	40.0	02	6.66	14
Lt. ovary	08	26.66	01	3.33	09
Both ovaries	06	20.0	01	3.33	07
Total	26	86.66	04	13.33	30

Table 3: Results of pregnancy diagnosis through rectal palpation 60 – 75 days after insemination.

Groups	Pregnancy diagnosis						Total
	Positive				Negative		
	Single		Twins				
	No.	%	No.	%	No.	%	
Group 1	17	70.83	05	20.83	02	8.33	24
Group 2	23	88.46	02	7.69	01	3.84	26
Total	40	80.0	07	14.0	03	06.0	50

Group 1: cows received Dalmarelin only, Group 2: cows received Dalmarelin followed by Dalmazin within the second week after Dalmarelin injection and containing C.L. in the ovary.

Table 4: Results of Rectal Examinations within the First week after the second injection of Dalmarelin.

Results	Positive		Negative		Total
	No.	%	No.	%	
Rt. ovary	06	37.5	---	---	06
Lt. ovary	04	25.0	---	---	04
Both ovaries	04	25.0	02	12.5	06
Total	14	87.5	02	12.5	16

Discussion

The present study showed that ovarian dysfunctions represented a high percentage (23.6 %) out of the general reproductive disorders. This result could be mainly due to poor unbalanced nutrition with low green food, plus Heat stress and high humidity (8,9). These factors as well as high milk production with low feed intake may affect the activity of the pituitary gland which becomes unable to respond to the effect of GnRH after parturition. (10) explained that the period during which the pituitary gland does not respond could be due to the negative feed back of progesterone during gestation period, while (11) added that excess release of Prolactin means low Prolactin Inhibiting Factor (PIF) in the Hypothalamus which cause inhibition to the release of GnRH.

In a try to treat cows affected with ovarian dysfunctions, included in this study, Dalmarelin and Dalmazin were used with the advice to improve the nutrition given. Very good results were obtained, as 85.7 % of cows showed ovarian activity after first injection of Dalmarelin. (Table 1), and 87.5 % after second injection in retarded cows (Table 4). These results proved that the main cause of ovarian dysfunctions was the cessation of cyclic activity of Ovaries-Pituitary- Hypothalamus links which improved by the treatment. These results agreed with those cited by (12) in cows and buffalos (4,5).

Pregnancy was positive in 91.66%, 96.15% and 92.85% in groups 01, 02 and retreated cows, respectively which proved the success of the treatment used.

So, it could be concluded that the use of Dalmarelin and/or Dalmazin at late postpartum stages parallel with the balanced nutrition will help a lot in reducing ovarian dysfunction.

References

1. Borsberry S, Dobson H. Periparturient disease and their effect on reproductive performance in five dairy herds. *Vet Rec.* 1989;124:217–219.
2. Ferry J. Clinical Management of Anestrus. *Current Therapy in Large Animal Theriogenology*. 1 st. Ed.By: Yyoungquist RS, WB. Saunders Company, Philadelphia USA. 1997;pp285-289.
3. Augustine TP. Infertility due to Abnormalities of the ovaries. *Current Therapy in Large Animal Theriogenology 1st*. Ed.by: Youngquist RS. WB. Saunders Company, Philadelphia USA.1997;pp285-289.
4. Richardson GF, Archbald LF, Galton DM, Godke RA. Effect of GnRH and PGF2 α on Reproduction in Postpartum Dairy Cows. *Theriogenology*. 1988;9:763–770.
5. Faten L, ElAzab MA. Effect of administration of GnRH during early postpartum period on reproductive performance of dairy cows. *Assiut Vet Med J.* 1988;20:156–161
6. Archbald LF, Norman SN, Tran T. Does GnRH work as well as GnRH and PGF2 α in the treatment of ovarian follicular cyst. *Vet Med.* 1991;86:1037.
7. Hussein FM, Eilts BE, Paccamonti DL, Younis MY. Effect of repeated injection of GnRH on Reproductive parameter in postpartum anoestrus dairy cows. *Theriogenology*. 1992;37:605-617.
8. Hazzaa AM, Benhaj KM. Incidence of some Reproductive Disorders among Holstein Frisian dairy herds in Libya. *Libyan Vet Med J.* 1992;1:12–33.
9. ElTarhouni A, Osheik A. *Magharebian Vet Med Congress 14th*. Tripoly, Libya, 1997.
10. Lamming GE, Foster JP, Bulman DC. Pharmacological control of reproduction cycles. *Vet Rec.* 1979;104:156-160.
11. Hafez ESE. *Reproduction in Farm Animals*. Lea and Febiger, Philadelphia USA. 1975.
12. Nasr MT, Sherawy S, ElAzab MA, Labib FM. Induction of estrus and improvement of fertility in anestrus cows and buffalos with receptal. *The Blue Book* 1983;pp32, 91–93.