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An unusual case of mucometra associated with cystic ovarian disease in a Jersey cow: A case report

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Abstract

Persistent follicular cysts cause hypertrophy of the endometrial glands, culminating in hydrometra/mucometra. Present study reported a successful management of a case of Mucometra associated with cystic ovarian follicle diagnosed by the ultrasonography and vaginoscope in a three years old primiparous Jersey cow. Administration of Injection Buserlin acetate for the first day and on 3rd day the Inj. Cloprostenol and Pulv. Vetomin-S for one month with sexual rest results into good recovery. Cystic ovarian follicle causes constant high blood estradiol that leads to accumulation of mucin and thinning of uterine wall. Mucometra may be confused with the early pregnancy, which can be differentiated by absence of fetal membrane slip and ultrasonography. In majority of cases, cystic follicles need repeated hormonal treatment because of chronicity of cases or non- responsiveness to various treatment regimes.

Keywords: Cystic ovarian follicles, Jersey cow, hypertrophy, mucometra

Introduction

Mucometra, a condition where mucus of variable consistency and amounts collects in the uterus, has been described in cattle, horses and dogs. It is associated with conditions such as imperforated hymen, segmental aplasia of the vagina, cervix and uterus or secondary to long standing cystic ovarian disease with cystic endometrial hyperplasia [1, 2, 3, 4]. In bovines, mucometra or hydrometra may occur secondary to an imperforate hymen or uterus unicornis or long standing cases of cystic ovarian diseases or rarely with a persistent corpus luteum [5]. Cystic ovaries are one of the most prevalent and economically destructive disorders in cattle, and are an important cause of subfertility and reduced reproductive performance [6]. In ovines and caprine, mucometra is commonly associated with increased progesterone stimulation while in cow, mare and bitch it is because of increased progesterone or estrogen stimulation [7]. Mucometra or hydrometra is characterized by accumulation of mucin like substance in the uterus. Both are quite similar but differ only in degree of hydration of the mucin which may vary from watery fluid to semi solid mass [7]. Persistent follicular cysts cause hypertrophy of the endometrial glands, culminating in hydrometra/mucometra [8]. The present report describes a successful management of case of mucometra associated with cystic ovarian follicles in a Jersey cow.

Case history and observations

A three years old primiparous Jersey cow was presented to the Veterinary Gynecology section of Veterinary Clinical Complex (VCC), PGIVER, Jaipur for artificial insemination with history of continuous thread like clear mucus discharge from genitalia from last one day with owner perception of animal was in estrus and on enquired about the animal, It was come to noticed that anestrus condition was persist after parturition since last one and half year. For the confirmation of the status of animal and the history of animal the per-rectal examination was performed first in order to obsolete any pregnancy condition. It was revealed that right horn was enlarged and distended while left horn was flaccid but no any signs of early or late pregnancy. The size of the ovaries of ipsilateral to the enlarged right uterine horn was enlarged and growth of follicle was felt by fingers. To further confirmation of our findings the Trans-rectal real time B mode ultrasonography of the uterus and ovaries was done with 7.5 MHz

linear transducer (Esaote, Italy) which also revealed presence of cystic follicle (Fig.1) and fluid of mixed echogenicity accumulated in the right uterine lumen (Fig. 2). To ascertain the types of mucus threads and extent of the dispersion of the mucus in the uterine lumen it was decided to perform the vaginoscopy by the help of the camera fitted vaginoscope (*ivetscope 2 of Dairymac*) (Fig. 3). On examination by the vaginoscope, the images revealed that the stringy mucus thread dispersed with in the uterine lumen in the right side (Fig.4).

Based on the above history and clinical findings, the animal was confirmed with mucometra associated with cystic ovarian follicle.



Fig 1: Ultrasound image of the right ovary showing large follicle



Fig 2: Ultrasound image of the uterus filled with fluid of mixed echogenicity



Fig 3: Performing the vaginoscopy by the help of the camera fitted vaginoscope



Fig 4: Stringy mucus thread dispersed with in the uterine lumen

Treatment and Discussion

The animal was administered Injection Buserlin acetate (Inj. Receptal-5 ml) for the first day and on 3rd day the Inj. Cloprostenol (Pragma - 2ml - I/M) was injected and Pulv. Vetomin-S (Vetoquinol, 30-40 gm per day) for one month and sexual rest to the animal was advised. Three days after Inj. Cloprostenol, estrus was observed but mating was avoided. In next cycle, the animal was bred successfully by the artificial insemination. Cystic ovarian follicle causes constant high blood estradiol that leads to accumulation of mucin and thinning of uterine wall [5]. Various workers [5, 9] reports mucometra or hydrometra associated with multiple reproductive pathologies. In one findings by Dutt and his coworkers (2019) [10] found mucometra associated with cystic ovarian disease and uterine unicornis in sahiwal cow and successfully treated. However, Suresh *et al.* (2020) [11] found a case of mucometra due to follicular cysts but the treatment was unsuccessful due to the persistence of the cysts for a prolonged period of time and damage to the endometrial glands.

Conclusion

Mucometra may be confused with the early pregnancy, which can be differentiated by absence of fetal membrane slip and ultrasonography. Administration of exogenous LH causes luteinization of the cyst resolving the cystic condition with subsequent increase in plasma progesterone concentrations. This luteinized structure can be treated with PGF₂ μ later [12]. In majority of cases, cystic follicles need repeated hormonal treatment because of chronicity of cases or non-responsiveness to various treatment regimes.

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References

1. Arthur GH. An analysis of the reproductive function of mares based on postmortem examination. *Vet. Rec.* 1958; 70:682-686.
2. Mcentee E. The female genital system. In *The Pathology of Domestic Animals*. K.V.F. Jubb and P.C. Kennedy, Eds. 2nd Edition New York: Academic Press. 1970; 1:487-585.
3. Nachlas MM, Tsou K, Desouza C Cheng, Seligman AM. Cytochemical demonstration of succinic dehydrogenase by the use of a new P-nitrophenyl substituted ditetrazole.

- J Histochem. Cytochem. 1957; 5:420-436.
4. Robert SJ. Veterinary obstetrics and genital diseases. 2nd edn. C.B.S. Publishers and distributors, New Delhi, India, 1971, 776.
 5. Roberts SJ, Fox FH. An unusual case of bovine mucometra associated with a persistent corpus luteum. The Cornell Vet. 1958; 58(1):116.
 6. Smith JD. Cystic ovarian follicles. In: Bovine reproduction. Iowa, USA: John Wiley and Sons, 2015.
 7. Roberts SJ. Veterinary Obstetrics and Genital Diseases. Published by the author, Ithaca, New York, 1971, 544.
 8. Jeengar K, Chaudhary V, Kumar A, Raiya S, Gaur M, Purohit GN. Ovarian cysts in dairy cows: old and new concepts for definition, diagnosis and therapy. Anim. Reprod. 2014; 11(2):63-73.
 9. Vahida AM, Jayakumar C. A case report of mucometra in a cross-bred cow. The Indian Vet J. 2000; 77(5):456-457.
 10. Dutt R, Singh G, Gahalot SC, Patil SS, Sharma K, Dhaka AP *et al.* Mucometra associated with Cystic Ovarian Disease and Uterine Unicornis in Sahiwal cow. Explor Anim Med Res. 2019; 8(2):82-83.
 11. Suresh A, Saran S, Umamageswari J, Kavitha K, Thangapandiyan M, Arunmozhi N *et al.* Mucoometra due to Follicular Cyst with Cystic Dilatation of Endometrial Glands in a Holstein Friesian Crossbred Cow. International Journal of Livestock Research. 2020; 10(4):100-103.
 12. Peter AT. An update on cystic ovarian degeneration in cattle. Reprod Domestic Anim. 2004; 39(1):1-7.