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## Vaginal mucous discharge-A mirror to reflect the health status of female reproductive organ

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### Abstract

Three clinical cases report that based on the nature of vaginal mucous discharge, the cause of infertility diagnosed and treated successfully at FC&RI, Mettupalayam. In this study, 3 infertile cows with past history of repeat breeding even after 5-6 times of inseminations were identified. Based on the nature of vaginal mucous discharge (VMD) cases were diagnosed for specific diseases and successfully treated accordingly. In first cow, show irregular heat for long oestrous cycle length were observed and also revealed that whitish milky VMD during heat period, second and third cow were showing oestrous sign at regular interval of 20 days and observed VMD were thick & cloudy and thin & transparent respectively. 1<sup>st</sup> & 2<sup>nd</sup> cows were diagnosed endometritis and mild endometritis respectively based on the VMD. 3<sup>rd</sup> cow was diagnosed mineral deficiency. 1<sup>st</sup>, 2<sup>nd</sup> cows were treated with intrauterine antibiotic douche and parental route of antibiotics. Last cow were treated with phosphorus injection intramuscularly thrice at fortnight intervals; within two inseminations all three cows were successfully conceived. All three cows were supplemented with 50grams of germinated black Bengal gram and 50g of mineral mixture for 20 days

**Keywords:** Oestrous, endometritis, vaginal mucous discharge, insemination

### Introduction

The normal Uterus is very hygienic and sterile in contrast to the Vagina which hosts numerous microbes that lead to the uterine infection. Uterine diseases can be classified as puerperal metritis, clinical metritis, clinical endometritis & Sub clinical endometritis (Sheldon *et al.*, 2006) [7]. These were frequently observed in high producing dairy cows that lead to decreased conception rate, increased calving interval, increased culling ratio and high economic loss to the Owner (Sheldon (2004) [6] and Gilbert *et al.*, 2005) [3]. Endometritis is the inflammation of the endometrial wall (Blood *et al.*, 2011) [1] mostly caused by non-specific organisms and has detrimental effect on fertility. The causative agents are E. coli, klebsiella spp, Pseudomonas spp, Clostridium spp, Staphylococcus spp and other gram negative anaerobic organism (Udhayavel *et al.*, 2013) [8]. Endometritis is characterised by the presence of purulent or mucopurulent uterine discharge (Shelelon *et al.*, 2006) [7]. In subclinical endometritis, uterine cytology revealed the presence of neutrophils and cows don't exhibit any clinical signs like fever, inappetance. These clinical cases report the prompt actions taken to diagnose clinical endometritis, sub-clinical endometritis, and mineral deficiency in 3 cow's successful manner.

### Case History & Observation

Seven years aged 3 Jersey cows were presented with the history of repeat breeder (5 to 6 time inseminated), increased calving interval, showing abnormal colour & consistency of vaginal mucous discharge and irregular oestrous cycle length but having normal clinical parameters. During Rectal Examination of these 3 cows, 1<sup>st</sup> cow revealed that cervix was relaxed, uterus was hard and thick fluid (pus + mucous) filled consistency; corpus luteum present in ovary, also showing irregular oestrous cycle length so suspected for severe form of endometritis (Galvao, 2011) [2]. 2<sup>nd</sup> cow revealed that cervix was relaxed, uterus was in tone and soft in consistency; may be suspected for mild form of endometritis (Galvao, 2011) [2]. 3<sup>rd</sup> cow revealed that cervix was relaxed, uterus was toned and soft in consistency with descended in to the pelvic cavity; VMD was thin and transparent consistency. Hyun *et al.*, (2014) [4] also observed that thin and transparent cervical mucus was highly correlated with fertility.

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### Treatment and Discussion

1<sup>st</sup> cow with the sign of clinical endometritis showing mucopurulent VMD due to the persistent inflammation of the uterine wall. Endothelial cells were lost and caused irregular and insufficient supply of PGF<sub>2</sub> there by irregular length of oestrous cycle which detrimental for successful conception. For this case, (Sheldon 2004) [6] 1<sup>st</sup> 3 days mild diluted liquid povidone iodine used as a Intra uterine douche along with Antibiotic (5 g of streptopenicillin was given intramuscularly). 50g of mineral mixture combined with 50g of germinated Black Bengal gram for 20 days. And then sexual rest was given for 45 days; then the cow was inseminated on her second heat and after 90 days of insemination, pregnancy was confirmed by rectal examination. In 2<sup>nd</sup> case, regular oestrous cycle with thick & cloudy VMD were observed and treated by using mild diluted liquid povidone iodine administered intrauterine along with 5 g of Streptopenicillin injected intramuscularly for 3 days, then the animal was inseminated on second heat period, and on rectal examination pregnancy was confirmed after 90 days of insemination.

In 3<sup>rd</sup> case, regular oestrous sign were observed at 20 days intervals; VMD were thin & transparent; rectal examination reveals that normal ovaries and internal organs so it's suspected for mineral deficiency. Blood serum analysis of affected animal also revealed that deficient of Phosphorus (3.1 mg/dl). If the Phosphorus level in blood serum fallen below 4-5mg/dl clinical symptoms to be occur (Radostits *et al*) [5]. So 15 ml of phosphorus injection was given intramuscularly thrice at fortnight interval and 50g of mineral mix and 50 g of germinated black Bengal gram were given for 20 days. After 30 days of post therapy animal was inseminated during heat period but repeated once again artificial insemination was done after 50 days of post therapy period and pregnancy verified and confirmed positive after 90 days of insemination.

### Conclusion

Endometritis, mild form of subclinical endometritis and mineral deficiency were most common reproductive disorders noticed in dairy cows causing decreased fertility rate leads to high economic losses. Prompt diagnosis based on VMD and structure of reproductive organ and proper treatment at right time is the key for fertility in repeat breeder cows.

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