

Role of polyherbal intrauterine infusion in treatment of various reproductive disorders in cattle

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Abstract

Post partum uterine function is often compromised in cattle by invasion of various pathogenic bacteria leading to severe economic loss of farm. A study was conducted to evaluate the efficacy of polyherbal intrauterine infusion AV/RMI/45 in treatment of endometritis, metritis and repeat breeding in cattle. Among the two experimental groups were one healthy control (I) (n=10) and other treatment (II) group (n=20). Group II animals were subjected to treatment with polyherbal uterine infusion AV/RMI/45@25ml once a day for five days. Treated animals recovered successfully exhibiting estrus with transparent discharge. Animals found in estrus were inseminated and conception rate was recorded to be significantly (P=0.05) higher (70%) in treatment than control group (40%). Polyherbal intrauterine infusion (AV/RMI/45) was found to be efficacious in treating gynecological disorders of endometritis repeat breeding, and metritis in cattle. The product was found to be safe for animal's usage without causing any irritation to intrauterine mucous membrane.

Key words: C onception, Endometritis, Estrus, Intrauterine, Polyherbal, Reproductive disorders.

Introduction

The reduced fertility in dairy herds is one of the most important factors affecting farm profitability (Sheldon et al. 2008). At the herd level, this is characterized by longer calving intervals and sometimes a number of cows that fail to timely conceive, are culled (Kossaibati and Esslemont, 1997; Esslemont and Kossaibati, 2002). Conditions such as decreased immunity, retained placenta, dystokia, twinning or triplets, unhygienic conditions or even metabolic disorders may increase risk of reproductive diseases. These disorders may lead to prolonged calving interval with fewer calves and less milk per cow, increased replacement costs, increased labour, semen & veterinary bills, extended low production or dry period and also reduced fertility at the subsequent breeding season (Roche 2006). The key to reducing the detrimental effects of uterine infections on milk production and fertility is prevention of uterine infections by giving attention to the calving pen environment and dry cow nutrition along with early identification of uterine infections requiring therapy. Hence, the present study was conducted with an aim to evaluate efficacy of polyherbal intrauterine infusion AV/RMI/45 in treatment of various reproductive disorders in cows.

Material and Methods

An experimental study was conducted at State Animal Husbandry Bull Mother Farm Tathwade, Dist. Pune, Maharashtra, India. Total thirty animals were selected for the study and were divided into two groups, - one control (I) group constituting ten healthy animals which were not given any treatment. - another treatment (II) group comprising of twenty animals reported with the history of either repeat breeding or endometritis or metritis.

Out of total 20 animals under treatment, three were suffering with endometritis, three with metritis while remaining fourteen animals were repeat breeders.

All the affected cases were treated with intrauterine infusion of AV/RMI/45 (M/s Ayurvet Ltd. Baddi, India) at a recommended dose of 25 ml and were kept in observation till next estrous cycle. AV/RMI/45 is an exclusive combination of standardized scientifically proven herbs for their preventive and curative role of uterine infections.

In addition, the medicinal herbs of AV/RMI/45, as an intra uterine infusion, induce an effective antibacterial action on uterus which is indicated to treat metritis, cervicitis, and vaginitis thereby preventing or treating the stages of repeat breeding.

Results and Discussion

All the three animals reportedly suffering from endometritis were recovered successfully exhibiting estrus and resumption of clear discharge in estrus cycle. These animals were inseminated while the cases of metritis and repeat breeding after subjecting to intrauterine treatment showed comparatively clear discharge with few inflammatory cells in next estrus. In addition to it, there was an increase in uterine tone and vaginal muscles membranes were lightly pinkish in color. The recovery from gynecological disorders may be attributed to individual herbal constituents of the test product namely; *Saraca asoca*, *Aloe barbadensis*, *Gossypium herbaceum*, *Plumbago zeylanica* and *Azadirachta indica* scientifically proven for their antibacterial (Mukherjee et al. 1996) anti-inflammatory, antimicrobial activity (Valerie et al. 2003) immunoregulatory activity (Qiu Zhihua et al. 2000), antifertility (Gupta et al. 1971) repeat breeder animals after single treatment were inseminated in next cycle. Conception rate after 1st A.I. in animals suffering from endometritis & metritis and treated with AV/RMI/45 alone was 100% (3 out of 3 animals conceived) and 33.34% (1 out of 3 animals conceived) respectively, while in repeat breeder animals post treatment conception rate after 1st A.I. was 71.42% (10 out of 14 animals conceived). Overall conception rate after 1st A.I. in 20 animals treated with AV/RMI/45 alone (14 out of 20 animals conceived) was 70% which was significantly higher as compared to conception rate in control group (40%).

References

1. Roche, J.F. (2006). The effect of nutritional management

of the dairy cow on reproductive efficiency. *Animal Reproduction Science* 96:282-296.

2. Mukherjee, Pulok K., J. Das, R. Balasubramanian, Kakali Saha, M. Pal and B. P. Saha (1996) Preparation and evaluation of a herbal uterine tonic. *Phytotherapy Research* 10(7):619-621.

3. Qiu Zhihua, Ken Jones, Mark Wylie, Qi Jia and Steve Orndorff (2000) Modified Aloe barbadensis polysaccharide with immunoregulatory activity. *Planta Medica* 66(2):152-156.

4. Gupta, M.L., T.K. Gupta and K.P. Bhargava (1971) A study of antifertility effects of some indigenous drugs. *JRIM* 6, 2, 112--117.

5. Valerie Ferro, Fiona Bradbury, Pamela Cameron, Fisin Shakir, Sabita R. Rahman and William H. Stimson (2003) In vitro susceptibilities of *Shigella flexneri* and *Streptococcus pyogenes* to inner gel of Aloe barbadensis Miller *Antimicrobial Agents and Chemotherapy* 47:(3)1137-1139.

6. Sheldon M., Williams E. J., Aleisha N.A. Miller, Nash D.M., and Shan Herath (2008) Uterine diseases in cattle after parturition. *Vet.J.* April; 176(1-3): 115-121.

7. Esslemont, D., Kossaibati, M.A., 2002. The Cost of Poor Fertility and Disease in UK Dairy Herds. Intervet UK Ltd., City, p. 146.

8. Kossaibati M.A., Esslemont R.J. The costs of production diseases in dairy herds in England. *The Veterinary Journal*. 1997;154:41-51.

9. Olson J.D., Ball L., Mortimer R.G., Farin P.W., Adney W.S., Huffman E.M. (1984) Aspects of bacteriology and endocrinology of cows with pyometra and retained fetal membranes. *American Journal of Veterinary Research*;45:2251-2255.

10. Takács T, Gáthy I, Macháty Z, Bajmócy E. (1990) Bacterial contamination of the uterus after parturition and its effect on the reproductive performance of cows on large-scale dairy farms *Theriogenology*.33(4):851-65.
