

THERAPEUTIC EFFICACY OF HERBAL DRUG AGAINST POST-PARTURIENT REPRODUCTIVE DISORDERS IN BOVINE

P. M. MANE¹, V. D. AHER², A. M. SYED³ & P. B. GHORPADE⁴

^{1, 2, 3}Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Parbhani, Maharashtra, India

⁴Department of Biochemistry, College of Veterinary and Animal Sciences, Parbhani, Parbhani, Maharashtra, India

ABSTRACT

This study was conducted to evaluate efficacy of polyherbal drug for the treatment of various post parturient disorders in bovine. The trial was conducted at Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Parbhani and some of the local farms in and around Parbhani district. Total twenty bovine reported with history and clinical signs of post parturient disorders were treated with Utrovet forte bolus given orally two boli twice daily for five days. In the present study, out of twenty animals presented with history of post partum disorders, sixteen animals (80.00 %) exhibited cyclicity after treatment, followed by fourteen (70.00 %) animals with clear nature of oestral discharge after initiation of treatment. The result of the study reveals that the ecboolic polyherbal drug is an effective treatment regimen for post parturient disorders as a co-therapy. It also helps to reduce intercalving period as well as restoration of production and fertility.

KEYWORDS: Post-parturient Disorders, Polyherbal drug & Bovine

Received: Nov 25, 2017; **Accepted:** Dec 15, 2017; **Published:** Jan 06, 2018; **Paper Id.:** IJASRFEB20186

INTRODUCTION

Post partum period is the most crucial transitory phase for health, production and subsequent fertility of dairy animals. During this period, cattle & buffaloes are exposed to high risk of infection to uterus as the anatomical barriers are breached and genitalia remains open for many days (Goff and Horst, 1997). If placenta is not removed after parturition it creates many complications like repeat breeding, retention of placenta, post partum infections, anoestrus, metritis, endometritis, pyometra, late involution of uterus and finally severe economical loss to farmers. Uterine infection is a major problem in reproductive management. A wide variety of genital tract diseases of female domestic animals are known to produce significant losses and responsible for poor fertility. Amongst these highly prevalent are metritis and repeat breeding in high producing dairy cows which if remains untreated are associated with low conception rate per artificial insemination (AI), extended interval to pregnancy, increased culling and economic losses (Verma *et al.*, 2016).

In view of the higher cost and invariable effects of antibiotic and hormonal therapy, the alternative approach in present scenario is non-hormonal therapy (Thakur *et al.*, 2013). The indiscriminate use of antibiotics for treatment of uterine infections has lead to emergence of resistance strains. As a result of this the attention is now moving towards the herbal formulations (Hemiaiswarya *et al.*, 2008).

Many workers have tried herbal preparations for post parturient disorders and anoestrus in bovine and reported encouraging results (Hadiya *et al.*, 2015; Thakur *et al.*, 2013; Walia *et al.*, 2010). The herbal preparations

has no harmful side effects and cost effective, mode of administration is simple and practicable (Verma et al., 2016; Khillare et al., 2010).

Hence, it is proposed to evaluate efficacy of polyherbal drugs for the treatment of post parturient disorders and anoestrus in bovine.

MATERIALS AND METHODS

Twenty clinical cases of bovine presented to Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Parbhani and local dairy farms in and around Parbhani district during October 2016 to March 2017 with history and clinical signs suggestive of post parturient disorders were selected for the present therapeutic trial.

Animals of four to six years age with a recent history of calving and post partum disorder were selected for present study. In the present study, selection of bovine was based on the history and records available from owner and gynaeco-clinical examinations of all three disorders viz. retention of placenta, metritis and endometritis. The cases in which animals did not expel all or part of the placenta up to 12 hrs of parturition were considered in this study as retention of placenta. When uterine infection persists before and beyond three weeks of post partum period and animals shows clinical signs were included as metritis and endometritis, respectively. Post partum metritis and endometritis were diagnosed by clinical signs like brownish, cloudy, purulent, foul smelling discharge, pyrexia and decreased milk production. Per rectal examination was done to confirm the diagnosis. Out of twenty animals, seven animals each retention of placenta and metritis and six animals suffering from endometritis, were included for this present study. It was confirmed that all the selected animals were free from any other diseases. It was ensured that all the experimental animals were maintained with standard managerial practices during the period of experiment.

The efficacy of herbal drug was assessed in retention of placenta cases on the basis of time required for expulsion of placenta (hrs), disappearance of lochial discharge (day), time required for uterine involution (days) and appearance of first post partum oestrus (days). The efficacy was assessed in retention of placenta, metritis and endometritis cases on the basis of number of animals exhibiting cyclicity and clear nature of oestral discharge after initiation of treatment.

Twenty retention of placenta, metritis and endometritis affected animals were treated per orally with Utrovect forte bolus (2 boli twice daily for 5 days). The treatment may be repeated after 21 days if there is no recovery. Utrovect forte bolus is manufactured by M/s Rakesh Pharmaceuticals, Gandhinagar, and Gujarat. It contains Bol, Manjusha, Harmala, Dhumra Patra and Jivanti. Utrovect forte bolus is indicated in various post-partum reproductive disorders etc. Therapeutic efficacy of Utrovect forte bolus was determined on the basis of exhibiting cyclicity and clear nature of oestral discharge after treatment in animals.

The data collected from various observations during the present study was analysed by descriptive Statistics for calculating mean and standard error (SE) according to the methods described by Snedecor and Cochran (1994).

RESULTS AND DISCUSSIONS

In the present study, out of twenty animals presented with history of post partum disorders, sixteen animals (80.00 %) exhibited cyclicity after initiation of treatment, followed by fifteen animals (70.00 %) with clear nature of oestral discharge (Table 2). Verma et al. (2016) reported 90.00 per cent estrous response with clear discharge in various reproductive disorders in cows with herbal treatment. Hadiya et al. (2015) reported 89.90 per cent exhibited cyclicity and

82.02 per cent clear nature of oestral discharge in buffaloes with herbal treatment and mineral supplementation.

Retention of Placenta

In present the study, out of seven animals presented with history of retention of placenta, six (85.71 %) animals were recovered successfully exhibiting cyclicity followed five animals (71.43 %) exhibited resumption of clear nature of discharge in estrous cycle after initiation of treatment (Table 2). In addition to polyherbal drug three severe cases were treated with parental antibiotics. The treatment was repeated after twenty one days in these three cases.

Similar to these findings, Hadiya et al. (2015) who reported percentage of exhibited cyclicity and clear nature of discharge were 100 per cent and 75 per cent in response to herbal drugs and mineral supplementation in treated buffaloes, respectively. Whereas, Walia et al (2010) reported 60 per cent recovery in retention of placental cases in cattles with herbal uterine tonic.

The efficacy of polyhebal drug i.e. Utrovet forte bolus was assessed on the basis of time required for expulsion of placenta (hrs), disappearance of lochial discharge (day), time required for uterine involution (days) and appearance of first post partum oestrus (days).

Time Required for Expulsion of Placenta (hrs)

In the present study, after initiation of treatment with Utrovet forte bolus time required for expulsion of placenta was 4.93 ± 0.41 hrs (Table 1). The present observation is in close agreement with the observation made by Thakur et al. (2013) and Kale (2003) who reported time required for expulsion of placenta was 4.00 ± 0.21 and 5.55 ± 0.31 hrs in treated animals with Exapar-N and Partutone herbal formulations, respectively. Dongan et al. (2017) and Sahatpure et al. (2012) reported expulsion of placenta in cows within 72 hrs (85.88 %) and 10.1 ± 0.74 hrs with herbal treatment, respectively.

Disappearance of Lochial Discharge (days)

In the present study, after initiation of treatment the time required for disappearance of lochial discharge in treated animals was 7.14 ± 0.48 days (Table 1). The present observation is in close agreement with the observation made by Kale (2003) who reported time required for disappearance of lochial discharge was 7.90 ± 0.37 days in treated cattles but Thakur et al.(2013) reported relatively lower time (5.00 ± 0.25 days).

Time Required for Uterine Involution (days)

Time required for uterine involution was 32.07 ± 1.51 days in treated animals (Table 1). Whereas, Thakur et al. (2013) reported 25.00 ± 1.29 days required for uterine involution in treated dairy animals. However, Sahatpure et al. (2012) and Kale (2003) reported time required for uterine involution was 26.1 ± 0.86 and 41.05 ± 0.99 days in cattles with herbal treatment.

Appearance of First Postpartum Oestrus (days)

Time required for appearance of first post partum oestrus was 60.14 ± 1.69 days in treated animals (Table 1). In accordance with present results, the similar results were obtained in the study by Thakur et al. (2013) and Kale (2003) who reported time required for appearance of first post partum oestrus was 60.00 ± 0.28 and 61.10 ± 0.02 days in treated animals, respectively. Sahatpure et al. (2012) reported 56.5 ± 1.04 days required for first post-partum oestrus in cows with herbal treatment.

Metritis

In the present study, seven animals presented with history of metritis, exhibited cyclicity with clear transparent discharge after treatment in five (71.43 %) animals (Table 2). One severe case of metritis required parental antibiotics. Dongan et al. (2015) reported significant reducing in the incidence of puerperal metritis in treatment group (12.1 %) as compared to control group (33.3 %), thereby improving the overall reproductive efficiency of dairy herds with herbal treatment in cows.

CONCLUSIONS

Endometritis

In the present study, six animals presented with history of endometritis, exhibited cyclicity after treatment in five (83.33 %) animals followed by four animals (66.67 %) showed clear nature of oestral discharge (Table 2). Two severe cases of endometritis required parental antibiotics. The treatment was repeated after 21 days in these two cases.

In accordance with present results, the similar result was obtained by Hadiya et al. (2015) who reported percentage of exhibited cyclicity and clear nature of discharge were 81.82 per cent and 63.64 per cent in response to herbal drugs and mineral supplementation in treated buffaloes, respectively. Whereas, Khillare et al. (2010) and Walia et al. (2010) reported all animals recovered successfully exhibiting cyclicity and resumption of clear nature of discharge in oestrus cycle with polyherbal drugs in cattles. Verma et al. (2016) reported 60.00 per cent oestrus response in endometritis cows with herbel treatment.

Based on finding, it is concluded that ecbolic polyherbal drug (Utrovat Forte Bolus) is an effective treatment regimen for post parturient disorders as a co-therapy. It also helps to reduce intercalving period as well as restoration of production and fertility.

ACKNOWLEDGEMENTS

We are very grateful to Chairman, Rakesh Pharmaceuticals, Kalol, Dist: Gandhinagar (North Gujarat) for sponsoring and providing free samples of medicines to carry out this project. We are thankful to Associate Dean, College of Veterinary and Animal Sciences, Parbhani for providing the necessary facilities to carry out this project.

REFERENCES

1. Dongan, C., Shengyi, W. L. W., Hui, W., Jianxi, L., Xin, T., Xueli, H., & Yongming, L. (2017). Treatment of the retained placenta in dairy cows: comparison of a systematic antibiotics with an oral administered herbal powder based on traditional Chinese veterinary medicine. *Livestock Science*, 196, 55–60
2. Hadiya, K. K., Ravikanth, K., Adarsh., & Reothia, A. (2015). Efficacy of exapar, janova & mintrus (EJM) in the treatment of various reproductive disorders in Jaffrabadi buffaloes. *International Journal of Advanced Research*, 3(9), 1213- 1216.
3. Hemaiswarya, S., Kruthiventi, S. K., & Doble, M. (2008). Synergism between natural products & antibiotics against infectious diseases, *Phytomedicine*, 15, 639-652
4. Goff, J. P. & Horst, R. L., (1997). Physiological changes in parturition & their relationship with metabolic disorders. *Journal of Dairy Science*, 80, 1260-1268
5. Kale, V. B. (2003). Clinical efficacy of herbal ecbolic for expulsion of placenta followed by involution of uterus & subsequent fertility in cattle. M. V. Sc. Thesis Submitted to Maharashtra Animal & Fishery Sciences University, Nagpur, Maharashtra,

India

6. Khillare, K, Birade, H. S., Maini, S., & Ravikanth, K. (2010). Role of polyherbal intrauterine infusion in treatment of various reproductive disorders in cattle. *Veterinary World*, 3(8), 373-374
7. Sahatpure, S. K., Patil, M. S., Saxena, M. J., Ravikanth, K., & Maini, S. (2012). Prophylactic efficacy of Exapar N in prevention of post partum reproductive disorders in Nagpuri cattle. *Theriogenology insight*, 2(1), 57-62
8. Snedecor, G. W., & Cochran, W. G. (1994). *Statistical Methods*, 8th edn., The Iowa State University Press, Ames, USA
9. Thakur, A., Ravikanth, K., Maini, S, Patil, A. D., & Deshmukh, A. A. (2013). Management of post parturient reproductive disorders in dairy animals with herbal uterine cleanser exapar-N. *Advances Research in Pharmaceuticals & Biologicals*, 3(IV), 517-519
10. Verma, S., Choudhary, A., Maini, S., & Ravikanth, K. (2016). Evaluation of efficacy of herbal intrauterine infusion uterofix liquid in treatment of various reproductive disorders in cows: a field study. *Pharmacognosy Reserch*, 8(3), 173–175
11. Walia, R., Ravikanth, K., Maini, S., & Sood, D. (2010). Therapeutic efficacy of AV/UTL/17 in cases of postpartum gynaecological disorders in cows: a field study. *Veterinary World*, 3(12), 544-545

APPENDICES

Table 1: Effect of Polyherbal Drug on Expulsion of Placenta and Reproductive Performance

Sr. No.	Parameters (N=07)	Observations
1.	Time required for expulsion of placenta (hrs)	4.93±0.41
2.	Disappearance of lochial discharge (days)	7.14±0.48
3.	Time required for uterine involution (days)	32.07±1.51
4.	Appearance of first postpartum heat (days)	60.14±1.69

Table 2: Classification of Post Parturient Disorders and Response to Polyherbal Drug on Reproductive Performance

Sr. No.	Disorders	Animals (No.)	Exhibiting Cyclicity after Treatment (No.)	Clear nature of Discharge after Treatment in Animals (No.)
1.	Retention of placenta	07	06 (85.71 %)	05 (71.43 %)
2.	Metritis	07	05 (71.43 %)	05 (71.43 %)
3.	Endometritis	06	05 (83.33 %)	04 (66.67 %)
Total No.		20	16	14
Overall Results (%)		-	80	70

