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A HERBAL INTRAUTERINE INFUSION "URAKSHA LIQUID" FOR TREATMENT OF REPRODUCTIVE DISORDERS IN COWS

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Abstract: Metritis, endometritis, cervicitis and vaginitis are the frequent reproductive disorders in dairy animals and considered of major economic impact due to negative effect on reproduction and milk production. The present study was conducted to evaluate the efficacy of herbal intrauterine infusion Uraksha Liquid (*supplied by M/S Ayurvet Limited, Baddi, India*) in the treatment of various reproductive disorders in cows. A total of thirty cows were selected for the study and were divided in to three group viz. T0, T1 and T2 of ten animals each. Group T0 was healthy untreated control, group T1 (N=10): animals suffering from reproductive disorders (endometritis, metritis and repeat breeding) and infused with Uraksha Liquid at a dose of 25 ml for 5 days and T2(N=10):: animals suffering from reproductive disorders (endometritis, metritis and repeat breeding) and infused with 0.25% Lugol's iodine at a dose of 25 ml for 5 days respectively. All the animals after treatment were observed for exhibition of estrus post treatment, microbial cultures of the vaginal discharge before and after treatment. The herbal intrauterine infusion Uraksha Liquid has got efficacy comparable to Lugol's iodine in treatment of various uterine infections along with improvement in conception rate which may be attributed to anti-inflammatory, antimicrobial and uterine stimulant activities of the its constituent herbs viz. *Azadirachta indica*, *Gossypium herbaceum*, *Plumbago zeylanica*, *Acacia catechu* & many more in fixed concentration.

Keywords: Cervicitis, Endometritis, Herbal, Infusion, Intrauterine, Metritis, Vaginitis,



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INTRODUCTION

The reproductive system of the animals is exposed to the external environment and thus highly prone to the uterine infection and reproductive disorders ⁽¹⁾. Healthy uterus is able to rid itself of various transient infections very efficiently; however, in the immediate postpartum period, the uterus of cows is highly vulnerable to even low grade injuries and infections, which may cause uterine infection. Post partum period is the most crucial transitory phase in animal's life when various physiological, gynecological, biochemical and immunological changes are occurring and 90 % of dairy cows are at risk to become infected at the time of parturition and post parturition ⁽²⁾. Also due to the risks of physical damage during the birth process or failure to release the placenta after parturition, there is often an upsurge of microbial infections in the cow. Uterine infection implies adherence of pathogenic organisms to the mucosa, colonization or penetration of the epithelium and release of bacterial toxins that lead to establishment of uterine diseases ⁽³⁾. In uterine infection, uterus is usually contaminated with a variety of organisms leading to delayed uterine involution and further reproductive disorders, depending on the nature of causative agent and its persistence. Metritis, endometritis, cervicitis and vaginitis are the frequent reproductive disorders due to uterine infection in dairy animals and considered of major economic impact due to negative effect on health, reproduction and milk production of the animal ⁽⁴⁾. Indeed, 80–100% of animals have bacteria in their uterine lumen within the first 2 weeks after calving. Although immune responses progressively eliminate the microbes, up to 40% of animals still have a bacterial infection 3 weeks after calving ⁽⁵⁾. The uterine disorders can be treated using antibiotic, hormonal therapy and Lugol's iodine but there are various detrimental effects associated with these remedies as antibiotics has got resistant and residual effect, hormones have negative effect on animals physiology and Lugol's iodine has got irritating and damaging effect on uterine mucosa ⁽⁶⁾. Plants are potential source of anti-microbial, anti-inflammatory, analgesic and uterine stimulant properties, which can be utilized for treatment of uterine infection in animals ⁽⁷⁾. Therefore, present study was conducted to evaluate the efficacy of polyherbal intrauterine infusion Uraksha Liquid in the treatment of reproductive disorders in dairy cows.

MATERIAL AND METHODS

The present study was conducted on clinical cases presented in the veterinary clinics, animal health camps under the Dept. of Animal Reproduction, Gynaecology & Obstetrics, College of Veterinary Sciences & AH, CAU, Selesih, Mizoram, India.

Experimental Design

A total of thirty cows were selected for the study and were divided in to three group viz. T0, T1 and T2.

Group T0- control group consisting of ten healthy cows without any symptoms of endometritis/ cervicitis/ metritis and were not given any treatment.

Treatment group comprising of twenty cows reported with the history of either repeat breeding of endometritis or metritis. Out of these twenty animals 9 were suffering from endometritis, 3 were with metritis and 8 were with repeat breeding. These 20 animals were divided into two treatment groups T1 and T2. Group T1 were treated with intrauterine infusion of Uraksha Liquid at a recommended dose of 25 ml and group T2 were treated with intrauterine infusion of 0.25% Lugol's iodine @ 25 ml for 5 days.

The product Uraksha Liquid (*supplied by M/S Ayurvet Limited, Baddi, H.P., India*) comprises of herbs viz, *Azadirachta indica*, *Gossypium herbaceum*, *Plumbago zeylanica*, *Acacia catechu* and many others in a fixed concentration.

All the animals after treatment were kept under observation till the exhibition of post treatment signs of estrus. Microbial cultures of the vaginal discharge were carried out in the affected animals before and after treatment. All the treated cows with clear vaginal discharge after treatment were inseminated with good quality semen. The cows which showed dirty vaginal discharge after 1st dose treatment were subjected to the 2nd dose of treatment on the basis of nature of vaginal discharge and microbial culture. The inseminated cows were subjected to rectal palpation for diagnosis of pregnancy after two months post insemination to record the conception rate.

RESULTS AND DISCUSSION

In group T1, all the 5 cows suffering from endometritis recovered successfully exhibiting estrus and resumption of clear vaginal discharge after treatment with Uraksha Liquid. One out of 2 cows suffering from metritis recovered with clear vaginal discharge after 1st treatment with Uraksha Liquid. Two out 3 cows suffering from repeat breeding responded to 1st treatment with Uraksha Liquid. The remaining one animals suffering from metritis and 2 cows suffering from repeat breeding showed clear vaginal discharge after the 2nd dose of treatment in the next estrus. A total of 3 out 8 cows conceived with 1st A.I. after 1st dose of treatment. The remaining 2 cows which showed dirty discharge were recovered with clear vaginal discharge after 2nd dose of treatment and were inseminated along with the 5 cows which did not conceive after 1st A.I. Two out of 5 cows conceived after the 2nd A.I. and one out of 2 cows treated for the second time conceived. The overall conception rate in the treatment group with Uraksha Liquid was 60% (6 out of 10 cows) after the 2nd A.I.

In group T2, all the 4 cows suffering from endometritis recovered successfully after 1st dose of treatment with Lugol's Iodine exhibiting clear vaginal discharge. It was ineffective for metritis in

one cow and 3 out of 5 cows suffering from repeat breeding recovered successfully after 1st dose of treatment with Lugol's Iodine exhibiting clear vaginal discharge. The cows which did not show clear vaginal discharge were treated for the second time in the subsequent estrus. Seven cows (70%, 7 out of 10 cows) after the 1st and 2nd treatment with Uraksha Liquid were conceived. In the control group 4 out of 10 cows conceived revealing 40% conception rate.

The results may be attributed to the antimicrobial, anti-bacterial, anti-inflammatory, anti-oxidant and uterine stimulant properties of the constituent herbs. *Azadirachta indica* has got potent Anti-inflammatory, Anti-bacterial, Anti-fungal and Immunomodulatory activities^(8, 9). *Gossypium herbaceum* has got Anti-microbial and Uterine stimulant activities^(10, 11), *Acacia catechu* has Anti-bacterial, Anti-fungal, Anti-inflammatory and Anti-oxidant properties^(12, 13). Similarly *Plumbago zeylanica* has Anti-microbial, uterine stimulant, Anti-inflammatory and Analgesic activities^(14, 15).

CONCLUSION

Overall results of the present study suggested that the herbal intrauterine infusion Uraksha Liquid has got efficacy comparable to Lugol's Iodine in treatment of various uterine infections in cows/buffaloes along with improvement in fertility index and conception rate of the animals. Keeping in view the harmful effects associated antibiotic, hormonal therapy and Lugol's Iodine, Uraksha Liquid is a better alternative for the treatment of various reproductive disorders in cattle beside being safe to mucosa and walls of the uterus.

Table 1: Physical nature and bacteriological culture of the vaginal discharge and treatment of the affected cows with Uraksha Liquid (Group T1)

Condition	Cows No.	Nature of vaginal discharge	Bacteriological culture (day 1)	Bacteriological culture (day 5)	Treatment (2nd dose)	Bacteriological culture (day 1) of the 2nd estrus	Bacteriological culture (day 5) of the 2nd estrus
Endometritis	1	Cloudy	+	-		-	-
	2	Cloudy	+	-		-	-
	3	Cloudy	+	-		-	-
	4	Cloudy	+	-		-	-
	5	Cloudy	+	-		-	-
Metritis	6	Dirty with mild pus flakes	+++	+	25 ml	+	-
	7	Dirty with mild pus flakes	++	-		-	-
Repeat breeding	8	Apparently clear	++	-		-	-
	9	Apparently clear	+	-		-	-
	10	Apparently clear	++	+	25 ml	+	-

Table 2: Physical nature and bacteriological culture of the vaginal discharge and treatment of the affected cows with Lugol's Iodine (Group T2)

Condition	Cows No.	Nature of vaginal discharge	Bacteriological culture (day 1)	Bacteriological culture (day 5)	Treatment (2nd dose)	Bacteriological culture (day 1) of the 2nd estrus	Bacteriological culture (day 5) of the 2nd estrus
Endometritis	11	Cloudy	+	-		-	-
	12	Cloudy	+	-		-	-
	13	Cloudy	+	-		-	-
	14	Cloudy	+	-		-	-
Metritis	15	Dirty with mild pus flakes	+++	+	25 ml	+	+
	16	Apparently clear	++	-		-	-
Repeat breeding	17	Apparently clear	+	-		-	-
	18	Apparently clear	+	+	25 ml	+	-
	19	Apparently clear	++	+	25 ml	+	-
	20	Apparently clear	+	-		-	-

Table 3: Conception rate of the affected cows after treatment with Uraksha Liquid

Condition	Treatment	Cow No.	1st service	Pregnancy Diagnosis after 2 months of A.I.	2nd service	Pregnancy Diagnosis after 2 months of A.I.	Overall conception rate
Endometritis	Uraksha Liquid	1	√	+	-	NA	60% (6 out of 10)
		2	√	-	√	+	
		3	√	+	-	NA	
		4	√	-	√	+	
		5	√	-	√	-	
6		-	-	√	-		
Metritis		7	√	-	√	-	
Repeat breeding		8	√	-	√	-	
		9	√	+	-	NA	
		10	-	-	√	+	

Table 4: Conception rate of the affected cows after treatment with Lugol's iodine

Condition	Treatment	Cow No.	1st service	Pregnancy Diagnosis after 2 months of A.I.	2nd service	Pregnancy Diagnosis after 2 months of A.I.	Overall conception rate
Endometritis	Lugol's Iodine	11	√	-	√	+	70% (7 out of 10)
		12	√	+	-	NA	
		13	√	-	√	+	
		14	√	+	-	NA	
Metritis		15	-	-	√	-	
Repeat breeding		16	√	-	√	+	
		17	√	+	-	NA	
		18	-	-	√	-	
		19	-	-	√	-	
		20	√	-	√	+	

REFERENCES

1. Azawi OI: Review: Postpartum uterine infection in cattle. Animal Reproduction Science 2008; 105: 187-208.
2. Sheldon IM, Lewis SL, LeBlanc S and Gilbert RO: Defining postpartum uterine disease in cattle. Theriogenology 2006; 65: 15-16.
3. Sheldon IM and Dobson H: Postpartum uterine health in cattle. Animal Reproduction Science 2004; 82: 295-306.
4. Marc Drillich: An update on uterine infections in dairy cattle. Slov Vet Res 2006; 43 (1): 11-15.

5. Sheldon IM, Erin J Williams, Aleisha NA Miller, Deborah M Nash and Shan Herath: Uterine diseases in cattle after parturition. *Veterinary Journal* 2008; 176(1-3): 115–121.
6. Lewis GS: Uterine health and disorders. *Journal of Dairy Sciences* 1997; 80(5):984-994.
7. Gilbert RO and Schwark WS: Pharmacological considerations in the management in the peripartum conditions in the cow. *Vet. Clin. North Am. Food. Anim. Pract* 1992; 8(1): 29-56
8. Pillai NR and Santhakumari G: Anti-arthritic and anti-inflammatory actions of Nimbidin. *Planta Med* 1981; 43: 59–63.
9. Van Der Nat JM, Van Der Sluis WG, Thart LA and Labadie RP: Two functionally different immunomodulators from an aqueous bark extract of *Azadirachta indica* A.Juss (Meliaceae), *Pharm, Weekly. Sci.Ed.*1987; 9:224
10. Chaturvedi A, Singh S and Nag TN: Anti-microbial activity of flavonoids from in vitro tissue culture and seeds of *Gossypium* spp. *Romanian biotechnological letters* 2010; 15(1): 4959-63.
11. Singh PK, Singh S, Kumar V and Krishna A: Ethno veterinary health practices in Marihan subdivision of Distt. Mirzapur, U.P, India. *Life Science leaflet* 2011; 16: 561-569.
12. Muhammad Anis Hashmat, Rabia Hussain: A review on *Acacia catechu* Wild. *Interdisciplinary Journal Of Contemporary Research In Business* 2013; 5(1): 593-599
13. Lakshmi T, Geetha RV & Roy Anitha: In vitro evaluation of antibacterial activity of heartwood extract of *acacia catechu* willd. *International Journal of Pharma & Bio Sciences* 2011; 2(2) pB.188.
14. Arunachalam KD, Velmurugan P, Balajiraja R: Anti-inflammatory and cytotoxic effects of extract from *Plumbago zeylanica*. *Afr J Microbio Res* 2010; 4(12):1239-1245.
15. Mittal V, Sharma SK, Kaushik D, Khatri M and Tomar K.A: Comparative study of analgesic activity of *Plumbago zeylanica* Linn callus and root extracts in experimental mice. *Res J Pharma, Bio and Chem Sci*, 2010; 1(4):830-836.