

EFFECT OF *MIMOSA PUDICA* (LAJJALU) IN CERVICO VAGINAL PROLAPSE IN BUFFALOES

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ABSTRACT

The present study was carried out to investigate the efficacy of *Mimosa pudica* (along with enrofloxacin) in buffaloes suffering with cervico vaginal prolapse. Six buffaloes were selected for this study and treated with herbal drug (*Mimosa pudica*) 100 g orally and inj. Enrofloxacin 5 mg/kg b.wt for next consecutive 3 days after reposition of prolapsed mass. Re-occurrence was observed only in one experimental animal. All the remaining treated animals showed the successful recovery. It was concluded that it was effective herbal therapy to treat the cervico vaginal prolapsed animals and can be recommended for therapeutic regimen.

Keywords: *Bubalus bubalis*, buffaloes, cervico vaginal prolapse, *Mimosa pudica*, enrofloxacin

INTRODUCTION

Nature has been a source of medicinal agents for thousands of years. Various medicinal plants have been used for years to treat diseases effectively (Nair *et al.*, 2005). Herbal medicine is based on the premise that plants contain natural substances that can promote health and alleviate

illness (Balakumar *et al.*, 2011). The most important of these biologically active constituents of plants are alkaloids, flavonoids, tannins and phenolic compounds (Kiruba *et al.*, 2011).

Mimosa pudica invites attention of the researchers worldwide for its medicinal property as anti diabetic, antitoxin, antihepatotoxin, antioxidant and wound healing activities (Joseph *et al.*, 2013). *Mimosa pudica* contains Mimosine (Chauhan *et al.*, 2009), which is a toxic alkaloid. Adrenalin like substance has been identified in the extract of its leaves. Roots contain tannin up to 10%. Leaf extract showed the presence of bioactive components such as terpenoids, flavonoids, glycosides, alkaloids, quinines, phenols, tannins, saponins, and coumarins (Gandhiraja *et al.*, 2009).

Mimosa pudica has been used to treat the cervico vaginal prolapse in cattle and buffaloes by previous researchers (Kumar and Kumar, 2012; Wath and Jambu, 2014). Pre-partum vaginal prolapse in buffaloes is responsible for heavy morbidity (Rai and Prabhakar, 2000) that leads to high economic loss in terms of reduced milk yield, high veterinary expenses, loss of calf crop and delayed post partum conception. The exact etiology of prolapse is still unclear (Noakes *et al.*, 2001).

In view of clinical and economical significance of cervico vaginal prolapse, the

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present study was envisaged with the objective to investigate the effectiveness of *Mimosa pudica* (along with enrofloxacin) to treat the cervico vaginal prolapsed buffaloes.

MATERIALS AND METHODS

The study was carried out on clinical cases brought to the Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, Mhow, college dairy farm and villages in and around Mhow including ambulatory clinics.

In this study, a total of six experimental animals were selected which were suffering from cervico vaginal prolapsed (Figure 2). All the animals were subjected to caudal epidural anesthesia using 2% xylocain hydrochloride (5 to 7 ml). The prolapsed cervico-vaginal mass was cleaned with povidone iodine solution and treated with herbal spray (Pop-in-spray) locally. The prolapsed mass was reposed manually with gloved fist hands. Following reposition to prevent further reoccurrence, retention was achieved by application of rope truss, which was removed after 24. Further buffaloes were treated with herbal drug (*Mimosa pudica*) 100 g orally and inj. Enrofloxacin 5 mg/kg b.wt (I/M) for next consecutive 3 days after reposition of prolapsed mass.

Preparation of powder of *Mimosa pudica*

Herbs of *Mimosa pudica* was collected from villages in and around the Gwalior and dried in sun rays for one day. Dried *Mimosa pudica* herbs were crushed in powder form with the help of grinder. The crushed herbs were filtered and packaged (Figure 1).

RESULTS AND DISCUSSION

In the present study, *Mimosa pudica* 100 g orally along with the inj. enrofloxacin 5 mg/kg b.wt (I/M) was the effective therapy to treat the cervico vaginal prolapsed animals. Experimental animals were kept under observation for next 10 days. Re-occurrence was observed only in one experimental animal. Successful recovery was recorded in all the remaining treated animals. This is suggestive of the fact that *Mimosa pudica* orally was as effective as calcium therapy to treat the affected animals. This may be probably due to mobilization of macro minerals in the animals. Kumar and Kumar (2012) reported that mustard oil and leaves of *Mimosa pudica* crushed together in equal amount and applied on protruded portion gently and then pushed inside with the palm gave significant favorable result in case of cattle. Wath and Jambu (2014) reported that *Mimosa pudica* crushed root extract given orally can successfully manage prolapse of uterus in domestic cattle. *Mimosa pudica* has also been successfully used in humans also to treat the prolapsed cases (Shivanandaiah and Indudhar, 2010).

In the present study, herbal spray (Pop-in-spray) was also applied for 10 minutes over the prolapsed mass to reduce the size of prolapsed mass. A marked reduction was recorded in the size and shape of the prolapsed mass of the affected animals by reduction of edema with moderate desensitization. In the previous studies (Rajesh *et al.*, 2016; Kumar *et al.*, 2016) also used the herbal spray (Pop-in-spray). Tiwari *et al.* (2013) used herbal spray (Pop-in-spray) for 15 minutes and observed marked reduction.



Figure 1. Preparation of powder of *Mimosa pudica*.

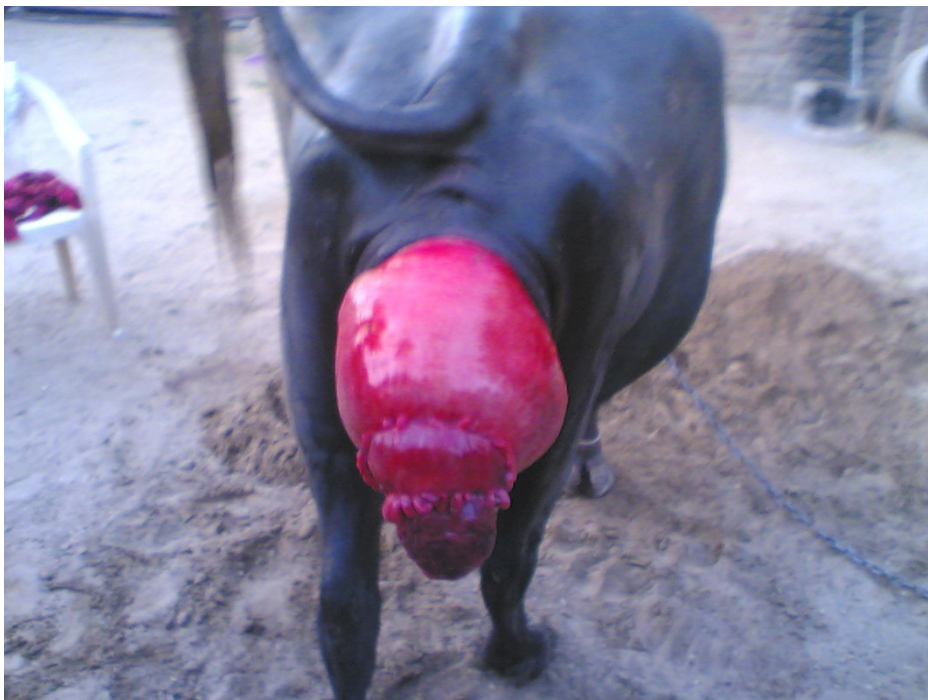


Figure 2. Buffalo suffering with cervico vaginal prolapsed.

CONCLUSION

Mimosa pudica along with enrofloxacin was found to be very useful to treat the cases of cervico vaginal prolapse in buffaloes and can be recommended for therapeutic regimen.

REFERENCES

- Balakumar, S., S. Rajan, T. Thirunalasundari and S. Jeeva. 2011. Antifungal activity of *Ocimum sanctum* Linn. (Lamiaceae) on clinically isolated dermatophytic fungi. *Asian Pac. J. Trop. Med.*, **4**(8): 654-657. DOI: 10.1016/S1995-7645(11)60166-1
- Beheshti, R., V. Kambiz, V. Muhammad-Reza and G.G. Jamshid. 2011. Genital prolapse fixation in buffalo. *International Journal of Animal and Veterinary Advances*, **3**(4): 261-263.
- Chauhan, S.B. and D.E. Johnson. 2009. Germination, emergence and dormancy of *Mimosa pudica*. *Weed Biology and Management*, **9**(1): 38-45. DOI: 10.1111/j.1445-6664.2008.00316.x
- Gandhiraja, N., S. Sriram, V. Meena, J.K. Srilakshmi, C. Sasikumar and R. Rajeshwari. 2009. Phytochemical screening and antimicrobial activity of the plant extracts of *Mimosa pudica* L. against selected microbes. *Ethnobotanical Leaflets*, **13**: 618-624. Available on: <https://core.ac.uk/download/pdf/60543564.pdf>
- Joseph, B., J. George and J. Mohan. 2013. Pharmacology and traditional uses of *Mimosa pudica*. *International Journal of Pharmaceutical Sciences and Drug Research*, **5**(2): 41-44. Available on: <http://www.ijpsdr.com/index.php/ijpsdr/article/view/239/212>
- Kiruba, S., M. Mahesh, S.R. Nisha, Z.M. Paul and S. Jeeva. 2011. Phytochemical analysis of the flower extracts of *Rhododendron arboreum* Sm. ssp. *nilagiricum* (Zenker) Tagg. *Asian Pacific Journal of Tropical Medicine*, **1**(2): S278-S280. DOI: 10.1016/S2221-1691(11)60173-1
- Kumar, R. and A.B. Kumar. 2012. Folk veterinary medicines in Bareilly district of Uttar Pradesh, India. *Indian Journal of Traditional Knowledge*, **12**(1): 40-46.
- Kumar, K.P., M. Srinivas, G.V. Naidu and Y.K. Kiran. 2016. Obstetrical management of severe recurrent postpartum cervico-vaginal prolapse in a non-descript buffalo. *International Journal of Science, Environment and Technology*, **5**(2): 420-423. Available on: <http://www.ijset.net/journal/878.pdf>
- Nair, R., T. Kalariya and C. Sumitra. 2005. Antibacterial activity of some selected Indian Medicinal Flora. *Turk. J. Biol.*, **29**: 41-47.
- Noakes, E.D., T.J. Parkinson and G.C.W. England. 2001. Post parturient prolapse of the uterus, p. 333-338. In *Arthur's Veterinary Reproduction and Obstetrics*, 8th ed. Harcourt Pvt. Ltd., New Delhi, India.
- Rai, C.S. and S. Prabhakar. 2000. Clinical effects of epidural administration of xylazine in buffaloes having pre-partum vaginal prolapse. *Indian Vet. J.*, **77**(3): 247-249.
- Rajesh, M.M., B. Ekambaram and Y. Pavani. 2016. Post-partum uterine prolapse in a Dwarf Punganur cow and its management. *Indian Vet. J.*, **93**: 60-61.
- Shivanandaiah, T.M. and T.M. Indudhar. 2010. Lajjalu treatment of uterine prolapsed.

Journal of Ayurveda and Integrative Medicine, **1**(2): 125-128. DOI: 10.4103/0975-9476.65090

Tiwari, S.K., D.K. Kashyap, D. Kumar and G.D. Kaushal. 2013. Evaluation of pop-in-spray for the management of cervico-vaginal and uterine prolapse in ruminants. *Indian Vet. J.*, **90**: 85-86.

Wath, M. and S. Jambu. 2014. Ethnoveterinary survey of herbal therapy for treating livestock of Melghat region (Maharashtra). *Journal of Internet Banking and Commerce*, **4**(3): 42-48. Available on: <http://www.rroij.com/open-access/ethnoveterinary-survey-of-herbal-therapy-for-treating-42-48.pdf>