

Moxabustion at acupuncture points for the treatment of uterine fluid in six mares

Abstract

Acupuncture (AP) has been widely used for treatment of reproductive disorders in the bovine and swine species, however few studies have been performed in the equine for this purpose. The aim of this report was to investigate the effects of the use of moxibustion associated with acupuncture needle in acupoints for treatment of endometritis in six mares of Mangalarga Marchador breed of highly relevant reproductive, aged between 15 and 25 years old. The treated females had a history of endometritis in the past four years, as described in the individual reproductive medical history. The following points were used bilaterally, once a week for a total of nine sections: Bladder, 23, 24, 25, 39 and BaiHui. The technique of moxabustion at acupuncture specific points on bladder meridian can be used to reduce uterine fluid accumulation in mares used with intend of reproduction or embryo transfer. There is a need for comparative studies to proof and validation of moxibustion at acupoints for treatment of endometritis in mares.

Keywords: equine reproduction, endometritis, acupuncture

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Abbreviations: AI, artificial insemination; AP, acupuncture; B1, Bladder; HCG, human chorionic gonadotropin; TCM, traditional chinese medicine; TCVM, traditional chinese veterinary medicine; US, ultrasound

Introduction

Although the Traditional Chinese Medicine (TCM) describes the field of human gynecology with deep knowledge the theory behind animal reproduction was not so developed in old Chinese textbooks. The use of AP in reproductive tract has exhaustively been cited by many authors.¹ Most of studies using AP for reproductive disorders has been applied for the bovine specie, principally due to its economic importance, failures of conventional treatment, necessity of animal organic production and welfare and others.² Despite many studies on AP in the reproduction field, just a few with good criteria of inclusion has been done on equine reproduction.^{3,4} Many studies on the mechanisms of action of AP in the reproductive system has been done in the present, especially on the reproductive cycle, both in humans and animals with good response in balance the irregular estrous cycles and others situations that ranges from anovulatory follicles, repeat failures of breeding to dystocia.⁵ The main action mechanism could be seen at the level of the hypothalamic–pituitary–ovarian axis.^{3,6} Others studies were also efficient in demonstrate that the hypothalamus and hypophysis could be affected by acupuncture.^{7–9}

Material and methods

Six mares with a history of susceptibility to endometritis in the last four years at ages of 15 to 25 years old, of Mangalarga breed, from the same farm in the south of, Brazil, used in embryo transfer reproductive program were treated with moxibustion associated with acupuncture needle in acupoints. Comparing the uterine status of the animals with the ultrasound control data of the years 2006, 2007 and 2008, at the same season, the treatment was done in the period of March to May of 2009.

Initially the mares were submitted to a clinical exam (follicular control and uterine evaluation) three times a week and considered reproductively normal based on rectal palpation and ultrasound (US), which were also used to determine the reproductive cycle status. As the estrous was observed by follicular control with US, ovulation was induced with hCG (human chorionic gonadotropin) and artificial insemination (AI) was performed with fresh semen and seven days later uterine flush for embryo transfer was done. The Traditional Chinese Veterinary Medicine (TCVM) diagnose for those mares were Kidney Yang Deficiency associated with Damp in the lower jiao for the animals with uterine liquid accumulation. For treatment the selected points were: Bladder 23 (Bl23) – Associated point for Kidney and local point for ovary, located at 3 cun lateral to the dorsal midline, between the transverse processes of the 2nd and 3rd lumbar vertebrae; Bl24 – local point for uterus, located at the depression 3 cun lateral to the dorsal midline, between the transverse processes of the 3rd and 4th lumbar vertebrae; Bl25 – local point for reproductive system, located at the depression 3 cun lateral to the dorsal midline, between the transverse processes of the 5th on a line that links the dorsal midline to the tuber coxae; Bl39 – bladder point used for cystitis, metritis, or according to TCM used for damp–heat in the lower jiao, located at the depression at the end of the muscular groove between the biceps femoral and semitendinosus mm; and, BaiHui – located at a depression on the dorsal midline in the lumbosacral space lumbosacral space, due to cervix and reproductive system influence. The technique used was the Moxabustion over the dry needles with the technique of picking up and down for at least 10 times each point, once a day and once a week, for nine weeks.

Discussion

The acupuncture treatment was efficient for the clearance of uterine fluid. The average of 3–5 sections of treatment was necessary for cleaning the uterus with significant US image of liquid decrease. Important to point out that US evaluation was done after at least 12hs

after AI (artificial insemination) due to normal physiological uterine edema due to process of AI. The US evaluation was done weekly and the embryo collected after seven days after AI. The AI was done with fresh semen or natural service; one day after the ovulation was detected. The results can be seen in Tables 1-3. Barabashet al.,¹⁰ observed that

some specific zones in the skin when properly stimulated can have effect on sexual behavior and expression. The same can be observed here were lumbar points after heat stimulation of moxabustion lead to a presumable uterus contraction or immunity improvement in order to eliminate the excess of fluid.

Table 1 Uterine wash done per animal each year comparing with Acupuncture (AP)

| Accompagnement during the last three years | | | | | |
|--|-----|---|--------------------------------------|--|--|
| Animal | Age | 2006 | 2007 | 2008 | 2009 with AP |
| Mare 1 | 18 | Was not collected. Varicose veins sutured in the vestibule | Uterine wash + oxytocine | Uterine wash + oxytocine | The drained fluid was clean. Done Preventive wash due to varicose veins. |
| Mare 2 | 25 | Uterine wash + oxytocine | Uterine wash + oxytocine | Blood plasma uterine infusion + antibiotic (Endometritis in 26/03) | Cleaned wash after 4th AP treatment (Endometritis in 05/04 uterine wash + Blood plasma infusion + antibiotic infusion) |
| Mare 3 | 17 | none | Uterine wash + oxytocine | Blood plasma infusion + antibiotic | No uterine fluid after 5th AP treatment |
| Mare 4 | 25 | oxytocine | Uterine wash + Blood plasma infusion | Uterine wash + oxytocine | No uterine fluid after 4th AP treatment |
| Mare 5 | 17 | Uterine wash + Blood plasma infusion | Uterine wash + oxytocine | Uterine wash + oxytocine | No uterine fluid after 5th AP treatment |
| Mare 6 | 17 | Oxytocine | None | Uterine wash + oxytocine | Preventive wash and blood plasma infusion |

Table 2 Grade of uterine fluid ranging from 0 to 4* (0 = no fluid and 4 = worse situation)

| Animal | Age | Uterine fluid | 2006 | | | | 2007 | | | | 2008 | | | | 2009 With AP | | | |
|--------|-----|---|------|----------------------------------|-----|-----|------|---|-----|--|---|--|--|--|--------------|--|--|--|
| | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 With AP | | | |
| Mare 1 | 18 | Was not collected. Varicose veins sutured in the vestibule | 2-3 | | | | 2-3 | | | | 1-2 | | | | | | | |
| Mare 2 | 25 | 2-3 | | 3-4 (Endometritis every year) | | | | 4 (Endometritis in 03/26 e 03/31 – collect season ended in 04/18) | | | 0 After 4th AP treatment (Endometritis in 05/04) | | | | | | | |
| Mare 3 | 17 | 2-3 | | | 2-3 | | | 2-3 | | | 0-1 | | | | | | | |
| Mare 4 | 25 | 2-3 | | | | 1-2 | | | 1-2 | | 0-1 Clean after 4th AP treatment 04/13); Embryo in 04/20 | | | | | | | |
| Mare 5 | 17 | 0 | | | | 1-2 | | | 2-3 | | 0 | | | | | | | |
| Mare 6 | 17 | 0-1 | | | | 1-2 | | | 1 | | 1-2 | | | | | | | |

*Graduation was done by the western veterinary doctor

Table 3 Embryo Collect done all the reproductive season

| Embryo collect per year during all the reproductive season | | | | | | |
|--|-----|--|------|------|--------------|--|
| Animal | Age | 2006 | 2007 | 2008 | 2009 with AP | |
| Mare 1 | 18 | Was not collected. Varicose veins sutured in the vestibule | 1 | 1 | 2 | |
| Mare 2 | 25 | 0 | 0 | 0 | 0 | |
| Mare 3 | 17 | 0 | 1 | 0 | 0 | |
| Mare 4 | 25 | 1 | 2 | 0 | 1 | |
| Mare 5 | 17 | 0 | 0 | 1 | 0 | |
| Mare 6 | 17 | 2 | 1 | 0 | 0 | |

The old Chinese charts of influential points for ovary and uterus has been verywell documented along many ancient textbooks and empiric literature. Are search done by Zerobinnet al.,¹¹ has clarified it by proven that somespecial zones in skin, which are coincident with some acupoints such as Bl 27,28, 31 could induce the uterus contraction in cows, documented with electromyography. Despite the old data, the classic study could in part explain the effects observed in our study were the moxa stimulation of the bladder meridian could contribute to the remission of the uterine fluid accumulation. More recent researches also showed the relationship between the AP points and effects at the reproductive system allowing a new perspective of treatment using micro-doses of hormones at AP points.^{12,13} Years later, another report from an independent group confirmed the same results obtained by the Brazilian team.¹⁴

In Table 1 one can observe that none oxytocine was used in the animals treated with moxa despite the fact that uterine clearance of fluid was obtained. This reproductive system health improvement was also observed by other study done with 50 cows with ovarian problems no responsible to hormonal treatment. The cows were submitted to moxabustion technique at bladder points and others and at the end of treatment the final overall conception rate was over 70%.¹⁵ In consonance with the results obtained in this study, other author also reports good results in treating mares with excess of uterine fluid determined by transrectal ultrasonography and reported the effect of AP at uterus as an increase in the tonus of this organ.¹⁶ The hypothesis of the study was that acupuncture could cause an increase in the local circulation and consequentially in the uterus itself, which could lead to decrease uterine fluid accumulation. The technique also showed to be appropriate since moxabustion raises the Yang and since the uterine fluid is damp/ turbid liquid, which is Yin in nature. So Yang balances the Yin excess due to Yang deficiency. The Yang deficiency can also be seen in this pattern since the Kidney yang deficiency was the mostcommon pattern observed. Animals with this kind of pattern exhibit signs ofback pain, fatigue, distal edema (fetlock), and also delayed estrus or infertility. Agreeing with other study with women were the most common TCM diagnosis was Kidney Yang deficiency, in 53.9% of patients.¹⁷

Conclusion

The technique of moxabustion at acupuncture specific points on bladder meridian can be used as a treatment to reduce uterine fluid accumulation in mares used with intend of reproduction or embryo transfer. There is a need for comparative studies to proof and validation of moxibustion at acupoints for treatment of endometritis in mares.

Acknowledgments

None.

Conflicts of interest

We declare that there are no conflicts of interest.

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