J Vet Clin 23(1) : 69-71 (2006)

Journal of Veterinary Clinics
www.ksvc.or.kr

Injection-Acupuncture with Dexamethasone and Modified Moxibustion Treatment of a Downer Cow

Duck-Hwan Kim[1], Jianzhu Liu, Philip MacManus*, Padraic Jennings*, Karl Darcy*, Fiona Burke*, Gerry Slattery and Phil A. M. Rogers*****

College of Veterinary Medicine, Chungnam National University, Daejeon 305-764, Korea
**Glenina Vet. Clinic, Galway, Co. Galway, Ireland*
***Animal Health Centre, Barrack St., Gort, Co. Galway, Ireland*
****Teagasc Grange Research Centre, Dunsany, Co. Meath, Ireland*

(Accepted : February 8, 2006)

Abstract : An 11-year-old, Shorthorn cow, reared near Gort Co. Galway, Ireland, needed assistance to calve. The cow became a downer on that day postpartum (pp). Injection-acupuncture with dexamethasone was used at lumbo-sacral space, GB30, ST36, GB31, BL40, ST40 and ST41. In addition, modified moxibustion was received at session 1. At session 2, the cow could not stand. At session 3, the cow tried to stand twice by herself but fell down again each time. However, she stood up with slight help on 10 days pp. The present patient was a case with downer cow syndrome which showed improvement of clinical symptoms by injection-acupuncture with dexamethasone plus modified moxibustion .

Key words **:** injection acupuncture, dexamethasone, downer cow, moxibustion.

Introduction

Inability of a cow to stand before or after parturition is classified as "downer cow syndrome". It tends to occur most often in cows with twin calving, or with high milk yield. The primary cause is unclear but many downers also have milk fever. Recumbency (inability to stand) may be due to birth trauma, or accidental trauma (slipping). It also may occur secondary to muscle or nerve damage combined with other diseases, such as atypical milk fever that responds well to Ca therapy and so-called downer cow with joint knuckling that does not respond to Ca therapy (3,5,14,15).

Treatment of hypocalcaemia, plus any secondary or combined diseases, is the main conventional therapy used in downer cows. Ca injection is used mainly for hypocalcaemia but injection of P, K and Mg is used in many cases that fail to respond to Ca therapy. Symptomatic treatment includes infusion of plasma expanders and medication with cardiogenic and nutritive agents (1,4).

On the other hand, needle-acupuncture (AP) (11), laser-AP (13), injection-AP and moxibustion (16) have given excellent therapeutic effects on many animal diseases in veterinary clinical practice. However, there was few report about therapeutic effect by injection -AP in downer cow syndrome.

Here, we report a case of downer cow that showed improvement of clinical symptoms by injection-AP with dexamethasone and modified moxibustion.

[1]Corresponding author.
E-mail : dhkim@cnu.ac.kr

Case

An 11-year-old, Shorthorn cow, reared near Gort Co. Galway, Ireland, needed assistance to calve. The owner extracted the calf without so many difficulties. However, the cow became a downer on that day postpartum (pp). Appetite, drinking and body temperature were normal. The cow could not stand and showed knuckling of the fetlock joints (Fig 1). She was treated with Ca infusion and injection of dexamethasone, vitamin B complex and antibiotics on that day pp and 2 days after parturition, respectively.

Acupuncture treatment. After 3 days pp, injection-AP with dexamethasone (Voren®, Boeringer Ingelheim Ltd, United Kingdom, 1 ml mixed with saline (1:1) was used at lumbo-sacral space, GB30, ST36, GB31, BL40, ST40 and ST41. In addition, she received modified moxibustion therapy - burning an alcohol sponge on the wet towel applied over the hip joint area at session 1 (day 3 pp). Injection-AP was made once/every other day. AP therapy ended after session 3 (day 7 pp).

Outcome. At session 2 (day 5 pp), the cow could not stand. At session 3 (day 7 pp), she tried to stand twice by herself but fell down again each time (Fig 2). However, she stood up with slight help on 10 days pp (Fig 3).

Fig 1. A cow with downer cow syndrome postpartum.

Fig 2. Cow making an effort to stand with assistance.

Fig 3. Cow standing unaided after acupuncture treatment.

Discussion

Downner cow syndrome is a disease characterized by in ability to stand before and after parturition. Secondary traumatic injuries such as muscular, neural, tendinuous and bone damages which are occurred in case of inability to stand by milk fever, severe circular disturbance associated with parturition, cerebral edema and auto-intoxication etc. can be causes of downer cow syndrome. Injection of Ca, P and K is usual for the treatment of downer cows (6).

Because precise diagnostic examination including blood chemical profiles was not made, correct cause of downer cow was unclear in the present case. Conventional therapy was also applied to treat this cow. However, this cow stood up with slight help after session 3 (day 10 pp) after injection-AP with dexamethasone plus modified moxibustion.

Injection-AP stimulates the acupoints before the injected drugs are absorbed and the absorbed drugs can play a pharmacological role (8,9). You *et al* (17) demonstrated that injection-AP at BL-18 with hepatonics was more helpful for recovery of liver injury than that by intramuscular injection in dogs.

The clinical efficacy of moxibustion was confirmed in various human digestive and genital conditions (2,7), disease of the bovine digestive system (11), gastrointestinal peristalsis of rats and the blood coagulation system (10). Modified moxibustion therapy was used in this cow. Even if the mechanism of treatment was not clear, injection-AP and modified moxibustion appeared to play a useful role in treatment of this cow. In addition, Jeong *et al* (12) reported that treatment period by AP therapy combined with drug was shorter than that by drug therapy alone in treatment of canine disc disease. Considering about this result, the only one case with downer cow was examined in the present study, however, therapeutic effect by injection-acupuncture should be investigated not only in many cases with downer cow syndrome but also in various diseases of large animal by conventional treatment plus AP treatment in near future.

Conclusion

The present patient was a case with downer cow syndrome which showed improvement of clinical symptom by injection-AP with dexamethasone combined by modified moxibustion therapy.

References

1. Allen WM, Davies DC. Milk fever, hypomagnesaemia and the 'downer cow' syndrome. Br Vet J 1981; 137: 435-441.
2. Chen HL, Huang XM. Treatment of chemotherapy-induced leukocytopenia with acupuncture and moxibustion. Zhong Xi Yi Jie He Za Zhi 1991; 11: 350-352.
3. Cox VS. Pathogenesis of the downer cow syndrome. Vet Rec 1982; 111: 76-79.
4. Erb, HN, Grohn YT. Epidemiology of metabolic disorders in the periparturient dairy cow. J Dairy Sci 1988; 71: 2557 -2571.
5. Fenwick DC. The downer cow syndrome. Aust Vet J 1969: 45: 184-188.
6. Goff JP. Macromineral disorders of the transition cow. Vet

Clin North Am Food Anim Pract 2004; 20: 471-494.
7. Guo W. Effects of head point needling on cardiac function and hemodynamics. Zhen Ci Yan Jiu. 1992; 17: 26-27.
8. Hong MS, Lee JY, LEE, B, Lee SE, Seo JM, Song KH, Kim DH, Cho KW, Kim MC. The effect of laserpuncture and aquapuncture with methionine on the recovery in artificially induced hepatic damaged rats. J Vet Clin 2002; 19: 125-131.
9. Hwang SH, Seo JM, Hong MS, Choi YS, Song KH, Kim DH, Kim MC, Shin KS. Immunomodulatory effect of aquapuncture with canine parvovirus vaccine. J Vet Clin 2001; 18: 368-373.
10. Liu N. Influence of stimulating ST36-Zusanli with moxibustion of different quality and quantity on gastrointestinal motor function of reserpinized rats. Zhen Ci Yan Jiu 1995; 20: 48-53.
11. Jang KH, Lee JM, Nam TC. Electroacupuncture and moxibustion for correction of abomasal displacement in dairy cattle. Kor J Vet Sci 2003; 4: 93-95.
12. Jeong SM, Yang JH, Nam TC. Treatment of intervertebral disc disease in dogs: 56 cases (1999-2001). J Vet Clin 2002; 19: 219-224.
13. Milojevic M, Kuruc V. Low power laser biostimulation in the treatment of bronchial asthma. Medical Pregl 2003; 56: 413-418.
14. Oikawa S, Katoh N. Decreases in serum apolipoprotein B-100 and A-I concentrations in cows with milk fever and downer cows. Can J Vet Res 2002; 66: 31-34.
15. Prather EK. Observations on downer cow syndrome. J Am Vet Med Assoc 1969; 155: 1797.
16. Rogers. PAM. (1985) Acupuncture in cattle and pigs: general concepts of acupuncture. Web J Acu http://users.med. auth. gr/~karanik/english/vet/oxpig1.htm (and following pages).
17. You MJ, Kim DH, Cho SW, Yun WK, You KD. The effect of aquapuncture with hepatonics on the recovery in artificially induced hepatic damaged dogs. J Vet Clin 1997; 14: 308-318.

기립 불능 우에 있어서 덱사메타손 수침 및 간이 뜸 치료

김덕환[1] · 유건주 · Philip MacManus* · Padraic Jennings* · Karl Darcy* · Fiona Burke* · Gerry Slattery · Phil A. M. Rogers*****

충남대학교 수의과대학
*Glenina Vet. Clinic, Galway, Co. Galway, Ireland
**Animal Health Centre, Barrack St., Gort, Co. Galway, Ireland
***Teagasc Grange Research Centre, Dunsany, Co. Meath, Ireland

요 약 : 아일랜드 갈웨이주 고르트 근교에서 사육중인 11세, 쇼트혼 종 소가 분만에 도움을 필요로 하였다. 환축은 분만 당일에 기립불능으로 되었다. Lumbo-sacral space, GB30, GB31, ST40 및 ST41에 덱사메타손 수침을 실시하였다. 또한 간이 뜸처치를 1차 치료 시 실시하였다. 2차 치료 시 환축은 기립이 불가능하였다. 3차 치료 시에는 환축은 자력으로 기립을 시도하였으나 매번 쓰러졌다. 그러나 환축은 분만 후 10일에 약간의 조력으로 기립이 가능하였다. 따라서 본 환축은 덱사메타손 수침 및 간이 뜸 처치의 병용으로 증상이 호전된 기립 불능 우 증례이었다.

주요어 : 수침, 덱사메타손, 기립불능우, 뜸