

Electroacupuncture and Moxibustion for Correction of Abomasal Displacement in Dairy Cattle

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Abstract

This study was performed to investigate the therapeutic effect of electroacupuncture and moxibustion on abomasal displacement in dairy cattle.

After acupuncture needles were inserted bilaterally into the acupoints, 'Pi yu', 'Wei yu' and 'Guan yuan yu', electronic stimulation (5 Hz and 10 V, 20 minutes) was conducted once a day for 3 days consecutively. Modified moxa patch was also applied at the same acupoints as in acupuncture for 3 days consecutively.

Ten among twelve cows with abomasal displacement were recovered by electroacupuncture and moxibustion, but two were treated with paramedian abomasopexy. It is considered that electroacupuncture and moxibustion may be convenient, safe and economical therapeutic alternatives available instead of surgical procedures on abomasal displacement in dairy cattle.

Key words: electroacupuncture, moxibustion, displacement, abomasum, cattle

Introduction

Although the success rate of surgical correction of abomasal displacement in cattle is high, there have been many problems associated with surgical correction including owner's anxiety, high cost, and postoperative complications [1, 11].

In recent reports on veterinary acupuncture, it has been known that acupuncture at some acupoints related to digestive system was effective in increasing its motility [4, 6]. Acupuncture at 'Ten pei'-Hya kue' was known to

increase intestinal motility and at 'Guan yuan yu', 'Shi zhang' and 'Tian ping'-'Bai hui'-'Shi zhang' to be effective for correction of abomasal displacement in cattle [8, 9]. It was also reported that acupuncture at 'Pi-yu' was more effective in increasing abomasal motility than those at any other acupoints [6].

Thus, this study was performed to evaluate the effects of acupuncture and moxibustion for the correction of naturally occurred abomasal displacement in dairy cattle.

Materials and Methods

Twelve Holstein cows naturally affected with displacement were used. Six cows were treated with electroacupuncture (EA Group) and the other six with moxibustion (Moxa Group). Acupoints selected were 'Pi yu', 'Wei yu' and 'Guan yuan yu' (Fig. 1).

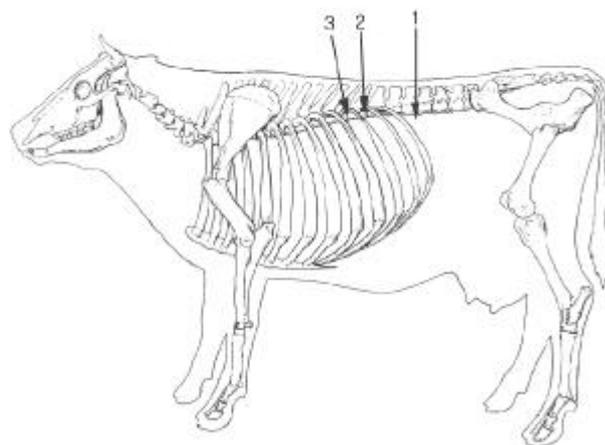


Fig. 1. The acupoints stimulated for correction of abomasal displacement in cattle.

1. Guan yuan yu: The depression caudal to the last rib between the muscle of the longissimus m. and iliocostalis m.. One point on each side.

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2. Wei yu: The spot about 10cm lateral to the dorsal midline in the 11th intercostal space. One point on each side.
3. Pi yu: The spot about 10cm lateral to the dorsal midline in the 10th intercostal space. One point on each side.

In EA Group, acupuncture needles were inserted bilaterally into 'Pi yu', 'Wei yu' and 'Guan yuan yu', and electronic stimulation was conducted at 5 Hz and 10 V for 20 minutes, once a day for consecutive 3 days.

In Moxa Group, moxa patches were applied at the same points in EA Group. Modified moxa patches were coated with the extracts of red pepper seed (*Capsicum longun*) and medicine wormwood (*Artemisia princeps var orientalis*). It was applied for consecutive 72 hours and exchanged every 12 hours.

Results

Although two cows with left abomasal displacement in EA Group recovered rapidly after the first stimulation, three with left or right abomasal displacement were corrected after treatment for 2 and 3 days and the other one had to be operated by paramedian abomasopexy.

Two out of six cows with left or right abomasal displacement in Moxa Group recovered one day after patch application, three recovered on the third day after patch application, but the remainder one had to be operated even after total patch application (Table 1).

Discussion

Several surgical corrective procedures including omentopexy [2], abomasopexy [7, 10], blind suture [13], and bar suture [3, 12] have been used as routine methods for treatment of left or right abomasal displacement.

high-grain feeding for milk production and keeping under confinement. However, there have been many problems pointed out in surgical corrections of abomasal displacement. They include a drop in the price, owner's anxiety, high cost and postoperative complications including reoccurrence [1].

It has been known that acupuncture at acupoints related with digestive organs increased their motility [6] and was effective in correction of certain diseases such as ruminal tympany and atony [4, 8]. Although acupuncture at 'Pi yu', 'Wei yu' and 'Guan yuan yu' resulted in less corrective effect than surgical procedures in dairy cow with right abomasal displacement, it had excellent corrective effects in dairy cow with left abomasal displacement.

Moxibustion, known to have therapeutic effects on delayed uterine involution in postpartum dairy cows [5], had similar effect as acupuncture in dairy cows with abomasal displacement. Furthermore, its application may be less costly, more convenient and simpler than surgical procedures.

Therefore, it is concluded that electroacupuncture and moxibustion at 'Pi yu', 'Wei yu' and 'Guan yuan yu' may have excellent corrective effects on abomasal displacement in dairy cattle and they may be valuable therapeutic alternatives available instead of surgical methods.

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Table 1. Corrective effects of electroacupuncture and moxibustion on left or right abomasal displacement in cattle

Groups	Cow No.	Displaced Side	Treatment Duration			Results
			1	2	3	
EA	1	Right				Corrected
	2	Left				Corrected
	3	Left				Operated
	4	Left				Corrected
	5	Right				Corrected
	6	Left				Corrected
Moxa	7	Left				Corrected
	8	Left				Corrected
	9	Left				Corrected
	10	Left				Corrected
	11	Left				Operated
	12	Right				Corrected

In Korea, abomasal displacement is common because of

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