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Treatment by Injection-Acupuncture with Apitoxin and Apitoxin Combined by Chinese Herbal Medicine in Patients with Canine Hind Limb Paralysis : Case Report

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Abstract : The therapy by injection-acupuncture (AP) with bee-venom (apitoxin) and injection-AP with apitoxin combined by administration of Chinese herbal medicine was applied in 2 cases with canine intervertebral disc disease (IVDD). Case 1 was diagnosed as thoraco-lumbar IVDD (T11-T12, T12-T13, L3-L4 and L4-L5) and case 2 was diagnosed as IVDD at T 10-T11 and T 12-T 13, respectively. Injection-AP with apitoxin(Apitoxin®, total 200 μg of apitoxin, 0.1 ml/acupoint) plus physical exercise (walking with gocart, TID/day) and aquatherapy (swimming treatment, BID/week) were given to each patient. The used acupoints were GV20 (Bai Hui), GB30 (Huan Tiao), ST36 (Zu San Li), GB34 (Yang Ling Quan), ST40 (Feng Long), ST41 (Jie Xi) and BL40 (Wei Zhong), the lesions, and trigger points. In addition, Chinese herbal medicine (Koda Pharmaceutical Co., Taiwan) including Zheng Gu Zi Jin Dan (正骨紫金丹 : 1 g), Shiuh Duann(續斷 : 0.2 g), Du Zhong(杜仲 : 0.2 g), Mo Yao(沒藥 : 0.2 g), Ru Xiang(乳香 : 0.2 g) and Pyrite(自然銅 : 0.2 g) were orally medicated BID for 9 days in case 2. Walking was possible after session 11 for 4 weeks in case 1 and after session 6 for 2 weeks in case 2, respectively.

Key words : Canine, IVDD, injection-AP, apitoxin, Chinese herbal medicine.

Introduction

Canine intervertebral disc disease(IVDD) is commonly occurred in dogs. Canine IVDD cases usually show pain, paresis and ataxia. Affected dogs may develop limb paralysis. Symptomatic therapy such as analgesics, anti-inflammatory drugs and surgery is commonly applied for treatment of IVDD(2).

As for acupuncture(AP) treatment for canine IVDD, it was reported that electro-AP and injection-AP with dexamethasone was effective for treatment of canine IVDD(3,10).

On the other hand, the therapeutic effects of Chinese herbal medicine were reported in various human diseases(1,8,9,12). However, there were no reports about therapeutic effect of injection-AP with apitoxin and Chinese herbal medicine for treatment of canine hind limb paralysis in veterinary literature up to now.

Here, the authors report about two cases with canine hind limb paralysis that revealed favorable therapeutic responses to injection-AP with only apitoxin and injection-AP combined by administration of Chinese herbal medicine.

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Case 1

History

A 2.5-year-old, female Pekinese (3.6 kg of B.W.) with hind limb paralysis was referred to the Veterinary Teaching Hospital, Chungnam National university. The patient was medically treated for 16 days in a local veterinary clinic, but had no clinical improvement.

Clinical findings

The vital signs were normal. Proprioceptive and hemistanding/hemiwalking reactions were negative by neurologic examination. Radiography and computer tomography revealed intervertbral disc findings in T11-T12, T12-T13, L3-L4 and L4-L5, respectively. The case was diagnosed as thoraco-lumbar IVDD. The authors decided AP treatment.

AP treatment

The acupoints including GV20 (Bai Hui), GB30 (Huan Tiao), ST36 (Zu San Li), GB34 (Yang Ling Quan), ST40 (Feng Long), ST41(Jie Xi) and BL40 (Wei Zhong), the lesions (T 11-T 12, T 12- T 13, L3-L4 and L4-L5), and trigger points of the femoral muscle were used for injection-AP. Bee-venom(apitoxin®: Guju

Pharmacological Co. and Apimez Co., Korea; 1 mg/bottle) was used. At first apitoxin(1 mg) was diluted with 1 ml of saline. 0.1 ml (100 μg) of apitoxin solution was mixed with 2% lidocanie hydrochloride (1 : 1) and then was diluted with physiological saline (0.8 ml). Injection-AP into each acupoint of both hindlimbs (total 200 μg of apitoxin, 0.1 ml/acupoint) were done three times per week for one week and twice per week for 3 weeks, respectively.

Additional therapy

Physical exercise (walking with gocart, TID/day) and aquatherapy (swimming treatment, BID/week) were also given to this patient in addition to AP treatment.

Outcome

The patient could move the hindlimbs by herself in time of aquatherapy in session 2. She could stand by herself, however, couldn't walk in session 3. It was possible to walk about 10 m without gocart in session 4. It was possible to walk after session 5.

Case 2

History

A female Dachshund (6-year-old, 6.3 kg of B. W.) with chief complaint of hind limb paralysis was referred to Yeon Chang Veterinary Clinic in Taiwan. This patient was treated with drugs for one month in another local veterinary clinic, but had no clinical improvement. This patient was diagnosed as intervertebral disc at T 10- T11 and T 12- T 13 by X-ray examination. The authors decided treatment with injection-AP with apitoxin combined by administration of Chinese herbal medicine.

Treatments with AP and Chinese herbal medicine

AP treatment : The acupoints including GV20, GB30, ST36, GB34, ST40, ST41 and BL40, the lesions(T 10-T 11, T 12-T 13), and trigger points of the femoral muscle were used for injection-AP. Apitoxin was prepared like case 1 and total 200 μg of apitoxin was dividedly injected into each acupoint (0.1 or 0.2 ml) three times per week.

Treatment with Chinese herbal medicine : The used Chinese herbal medicine (Koda Pharmaceutical Co., Taiwan) were Zheng Gu Zi Jin Dan (正骨紫金丹 : 1 g) as main Chinese herbal medicine, and Shiuh Duann (續斷 : 0.2 g), Du Zhong (杜仲 : 0.2 g), Mo Yao(沒藥 : 0.2 g), Ru Xiang(乳香 : 0.2 g) and Pyrite (自然銅: 0.2 g) as supportive Chinese herbal medicine, respectively. The Chinese herbal medicine was orally medicated BID for 9 days.

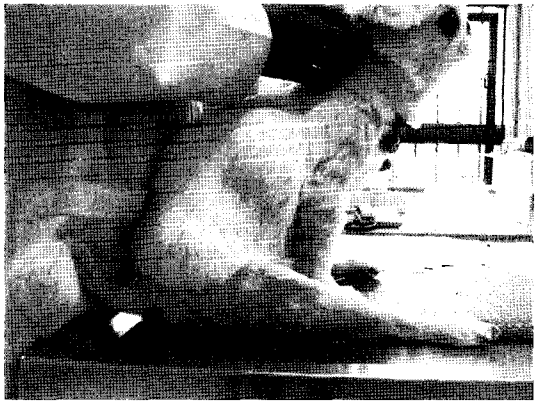

Fig 1. The case 1 with IVDD(Pre-treatment: appearance of hind limb paralysis).

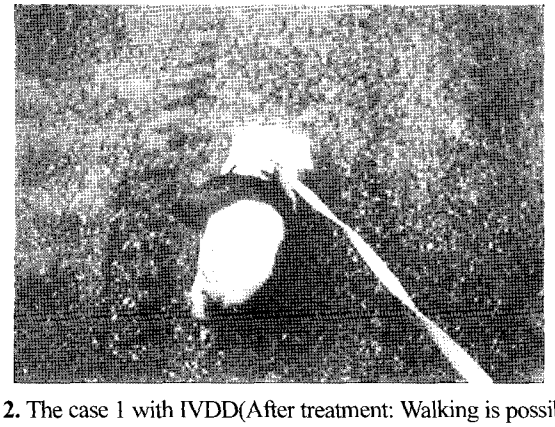

Fig 2. The case 1 with IVDD(After treatment: Walking is possible).

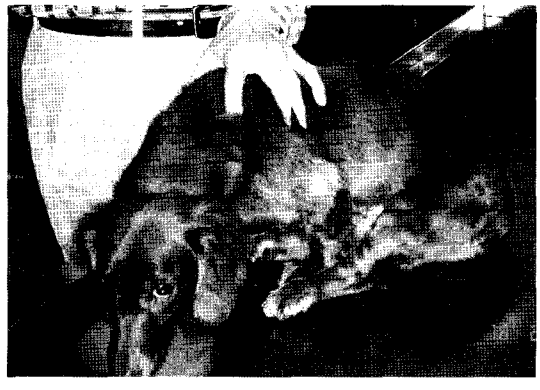

Fig 3. The case 2 with IVDD(pretreatment: appearance of hind limb paralysis).

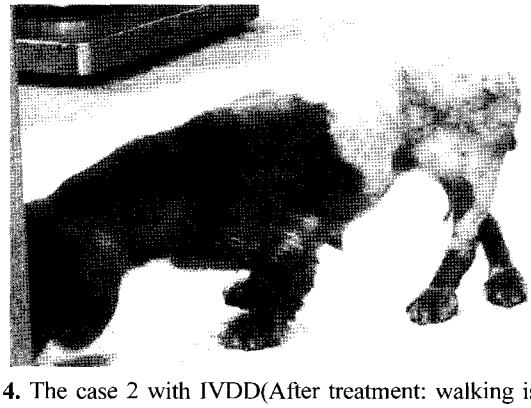

Fig 4. The case 2 with IVDD(After treatment: walking is possible).

Additional therapy : Aquatherapy for about 20 minutes and physical walking for 10 minutes were applied once per day for 3 days in this patient.

Outcome

The patient couldn't stand and walk by herself at all in session 1. However, clinical symptom of this patient was gradually improved, could stand by herself and repeated falling down after 5 to 6 walking in session 2. Maintenance time of standing posture was approximately 2 minutes and walking was also much improved than before in session 3 to session 5. Not so complete but natural self walking was possible about 70% to normal in session 6.

Discussion

As for AP treatment of canine IVDD, it is known that the acupoint with the lesions occurred among GV04 (Ming Men), GV05 (Xuan Shu), GV06 (Ji Zhong), GV07 (Zhong Shu), BL18 (Gan Shu), BL19 (Dan Shu), BL20 (Pi Shu), BL21 (Wei Shu), BL22 (San Jiao Shu) and BL24 (Qi Hai Shu) can be selected as the main acupoint. In addition, ST36, ST40, ST41, GB30, GB34 and BL40 can be used as the additive acupoints for therapy of IVDD between T10 and L3. On the other hand, the acupoint with the lesion occurred among GV02 (Yao Shu), GV20, GV03 (Yao Yang Gquan), BL24 (Qi Hai Shu), BL25 (Da Chang Shu), BL26 (Guan Yuan Shu), BL27 (Xiao Chang Shu), BL28 (Pang Guang Shu), BL31 (Shang Liao) and BL32 (Ci Liao) can be selected as the main acupoint. In addition, ST36, ST40, ST41, GB30, GB34, KI03 (Tai Xi), KI07 (Fu Liu) and BL40 can be used as the additive acupoints for therapy of IVDD between the L4 and sacrum (7).

Several reports dealing with therapeutic effect of injection-AP for treatment of small and large animal diseases were published (3,4,5,10,13). Kim et al. (3) reported 2 cases with canine IVDD responded to injection-AP using dexamethasone at GV16 (Feng Fu), GB20 (Feng Chi), BL10 (Tian Zhu), LU07 (Lie Que), LI04 (He Gu) and SI06 (Yang Lao) in one cervical IVDD, and GV06, ST36, GB30, ST40 and BL 40 in one lumbar IVDD. Song et al. (10) described that one case with hind limb paralysis responded to electro-AP at GV06, GV20 and SP06 (San Yin Jiao), and another case with hind limb paralysis responded electro-AP and injection-AP with dexamethasone. The used acupoints in the present cases were similar to those by Nam (7) in canine IVDD, those by Kim et al. (5) in canine osteoarthritis and those by Kim et al. (3) in canine lumbar IVDD except additional injection points of the lesions.

The present cases with IVDD showed favorable therapeutic response by injection-AP with only apitoxin in case 1 and injection-AP with apitoxin combined by medication with Chinese herbal medicine in case 2, respectively. It is known that apitoxin contains various peptides, enzymes, active amines and nonpeptide components and its main component, mellitin also has anti-inflammatory and anti-pain action (6,11). On the other hand, the therapeutic effects by Chinese herbal medicine for treatment of various human diseases were already reported (1,8,9,12). As for Chinese herbal medicine used in the present study, indications of these Chinese herbal medicine were for anti-pain (Shiuh Duann), for removal of accumulated and activation of blood (Zheng Gu Zi Jin Dan and Mo Yao), and for muscular strengthening (Du Zhong and Ru Xiang). Accordingly, it was thought that favorable therapeutic effect might be attributed to combination therapy by injection-AP with apitoxin plus administration of Chinese herbal medicine, and additional therapy such as swimming and physical walking in case 2. Comparing about recovering progress of clinical symptoms, case 2 (apitoxin+Chinese herbal medicine) showed more favorable therapeutic response than that of case 1(only apitoxin). Because the stage of the lesions may affect the recovery, it is difficult to come to a conclusion which method is better treatment for the patient with hind limb paralysis. Further researches about the therapeutic effect by injection-AP with apitoxin plus administration of Chinese herbal medicine not only in many patients with canine hind limb paralysis but also in various diseases should be performed in near future.

Considering the above findings, the present patients were cases with hind limb paralysis which showed favorable therapeutic responses by injection-AP with only apitoxin and injection-AP with apitoxin plus Chinese herbal medicine.

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後肢痲痺犬에 대한 蜂毒 藥鍼 및 蜂毒 藥鍼과 漢藥劑의 併用治療: 症例報告

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요 약 : 개 추간판 디스크 2 症例를 대상으로 봉독약침 및 봉독약침과 한약제로 각각 치료하였다. 症例 1은 흉-요추부 추간판탈출증(T11-T12, T12-T13, L3-L4 및 L4-L5)으로 診斷된 증례이었으며. 증례 2는 흉추부 추간판탈출증(T10-T11 및 T12-T13)으로 診斷된 증례이었다. 이들 증례에 대하여 봉독약침(0.1 ml/혈위, 총200 μg) 을 實施하였으며, 운동요법과 수영요법도 병용하였다. 봉독약침에 사용한 혈위는 GV20-Bai Hui, GB30-Huan Tiao, ST36-Zu San Li, GB34-Yang Ling Quan, ST40-Feng Long, ST41-Jie Xi 및 BL40-Wei Zhong, 병변부 및 압통점이었다. 또한 증례 2에 대하여는 봉독약침과 더불어 Zheng Gu Zi Jin Dan(正骨紫金丹 : 1 g), Shiuh Duann(續斷 : 0.2 g), Du Zhong(杜仲 : 0.2 g), Mo Yao(沒藥 : 0.2 g), Ru Xiang(乳香 : 0.2 g) 및 Pyrite(自然銅 : 0.2 g)를 각각 총 9일간 경구투여(2회/1일)하였다. 증례 1은 총 4주간 11회 치료, 症例 2는 총 2주간 6회 치료 후 각각 보행이 가능하였다.

주요어 : 개, 후지마비, 봉독약침, 한약제