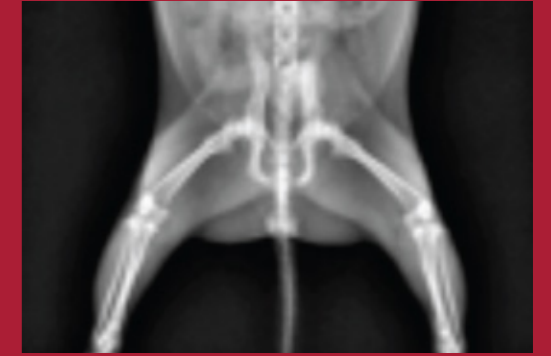


**2016  
Antinol.**

# **Case Study Contest**



**Use of Acupuncture  
in Combination  
with PCSO-524®  
(Antinol®) for  
Treatment of  
Hindlimb Paresis in  
Prairie Dogs**

**Varinda Somrit, DVM  
Animal Space Pet Hospital,  
Bangkok, Thailand**

## Abstract

A prairie dog was admitted to the hospital due to falling from a height accident. During 2 weeks of admission, the animal was treated with steroid and vitamin B, however, no response was observed. Alternative medicine; acupuncture, was then applied in combination with PCSO-524® (Antinol®) to enhance the effects of acupuncture on pain relief and repairing the damaged neurons. Excellent recovery was observed after 1 month of the treatment. The animal could stand in normal position, express other normal gestures, and the reflex was nearly fully recovered.

### Keywords:

Prairie dogs, Antinol®, PCSO-524®

## Case history

Male prairie dog aged 7 months, weighted 820 g. raised strictly indoor had fallen from a height approximately 3 meters. The animal was presented with hind limb weakness. X-ray examination did not any disorders of vertebral column or hind limbs (Figure 1-2). Steroid and vitamin B were prescribed. No response was observed during 2 weeks of the treatment. Then the animal was referred for alternative medicine.

## Physical examination

The animal was enthusiastic, with normal appetite, normal heart and lung sound, and no signs of dehydration. The paresis of hind limbs and atrophy of hind limb muscle was apparent and adduction position or standing on hind limbs was not feasible. Defecation was normal but sporadically urinary incontinence was observed. No signs of pain along the vertebral column. Tail movement was normal but hind feet were colder and paler than usual. Negative response was observed for proprioceptive, withdrawal, and anal reflex. Rapidly loss of body weight from 830 g. to 650 g. was noticed within 2 weeks. The body condition score was 2.5/5 at the first examination.

## Treatment plan

Dry needle acupuncture and electro acupuncture were exercised with supplementation of 1 tablet of PCSO-524® (Antinol®) daily. Positions for the acupuncture included BL-21, BL-23, BL-25, BL-26, BL-40, BL-62, BL-65 and Bai-Hui. The acupuncture positions were changed each week, most of which were along thoracolumbar vertebrae where the damage was likely. Pain relieving effect and stimulation of neurons were expected from the acupuncture. Each acupuncture session took only 5-10 minutes maximum since the animal did not cooperate with the treatment.

## Treatment outcome

After the second treatment (day 14), the owner started to observe the improvement of hind limb muscle control. The animal was able to stand on hind legs. The reflex examination showed better response compared to the previous examination. After the third treatment (day 21), footstep was nearly normal with slightly shuffle and reflex examination showed normal result except for anal reflex. Urinary incontinence had disappeared. Sitting on the hind limb position was feasible with little help and the muscle tone was improved when compared to the previous week (Table 1).

Table 1. Treatment outcome by timeline

Examination	Day 0	Day 7	Day 14	Day 21	Day 28
Body weight (g)	650	710	760	830	840
Shuffle*	9/10	9/10	7/10	3/10	3/10
Proprioceptive reflex	-	-	+/-	+	+
Withdrawal reflex	-	-	+/-	+	+
Superficial pain	+	+	+	+	+
Muscle atrophy	7/10	7/10	5/10	3/10	2/10
Urinary incontinence**	+	+	+	-	-
Standing on hind limbs	-	-	-	+	+
Rear body lift while walking	-	-	-	-	-
Hind limb step	-	-	-	+/-	+/-

\*Hind limb extended with the toes pointing toward the back

\*\*Reported by the owner

## Discussion

Particular cause of the hind limb weakness was not identified since the x-ray examination showed no abnormal remarks and the owner declined further examination. Damage of the vertebral column was expected from clinical signs of the animals. Nervous disorders usually cause pain and incomplete nerve impulse. The main effect of the acupuncture is pain relief and stimulating the secretion of neurotransmitters namely enkephalin, beta-endorphin and endomorphin, which is a natural pain killer. The other action of acupuncture is to restore the complete transmission of nerve impulse. The exact mechanism of nervous system stimulation by acupuncture is not known. The action of acupuncture presumably includes decreasing resistance, restoring electrical activity of damaged tissue, promoting axonal regrowth and tissue healing, enhancing secretion of opioid peptide, serotonin, and gamma-aminobutyric acid neurotransmitters, and stimulation of vasodilation.

Prairie dogs usually do not cooperate with long-time restraint so the acupuncture session could continue for only 5-10 minutes long and the result is not as effective as seen in dogs and cats. Therefore PCSO-524® (Antinol®) was chosen to boost the pain relief and nervous system restoration effects of the acupuncture. Omega-3, the main ingredient of PCSO-524® (Antinol®), are known for pain killing, neuroprotective and pro-regenerative effects for peripheral nerve injury with no adverse effect on other functions of the body. This is the advantage to the pain killers in steroid group since they may prohibit the action of acupuncture in stimulating secretion of endogenous opioid peptide.

## Conclusion

Acupuncture in combination with daily dose of PCSO-524® (Antinol®) provided satisfactory treatment results for hind limb paresis in prairie dogs. Nearly fully recovery was observed within 1 month after the treatment. Muscle tone and body weight were restored back to normal level presumably due to the better movement control of the limbs.

## References

1. Allen M. Veterinary Acupuncture Ancient Art to Modern Medicine. 2nded. Colorado. Elsevier Inc. 2001.
2. Oliver JE. Handbook of Veterinary neurology. 2nded. Philadelphia. Elsevier Inc.1987.
3. Ding- Zong W. Acupuncture and neurophysiology. Clinical Neurology and Neurosurgery 1990; 92: 13-25
4. HuishengXie, Vanessa Preast. Xie's veterinary acupuncture. 1sted. Iowa, Blackwell Publishing.2007.

# Illustrations



Figure 1. Standing on hind limbs; normal gesture of prairie dogs.

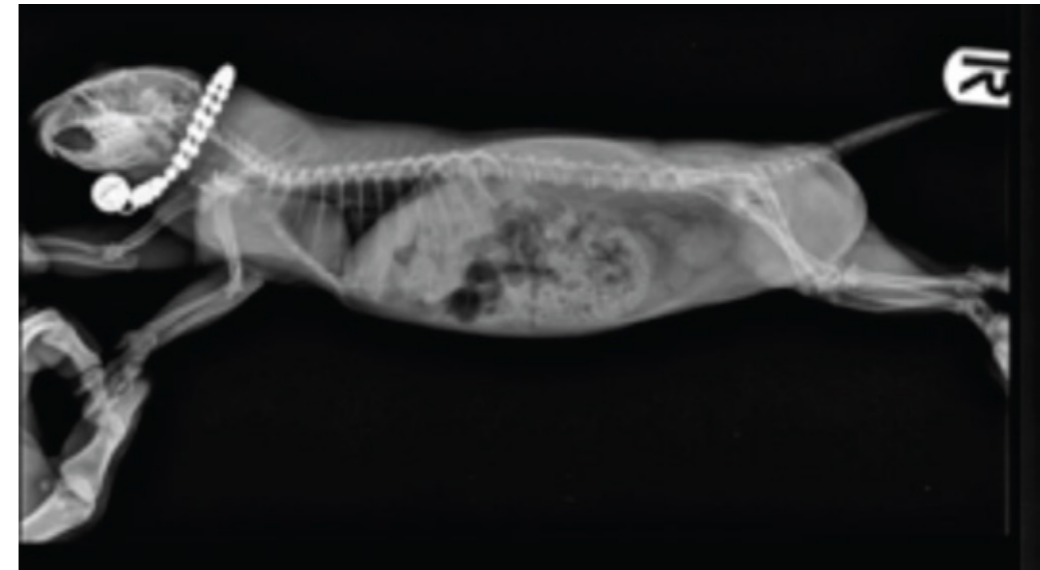


Figure 2. Left: Ventro-dorsal radiographic image. Right: Lateral radiographic image





2016  
Antinol®  
Case  
Study  
Contest

3<sup>rd</sup> Winning  
Awards

Vetz Petz  
**Antinol®**



**2016  
Antinol®**

# **Case Study Contest**

