

TREATMENT OF FEMALE URINARY INCONTINENCE IN THE YOUNG CANINE

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ABSTRACT

A young desexed female Dalmatian was presented for urinary enuresis occurring four times weekly over the last three weeks. A course of four acupuncture treatments over sixteen days resulted in the resolution of the problem.

HISTORY

A two and a quarter years old desexed female Dalmatian was presented to the Pomona Veterinary Surgery with a history of uncontrolled passage of urine approximately four times weekly for the last three weeks. The problem was described as a small pool of urine which dribbled from the patient as she was sitting. This occurred during the day but never during the night.

WESTERN MEDICAL EXAMINATION

The patient was bright, active and in good body condition. A urine analysis with a Combur 9 dipstick showed no changes from normal. There was no lumbosacral vertebral pain but the left sacroiliac joint was held higher than the right joint.

TRADITIONAL CHINESE MEDICAL EXAMINATION

Clear urine was passed involuntarily without the knowledge of the patient. She had a bright appearance. No lumbar pain was present but the left sacroiliac joint was held higher than the right joint.

WESTERN MEDICAL DIAGNOSIS

Hormone responsive incompetence of the urethral sphincter mechanism.

The diagnosis was based on a normal physical examination with a history of enuresis after ovariohysterectomy . There was no evidence of infection or inflammation of the bladder on a urine stick test. There did not appear to be a neurological deficit . A difference between the positioning of the sacroiliac joints was noted. This diagnosis is usually supported by response to western treatments. No imaging was performed to search for a stump granuloma present after surgery or a congenital pelvic deformity.

TRADITIONAL CHINESE MEDICAL DIAGNOSIS

Kidney Yang Deficiency.

WESTERN MEDICAL TREATMENT

Western medical treatment was offered and refused because the owner preferred to use acupuncture to treat this condition. Treatments would normally be either oestrogen compounds or alpha adrenergic drugs or both treatments simultaneously. These treatments have the possibility of adverse reactions. Bone marrow suppression, alopecia and induction of oestrus may be seen with the oestrogen replacement therapy and the incidence of mammary cancer may be increased. When sympathomimetic drugs are used, side-effects seen might include tachycardia, tachpnoea, hyperactivity or lethargy.

TRADITIONAL CHINESE MEDICAL TREATMENT AND RESULTS

The principle of therapy is to Tonify the Kidney Yang.

Dry needling for fifteen to twenty-five minutes unless otherwise specified was used with Seirin needles no. 5 [0.25 x 30 mm] and a tonifying method after De Qi was obtained.[1] Points were selected for the above principle and their anatomical position and their nature are described in Table 1 with the relevant indications for each point. [2,3] GV 20 was selected to quieten the very active patient prior to the treatment of the other points as well as for lifting Yang. The Gall Bladder Points were used to treat the noted elevation of the left sacro-iliac joint.

Day 1

Acupuncture points used were BL 40 BL 28 BL 23 GB 29 KI 3 ST 36

The owner later reported that there was no leakage of urine after day 2 until day 7

Day 6

Acupuncture points used were GV 20 KI 3 KI 6 BL 23 BL 52 BL 28 SP 6 SP 9

Day 8

Small drops of urine were seen on the vulva on Day 7. No urine had been seen in puddles on the floor.

Points used on this day were BL 23 for fifty minutes as the needle became stuck very tightly. BL 40 BL 28 for thirty minutes and KI 3 BL 60 GB 29 ST 36.

Day 16

The owner reported that there had been no urine dribbling since the last treatment. The patient was sedated for treatment and a drop of urine was noted at the vulva during sedation. This was the last treatment.

Points used were BL 23 BL 28 GB 30 ST 36 KI 3 CV 4

Six months later, there has been no recurrence of the condition.

TABLE 1

| POINT | LOCATION | INDICATION | NATURE |
|-------|--|---|---|
| BL 40 | In the centre of the popliteal crease | Benefits the Bladder | Master Point of Back and Waist Sea and Earth Point |
| BL 28 | In a depression posterior and lateral to the lumbosacral space | Transport Qi to the Bladder Treat deficiency | Associated Effect Point of Bladder |
| BL 23 | 1.5 cun lateral to the caudal border of lumbar vertebra 2 | Tonifies Kidney Qi, Yang and Jing Regulates the water passages | Associated Effect Point of Kidney |
| GB 29 | Midway between the greater trochanter and the cranial dorsal iliac spine | Benefits the hip joint | |
| KI 3 | In the depression between the medial malleolus and the tendocalcaneus, level with the tip of the medial malleolus. | Tonifies Kidney Yin and Yang Use in all Kidney disorders | Earth Point Yuan Point |
| ST 36 | Lateral to the end of the tibial crest, in the belly of the cranial tibial | Tonifies the Kidneys | Sea and Earth Point |

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|-------|---|---|---|
| | muscle. | Tonifies Qi and Blood Dispels cold Tonifies Yin | Horary Point Sea of Nourishment Point Master Point of the abdomen and gastrointestinal tract. Major tonification Point |
| GV 20 | Dorsal midline of the skull, on a line between the anterior edge of the base of the ears, in the notch between the sagittal and the frontal crests. | Calming Point Urinary incontinence | Sea of Marrow Point. Meeting Point with the Bladder meridian. |
| KI 6 | In the depression posterior and distal to the medial malleolus | Nourishes the Kidney Regulates the Lower Jiao Urinary incontinence | Master Point of Yin Qiao Mai Coupling Point of Ren Mai |
| BL 52 | Lateral to BL 23 on the outer bladder line | Tonifies the Kidneys Reinforces the action of BL 23 | |
| SP 6 | 3 cun above the tip of the medial malleolus, on the posterior border of the tibia | Commonly used point for urinary disorders. Tonifies Kidney Harmonises the Lower Jiao-regulates urination. Urinary incontinence | Meeting Point of Spleen, Kidney and Liver meridians Group Luo Point Master Point of lower abdomen |
| SP 9 | On the lower border of the medial condyle of the tibia, in the depression between the posterior border of the tibia and the gastrocnemius muscle | Resolves Damp Cold especially in the lower heater. Opens and moves the water passages Urinary incontinence or | Water Point Sea Point |

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|-------|--|--|--|
| | | retention | |
| BL 60 | In the depression between the lateral malleolus and the tendocalcaneus level with the tip of the lateral malleolus | Affects the entire Bladder channel | Jing point Fire point |
| GB 30 | Midway between the greater trochanter and the tuber ischii | Benefits the hip joint and the limb | |
| CV 4 | 3 cun caudal to the umbilicus in the midline | Tonifies Kidney Yin and Yang Tonifies Kidney Jing | Major tonification point for the body. Alarm Point of Small Intestine Meeting Point of Kidney, Liver and Spleen. |

DISCUSSION

Normal micturition requires synchronized contraction of the urethral smooth muscle and relaxation of the urethral skeletal muscle. Urethral smooth muscle is supplied by pelvic (parasympathetic) and hypogastric (sympathetic) nerves; pelvic and hypogastric nerves form the pelvic plexus. The pudendal nerve innervates the urethral skeletal muscle. Lesions involving the pelvic nerves, sacral cord segments, or pathways to and from the brainstem will abolish the micturition reflex. Consequently, the bladder will distend with urine and eventually overflow. Lesions of the sacral segments will also result in loss of innervation to the skeletal muscle of the urethra. As a result of minimal urethral resistance, manual expression of the bladder is easy in such cases. Thus, animals with sacral cord lesions may suffer from continual overflow incontinence. The anal sphincter may be flaccid and dilated, resulting in fecal incontinence. Since the external anal sphincter is innervated by the pudendal nerve, which also originates in the sacral segments, the perineal (anal) reflex provides a good assessment of sacral spinal cord function. [5]

A decrease in oestrogen after spaying causes a decrease in urethral closure pressure. Urethral epithelium also atrophies which has a negative effect on urethral closure. Storage of urine in the bladder is adversely affected and there is a decrease in response of the urethra to adrenergic stimulation.

Sphincter mechanism incompetence occurs more commonly in medium to large breeds. [6]

The diagnosis of urethral sphincter mechanism incompetence due to oestrogen deficiency was made in the absence of lumbosacral neurological disease. This diagnosis is often confirmed only by response to western therapy. In this patient, there may also have been a musculo-skeletal problem in the left sacroiliac joint and its contribution to the disease cannot be measured.

The owner of this patient elected to use acupuncture therapy thus avoiding the risk of known side-effects to Western treatments.

From a Traditional Chinese viewpoint, the kidneys govern water metabolism and provide Qi for the Bladder to store and transform urine. If the transformation function of the Bladder is impaired, urinary enuresis may result.[1] This patient is Yang in her normal appearance but Deficient in her control of micturition. When Kidney Yang is deficient, urinary incontinence may be the only clinical sign in young animals. [7]

Hysterectomy is a cause of stagnation of Qi in the lower heater. [7] The Conception Vessel or Ren Mai ascends along the ventral surface of the body after originating in the uterus. This vessel is one of the Eight Extra Meridians. It regulates and nourishes the uterus and moves stagnant Qi in the in the Lower Heater. The Conception Vessel also regulates fluids. The Alarm Point of Bladder, CV 3 is located 4 cun caudal to the umbilicus. CV 4, a major tonification point for the body and particularly for Kidney Yin , Yang and Jing, is found 3 cun caudal to the umbilicus. Yuan Qi which is the catalyst for all functions is stored at Dan Tien or CV4. Two cun caudal to the navel is CV 5, the alarm point for Triple Heater, which tonifies Kidney Yang and Yuan Qi and regulates the uterus. CV 6, also part of Dan Tien, is 1.5 cun caudal to the umbilicus and another major tonification point. All of these points are important for urogenital function. [2]

In a midline incision for ovariohysterectomy, all or most of these points would be surgically cut. This interruption to the normal flow of qi, responsible for many important functions and particularly to the function of micturition, causes stagnation of qi in the lower heater.

Thus, it appears that ovariohysterectomy is the common aetiological factor.

Tonifying the Kidneys provides Qi for the Bladder to correctly perform its function of urinary storage and excretion. More emphasis might have been placed on restoring function to CV and treating any laparotomy scar.

However, the four acupuncture treatments which were given over sixteen days resulted in prompt clinical success. At times, a drop of urine on the vulva was noted but within one day of the first treatment, the obvious urinary incontinence had ceased.

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