Case Report

BEVAS Course
Belgium
2017-2018

Acupuncture was used to treat Urinary

Incontinence in a Bitch

Diana Bartolo
Adresse: 7 Rue de Gunsbach
68200 Mulhouse
Phone: +33 652269878
Email: dianabartolo@yahoo.com
TITLE:

Acupuncture was used to treat urinary incontinence in a bitch

ABSTRACT:

Urinary Incontinence (UI), defined as the involuntary loss of urine during the filling phase of the bladder is a commonly seen problem in veterinary practice. Urinary sphincter mechanism incompetence (USMI) after spaying is the most common micturition disorder. Although medical treatment is normally successful there are potential side effects and it usually means the dog will have to take medication for the rest of its life.
In the majority of the cases, history, physical examination and simple tests including urinalysis and urine bacterial culture lead to a presumed diagnostic. In this case a young female dog with an history of several months of USMI was successfully treated with two dry needle acupuncture therapy sessions within a week without any other therapy used.

HISTORY:

Leia, a four year old neutered female crossbreed dog was presented for an acupuncture consultation with a three month history of incontinence during the night. She was adopted from a shelter two year prior to the consultation already neutered. She hadn’t any healthcare problem prior to this consultation.

CLINICAL SIGNS/DIAGNOSTICS/DIAGNOSIS - CONVENTIONAL (WESTERN)

September 3, 2018

Leia was presented for an acupuncture consultation on the 3rd of September with a three month history of night incontinence. Leia was urinating in her bed during sleep several nights per week. No urine loss when she was awake. There were no changes in her life style recently and any stressful event happened in the recent months.

On the physical examination and on the neurological examination everything was normal.

A urinalysis was done: pH and density were normal. A rapid test for the diagnosis of urinary tract infection was done (Kitvia®) and was negative.

A presumed diagnosis of urinary sphincter mechanism incompetence (USMI) was made.
CLINICAL SIGNS/DIAGNOSIS - TCM (EASTERN)

September 3, 2018

Leia is a lean dog with a sad looking face and a reserved character, quite anxious, mainly metal type dog. Normal coat.
She hadn’t any scar sensibility.
Not looking for hot nor cold places (but it was end of summer and temperature was high).
Normal drinking and urinating during the day. Nocturnal enuresis. ²
Pink tongue, with normal coating. Pulse is normal but slightly weaker on the first and third finger of the left hand and on the third finger of the right hand.
Kidney and Liver Back-shu and Mu points were sensible.
A diagnosis of Kidney Yang deficiency was made based mainly on the symptoms. Urination at night is often caused by a deficiency of Yang not controlling Yin at night and therefore fluids leaking out in urination. ²
Liver Back-shu and Mu was linked to some emotional imbalance due to anxiety/depression causing Liver Qi stagnation.³

CONVENTIONAL (WESTERN) TREATMENT

Usually the first line of therapy are alpha-adrenergic agonists with 86% to 97% success rates, there might be side effects such as gastrointestinal irritation, anorexia, nervousness, aggressiveness, apathy or hypertension. These drugs should be avoided in kidney diseases, heart problem and glaucoma.¹
Estrogens can also be used with an increased risk of uterine problems with bloody vaginal discharge.¹
There are also several possible surgical treatments.
Options were discussed with the client, but the client preferred the acupuncture treatment.

TCM (EASTERN) TREATMENT

Principles:

Kidney Yang deficiency: Tonify kidney Qi and kidney Yang to strengthen the sphincter function.⁴

Liver Qi Stagnation: Smooth the liver and move Qi.³

Acupuncture:

Dry Needle Acupuncture Treatment using Europa Marco Polo Direct 25 mm x 28 mm needles placed at a depth of 20mm for the Bladder Meridian Points and 5 -10 mm for the other points using an even needle technique at all points. The needles stayed in place for 10 to 15 minutes. The same needles and technique were used at each visit.
Points:

<table>
<thead>
<tr>
<th>Points:</th>
<th>Description</th>
<th>September 3, 2018:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kd 3, Tai Xi Earth, source and Shu-Stream point</td>
<td>In the depression cranial to the tuber calcanei, at approximately the midpoint of a line drawn from the tip of the medial malleolus to the point of insertion of the common calcanean tendon.</td>
<td>Kd 3 was used to tonify kidneys Qi and Yang &lt;br&gt;Lv 3 was used to promote the smooth flow of liver Qi and calm the mind, as it is indicated in the cases of Liver Qi stagnation due to depression. &lt;br&gt;Bl 23 bilateral was used to strengthen kidney Yang and Qi.</td>
</tr>
<tr>
<td>Lv 3, Tai Chong Source, Shu-Stream and Earth point</td>
<td>In the depression on the dorsum of the rear foot, between the 2nd and the 3rd metatarsal bones, at the level of the junction of their heads and shaft, just proximal to their associated metatarsophalangeal joints.</td>
<td>Lv 3 was used to promote the smooth flow of liver Qi and calm the mind, as it is indicated in the cases of Liver Qi stagnation due to depression. &lt;br&gt;Bl 23 bilateral was used again to strengthen kidney Yang and Qi.</td>
</tr>
<tr>
<td>BL 23, Shen Shu Association (Shu) point for the kidney</td>
<td>In the depression 1.5 cun lateral to the caudal border of the spinous process of the 2nd lumbar vertebra</td>
<td>Bl 23 bilateral was used to strengthen kidney Yang and Qi. &lt;br&gt;Regulates the bladder and the water passages in the Lower Jiao. Indicated for urinary incontinence.</td>
</tr>
<tr>
<td>BL 28, Pang Guan Shu Association (Shu) point for the bladder</td>
<td>In the depression 1.5 cun lateral to the dorsal midline at the level of the 2nd sacral foramen</td>
<td>Bl 28 bilateral was used as it is the Shu point of bladder and it also strengthens kidney Yang and regulates the bladder. This is a point often indicated for urinary incontinence.</td>
</tr>
<tr>
<td>CV 3 Zhong Ji Alarm (Mu) point for the Bladder.</td>
<td>In the depression on the ventral midline 4 cun caudal to the umbilicus</td>
<td>I used again Lv 3 to promote the smooth flow of liver Qi and calm the mind, as it is indicated in the cases of Liver Qi stagnation due to depression. &lt;br&gt;Bl 23 bilateral was used again to strengthen kidney Yang and Qi.</td>
</tr>
</tbody>
</table>

**September 3, 2018:**<br>Kd 3 was used to tonify kidneys Qi and Yang<br>Lv 3 was used to promote the smooth flow of liver Qi and calm the mind, as it is indicated in the cases of Liver Qi stagnation due to depression. <br>Bl 23 bilateral was used to strengthen kidney Yang and Qi. <br>Bl 28 bilateral was used as it is the Shu point of bladder and it also strengthens kidney Yang and regulates the bladder. This is a point often indicated for urinary incontinence.<br>

**September 10, 2018:**<br>Leia only had a little bit of urine loss the night after the acupuncture session and no more incontinence afterwards.<br>Chinese examination was normal, although she still had this sad regard. No Shu or Mu points were sensible and the pulse was stronger.<br>I used again Lv 3 to promote the smooth flow of liver Qi and calm the mind, as it is indicated in the cases of Liver Qi stagnation due to depression. <br>Bl 23 bilateral was used again to strengthen kidney Yang and Qi.
BL 28 was also used again as it is the Shu point of bladder and it also strengthens kidney Yang and regulates the bladder. This is a point often indicated for urinary incontinence. I had CV 3 as it is the Mu point of the bladder, supports the bladder, strengthens the kidneys and is usually indicated in cases of incontinence.

I told the owner to come back in 3 months or before if the incontinence restarted. Till this date, 30th November 2018, Leia hasn’t had any more urine loss, day or night.

DISCUSSION

Leia history of several months of nocturnal incontinence, the normal physical examination and simple tests including urinalysis and urine bacterial test (kitvia) lead to a presumed diagnostic of USMI.

Urinary sphincter mechanism incompetence (USMI) after spaying is the most common micturition disorder in dogs. Although medical treatment is normally successful, there are potential side effects and it usually means the dog will have to take medication for the rest of its life. Treatment with acupuncture was shown to be a useful alternative to pharmacological or surgical techniques for urinary incontinence. Veterinary acupuncture is a gentle, noninvasive technique that can be used repeatedly, if necessary for the patient’s entire life, thus avoiding the side effects of conventional treatments.

Leia is a young dog and taking medication for the rest of her life, two to three times a day, is quite time demanding and also money demanding (Leia has almost 30 kg). Her owner has several dogs and cats. Even if she is a good owner, when I explained the different options, she preferred acupuncture as that meant potentially not having to give medication.

The Chinese examen confirmed a Kidney Yang deficiency based mainly on the symptoms (nocturnal enuresis, sensibility at BL23 and GB25 - Shu an Mu point of the Kidney). Urination at night is often caused by a deficiency of Yang not controlling Yin at night and therefore fluids leaking out in urination. Kidney Yang deficiency treatment principle is to tonify kidney Qi and kidney Yang to strengthen the sphincter function.

Kd 3 was used to tonify kidneys Qi and Yang, Bl 23 bilateral was used to strengthen kidney Yang and Qi, Bl 28 bilateral was used as it is the Shu point of bladder and it also strengthens kidney Yang and regulates the bladder, CV 3 was added in the second treatment as it is the Mu point of the bladder, supports the bladder, strengthens the kidneys and is usually indicated in cases of incontinence.

Leia also had a Liver Back-shu and Mu points sensibility which was probably linked to some emotional imbalance due to anxiety/depression causing Liver Qi stagnation. Leia is a shelter dog, adopted when she was already an adult, she keeps this sad face, although she is well taken care of. The objective of this acupuncture treatment was not to address her emotional problems, but as they were causing a Liver Qi stagnation and that could interfere with the results, I decided to add an acupuncture point, Lv 3, to promote the smooth flow of liver Qi and to calm the mind, as it is indicated in the cases of Liver Qi stagnation due to depression.

There is a complex rationale behind the choice of acupuncture points for incontinence. The muscles controlling micturition are controlled by the autonomic and somatic nervous system. The de-
The trusor muscle is relaxed by sympathetic stimulation that originates from the lumbar spinal cord T11-L2 region, and contracted by parasympathetic stimulation from sacral spinal cord region. The external urethral sphincter is under somatic control. Therefore, the coordination of the autonomic and somatic nerves to the bladder and urethra is important not only in micturition, but also in incontinence. \(^{10}\)

The points that are most commonly used in acupuncture are Bl 28 which is located above the second sacral foramen, which lie over the sacral nerve roots. This point is frequently used, due to the fact that it correspond with the segmental innervation of the parasympathetic nerve supply to the bladder, which provide excitatory innervation to the pelvic floor muscles and the sphincters so that they are able to remain in a contracted state.\(^{10}\)

The acupuncture points that are known to affect the micturition center and parasympathetic innervation to the urinary system are BL23, Bl 28 and several points on the CV meridian. Bl 23 is located at the L2 level, Bl 28 over the second sacral foramen and points 3, 4 and 6 on the CV are located in between the pubic and the umbilical cord.\(^{10}\)

Kd 3, located on the leg, is also considered to assist bladder function by invigorating energy. Furthermore, this acupuncture point correspond to the skin dermatome from L4-S innervation, which means that stimulation of this point may influence bladder function. Similarly, points 3,4 and 6 on the CV correspond to the skin dermatome from T11-L1.\(^{10}\)

Since the afferent and efferent innervations of the bladder are affected by the sympathetic nerves originating at T11-L2, as well as the parasympathetic and somatic nerves originating at the sacrum, these acupoints appear to be strongly organized segmentally.\(^{10}\)

It has been proposed that acupuncture affects micturition through the descending serotonergic system. At present, there are numerous experimental and clinical data supporting the theory that the serotonergic input facilitates glutamate-induced activation of the pudendal nerve, and thereby helps to maintain the external urethral sphincter in a closed state.\(^{10}\)

Leia responded really well to the acupuncture treatment. Since the first session she started to improve, only loosing urine the night after this session. And with only two acupuncture treatments Leia has been continent for 3 months.

As a veterinarian I always try to find the best solution to my patients problems, and as I’m a beginner acupuncturist I am still developing my confidence on this new philosophy. This case gave me confidence to propose acupuncture for the treatment of USMI.
BIBLIOGRAPHY: