

Laser Acupuncture in behavior problems of dog

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ABSTRACT

The purpose of this paper is to evaluate the effect of laser Acupuncture in dog behavioral disorders, such as obsessive-compulsive disorders, phobia, anxiety, aggression. Laser Acupuncture can be used as the only therapy or as an add-on therapy to Western behavioral therapies.

Patients were selected based on the presence of behavioral disorders, and assessed both according to an ETEC grid, modified by the Author, and following the Traditional Chinese Medicine directions. The Laser unit used was the Mphi Vet Orange. In every acupoint the following parameters have been applied: Frequency 1168 Hz, Time 10 seconds, Energy 2,059 J, Energy per surface unit 16,39 J/cm². In this case series, some fixed acupoints were used for all the patients, other were specifically related to the pathology. Additionally, we used *Shen* and *Gui* points. Every patient underwent four or five sessions on a weekly basis, with the exception of one dog that was treated three times.

The use of laser Acupuncture for the treatment of various behavioral disorders in dogs has led to the improvement or disappearing of clinical symptoms in nine out of ten patients. The results of this experimental study show that laser Acupuncture represents a valid therapeutic resource for the treatment of behavioral disorders of the dog.

INTRODUCTION

Laser Acupuncture is defined as the application of laser therapy in Acupuncture points to promote therapeutic effects similar to those of traditional Acupuncture together with laser biological benefits.

In the past, laser Acupuncture has been applied in humans and animals demonstrating that, compared to traditional Acupuncture, it is not painful and non-invasive, being therefore better accepted by the patients. In dogs and horses, laser Acupuncture has been used to treat infected wounds and to promote healing of necrotic wounds. In these cases, the following points have been treated: SP2 (*Dadu*), SP4 (*Gong Sun*) and TH5 (*Waiguan*) [1].

Another study took into consideration the use of laser Acupuncture for the postoperative management in cats undergoing ovariohysterectomy. Twenty cats were sedated with intramuscular ketamine, midazolam, and tramadol. Prior to induction of anaesthesia, the subjects were randomly distributed into two groups of 10 cats:

- Laser: bilateral ST36 and SP6 acupoints were stimulated with infrared laser;
- Control: no Acupuncture was applied.

Despite pain scores did not differ between groups, postoperative supplemental analgesia was required by significantly more cats in the Control (5/10)

compared to the Laser group (1/10) (P=0.038). The Authors concluded that laser Acupuncture reduced postoperative analgesic requirements in cats undergoing ovariohysterectomy [2].

Laser Acupuncture has been applied in equine medicine to treat a variety of conditions, including poor performance due to anemia and weakness from Babesia Equi infection, traumas of the withers, chronic keratitis declared incurable, cough and bronchospasm and risk of recurrence of myoglobinuria, gastritis and behavioral disorders, for the treatment of cases of dermatitis [3] and the desmitis of the proximal insertion of the suspensory ligament of the fetlock [4]. Moreover, laser Acupuncture has been applied in horses to improve sport performance [5]. Recently, a study by Lamontanara [6] has compared Acupuncture and laser therapy in the treatment of pathologies of the anterior limb in the dog. Animals were treated with: Acupuncture alone, laser therapy alone on acupoints, laser therapy alone on the affected joint or a combination of Acupuncture and laser therapy. Results demonstrated that the association of Acupuncture and laser therapy in the lameness of the front limb represents the best therapeutic approach, as it combines the analgesic and regenerative effect of the laser with the energy rebalancing effect of Acupuncture. In the field of behavioral and psychiatric conditions, both Acupuncture and laser therapy have been applied to human patients. Quah-Smith et al performed a study with MRI [7] and reported that laser and needle Acupuncture at LR8 in healthy participants produced different brain patterns. Laser Acupuncture activated the praecuneus relevant to mood in the posterior default mode network while needle Acupuncture activated the parietal cortical region associated with the primary motor cortex. As a consequence, it is suggested that laser Acupuncture in LR8 may be useful for mood disorders,

while traditional Acupuncture in LR8 may be more appropriate for function rehabilitation.

Dog behavioral problems include phobia, anxiety, depression, obsessive-compulsive disorders or OCDs, aggression and the hypersensitivity/hyperactivity syndrome. In the Traditional Chinese Medicine, body and spirit are not considered as separate entities, as it is for occidental medicine: mental activity (*Shen*) and body function are inseparable. The physical and mental aspects are subjected to constant transformation and each physical process has mental implications and vice versa. *Shen* pathologies concern what in the West is the psychic sphere of the person and one can find similarities between these pathologies and the psychiatric pathologies of Western Medicine. It is of primary importance, in the presence of a certain symptomatology, to investigate the pathogenesis, which, while in Western Medicine concerns the identification of the neurotransmitters involved in the pathology, in TCM it is applied through the four phases and the eight rules of the visit.

In the treatment of behavioral problems of the dog, Acupuncture has been successfully applied to treat acral lick dermatitis in a Rottweiler [8] and to treat psychodermatosis in a Greyhound [9].

This paper describes the application of laser Acupuncture in the treatment of behavioral problems in a series of dogs. The idea is about integrating the skills of veterinary behavioral medicine with those of Traditional Chinese Medicine and in particular of Acupuncture, in order to obtain the greatest therapeutic success with patients suffering from behavioral disorders, meaning the greater well-being of the patient himself and of the whole family group. The choice of the laser puncture method was made for some of its peculiar characteristics, particularly suited to the types of subjects to be treated, such as the total absence

of nociceptive stimuli and the speed of execution.

MATERIALS AND METHODS

The case series comprised 10 dogs affected by behaviour problems and treated using the Mphi Vet Orange device (ASA srl, Italy). This is a NIR diode laser belonging to class IV NIR laser and using two synchronized sources with different features (such as wavelength, peak power and emission mode). One source is a pulsed 905nm laser diode (75 W peak power). The pulse frequency can vary in the range 1-2000 Hz. The second source is 808 nm laser diode that can operate in continuous (power 1 W) or frequenced (repetition rate 1-2000 Hz, 550mW mean optical power) mode, with a 50% duty ratio which is independent of the repetition rate. The two sources are synchronised and the propagation axes of the laser beams are coincident. All the cases have been treated with the following parameters for each acupoint: Frequency = 1168 Hz, Time= 10 sec, Energy= 2059J, Dose= 16,39 J/cm². Patients were selected based on the presence of behavioral disorders, and assessed both according to an ETEC grid (evaluation scale of emotional and cognitive disorders [10]) modified by the Author, and following the Traditional Chinese Medicine (TCM) directions.

This grid allows to evaluate, through the assignment of a score, the centripetal behaviors of the patient, considering food assumption, dipsic and somesthetic behavior and sleep; and centrifugal behaviors, such as exploratory and aggression behavior, social learning and specific learning. The evaluation ends with the clinical examination, which detects the possible presence of symptoms such as diarrhea, tachypnea, dyspepsia, emotional urination, skin symptoms such as licking granuloma, obesity, polyuria-polydipsia. The score assigned to each patient for each individual item was highlighted in the table with a red color and an asterisk. The table was used, with the assignment of a score, before the beginning of the therapy, at each session and at the end of the Acupuncture sessions.

The assignment of a score allows an objective evaluation of the pathology and of any improvements resulting from the Acupuncture therapy. A score above 13 indicates the presence of behavioral disorders related to phobia, anxiety, aggression or deficit of self-controls.

Each patient was examined according to the prescriptions of TCM, according to the four diagnostic elements (*Zhen Duan*): inspection, auscultation and olfactory analysis, anamnestic questioning and palpation and according to the Eight Principles (*Ba Gang*): internal-external, cold-heat, empty-full, *yin-yang*.

Acupoints used in this study:

- For all the patients: **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*)
- Specific for the pathology: outer branch of the Bladder channel : **BL44** (*Shentang*), **BL47** (*Hunmen*), **BL49** (*Yishe*), **BL52** (*Zhishi*)
- For the *Shen*: **HT7** (*Shenmen*), **BL62** (*Shenmai*), **LR2** (*Xiang jian*), **KD4** (*Dazhong*), **KD6** (*Zhaohai*)
- *Gui* points (used in triplets in single sessions): **GV26** (*Gui Gong*), **LU11** (*Gui Xin*), **SP1** (*Gui Lei*), **PC7** (*Gui Xing*), **BL62** (*Gui Lu*), **GV16** (*Gui Zhen*), **ST6** (*Gui Chuang*), **CV24** (*Gui Shi*), **PC8** (*Gui Ku*), **GV23** (*Gui Tang*), **CV1** (*Gui Cang*), **LI11** (*Gui Tui*).

Each patient underwent four or five sessions on a weekly basis, with the exception of one dog that was treated three times.

Results have been statistically analyzed by ANOVA test, comparing average scores of the 10 dogs during the first and the last treatment sessions.

RESULTS

CASE #1

Flick, female Border Collie, 8 months old. Initial score=16. Main problem is represented by a compulsive behavior: Flick repeats the same exercise (jumping over a stick) again and again, even if her owner drops the stick and

walks away. Recently, she has also displayed fear of people (known and unknown). According to TCM: optimal *Shen*, dark pink tongue with poor coating, deep and thin pulse, normal *Back Shu*. Wood element, 8 rules: internal, empty, cold, *yin*. Energy level: *Tai Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL49** (*Yishe*), left **LR2** (*Xiang jian*). First *Gui* triplet: **GV26** (*Gui gong-Renzong*), **LU11** (*Gui xin-Shaoshang*), **SP1** (*Gui lei-Yinbai*).

Second session: pulse is normal, more superficial and fuller. Given the improvement, the therapy is the same without bilateral **KD27** (*Shufu*).

Third session: no changes, same therapy with a different *Gui* triplet: bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*).

Fourth session: no changes, same therapy with a different *Gui* triplet: bilateral **ST6** (*Gui chuang-Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*).

Fifth session: no changes, same therapy with a different *Gui* triplet: **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

During the treatment period, Flick has reduced the compulsive behavior. Final score=13.

CASE #2

Astor, male half-breed, 1 year and 10 months old. Initial score=18. Interspecific territorial aggression, characterized by impulsiveness and absence of self-control. The normal sequence of aggression is not respected: the threat and appeasement phases are absent. Astor attacks visiting men and women as soon as they enter the garden or home. He doesn't growl before attacking. The bite is strong and restrained. Leave the grip only if forced. Presents predatory aggression (predation) towards the feet of guests seated at the table. According to TCM: optimal *Shen*, normal pulse, dark pink tongue with thin fissures on the entire surface. *Back Shu*: empty BL25, BL27, BL28. Fire element, *Ba Gang*: external, hot, full, *yang*. Energy level: *Shao Yang*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL47** (*Yishe*), **HT7** (*Shenmen*).

Second session: the owners refer that Astor has more self-control and his behavior with guests is more acceptable. The therapy is the same (without bilateral **KD27** (*Shufu*)) with the addition of the third *Gui* triplet: bilateral **ST6** (*Gui chuang-Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*). This was decided based on the presence of the point **PC8** (*Ben* point), Fire on Fire, Astor's element.

Third session: Astor has acquired an excellent level of self-control and is manageable at the arrival of guests. He no longer "pinches" the feet of people sitting at the table. The therapy is the same, with the fourth *Gui* triplet: **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

For family reasons of owners, Astor was not subjected to further sessions. Contacted by telephone, they report that Astor's aggression towards the guests is frankly reduced and there have been no further attacks.

CASE #3

Zeus, male, Labrador Retriever, 8 years old. Initial score=19. Affected by obsessive-compulsive disorder with licking of the forelimbs, Zeus lives with Elizabethan collar. According to TCM: optimal *Shen*, normal tongue (color, coating and shape), normal *Back Shu*, pulse deep (less on the left). Minister fire element, *Ba Gang*: internal, cold, empty, *yin*. Energy level: *Tai Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL49** (*Yishe*), **HT7** (*Shenmen*). The second *Gui* triplet was used: bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*). This was decided based on the presence of the point **PC7** on the Pericardium channel, Hearth ministry, for the specific action on *Shen*.

Second session: the owners refer that Zeus has improved. The dog doesn't lick his forelimbs even if the collar is removed. The therapy is the same (without bilateral **KD27**

(*Shufu*) with the addition of the third *Gui*: bilateral **ST6** (*Gui chuang-Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*).

Third & fourth session: Zeus has not presented any obsessive compulsive disorder ever after the treatment. Pulses are more superficial, thin and quick after the third session. The therapy is the same, with the fourth *Gui* triplet: **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

Fifth session: Zeus has not presented any obsessive compulsive disorder ever after the treatment. Treatment as third/fourth sessions with the first *Gui* triplet: **GV26** (*Gui gong-Renzong*), bilateral **LU 11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*).

Zeus has not presented any obsessive-compulsive disorder ever after the treatment. Final score=12.

CASE #4

Jack, neutered male, Golden Retriever, 7 years old. Initial score=15. Simple post-traumatic phobia, with freezing, tachycardia and tachypnoea, due to firecrackers explosions nearby. Since then Jack is afraid of urban context. According to TCM: optimal *Shen*, red, large and thin tongue with poor coating and protruding on the sides, *Back shu* empty BL23 (*Shenshu*), deep, thin and quick pulse. Earth element, *Ba Gang*: internal, cold, empty, *yin*. Energy level: *Shao Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL52** (*Zhishi*).

For all the following sessions: **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL52** (*Zhishi*), **HT7** (*Shenmen*), with first *Gui* triplet (for the second session): **GV26** (*Gui gong-Renzong*), bilateral **LU 11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*), second *Gui* triplet (for the third session): bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*), third *Gui* triplet (for the fourth session): bilateral **ST6** (*Gui chuang-Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*) and fourth

GUI triplet (for the fifth session) **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

No changing during the treatment. Unchanged final score.

CASE #5

Amy, female Border Collie, 4 and ½ years old. Initial score=17. Obsessive-compulsive disorder characterized by a finalistic predation without a phase of spontaneous arrest against lights and carpal licking without lesions. Simple phobia with inhibition in presence of loud noises, such as explosions, storms, crowd. According to TCM: optimal *Shen*, dark red and very wet tongue (thin fissures are present all over) which is very elongated and protruding outside the mouth, *Back Shu* empty and painful BL18 (*Ganshu*), deep and thin pulse (KD *Yin* and KD *Yang* are not well perceivable). Wood element, *Ba gang*: internal, cold, empty, *yin*. Energy level: *Shao Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL49** (*Yishe*), with first GUI triplet: **GV26** (*Gui gong -Renzong*), bilateral **LU11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*), From the second session tongue fissures are present on the tip only.

For the following sessions, the therapy is the same without bilateral **KD27** (*Shufu*) with the addition of the second GUI triplet (second session): bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*), third GUI triplet (for the third session): bilateral **ST6** (*Gui chuang- Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*) and fourth GUI triplet (for the fourth session) **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

During the whole period of laser Acupuncture therapy, the stereotypies related to licking and lights have resolved. The fear of thunderstorms has been greatly reduced. Amy showed fearful behavior, hiding under the bed, only in the presence of very loud thunder. Final score=12.



CASE #6

Pippo, neutered male, half-breed, 5 years old. Initial score=31. Pippo presents a deficit of self-controls with bulimia; non pathological hyperactivity; intra and extra specific fear aggression, without the threat phase, with not strong bites, when on a leash; resource-related aggression; emotional urination. According to TCM: optimal *Shen*, normal tongue, *Back Shu* empty **BL23** (*Shenshu*), deep and thin pulse (KD *Yang* is not well perceivable). Wood element, *Ba gang*: internal, cold, empty, *yin*. Energy level: *Shao Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL49** (*Yishe*), bilateral **BL52** (*Zhishi*), with the first GUI triplet: **GV26** (*Gui gong -Renzong*), bilateral **LU 11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*).

For the following sessions: **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL49** (*Yishe*), bilateral **BL52** (*Zhishi*), **HT7** (*Shenmen*), **KD4** (*Dazhong*), **KD6** (*Zhaohai*) with the second GUI triplet (second session): bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*), third GUI triplet (for the third session): bilateral **ST6** (*Gui chuang- Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*) and fourth

GUI triplet (for the fourth session) **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

From the second laser session, Pippo does not pull on the leash and does not attack other dogs on a walk. The pulse and back shu have normalized. The owner, decides to continue with the sessions. Final score=24



CASE #7

Bloody, neutered female, Bullmastiff, 5 years old. Initial score=12. Simple phobia with paroxysmal anxiety during travels by car. Bloody started this behaviour two years ago, without an evident cause. Since then she refuses to enter the car and, if forced, reacts displaying freezing, tachycardia and tachypnea. According to TCM: optimal *Shen*, side protruding tongue, *Back Shu* empty BL15 (*Xinshu*) and reactive BL23 (*Shenshu*), normal pulse. Water or Metal movement, *Ba gang*: internal, cold, empty, *yin*. Energy level: *Shao Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral, **BL44** (*Shentang*), **HT7** (*Shenmen*) with the first GUI triplet: **GV26** (*Gui gong -Renzong*), bilateral **LU 11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*). During the half-hour

drive home from the clinic, after the first session, Bloody showed no anxiety. In the following days, the pathological behavior returned. Alpha-casozepine (Zylkene®) has been prescribed according to the specific protocol for the fear of car travel, without obtaining any therapeutic effect.

For the following sessions: **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral, **BL44** (*Shentang*), **BL52** (*Zhishi*), **HT7** (*Shenmen*), with the second GUI triplet (second session): bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*), third GUI triplet (for the third session): bilateral **ST6** (*Gui chuang-Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*) and fourth GUI triplet (for the fourth session) **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

From the second laser Acupuncture session, Bloody gets into the car without reluctance and shows no signs of fear and anxiety. From the third session, **BL23** (*Shenshu*) is no more reactive. Final score=10.

CASE #8

Sofia, female half-breed, 10 months old. Initial score=24. Main problems are obsessive-compulsive disorder with licking a surgical scar on the thigh two months after surgery and simple phobia of people. According to TCM: optimal *Shen*, normal tongue, deep, quick and thin pulse (KD Yin and KD Yang are not well perceivable), *Back Shu* empty **BL23** (*Shenshu*). Likely, wood element, *Ba Gang* internal, empty, cold, *yin*. Energy level: *Tai Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL49** (*Yishe*), bilateral **BL52** (*Zhishi*), **KD4** (*Dazhong*), **KD6** (*Zhaohai*) with the first GUI triplet: **GV26** (*Gui gong-Renzong*), bilateral **LU 11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*).

For the following sessions, the therapy is the same (without bilateral **KD27** (*Shufu*)) with the addition of the second GUI triplet (second session): bilateral **PC7** (*Guixing-*

Daling), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*), third GUI triplet (for the third session): bilateral **ST6** (*Gui chuang-Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*) and fourth GUI triplet (for the fourth session) **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

At the end of the protocol of four sessions with Acupuncture laser, Sofia is no longer affected by obsessive compulsive disorder and bulimia, emotional urinations have been reduced. Final score=17.

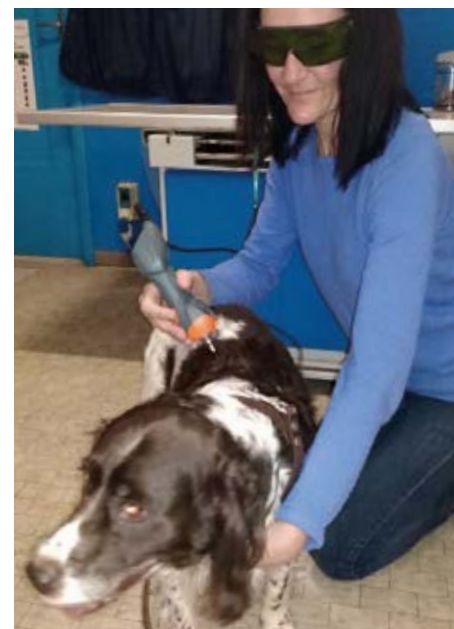
CASE #9

Nihal, female, Weimaraner cross-breed, 7 months. Initial score=17. Paraphysiological hyperactivity due to age and character. According to TCM: optimal *Shen*, dark pink tongue with fissure all over and poor coating, normal *Back Shu*, deep, quick and thin pulse. Fire element, *Ba gang*: external, hot, full, *yin*. Energy level: *Shao Yin*.

First session: bilateral **KD27** (*Shufu*), **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral, **BL44** (*Shentang*).

For the following sessions: **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral, **BL44** (*Shentang*). **HT7** (*Shenmen*), with first GUI triplet (second session): **GV26** (*Gui gong-Renzong*), bilateral **LU 11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*), the second GUI triplet (third session): bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*), third GUI triplet (for the fourth session): bilateral **ST6** (*Gui chuang-Jiache*), **CV24** (*Gui shi-Chengjiang*), bilateral **PC8** (*Gui ku-Laogong*) and fourth GUI triplet (for the fifth session) **GV23** (*Gui tang-Shangxing*), **CV1** (*Gui cang-Huiyin*), bilateral **LI11** (*Gui tui-Quchi*).

No long-lasting changes. The increased exploratory behavior (hyperactivity, in this case) resolves only for a short period of time, at least twelve hours after the treatment. Probably in this case it would have been useful to increase the frequency of the sessions. Final score=16.



CASE #10

Biro, male, Springer Spaniel, 12 years old. Initial score=18. Obsessive Compulsive Disorder with licking and nibbling of the forelimbs. According to TCM: optimal *Shen*, normal tongue (color, shape and coating), *Back Shu* empty **BL23** (*Shenshu*), deep, thin pulse (not well perceivable in correspondence of the left "thumb"). Moaning voice. Wood element, *Ba gang*: internal, cold, empty, *yin*. Energy level: *Tai Yin*.

First, third and fourth sessions: **CV15** (*Jiuwei*), **GV9** (*Zhiyang*), bilateral **BL49** (*Yishe*), **HT7** (*Shenmen*), with the first GUI triplet: bilateral **LU11** (*Gui xin-Shaoshang*), bilateral **SP1** (*Gui lei-Yinbai*). **GV26** (*Gui gong-Renzong*) was not used as Biro was annoyed. Licking improves after the session.

For second sessions, the therapy is the same without bilateral **KD27** (*Shufu*) with the addition of the second GUI triplet (second session): bilateral **PC7** (*Guixing-Daling*), bilateral **BL62** (*Gui lu-Shenmai*), **GV16** (*Gui zhen-Fengfu*).

From third session, licking is resolved and the fourth is a maintenance session. At the end of the laser therapy cycle, the obsessive-compulsive disorder is resolved. Final score=11.

RESULTS

The series has taken into account the effect of laser therapy on several dog behavioral problems. Specifically, the conditions treated were:

- Compulsive Obsessive Disorders (OCD) at different stages of pathology evolution
- Post traumatic phobia
- Paroxysmal anxiety
- Paraphysiological hyperactivity
- Aggression
- Self-control deficit and fear

All the treated patients, except Jack, have improved (see Figure 1), demonstrating that the application of laser Acupunture therapy on behavioral problems determined clinical resolution or improvement in 9 dogs out of 10. Considering the overall score, the decrease from the first to the last sessions is statistically significant (test value $F=5.417$, with $p=0.0318$). Average score at first session is 18.7 ± 1.67 . Average score at last session is 14.3 ± 1.28 (Figure 2).

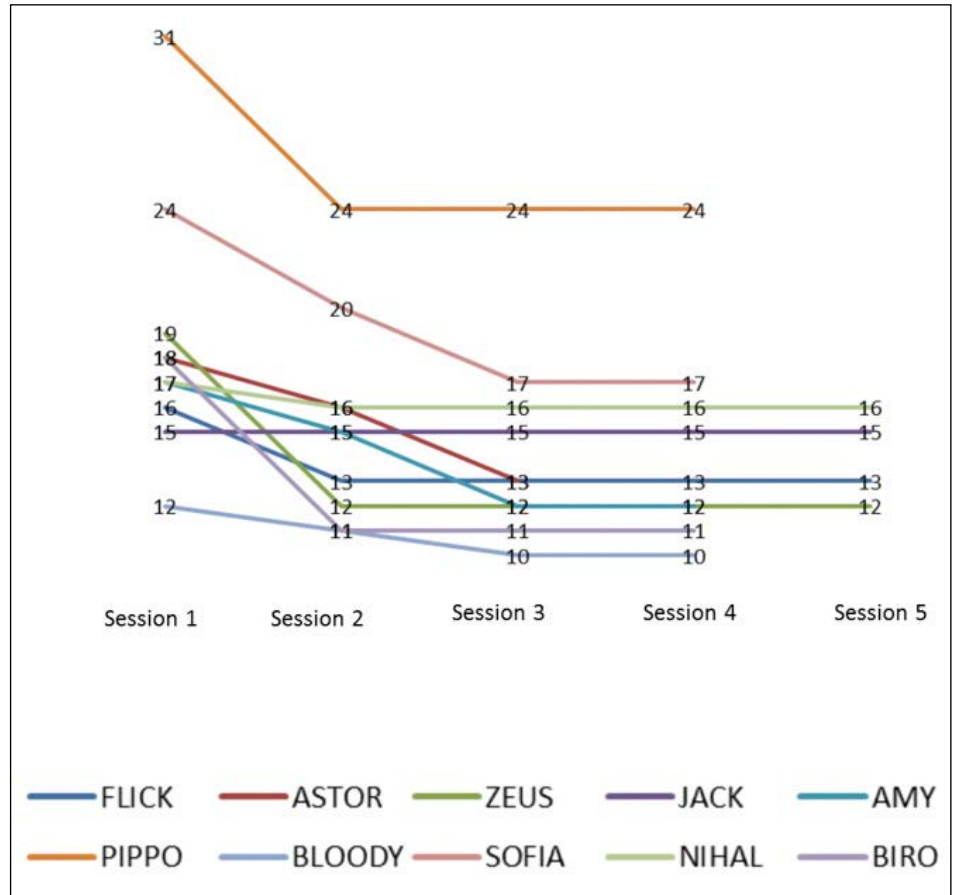


Figure 1 - Results obtained on 10 dogs

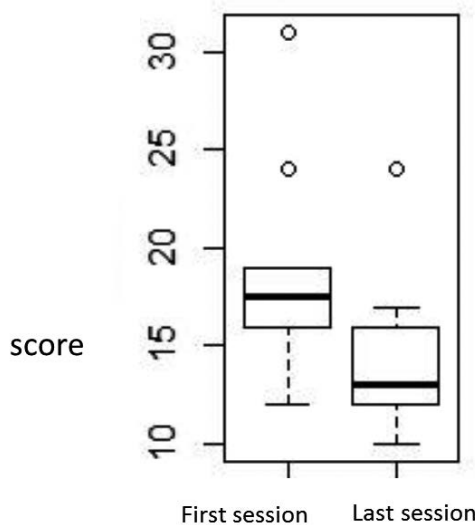


Figure 2 - Comparison between average score value at first and last sessions.

DISCUSSION

In veterinary behavioral medicine, behavioral therapy plays a role of primary importance, although sometimes it is not sufficient to achieve a satisfactory therapeutic result for the well-being of the patient and his family group. Inevitable, therefore, is the use of pharmacological therapies which, in addition to often having side effects, do not always lead to a truly effective therapeutic result, especially in some types of pathologies such as dog obsessive compulsive disorders, sometimes having a genetic etiology. Some of the dogs that have participated in this study had been treated pharmacologically in the past for serious behavioral pathologies, then resolved, with consequent reduction and suspension of the drug, and that years later they presented stereotypies on an anxious basis.

Acupuncture, unlike Western Medicine, does not act on the symptom, but on the individual as a whole, as a body-mind unit. From this it is clear that its therapeutic effect acts in a more harmonious and profound way on the patient's well-being. The data collected with this case series confirm that the application of laser Acupuncture is an effective tool to manage dog behavioral problems.

CONCLUSIONS

Laser Acupuncture is a practical and effective tool for the treatment of dogs with behavioral disorders due to its speed of execution and the total absence of nociceptive stimuli.

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