

Case Report 2: VBMA Certification

Acute Tendinitis Treated with Chinese Herbal Medicine

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Abstract:

Chinese Herbal Medicine was used to treat a case of acute Superficial and Deep flexor tendinitis, “Bowed Tendon”, on the left fore leg in an equine. The horse was severely injured, she was three-legged lame; the tendons were grossly swollen, warm and painful on palpation. The patient voluntarily ate over 400 grams of her herbal prescription and was sound within days.

Introduction:

“Bowed tendons” or tendinitis are a common injury in the equine. Tendon and ligament injuries are common causes of lost training time, lost racing time and cause many horses to lose their career. Most commonly these injuries occur when horses are performing at a highly intense job. (Reef, 1992) Aggressive therapy can result in dramatic improvement in the clinical signs in a few days but all have a minimum of two to three month rehabilitation therapy. The prognosis for a horse with a mild tendon injury is usually good and often they return successfully to work if they had been given adequate time off for the tendon to fully heal. Large tears with extensive injuries which involve the majority of the length of affected tendon are very likely to never return to their previous level of work. These horses are very likely to return to performance at a lower level and are very likely to have a recurrence of the injury. (Reef, 1992) According to Rick Henninger of Pen Paddock Equine Center, (Henninger, 1994), there has been no uniformly successful method to treat acute tendinitis, and the mature repaired tissue rarely equals that of a normal, uninjured tendon.

The goals of conventional therapy for acute tendinitis are to decrease inflammation, minimize scar tissue formation, and promote restoration of normal tendon structure and function. The initial inflammation results in hematoma formation within the tendon. These vascular lesions are very difficult to resolve since tendons in general and the Superficial Digital Flexor Tendon in particular have a poor blood supply. (Goodship, et al, 1994) In fact poor blood supply is implicated in addition to the development of hyperthermia, hypoxia, free radical production and in the event of exercise stress leads to cell damage; Poor blood supply also causes an inability for the body to repair damage. Although many therapies are currently being used, from laser therapy, electromagnetic therapy to surgical interventions and drug therapy, there is a great need for a treatment that can positively affect the hemodynamics of the tendon to stimulate healing and minimize scar formation in a faster more complete fashion. Herbal therapy can achieve this.

Case Repot Presentation

Signalment

Jules is a 9 year old appendix Quarter Horse mare. She had been shown intensively as a hunter/jumper two years earlier and currently is ridden aggressively on some of the toughest trails in western NY State.

TCVM diagnosis

Jules suffered from Trauma causing Blood stagnation (with heat) with channel obstruction in the PC/Ht meridian with an underlying Kd/Liver Yin deficiency.

Conventional diagnosis

Jules had an acute tendinitis of the left fore Superficial and Deep Flexor tendons.
(11/23/10)

Past History

Jules is a very athletic horse. She was originally trained as a roping horse but when four years old she was “tied down” as part of her training. She violently fought this type of excessive restraint, violently resisted her trainer, and was sold as a hunter prospect. She quickly developed a love of jumping and was off on a successful career. She was six and a half and she was competing successfully. At six and a half, she changed owners and this owner was a very controlling insecure rider. At a state level hunter/jumper competition, she suffered an emotional breakdown, and reacted to the emotional stress of her rider by running backwards through the show coliseum. She had a vague lameness for 1 ½ years in her right fore leg; her owner was unable to girth up a saddle. She would fly backwards at the slightest girth pressure. She was given away to her current owner.

Recent History

Jules, now 8 years old, soon after arriving at her new home, broke with an incredible abscess in her right hind leg. The pain she had been feeling was at Kd 27, in her right pectoral area. All of the pain and girthing issues disappeared. She started her new life as the ultimate trail horse. She lives in a run-in barn with four other very geriatric horses. She has taken on the role of “Boss Mare” and at times was very aggressive toward the other horses. Emotionally she was very jealous and possessive yet there was an underlying fear.

11/23/10: Jules charged after the other horses through deep mucky mire and became acutely three legged lame



This is a picture of the murky mire that the horses have to travel to and from the barn. This area also has a significant incline. It was through this deep mud that Jules injured her leg. Please note that this picture was taken during a dry spell, it is usually much deeper.

Her left fore Superficial and Deep flexor tendon were grossly swollen with heat and painful to the touch. She was three-legged lame. The “bow” was in the proximal area of her tendon sheath and her check ligament also seemed swollen and painful. Her conventional Diagnosis would be considered to be an acute tendinitis of the left Superficial and Deep flexor tendons or in common terminology a bowed tendon. The swelling in these tendons are areas of micro-hemorrhage.

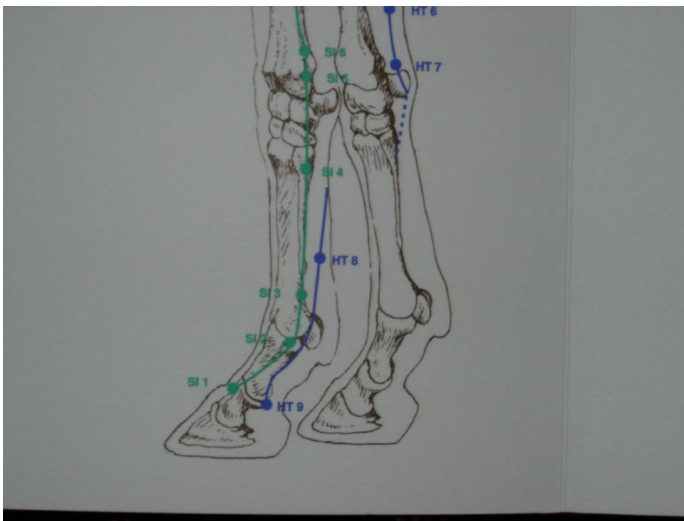
On physical exam, her tongue was slightly red/purple and dry; her pulse was fast, thin and tight. She had slightly injected vessels in her sclera. She was irritable and restless. Pain and reactivity on the following points: Bl 15, 17, 18, 23; Warmth on Ht 7, PC 7, 8,9, and TH 8, SI 9. Her coat was slightly dry.

My interpretation of her physical exam was that trauma caused Blood stagnation (with heat) with channel obstruction in the PC/Ht meridian with an underlying Kd/Liver Yin deficiency. The swelling, pain and heat of the tendon, pain at Bl 15, 17, and SI 9, the purple/red tongue and the fast pulse indicate the blood stasis and stagnation with secondary heat. The Channel obstruction was evident by palpation of the tendon. The underlying Kd yin deficiency is evident from the pain at Bl 23, the past history of a nervous breakdown, the thin fast pulse and the dry tongue. The underlying Liver yin deficiency is evident by the current aggression, the dry, red tongue, red eyes, dry coat, thin, fast pulse and the susceptibility of the tendons to injury. With her past emotional history and her suppressed damp heat (abscess) on the Kidney meridian, there would seem that there had to be a yin deficiency present that would make her susceptible to this injury.

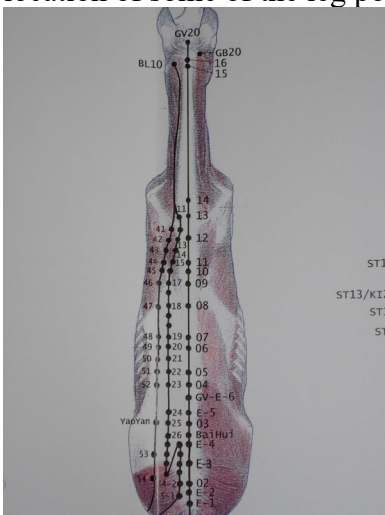
Her TCM herbal prescription was a variation of Bu Gan Qiang Jin San called Tendon /Ligament a formula made by Jing Tang (Xie, 2004) with additional Corydalis (Yan Hu Suo). Tendon/Ligament uses Bu Gan Tang as the basic Liver yin/blood tonic with Lycium (Gou Qi Zi) and Cornus (Shan Zhu Yu); Morus, Sang Zhi, to open the channels and collaterals and reduces swelling; Acanthopanax (Wu Jia Pi) to strengthen tendon and ligaments; Achyranthes (Niu Xi) to strengthen the Kd and benefit the knees, and then Psolera (Bu Gu Zhi), Epimedium (Yin Yang Huo), Chuan Xiong, Ligusticum to activate

the Qi and blood circulation; Angelica, Dang Gui and Rehmannia, Shu Di Huang nourish and move the blood; Cinnamon, Gui Zhi warms and opens the channels and collaterals; and White Peony, Bai Shao Yao to nourish Blood and yin and soothe Liver Yang. The owner was told to give four tablespoons two to three times a day. Corydalis (30 grams three times a day) was added to activate qi and blood circulation and for pain relief. Jules was in extreme pain.

She was treated with Acupuncture: Ht 7-strong psychic effects, helps circulation, and suspensory ligament and flexor tendons., Ht 9-helps in yin deficient states, GB 34, (point for tendon and ligaments, also St 36, PC 7, 8, 9; TH 8, SI 3 and 9. Bl 15, 17, 18, and 23 were also needled and injected with Traumeel, a low potency combination homeopathic remedy designed to treat any type of trauma.



An acupuncture chart showing the location of some of the leg points that were used. (Van den Bosch, 1995)



An acupuncture diagram showing some of the Back Bladder meridian points. (Van den Bosch, 1995)

Added treatments: She was wrapped with Mag-Paste (Epsom salt ointment) in a heavy support wrap and instructed to have stall rest with only 10 minutes of hand walking twice a day. No other treatment was given on initial day. The plan was to Ultra-sound her tendon the next day to assess the full extent of the injury. Her prognosis was guarded due to the extreme pain she was in.

11/24/10: Jules's owner reported that after she had opened the tub of herbs, she had left the barn for a few minutes and while alone Jules ate over 400 grams of Tendon Ligament Formula and 100 grams of Corydalis. Her owner reported that she was completely sound and acting like an idiot in the stall. She requested to cancel the ultra-sound exam. Jules was so active in her stall; her owner was afraid she would injure herself and she let Jules out with the other horses. The owner did leave her leg wrap on. She also continued to give her herbs at a higher dose. She would give Jules handfuls of Tendon Ligament and Corydalis until she voluntarily stopped eating the herbal formula.

11/25/10: Her owner changed her wrap and her leg was only slightly puffy. She was not sore at all on the leg. Plan to continue.

11/30/10: In one week, she was completely sound with no palpable swelling or heat in the tendon. She was back at work.

10/11/11- Jules is still back at work, no further tendon or ligament problems. Since the tendon injury, she is a much quieter, calmer horse. Her tongue color is light pink and pulse is normal. Her Liver/Kidney yin deficiency has been resolved.



A picture that was taken of Jules's left fore leg on 10/11/11. Note how beautiful and tight the tendons are. There is no residual swelling or thickness in with the superficial, deep or check ligaments.



This picture of Jules was taken on 10/11/11. She is much calmer horse now.



Taken on 10/11/11, Jules has a nice light pink tongue color with slight moisture. The picture does not really show how beautiful her tongue is; a nice healthy pink.

Discussion:

The susceptibility for tendon damage and the lack of efficient healing is primarily due to poor hemodynamics in the tendon. The basis of herbal medicine is to influence the hemodynamics. (Marsden, 2008) Herbal Medicine is one of the oldest modalities that have been used to manipulate blood flow in the body. Modern recognition of herbal influence is seen in study of the impact most herbs have on nitric oxide synthesis. Stimulation of Nitric oxide (NO) in a tissue will increase its blood perfusion and on the opposite side, suppression of nitric oxide synthesis will decrease blood perfusion. For example, Eucommia, Du Zhong, is one of the herbs that increase Nitric Oxide production. This herb is noted in TCM to have a very influential effect of tendon. In Tendon Ligament formula, White Peony, Bai Shao Yao is used to Nourish Blood and yin and soothes Liver Yang; Bai Shao Yao is known to promote Nitric Oxide synthesis.

(Marsden, 2008) Epimedium, which has incredible anti-oxidative flavonoids, can increase intracellular NOS activity significantly in vitro and increase the intracellular cGMP through the enhancement of NOS expression and NOS activity. (Zhang, et al, 2011)

Angelica, Dang Gui, elicits both a nitric-oxide dependent and Calcium influx mediated relaxation in aorta tissue (Rhyu, M.R., et al, 2005). Dang Gui working synergistically with Poria, Fu Ling, and Atractylodes, Bai Zhu, has been shown to be beneficial in treating conditions with ischemia damage. (Lin, Z, 2008) These synergistic effects of the herbs in Chinese formulas are only beginning to be appreciated. Most of the scientific papers look only at one chemical within an herb yet the beauty of many of these formulas is the co-operative manner in which many herbs work.

Research has shown there is a synergistic action of Angelica and Corydalis in analgesic effects. (Liao, ZG, et al, 2010) Corydalis, Yan Hu Suo, has demonstrated on its own to have strong analgesic effects due to its dl-tetrahydropalmatine and corydalis I compounds. This effect creates no dependence and is compared to the analgesic effects of morphine. (Chen and Chen, 2004)

Lycium, Gou Qi Zi, one of the main herbs in Tendon and Ligament Formula, has shown in research that this herb has an ability to help areas of cerebral circulatory insufficiency (Meng, LQ, 2007) and can affect blood pressure. (Kan, J, 1969) Clearly showing that this herb can have a significant influence on blood flow and perfusion.

Acanthopanax has been shown to have healing and protective effects of stress-induced disturbances of mental status. (Fujikawa, 2002) Achyranthis Bidentatae works synergistically on these stress-induced episodes. (Ma, 1998) Another herb in the formula, Tendon and Ligament that has been shown to modify blood flow in the renal area is Rehmannia, Shu Di Hung. (Yi, NY, 1965)

Ligustrazine is a compound isolated from the rhizome of Ligusticum Chuanxiong Hort. (Umbelliferae) and has been reported to be effective for the treatment of a variety of vascular diseases. It can attenuate endothelial injury and restore antioxidant capacity and superoxide dismutase 1 activity while decreasing the MDA generation. (Jiang F, et al.) Tetramethylpyrazine, another chemical isolate of Ligusticum has been shown to exert a neuroprotective effect against spinal cord ischemia-reperfusion injury. There was an anti-inflammatory effect that was believed to be the contributing mechanism. (Fan, L., 2011).

Jules's response to the herb was incredible. Her owner allowed her to ingest a very large dose, 400 grams, initially over the typically 30 gram dose. I feel that this large loading dose allowed her to quickly resolve and move the micro-hematomas in her tendon to allow this remarkable rate of healing. It is amazing to have such a severely injured tendon, yet Jules was back at full work in one week's time.

A final interesting note is that since the tendon injury, Jules's personality has greatly improved. The blood nourishing effects and the Liver/Kidney yin tonification of the formula seems to have balanced her underlying kidney and liver deficiency allowing a truly curative response.

Herbal therapy has illustrated in this case, its remarkable ability to assist the body's hemodynamic healing.

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