

Ashley Adams
DOM, LAc



Dr. Ashley Adams has been in the medical field for over 20 years. She served in the US military for 18 years before being forced to retire due to an auto accident requiring an immense amount of rehabilitation. After many surgeries, she found herself with little hope of walking again. Her life was transformed when she was treated with acupuncture, so much so that she went on to earn a doctorate in acupuncture and Chinese herbal medicine from the Maryland University of Integrative Health (MUIH). She opened DelMarVa Acupuncture and Wellness Center with the goal of helping others achieve life-transforming health outcomes. Dr. Adams specializes in Lyme disease, chronic pain, infertility, neuropathy, digestive disorders, and autoimmune disorders.

Acupuncture and Chinese Herbs Relieve Long-Term Symptoms of Lyme Disease: A Case Report

By Ashley Adams DOM, LAc, Alyssa Hipple DAc, LAc, and S. Hunter Thompson DOM, LAc

Abstract

Background

Lyme disease has a unique presentation in each patient with various pain syndromes, including migraines and musculoskeletal pain complaints. This case report supports the effectiveness of acupuncture as a complementary therapy for migraines and some musculoskeletal pain.

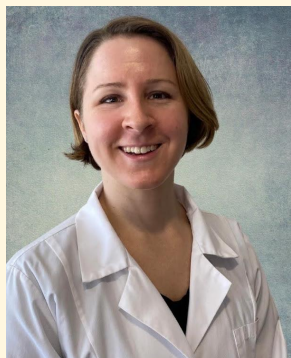
Case Description

A 44-year-old female presented with symptoms related to Lyme disease, including brain fog, migraines, insomnia, fatigue, and musculoskeletal pain. She had been diagnosed with post-traumatic stress disorder (PTSD), fibromyalgia, and Lyme disease, with the latter confirmed by a laboratory diagnosis, before starting acupuncture treatment and Chinese herbs. During a course of acupuncture treatments, the patient began antibiotic therapy for Lyme disease and then experienced Herxheimer reactions. Acupuncture treatment included body acupuncture and the National Acupuncture Detoxification Association (NADA) points. After 10 months of acupuncture and herbal therapy, the patient's pain and other symptoms associated with Lyme significantly improved.

Conclusion

This case suggests that treatment with acupuncture and Chinese herbs may be beneficial in reducing Lyme disease symptoms and Herxheimer reactions to antibiotic treatment (Dhakal & Sbar, 2021).

Alyssa Hipple
DAC, LAc



Dr. Alyssa Hipple is a graduate of MUIH, where she earned her Master of Acupuncture Degree in 2021 and her Doctor of Acupuncture degree in 2022. Before graduating from MUIH, Dr. Hipple earned her Bachelor of Science Degree in Nutrition at the Pennsylvania State University. Prior to finding Chinese medicine, Dr. Hipple worked in various medical settings ranging from the emergency room to integrative offices. It was in these integrative offices that Dr. Hipple experienced acupuncture for the first time. Dr. Hipple is passionate about Chinese medicine and how it can be used to treat the whole person and adapted as needed.

Keywords: acupuncture, NADA protocol, Lyme disease, Herxheimer, migraine, pain, Chinese herbs

Introduction

Lyme disease is a condition commonly initiated by the bite of a tick that then transfers spirochete bacteria, most often *Borrelia burgdorferi*, into the bloodstream (Nykytyuk et al., 2020). Each year there are approximately 476,000 newly contracted Lyme disease cases (Centers for Disease Control and Prevention, 2021) in the United States. Lyme disease presents differently in each patient and can have debilitating symptoms that can hinder and even permanently alter daily life. Antibiotics are often and necessarily employed in treating Lyme disease, which can result in side effects. Side effects may include the Jarisch-Herxheimer (also known as the Herxheimer or Herx) reaction, which can result in migraines and musculoskeletal pain, among other symptoms, from the die-off of microorganisms (Butler, 2017). Acupuncture and Chinese herbal medicine may relieve these symptoms (Carter et al., 2017).

This case report demonstrates how body acupuncture, the National Acupuncture Detoxification Association (NADA) protocol (standardized five-needle auricular acupuncture), and Chinese herbs were used when the patient experienced a Herxheimer reaction to antibiotic treatment for Lyme disease. These treatment modalities helped the patient to continue necessary antibiotic treatment, by managing its side effects, and thus helped eradicate the disease. The case is important because it demonstrates the complexity of Lyme disease and the potential usefulness of individualized treatment in addition to adaptation to changes in patients' symptoms.

Case Description

This patient was a 44-year-old female who began acupuncture to treat symptoms suggestive of chronic Lyme disease, which had been confirmed by a laboratory diagnosis. Initial symptoms included brain fog, migraines, insomnia, fatigue, and pain. She also reported experiencing significant stress in her daily life.

Shea Hunter Thompson
DOM, LAC



Dr. Thompson is an Assistant Professor in the Acupuncture and Herbal Medicine department of MUIH. He teaches acupuncture and Chinese herbal medicine and supervises in the student clinic. Dr. Thompson published previously in *Convergent Points*, Volume 1, Issue 1.

She had experienced some of these symptoms previously. Her health history was significant for a Chiari malformation and syringomyelia, both of which may be associated with headaches, trigeminal neuralgia, EBV (Epstein Barr virus), mental health issues, and chronic pain. At the onset of acupuncture treatment, the patient stated her pain was 10/10 for migraines and 8/10 for overall pain according to the Numeric Pain Scale (Hawker et al., 2011). The Fatigue Assessment Scale (Hewlett, Dures & Alameida, 2011) was used to assess the degree of her fatigue, and the results across treatments are outlined in a table at the end of this section.

After completing an initial course of acupuncture, she was treated by her primary care provider with outpatient IV antibiotics doxycycline and ceftriaxone for chronic Lyme disease. She then experienced increased headaches, brain fog, musculoskeletal pain, and tachycardia. Her primary care provider informed the patient that her symptoms appeared to be a Herxheimer reaction to the antibiotic treatment. The patient once again sought acupuncture treatments.

Diagnosis

During her initial acupuncture visit in the fall of 2020, she was clinically evaluated using traditional acupuncture assessments, including examination of the tongue, pulse, color, sound, odor, emotion, and temperature of each of the three jiao (upper, middle, and lower sections of the abdomen).

1. Tongue assessment revealed a pale tongue body, scalloped edges, no distended sublingual veins, and no coating because the patient brushed her tongue.
2. Pulse assessment revealed an overall thin, weak, slippery, and short quality. In particular, her Kidney yin and yang pulses were empty, and her Liver pulse had a thready quality.
3. The color, sound, odor, and emotion assessment showed a white and green color, shout, sound of weep, rancid odor, and frustration and grief emotions. Three jiao examination revealed a warm upper jiao, cool middle jiao, and warm lower jiao. Pain and fatigue were regularly assessed using validated instruments. The diagnoses resulting from these clinical assessments were gu syndrome relating to the spirochetes from Lyme disease, internal Wind, Liver yang rising, qi and blood deficiency, dampness, and Kidney yin and yang deficiency.

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Treatments and Outcomes

This patient was treated with acupuncture and Chinese herbs, as outlined in the tables below. The state of her symptoms was assessed before each treatment using the tools previously mentioned, such as pulses and tongue examination. After the assessment, acupuncture points were chosen, then sterile, single-use acupuncture needles were inserted into the chosen points. Detoxification was the primary treatment strategy to remove the gu (spirochetes), build and move Blood and qi, clear dampness, tonify Kidney yin and yang, and expel Wind.

The NADA protocol was used during five treatments to expel Wind, tonify Kidney yin and yang, clear dampness, and build and move blood and qi. When the NADA protocol was not used—in treatments four, six, and seven—the patient experienced more musculoskeletal pain and migraines. Treatment adherence was associated with symptom improvement using acupuncture assessment tools. No adverse effects were reported or observed.

Tx #	Frequency	Tx Principles	Points
#1	Fall 2020	Clear II/III block (SI to BL channels); build qi and Blood; calm shen; remove gu (lurking pathogens)	SI19 (<i>Ting Gong</i>), BL1 (<i>Jing Ming</i>), Yin Tang, NADA protocol, LR8 (<i>Qu Quan</i>), SP6 (<i>San Yin Jiao</i>), ST36 (<i>Zu San Li</i>), LU9 (<i>Tai Yuan</i>)
#2	7 days later	Build Blood and qi; move Blood and qi; calm shen; remove gu	NADA protocol, SP10 (<i>Xue Hai</i>), LR8 (<i>Qu Quan</i>), LR3 (<i>Tai Chong</i>), SP6 (<i>San Yin Jiao</i>), ST 36 (<i>Zu San Li</i>), LU 9 (<i>Tai Yuan</i>)
#3	7 days later	Build and move Blood; calm shen harmonize HT and LU; remove gu	NADA protocol, Yin Tang, CV15 (<i>Jiu Wei</i>), LR3 (<i>Tai Chong</i>), ST36 (<i>Zu San Li</i>), SP6 (<i>San Yin Jiao</i>)
#4	14 days later	Tonify Blood; tonify (channel) sources	BL17 (<i>Ge Shu</i>), BL18 (<i>Gan Shu</i>), BL19 (<i>Dan Shu</i>), BL20 (<i>Pi Shu</i>), LU9 (<i>Tai Yuan</i>), LI4 (<i>He Gu</i>), SJ4 (<i>Yang Chi</i>)
#5	18 days later	Clear Damp; build Blood and qi; remove gu	NADA protocol, CV12 (<i>Zhong Wan</i>), CV9 (<i>Shui Fen</i>), SP6 (<i>San Yin Jiao</i>), LR3 (<i>Tai Chong</i>), KI3 (<i>Tai Xi</i>), LU9 (<i>Tai Yuan</i>), LI4 (<i>He Gu</i>)
#6	7 days later	Clear Damp; build Blood and qi; calm or ground shen	GV20 (<i>Bai Hu</i>), KI1 (<i>Yong Quan</i>), CV12 (<i>Zhong Wan</i>), CV9 (<i>Shui Fen</i>), CV15 (<i>Jiu Wei</i>), left LR3 (<i>Tai Chong</i>), right LU9 (<i>Tai Yuan</i>)
#7	14 days later	Block between LR and LU, Middle Jiao imbalance	LR14 (<i>Qi Men</i>), LU1 (<i>Zhong Fu</i>), CV12 (<i>Zhong Wan</i>), GB34 (<i>Yang Ling Quan</i>)
#8	14 days later	Block between LR and LU; tonify and move Blood and qi, clear gu	LR14 (<i>Qi Men</i>), LU1 (<i>Zhong Fu</i>), NADA protocol, LI4 (<i>He Gu</i>), SP10 (<i>Xue Hai</i>), LR8 (<i>Qu Quan</i>), SP6 (<i>San Yin Jiao</i>), PC6 (<i>Nei Guan</i>), LR3 (<i>Tai Chong</i>)

Table 1. Acupuncture Tx, including the NADA protocol

Tx #	Frequency	Tx Principles	Formula
#1	Winter 2021	Build and tonify qi and Blood; tonify SP	Jian Yang Dan, modified (zhi fu zi 6 g, bai he 6 g, huang jing 6 g, ci wu jia 9 g, bai zhu 12 g, gan jiang 6 g, yin yang huo 9 g, bu gu zhi 6 g, huang lian 3 g)
#2	27 days later	Build and tonify qi and Blood; tonify SP; remove gu	Gui Wan, modified (huang qi 12 g, bai he 12 g, zi su ye 9 g, bo he 9 g, dang gui 9 g, fu ling 9 g, bai shao 9 g, mai men dong 6 g, wu jia pi 9 g, gan jiang 6 g, xuan xiong 6 g, gui zhi 12 g)
#3	28 days later	Build and tonify qi and Blood; tonify SP; remove gu	Gui Wan, modified (huang qi 12 g, bai he 12 g, zi su ye 9 g, bo he 9 g, dang gui 9 g, fu ling 9 g, bai shao 9 g, mai men dong 6 g, wu jia pi 9 g, gan jiang 6 g, xuan xiong 6 g, gui zhi 12 g)
#4	168 days (5.5 months) later	Dry Damp; transform Phlegm; regulate qi; harmonize the middle jiao	Er Chen Tang, modified (zhi ban xia 12 g, chen pi 9 g, fu ling 9 g, sheng jiang 3 pieces, zhi gan cao 6 g)
#5	13 days later	Build and tonify blood; tonify SP; dry Damp; clear LR stagnation	Er Chen Tang, modified (zhi ban xia 12 g, chen pi 9 g, fu ling 9 g, sheng jiang 3 pieces, zhi gan cao 6 g)

Table 2. Chinese herbal Rx

After the completed series, the patient reported that her migraines were 0/10 and overall musculoskeletal pain was a 2/10 on the Numeric Rating Scale. Additionally, her final fatigue assessment can be seen below in Table 3. Overall, the patient showed significant improvement in her symptoms from the beginning of treatment.

Fatigue Assessment Scale	Initial visit	Final visit	Post-final visit
I am bothered by fatigue.	Always	Sometimes	Rarely
I get tired very quickly.	Always	Sometimes	Rarely
I don't do much during the day.	Often	Never	Never
I have enough energy for everyday life.	Never	Often	Often
Physically, I feel exhausted.	Always	Sometimes	Rarely
I have problems starting things.	Always	Sometimes	Rarely
I have problems thinking clearly.	Always	Sometimes	Rarely
I feel no desire to do anything.	Often	Sometimes	Rarely
Mentally, I feel exhausted.	Always	Sometimes	Rarely
I concentrate well when doing something.	Never	Often	Often

Table 3. Fatigue assessment across acupuncture treatments

Patient Perspective

"When I started seeing Ashley, I had widespread musculoskeletal pain and debilitating migraines that would land me at the walk-in almost weekly. I started receiving antibiotics for the underlying Lyme disease, which made the pain worse and caused me to have dizzy spells along with intense nausea. My depression was full force, and I was unable to focus on any task. During acupuncture and herbs, things improved drastically. My body pain is 95% better, my migraines are 98% better, and the brain fog and depression have lifted. I feel like I have gotten my life back."

Discussion

Lyme disease is difficult to diagnose and treat due to the unique ways it may present in each patient. In conventional medicine, Lyme disease is commonly transmitted to a human being via a tick bite, which can cause a combination of symptomology, such as in this case.

The patient's migraines, musculoskeletal pain, and fatigue symptoms improved with acupuncture and Chinese herbal protocols, along with IV antibiotics. A limitation of the case is that it is difficult to determine which modality helped the patient the most. What is known is that the patient's symptoms improved with all types of treatments coinciding.

The efficacy of acupuncture in treating migraines has been well documented in how it helps alleviate debilitating pain, as it has for this patient (Farahmand et al., 2018; Zhang et al., 2020). The acupuncture protocol most closely associated with the alleviation of migraines and pain for this patient was the auricular NADA protocol. When the patient did not receive the protocol in several treatments, she experienced increased pain. Auricular acupuncture helps to calibrate the connection of different pain signals within the amygdala and other brain areas, resulting in pain reduction, which may have been a mechanism at work in this case (Luo et al., 2020).

Regular acupuncture (not NADA) probably also helped to reduce her pain, including the joint pain common in Lyme disease (Arvikar & Steere, 2015). As shown in an international meta-analysis that included various pain types such as osteoarthritis, musculoskeletal pain, and chronic headaches, acupuncture is safe and has lasting effectiveness in reducing acute and chronic pain (Vickers et al., 2018).

The patient's perpetual fatigue could be attributed to many factors, such as chronic, life-interrupting pain. However, chronic fatigue can be difficult to scientifically define, particularly its causes, because of the numerous possibilities demonstrated in a recent randomized control trial (Kim et al., 2015). In that trial, various positive results included marked chronic fatigue improvement in one group after ten acupuncture treatments.

Statement of Safety

Acupuncture and Chinese herbs are treatment modalities proven safe, effective, and comfortable for patients, as in this case. The safety of acupuncture is also reinforced by clinical practice guidelines such as the International Standard for Reporting Items for Practice Guidelines in Healthcare, aka RIGHT (Tang et al., 2021). Improvement in the practice of acupuncture using these guidelines was demonstrated in a recent study (Tang et al., 2021). In addition, Chinese herbal treatment of Lyme disease is considered safe, as evaluated in the study of natural and botanical medicines (Feng et al., 2020). This study found many benefits to Chinese herbal therapy, including a broad spectrum of antimicrobial activity, improved immune function, and synergistic effects with conventional antibiotic treatment (Feng et al., 2020). Overall, in this case report, the patient ultimately had no adverse effects from acupuncture or Chinese herbal therapies and recovered well.

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This case report was prepared following the CARE guidelines (Riley et al., 2017)

Disclosure Statement

The authors report no conflicts of interest.

Informed Consent

Written informed consent was obtained from the patient for publication of this case report, and a copy of the written consent is on file with the corresponding author.

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