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Tick-borne diseases

Their effective treatment, including the use of botanical & complimentary therapies

David Winston, RH (AHG)

ABSTRACT

The presenting symptoms, conventional treatment, and natural treatment for Lyme borreliosis and common co-infections is described. An herbal protocol used in more than thirty patients with Persistent Lyme disease Syndrome is described, and herbal treatments for common complications of the illness and side-effects of antibiotic medication are suggested.

INTRODUCTION

Until 1976, tick-borne diseases in the United States primarily referred to Rocky Mountain Spotted Fever, an acute and occasionally deadly tick-borne illness. Lyme disease was first recognized in 1976 in Lyme, CT, where physicians were treating an unusually large number of cases of what was thought to be Juvenile Rheumatoid Arthritis. Medical investigators eventually found that the condition was caused by a spirochete, *Borrelia burgdorferi*, and it was transmitted by the deer tick *Ixodes scapularis*. Several other tick-borne diseases have been recognized over the past 25 years, including Ehrlichiosis, Babesiosis, and Southern Tick-Associated Rash Illness. Lyme disease has become the most prevalent of these illnesses, but co-infections with one or more of these organisms is fairly common. According to Burrascano (2005) up to 66% of Lyme patients show evidence of a co-infection with the hemoprotzoan *Babesia*.

LYME DISEASE

Since surveillance of Lyme disease began by the CDC, the number of new cases of Lyme disease has risen steadily. In 2000, 18,000 cases were reported. Many authorities believe that the true number of Lyme infections is under-reported by a factor of ten times. This condition can be seen has having three stages:

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Case history: eczema and multiple food intolerance

Mary Barnes, NAIMH, CN

CLIENT

Female, Caucasian, married, no children, age 41, 5'9", weight 150 #. Currently employed as a brew master at a local brew pub. Recently moved to this community from a large metropolitan area. She left a high-paying, high-stress job to live in a rural area. She has been married for five years. It is a stable, loving relationship. She and her husband have two dogs who are a very important part of their family.

CHIEF COMPLAINT

Eczema on right arm from hand to above the elbow. She feels the rash was caused by a high pH (11-12) cleaning agent used at work. The rash is angry-red, raised, itchy and inflamed consistently throughout the entire affected area. She feels she aggravated it by applying lotion. The rash is gradually spreading and worsening. The itching is disrupting her sleep. Onset, two weeks ago.

OTHER HEALTH ISSUES

- Eczema on feet, a chronic condition she has learned to live with. Rash is worse when she is nervous. Rash has been with her since young childhood. She avoids using steroidal medications, preferring to "just live with the rash."
- Seasonal allergies to grasses and trees, allergic to horses, cats and molds. Prefers not to take antihistamine medications, would rather "just deal with it."
- Insomnia aggravated by itchy rash.

HEALTH HISTORY

- Tonsils were removed as a child
- Functional heart murmur, antibiotics every dentist visit
- Precancerous cells removed from cervix, cryotherapy procedure, 1996

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Eczema case study (from p. 1)

- Herniated disk in back, no trouble now
- Two cases of parasitic infection – Giardia, 1989, 1997, treated with Metronidazole both times
- Diagnosed with Raynaud's disease in early twenties, better now that she has gained weight
- Ongoing allergies to grasses, trees, molds, cats and horses, allergy shots childhood into young twenties
- History of depression, prior treatment, Zoloft, no medication since relocation
- History of IBS, many tests, nothing conclusive, her observation: IBS is worse in late summer and fall, attributes IBS to eating fresh, seasonal vegetables, wondering now, because of no increase in episodes experienced this season, "possibly just a nervous stomach"
- Familial history of dysthymia and manic depression, osteoporosis, HBP, stroke and cancer

MEDICATIONS AND SUPPLEMENTS

Lessina, 28-day generic oral contraceptive

DIET

Protein: 2-3 servings QD, eggs, red meat, chicken, occasional fish and legumes

Vegetables: 1-2 servings QD, usually salad and carrots

Fruits: 1-2 servings QD, banana and another

Refined grains: 3-4 servings QD, breads, pastries, pasta, etc.

Sweets: 2-3 servings QD, cookies, ice cream, energy bars

Fat sources: peanut oil and corn oil, she and her husband enjoy making their own French fries and onion rings, other sources are processed foods and fat in animal proteins

Soda: often a cola drink in the evening

Water: varies, 1 quart plus QD

Allergies: none known

Food cravings: chocolate

EXERCISE

- Exercises regularly, both she and her husband have a history of competitive sports
- Weight lifting 2-3 times a week, alternating upper and lower body workouts
- Aerobic exercise daily – running, mountain biking, hiking, cross country skiing, snowshoeing

PRESENTATION

Visibly nervous and embarrassed when discussing skin rash and bowel function, pale, trouble holding direct eye contact, hands clenched, beautiful thick hair and fine grained complexion

Pulse Slow and strong, athlete's pulse

Gastrointestinal

- Life long episodic IBS
- Often eats to calm down
- Stools are loose with gas, worse when tired or stressed
- Undigested food is often present in stool
- Averages 3 or more BMs a day
- Occasional pain, cramping and rectal itching
- Often feels bloated in the abdomen

Hepatic:

- History of seasonal allergies
- Works with solvents and industrial cleaners
- History of eczema
- Considers herself highly emotional

Integumentary

- Chronic rash on feet, current rash on right arm, always has a rash somewhere
- Skin is generally dry especially on abdomen and back
- Occasional superficial acne on face, never had a serious problem
- Lips are often chapped and dry
- Nails are brittle and split easily

Musculoskeletal History of herniated disk

Respiratory Constant stuffy, drippy nose, both day and night. 1-2 upper respiratory infections a year

Reproductive

- Cycles regular due to BCPs, used the pill since college, absolutely does not want children
- PMS, occasionally moody, binge eating, diarrhea and constipation, craves chocolate
- Lower back and legs ache during menstruation
- Cervical dysplasia in 1996, cryotherapy, no reoccurrence

Other

- Constant cold hands and feet
- Insomnia – if awakened during the night, cannot go back to sleep
- Can not start the day without coffee
- Often feels fatigued and sluggish
- Feels shaky, weak, confused, dizzy and clumsy when she misses a meal

ASSESSMENT

Constitutionally cold and dry with nervous aggravation. Generally constitutionally strong as evidenced by her frequent comment that she would rather live with her rashes and allergies than take medications. Elimination and detoxifying pathways are congested and sluggish. Metabolic waste and environmental toxins are chronically lodged under the integumentary layer causing eczema. The chemicals and cleaning compounds used in her work are aggravating factors. The rash is exacerbated by occlusion as witnessed by her self medication with hand lotion. The bowels are overworked and inefficient due to episodic diarrhea. Her symptoms of IBS, skin rash, respiratory symptoms and adverse mood point toward one or more unidentified food allergies. Dysbiosis is a consideration with the chronic diarrhea. She has been regularly treated with antibiotics every dentist visit as a precautionary measure. She eats yogurt and takes probiotics with every dentist visit. The lifetime of IBS indicates Metronidazole is not a causative factor, but may have contributed. The diet is weighted towards refined carbohydrates and lacks EFAs. Although she complains of fatigue, she has a regular exercise routine and is physically fit. Her insomnia, fatigue and chronic skin conditions indicate adrenal weakness. The immune response is heightened at the surface level (skin and seasonal allergy) – there is not a strong indication of a deeper immune deficiency although general immune support is indicated by the fatigue. All pathways of detoxification need to be supported – liver, kidney and lymph.

DISCUSSION, EDUCATION AND PROTOCOL

Generally discussed the link between chronic skin rash and liver congestion. I suggested an unidentified food allergy could cause liver congestion, eczema, adverse mood, chronic nasal congestion, seasonal allergies and IBS. Her response to my questions of what food(s) does she crave when she is emotionally stressed or ill and what does she binge on, was peanuts. She does not have any knowledge of childhood food allergies. My first priority was to give her some relief from the itching and inflammation of the rash on her arm. We discussed treating the rash symptomatically, with the understanding the probable cause was not just the chemical compounds but a deeper causative factor. *Matricaria recutita* and *Calendula officinalis* used together as an herbal pair reduce the inflammation and are known to clear a skin rash. The action of the two in this type of situation is definitely suppressive. My goal is to provide relief of her chief complaint to gain compliance for deeper healing. *Hamamelis virginiana* was added to provide relief from itching. A small quantity of *Matricaria recutita* was rubbed on an unaffected patch of skin during the intake to test for an adverse reaction to the herb. There were no adverse effects. Using an infusion as a wash instead of an oil preparation eliminates the risk of exacerbating the symptoms by occlusion. This formulation provides the necessary anti-inflammatory, astringent, antiseptic, vulnerary and cooling actions needed for surface healing.

4 oz *Matricaria recutita*, dry flowers

4 oz *Calendula officinalis*, dry flowers

2 oz *Hamamelis virginiana*, dry bark

Preparation and dose: ¼ cup herbs infused for 30 minutes – pour boiling water over herbs, cover and steep, then strain, use as a wash on the affected areas QID or more often if needed. Keep unused portion in the refrigerator.

Secondarily, support of elimination pathways was needed to take some of the metabolic load off of the skin. I did not want to push her system too hard with bitter liver herbs for risk of aggravating the diarrhea and depression. I chose instead to use a tea formulation of diuretic, alterative, anti-inflammatory and moistening herbs with secondary actions of lymphagogue, hepatic and nervine properties.

1 oz *Urtica doica*, dry young aerial

1 oz *Avena sativa*, dry milky tops

1 oz *Glycyrrhiza glabra*, dry root

- 1 oz *Althea officinalis*, dry root
- ½ oz *Trifolium pratense*, dry flowers
- ½ oz *Matricaria recutita*, dry flowers
- ½ oz *Calendula officinalis*, dry flowers
- ½ oz *Mentha piperita*, dry aerial

Preparation and dose: infuse 1 Tbs herb in 1 cup water – pour boiling water over herbs, cover and steep, then strain, 1 quart QD.

Third, the supplementation of eicosapentaenoic acid (EPA) in the form of cold water fish oil to lower inflammation generally by decreasing the activity of the pro-inflammatory series 2 prostaglandins while increasing the activity of the anti-inflammatory series 3 prostaglandins. Dose: Omega Synergy, Designs for Health, 2 soft gels BID supplying 960 mg of EPA QD.

Fourth, begin to address causative factors by making dietary adjustments to remove potential food allergens. She chose to remove peanuts and peanut oil from her diet for six weeks.

Discontinue cola drink in the evening; caffeine may aggravate her insomnia.

Her daily water consumption needs to increase to a minimum of 2 liters a day, more if she is very active. Some of her dryness may be due to low-grade dehydration. Increased hydration will support the movement of lymph and bile, gently supporting detoxification pathways.

The addition of a comprehensive multi vitamin with minerals provides necessary nutrients for healing and detoxification. Dose: Liquid Multi Vita Mineral, Trace Mineral Research, 1 oz QD.

Lastly, purchase gloves with cuffs extending above the elbow for use when cleaning brewing equipment. Use a liner latex glove that is closer fitting.

2ND VISIT AT 7 WEEKS

Rash on right arm has cleared and is almost healed. She is actively looking for other work. The rash on her feet has flared. The tops of her feet are itchy, red and inflamed. The rash does not respond to the wash recommended for her arm. Rechallenge of peanuts caused migraine headache and sent her to bed for 24 hours, but no other noticeable symptoms. The diarrhea has been gradually worsening. She has been experiencing increasingly severe, explosive dumping of her bowels with large quantities of undigested food. She has zero tolerance for salads and other raw plant foods and spicy foods. For the last

week she has been eating a BRAT diet (bananas, rice, applesauce and toast) in attempt to control the diarrhea. Her mood has been awful, with depression, anxiety and anger. She is not sleeping well. She feels dehydrated from the diarrhea.

DISCUSSION, EDUCATION AND PROTOCOL

Lactose intolerance often is characterized by watery, explosive diarrhea containing undigested food. She insists no one has ever mentioned this as a cause in any of her consultations with other practitioners. Although she feels her symptoms are worse seasonally, her current symptoms indicate lactose intolerance. Regular dairy foods in her diet are: milk, ice cream, cheese, chocolate and some butter. Most are consumed daily. First step is a complete elimination of dairy. The only exception is her BC pills which have lactose in their pill base. Pregnancy is not an option for her and she feels other BC methods are not as reliable. I gave her a handout listing all food sources of dairy and common names on labels for dairy ingredients. Secondly, her BRAT diet needs some adjusting. The toast should be eliminated unless she is absolutely sure the bread is dairy free. I recommended the addition of *Ulmus fulva* powder and a probiotic powder to her applesauce. The polysaccharides in *Ulmus* have a mucilaginous action, soothing and reducing inflammation in the GI tract. The starch is food to healthy intestinal bacteria.

Dose: *Ulmus fulva* powdered bark: 1 Tbs to 1 cup applesauce TID

Dose: Ultra Flora powder, Metagenics: 1 tsp added to each 1 cup of applesauce/*Ulmus* mixture

Note: to ensure absorption of the BC medication, do not take concurrently with the *Ulmus* mixture. Mucilaginous herbs can inhibit absorption of medications and supplements.

Third, drink plenty of water and add in an electrolyte product – Knudsen makes a juice with added electrolytes or use EmergenC powder.

Continue the tea, as she enjoys drinking it. Use the wash on her feet for the soothing aspect. She has found temporary relief with the wash.

3RD VISIT AT 9 WEEKS BY PHONE

One and one-half weeks into the dairy elimination her symptoms suddenly subsided. Stools are well

formed and firm there is no undigested food and she has 1-2 bowel movements a day.

She had a lengthy conversation with her mother and learned some interesting information. As an infant, she was hospitalized with severe GI problems, taken off breast milk and put on soy formula. There is a history of Crohn's disease and breast cancer in her family going back two generations.

She still is experiencing some adverse mood, but it is diminishing. Her feet are improving. She has discontinued wearing a pair of hiking boots that seem to have been an aggravating factor.

Continue dairy elimination, applesauce mixture, Omega Synergy and tea.

4TH VISIT AT 13 WEEKS

In the six weeks, her diarrhea has subsided, come back, subsided and is just now reoccurring. After much discussion concerning diet and possible dairy sources, the only causative factor left was the BC pills. Although her prescription is a 28-day pill, she does not take the seven days of placebo pills. The time line fits perfectly with the absence of diarrhea symptoms. She is reacting to the small amount of lactose in the pill base.

DISCUSSION, EDUCATION AND PROTOCOL

The BC pills served as a marvelous rechallenge. I suggested she consult with her gynecologist to discuss a new BC method and to inquire about availability of lactose free BC medication. The client wishes to continue BC pills until issue is resolved; she does not feel other methods are as reliable. She feels surgery may be their best option and desires to explore that option with her husband. With the now known familial history of breast cancer, there are two important reasons to discontinue the Lessina. Meanwhile the therapeutic focus will be to manage GI symptoms, support sleep and begin diet coaching. The constant diarrhea is exhausting, depleting and embarrassing for the client. I switched her tea formulation to specifically have a toning action on the colon muscles, *Viburnum opulus*, and an astringent action, *Achillea millefolium*, to reduce the loss of fluids. Secondly, adding herbs with relaxing, antispasmodic, demulcent, carminative, hepatic and vulnerary actions support the primary botanicals in the formula.

- 1 oz *Viburnum opulus*, dry bark
- 1 oz *Achillea millefolium*, dry flowering aerial
- 1 oz *Matricaria recutita*, dry flowers
- 1 oz *Althea officinalis*, dry root

1 oz *Glycyrrhiza glabra*, dry root

½ oz *Calendula officinalis*, dry flowers

½ oz *Foeniculum vulgare*, dry seed

½ oz *Mentha piperita*, dry aerial

Preparation and dose: ¼ cup herb infused in 1 quart water – pour boiling water over the herbs, cover and steep 20 minutes, strain, keep close at hand during the day in a water bottle, drink frequent small sips. 1 quart QD.

Sleep deprivation slows the healing process and contributes to her adverse moods and fatigue. *Valeriana officinalis* is specific for emotional stress and anxiety, *Scutellaria lateriflora* is specific for nervous agitation and exhaustion. Used as a herbal pair, the two botanicals complement each other.

50% *Valeriana officinalis*, 1:2 fresh root

50% *Scutellaria lateriflora*, 1:2 fresh flowering aerial

Dose: 60 gtt in water as needed, starting the first dose immediately after dinner and repeating hourly until bed. If she awakens in the night, take another dose. Not to exceed 6 doses per night.

Continue the applesauce mixture daily, add dairy-free foods back in as tolerated. Place an emphasis on eating protein rich foods daily. The protein provides the amino acids needed to re build the damaged tissues of the colon. Continue the liquid multivitamin and EPA supplementation.

5TH VISIT AT 17 WEEKS

Her gynecologist recommended consulting with a formulating pharmacist concerning a lactose-free BC medication. This could only be done by special order, requiring a \$600 up-front investment. Given the length of time she has taken hormones, her familial history of breast cancer, her stable relationship and their commitment to not have children, she and her husband have decided a vasectomy is the best way to proceed. She will need to continue the Lessina for one more cycle.

Her sleep quality has improved, she awakes for shorter time periods each night. When her dog awakens her, she is usually able to fall back asleep, 50% of the time without herbs. The tea has calmed the diarrhea down; it is not as explosive and immediate.

DISCUSSION, EDUCATION AND PROTOCOL

Continue the protocol as is. Schedule next appointment to coincide when she is ready to discontinue the Lessina.

6TH VISIT AT 22 WEEKS

She is looking forward to only one more week of the BC pills. Her cycle is due in one week and she would like to discontinue the BC medication at this point. Her husband is having a vasectomy procedure today. They will use condoms in the interim. She still struggles with depression and anger. Sleep quality continues to improve. Many nights she sleeps for seven hours without awakening. Her reactions to environmental allergens have decreased slightly, possibly a secondary affect of the astringency action of her tea formulation. The eczema on her feet is not as intense, only present on right foot and itching occasionally. The diarrhea is still with her three weeks out of four. She is anxious to be done with it. Her neighbor has moved a horse into their back yard, causing her allergy symptoms to flare.

DISCUSSION, EDUCATION AND PROTOCOL

Her age indicates she will enter or have already started to enter the climacteric years. Without the regular influence of exogenous hormones, she may begin to experience symptoms of peri-menopause. Although there are not obvious acute symptoms of malnutrition, her history of IBS would indicate a sub level of broad nutrient deficiency. The cessation of intestinal dumping of food should allow her BG levels to normalize and ultimately have a positive influence on mood. Her fatigue, the constant inflammatory state of her colon, and her chronic skin conditions support the need to address adrenal function. With the removal of lactose, she can begin the healing process in earnest. Her current protocol focuses on supporting her transition off hormone medication, herbal and nutritional support in preparation for a smooth menopause, dietary habits to improve nutrition, reduce allergic reaction, support adrenal health and continued support for the healing of her colon. The balancing tincture compound was formulated to support the enzyme P450 system of the liver to clear excess hormones, reduce pelvic congestion, build blood and have a normalizing effect on the female endocrine system. Begin taking compound when BC pills are discontinued.

30% *Vitex agnus castus*, 1:3 dry berry

30% *Angelica sinensis*, 1:3 dry cured root

20% *Hypericum perforatum*, 1:2 fresh flowering aerial

20% *Fouquieria splendens*, 1:2 fresh bark

Dose: 60 gtt, TID

Ganoderma lucidum was chosen for its positive effects on the immune system and its ability to reduce allergic response, especially in the presence of increased intestinal permeability. The adaptogenic properties ease adrenal exhaustion and calm nervous system.

Ganoderma lucidum, preparation per Robin Klein, 2 step process of hot water extraction combined with alcohol extraction.

Dose: 60 gtt QD. To ease her allergy symptoms, the flavonoid, quercetin and the botanical *Urtica dioica* both have anti-inflammatory actions and restrict the release of histamine. Used together, they provide symptomatic relief.

Quercetin and Nettles, Designs for Health, dose: 24 capsules as needed.

Continue the *Viburnum opulus* tea formulation, 1 quart QD to support healing of the colon.

Continue sleep compound as needed.

Continue multivitamin and EPA supplementation.

Discontinue the applesauce and *Ulmus* combo

Continue with probiotic supplementation by adding the powder to water.

Diet should be rich in whole foods with a continued emphasis on quality proteins as previously discussed. Plant foods rich in carotenes: squash, carrots, yams nutritionally support the adrenal glands. Include at least one serving daily.

Increase servings of fresh plant foods as tolerated until 6-9 vegetable and 2-3 fruit servings QD are attained.

7TH VISIT AT 26 WEEKS

The diarrhea is gone. Normal stools since discontinuing BC medication. Sleep continues to improve with a few rough nights. It is too early to tell how her cycle will regulate. She has not experienced any adverse symptoms so far. The horse is still in her neighbor's back yard and continues to aggravate allergic symptoms. The quercetin/nettle combo helps to ease discomfort. The last of the rash on her feet has cleared up. Generally she is feeling better with less fatigue. She is upbeat and optimistic.

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ECZEMA CASE STUDY (FROM P. 16)

ONGOING FOR NEXT 14 MONTHS

Her diarrhea is nonexistent with complete removal of lactose from her diet. She occasionally rechallenges either by mistake or intentionally, causing several days of discomfort. Her cycle has regulated nicely and has a regular rhythm. She still uses the balancing compound when she feels her PMS rising. She continues to experience periods of upper respiratory symptoms. The horse is gone, much to her relief. Depression and episodes of anger are still with her, but she feels the duration and intensity are lessened. Sleep is still a struggle. She uses the Valeriana/Scutellaria compound regularly. Her eczema has completely disappeared. She no longer has chronically cold hands and feet. She is enjoying life and is participating in mountain bike races.

8TH VISIT AT 21 MONTHS

She continues to struggle with depression and anger and wonders if it is time to consider a gluten elimination diet. I have treated her father in the past year for depression and insomnia. He has experienced relief with a gluten-free diet. Gluten elimination was something we had originally discussed and set aside. Her personal trainer has recommended she do the Fat Flush Plan created by Ann Louise Gittleman. It is a calorie restrictive diet focusing on protein, fresh vegetables and fruits, with no grain foods in the first

two-week phase and emphasis on correcting essential fatty acid balance.

DISCUSSION, EDUCATION AND PROTOCOL

Upon review of the diet, one concern I had was the caloric restriction (1200-1400 QD) and her training level. The daily calorie level could be increased by adding servings from the recommended food lists. Otherwise the diet is reasonably well balanced and is very clean. She has agreed to take the first two weeks off from training and only walk her dogs during this time.

OUTCOME

She followed the Fat Flush Plan for four weeks, staying in the first phase with complete elimination of grain foods and then traveled to New Orleans for Jazz Fest. While there she indulged in every treat the city is famous for, including pastries. Her husband immediately noticed an increase in adverse mood. Upon reflection she had to agree with him. In the following months she has eliminated and rechallenged with gluten several times. There is an obvious connection to her adverse moods.

Mary Barnes graduated from the Rocky Mountain Center for Botanical Studies Clinical Herbalism program in 2001, and is currently on the clinical faculty of the North American Institute of Medical Herbalism. She practices herbalism and clinical nutrition in Leadville, CO.

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