

# Emotional and Mental Aspects of Lyme Disease



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## Lyme Despair

Clinical observations (mine and others'):

Lyme Despair transcends and reflects much more than just a natural response of anxiety and depression to chronic disease. In fact, the patterns of emotional and mental distress observed in Lyme are often of a nature *peculiar to the disease and distinct from that observed in equally debilitating chronic conditions.*

In most cases these mental patterns are consistent with patterns manifesting physically in the client as well, and are most successfully addressed when viewed as *an integral part of an overall pattern.*

## Chronic or Late Stage Disseminated Lyme – *Lyme Neuroborreliosis*

Characterized by

cognitive dysfunction

- poor memory
- foggy thinking, poor concentration
- dementia

emotional issues

- depression
- anxiety
- insomnia

## *Rosmarinus officinalis*



## Psychoimmunological causation

Inflammation-induced depression and withdrawal:

*Lyme disease has been associated with the proinflammatory cytokines IL-6, IL-8, IL-12, IL-18 and interferon-gamma, the chemokines CXCL12 and CXCL13 and increased levels proinflammatory lipoproteins.*

- Bransfield, The Psychoimmunology of Lyme/Tick-Borne Diseases and its Association with Neuropsychiatric Symptoms Open Neurol J. 2012; 6: 88–93.

## Case Study

- 23 year old female
- Chronic Lyme that had been misdiagnosed by naturopath
- Initial sx: Headaches, aches, pain and joint inflammation worse with stress
- Current:
  - Fatigue
  - Depressed and withdrawn, antisocial
  - Severe memory loss and “foggy mind”
  - Anxiety-ridden dreams, grinds teeth; wakes up tired
- Bloated, gassy
- Short temper
- Craves sweets
- Tongue: toothmarks, red tip, depression in Lu area, central crack, red spotting along Lv/GB / sides of tongue
- Pulse: floating, slippery on R, more tight/wiry on L, and weak

## Protocol (abbreviated)

- Tai chi or other meditative mindfulness practice
  - Socializing daily with friends and/or neighbors, increasing physical activity gradually
  - Daily elevation of body temp
  - Pulsing DW's Spirolyd Compound
  - Passionflower in evening for sleep
  - Individualized formula: Reishi, Tulsi, Eleuthero, Blue vervain, Andrographis, Licorice, Bupleurum
  - Superfoods
  - Vitamin D / sun
  - Freshly ground flax
  - Pre- and probiotics
  - Fennel / ginger tea BID
  - Shiitake / oyster mushroom broth daily
  - Fresh garlic
  - Bitters
  - Healthy fats
- Results: poor compliance, unable to help her "emerge"

*Verbena hastata*



## Setting the Stage

The capacity of infectious disease to affect and alter – sometimes dramatically – our mental and emotional states and even our personality, is well established in the scientific and medical literature.

## Our Microbiome

- Mental and emotional health linking enteric to central Nervous System primarily through Vagus nerve: serotonin, dopamine, GABA levels
- Dysbiosis has possible links to autism spectrum disorders, psychiatric illnesses, depression, and anxiety

## *Mycobacterium vaccae*

- Found in soil, mud, first isolated from cow dung
- Down regulation of inflammatory states through T regulatory cell induction (psoriatic arthritis, allergic/atopic disorders, some cancers)
- Seratonegic effects on the CNS (anti-depressant, anxiolytic); possible impact on norepinephrine

Rook, Lowry, The hygiene hypothesis and psychiatric disorders, TRENDS IN IMMUNOLOGY · MAY 2008  
Impact Factor: 12.03 · DOI: 10.1016/j.it.2008.01.002 · S



*Actaea racemosa*

## *Lyssavirus* (Rabies)

Changes in behaviour observed in infected individuals include hyperactivity, phobic spasms and severe agitation. There are a few mechanisms by which these changes in behaviour could be induced. Infection of the CNS by the rabies virus leads to the production of cytokines and nitric oxide. These can modify limbic system functions, the HPA-axis, and serotonin metabolism.

M. Kaushik et al. / Hormones and Behavior 62 (2012) 191–201 The role of parasites and pathogens in influencing generalised anxiety and predation-related fear in the mammalian central nervous system

*Scutellaria lateriflora*



*Lobelia inflata*



## *Toxoplasma gondii* (toxoplasmosis) “cat poop parasite”

- Obsessive-compulsive disorder (OCD) (Miman et al., 2010b)
- Parkinson's disease (Miman et al., 2010a)
- Alzheimer's disease (Kusbeci et al., 2011)
- Autism (Prandota, 2010a, 2010b)

*Cat ownership in childhood is significantly more common in families in which the child later becomes seriously mentally ill.*

Torrey, Schizophr Res. 2015 Jun;165(1):1-2. doi: 10.1016

## *Toxoplasma gondii* (toxoplasmosis) “cat poop parasite”

“In schizophrenia, the evidence of an association with *T. gondii* is overwhelming,”

*These findings suggest that *T. gondii* infection is associated with several psychiatric disorders and that in schizophrenia reactivation of latent *T. gondii* infection may occur.*

Sutherland et al., Beyond the association. *Toxoplasma gondii* in schizophrenia, bipolar disorder, and addiction: systematic review and meta-analysis. *Acta Psychiatrica Scandinavica*, Special Issue: Immuno-inflammation in bipolar disorder and suicidal behaviour Volume 132, Issue 3, pages 161–179, September 2015



## Psychosis and Herpes Simplex

*The offspring of mothers with elevated levels of total IgG and IgM immunoglobulins and antibodies to herpes simplex virus type 2 are at increased risk for the development of schizophrenia and other psychotic illnesses in adulthood.*

Buka SL, Tsuang MT, Torrey E, Klebanoff MA, Bernstein D, Yolken RH.  
Maternal Infections and Subsequent Psychosis Among Offspring.  
Arch Gen Psychiatry. 2001;58(11):1032-1037.  
doi:10.1001/archpsyc.58.11.1032.

## Chlorovirus ATCV-1 and the Mind

**Table 1.**  
Association between ATCV-1 oropharyngeal DNA and performance on cognitive tests

Cognitive Test	ATCV-1 DNA detected, n = 40	ATCV-1 DNA not detected, n = 52	Overall cohort, n = 92	P value
Trails A, scaled score	38.2 (12.4)	46.7 (11.7)	43.8 (12.7)	<0.002
MAIS III, Information subtest, scaled score	19.6 (2.7)	18.8 (2.6)	18.8 (2.6)	NS
RBANS				
Total Score	81.3 (11.9)	85.4 (11.5)	83.6 (11.8)	<0.014
Attention Index	91.4 (17.5)	98.5 (14.5)	95.4 (16.2)	<0.011
Delayed Memory Index	85.2 (11.7)	88.3 (9.9)	87.8 (10.8)	<0.039
Immediate Memory Index	85.8 (15.5)	89.3 (14.5)	87.8 (14.9)	NS
Visuospatial/Constructional Index	72.6 (9.1)	74.4 (10.6)	73.4 (9.9)	NS
Language Index	93.3 (17.0)	94.8 (17.0)	94.2 (16.9)	NS

Values listed are means (standard deviations). P values calculated by linear regression adjusted for age, sex, race, educational level, maternal education, cigarette smoking, and place of birth. NS indicates  $P > 0.1$ .

The association between the level of ATCV-1 and decreased performance on cognitive tests was independent of demographic variables... [and] ...level of general knowledge or educational background.

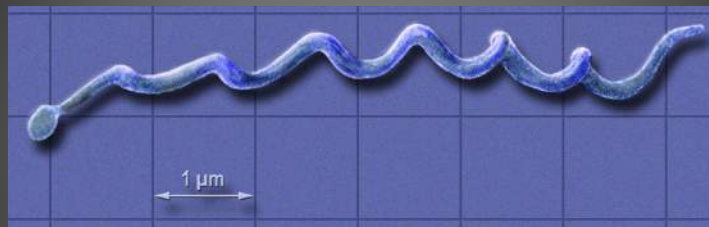
Yolken, *Chlorovirus ATCV-1 is part of the human oropharyngeal virome and is associated with changes in cognitive functions in humans and mice*, PNAS vol. 111 no. 45, 16106–16111, doi: 10.1073/pnas.1418895111



## *Ocimum sanctum*



## Lyme as a “Possession”?



Lamiot - Own work. Licensed under CC BY-SA 3.0 via Wikimedia Common

“I get weird, scary, dark thoughts. I don’t think I would ever really do those things, it’s not me. The thoughts are just there.”

Normally strong-willed, “I felt a surreal separation from the world – lost, depressed. I didn’t know what I was doing or why I was doing it. I had no purpose and questioned everything I was doing.”

“I do feel like my body, mind, and spirit are possessed by this bacteria... I knew I was having these thoughts but they weren't my thoughts. It wasn't my Spirit – it was taken over.”

## Neurosyphilis - *Treponema pallidum*

Problems with thinking,  
such as confusion or poor  
concentration

Mental problems, such as  
depression or irritability

Abnormal mental function  
including hallucinations  
and false ideas  
(delusions)

Decreased mental function

Mood changes

Decreased motivation

Impaired judgment

Loss of ability to calculate

Loss of long-term memory  
(long-past events)

Loss of short-term memory  
(recent events)

Personality changes,  
irritability, inappropriate  
behavior

-Medline Plus

## Case Study

- Male, 29 years old
- Organic farmer
- Prior to Lyme for previous ten years had been overdrinking, smoking, eating too much sugar (in his own assessment)
- low grade fever, headache, pain in the spine and kidneys
- night sweats.
- Sinus congestion, runny nose with white or yellow mucus.
- Feels constant pressure on back of head like "wearing a tight hat" or "brain swelling".
- Anxiety, anger, irritability "easily worked up"), poor memory and foggy thinking,
- Poor sleep, high stress levels. Also experiences some melancholy /depression
- Sharp neck pain, ball of intense heat at the base of the skull
- Pulse: overall strong and wiry Lv, weak K pulse
- Tongue: quivering, red tip, small cracking throughout tongue

*Hears "whispers of madness", feels the "presence of the spirochete"; confusion, glassy feeling over eyes*

## *Chrysanthemum x morifolium* *Eschscholzia californica*



## Protocol (abbreviated)

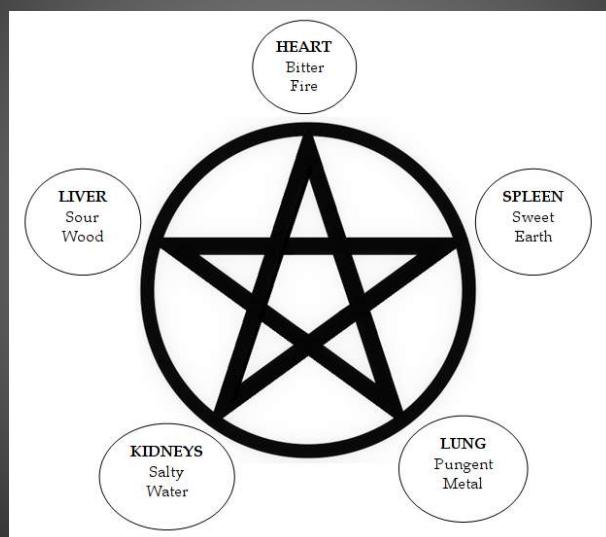
- Pulse DW's Spirolyd Compound
- Individualized Formula: 3 parts Withania, 3 parts Scutellaria baicalensis, 3 parts Andrographis, 3 parts Artemisia annua, 2 parts Chrysanthemum, 2 parts Silybum, 1 part Bupleurum
- Japanese knotweed and kudzu decoction
- Corydalis for pain
- Daily mushroom broth: shiitake, reishi, turkey tail
- Valerian BID, in evening and before bed
- Forest bathing and increased physical activity; meditation
- Kava: to use as needed
- Probiotic foods and supplementation
- Yarrow tea and hot yoga/sauna/hot bath
- Diet: bitter greens, fresh garlic 2+ cloves/day, daily flax meal, fermented or cultured foods, healthy essential fatty acids, bitter greens before meals, avoid caffeine, sugar and refined grains, use grain substitutes such as quinoa, buckwheat, amaranth
- Vitamin D
- Foods high in Zn
- *18 month road to improvement*

## Prevalent Patterns in Lyme

- Wind-Damp, usually Heat (Liver) but sometimes Cold or False Heat
- Dampness or Phlegm Invading the Mind
- Weakened Kidney essence, Depleted Qi often preceding infection

“It’s like a weird air-swamp inside [my head]...a big hot mush-ball in the brain.”

## The Five Phases / Elements



## Prevalent Patterns in Lyme

*Gu* (revived by Fruehauf):

- Pathogenic in nature
- Neuromuscular
- Emotional/mental illness: rage, anger, depression, insomnia, cognitive dysfunction, emotional volatility, “feeling possessed”
- Qi depletion, floating or congested pulse, tongue damp, red with red tip / papillae



*Valeriana officinalis*



Nourish the Qi, the Essence,  
and the Mind  
Support Digestion

*Ganoderma spp.*



## Case Study

68 year old male  
 Fourth time with Lyme  
 Anxiety that worsens with hot, humid weather  
 Tics, tremors esp. around eye that worsen with anxiety and stress  
 Irritable, short fuse, accompanied by headache, pain behind eyes  
 Fear  
 Mental fog / poor memory and concentration  
 Aches esp back of neck and head  
 Fatigue

Pulse: strong and wiry Lv, deficient and slippery Sp, weak, deep H

Tongue: overall wet, narrow, long, and pale. Red on the edges and the tip, and thick yellow coating in the center.

Craves sweets, carbs

*"When I meditate, I no longer have Lyme."*

## Protocol (abbreviated)

- Meditation practice
- B12 as methlycobalamin
- Pulse DW's Spirolyd Compound 3 weeks on, 2 weeks off, repeat.
- LB Core Protocol by Green Dragon: Polygonum, Uncaria, Andrographis, Smilax, Taraxacum
- Japanese knotweed pulsed on/off
- Skullcap –60 gtt TID
- Lobelia - 20 gtt TID
- Diet: raw garlic, fermented foods, daily shiitake broth, rosehips
- Yarrow tea prior to daily or frequent sauna

### 12 months after initial visit:

Reports feeling "cognitively just fine...lighter, more enthusiastic", no longer feels "hopeless and lost", memory "excellent"

## *Poria cocos*



## Case Study

- Male, 61 years old
- Fatigue and low energy, brain fog, neck and head ache and stiffness and pressure constriction on right side of head, moving back/shoulder/neck spasms and pain, occasional twitching, tinnitus (pre-existing but worsened with Lyme)
- GI sx: gas, nausea
- Pulse: weak, deep, rapid
- Tongue: pale, swollen, toothmarks, central crack, slight red tip
- Anxiety, depression, severe memory loss.
- Had battled depression in the past but reported Lyme-depression as qualitatively different from pre-Lyme depression. Feels emotionally “dark”.
- Wakes frequently at night; has nightmares that waken him and can’t fall back asleep

## Protocol (abbreviated)

- Sunlight / forest bathing and time outside
- Meditation
- Individualized formula: 3.5 parts Ocimum, 2 parts Rosmarinus, 2 parts Actaea, 2 parts Andrographis, 2 parts Dipsacus, 2 parts Silybum, 1.5 parts Withania, 1 part Bupleurum
- Pulsatilla in evening and before bed
- Pulse DW's Spirolyd Compound
- Daily mushroom broth
- Probiotics
- B12 - methylcobalamin
- Diet: introduce small amounts of coffee, reduce grains and carbohydrates, use healthy grain substitutes, bitters, essential fatty acids, fermented and cultured foods, raw garlic
- Began feeling "wonderful" two months after first visit – reports being at "80%". Still has fatigue and brain fog but improved. GI sx resolved. Sleep is fine now without Pulsatilla in evening.
- 12 months: Reports doing pretty well overall; "100% better than a year ago." Energy and mental clarity both "in a good place".

## *Acorus calamus*

