Lyme Background

Lyme disease, a multi-system infection with an organism known as borrelia Bergdorferi can affect patients with over 100 different and wide ranging symptoms, and is infamous for being under diagnosed and misdiagnosed. Though once thought exclusively contracted via the bite of an infected tick, it has now been established that mice, biting flies, spiders and mosquitos are also carriers. Conventional treatment with antibiotics is equally challenging and one of the many things that stand between the patients who are infected, and their successful recovery. It's not uncommon to find Lyme patients who have been suffering for 10 or more years, shuffled from one misdiagnosis to another while their condition continues to escalate.

False Negative Testing Perpetuates Chronic Lyme

The challenges for individuals who contract Lyme disease begin with the tests themselves and largely contribute to the increasing prevalence of chronic Lyme. According to Dr. Alan MacDonald, standard testing for Lyme disease in the U.S. has major flaws, referring to these flaws as "remarkable," he states that standard testing is only sensitive to one strain of borrelia, the bacteria responsible for Lyme, of the over 100 strains identified. He also states that this particular strain, known as B31, has never been found in a human, but instead was identified only in the gut of a tick. Technically speaking, there is no evidence to support B31 is even transmitted to humans.

More Problems with Lyme Disease Tests

Testing for only one strain presents additional challenges to accurate diagnosis since different strains exist per country. The patients' who contract Lyme disease in Europe and test in the US, will test negative even though they are positive. However, individuals who contract Lyme in the US that are tested in Europe will indeed test positive since European Lyme testing includes sensitivity for different strains found globally, including those in the U.S. Questions that arise over these and other sub-standard protocols employed by the US, have been the subject of controversy since Lyme was first discovered. Still not much has changed.

Alzheimer and Parkinson's disease expert Dr. Alan B. MacDonald M.D., staff Pathologist at the St. Catherine of Siena Medical Center states: "Microscopic images *of cystic spirochetes are difficult to ignore… "Variously sized cystic spirochetal profiles within diseased nerve cells explain the following structures: Lewy body of Parkinson's* *disease, Pick body, ALS spherical body, Alzheimer plaque. Borrelia infection is therefore a unifying concept to explain diverse neurodegenerative diseases, based not entirely on a corkscrew shaped profile in diseased tissue, but based on small, medium and large caliber rounded cystic profiles derived from pathogenic spirochetes, which are hiding in plain sight.i"*

More things to Consider

Though the existence of chronic Lyme disease was initially rejected by mainstream medicine, more doctors are beginning to recognize it as the research supporting it, and the ill patients become harder to ignore. The question of chronic Lyme's existence has divided the medical community into 3 distinct groups. On one side are doctors who deny its existence and feel that long-term treatment with antibiotics is unnecessary on patients who are still symptomatic after a short course of oral antibiotics has been given. These patients are sent down a number of different paths; all of which perpetuate the severity of their chronic condition. Patients are either misdiagnosed with another disease that Lyme is known to mimic, or given medications to ease their wide-ranging symptoms that doctors have no answers for. On the other side are the doctors, often referred to as "Lyme literate" or LLD's who treat chronic Lyme with long-term intravenous and/or oral antibiotics to which they claim has been successful in a large number of patients, though relapses are not uncommon and treatment can last up to a year or longer depending. The third group who also treat chronic Lyme, opt for a holistic approach by supporting the body's own defense system to fight the infection. These alternative methods are focused on repairing the immune system and supporting the body's process of eliminating the endotoxins left behind as the bacteria begin to die. These doctors believe antibiotics are ineffective in cases of chronic or neurologic Lyme and especially in cases of co-infection.ii The very recent discovery of in-vitro borrelia biofilm led by Dr. Alan MacDonald and his teams of researchers shed light on the controversy, and expose some indisputable truths regarding effective treatment for chronic Lyme.

Human Biofilms Confirm Chronic Lyme and Question Conventional

Dr. MacDonald's discovery of borrelia biofilm in-vitro should have been a huge step forward for the Lyme community by exposing 2 indisputable truths. First, biofilms are ALWAYS a marker of chronic infection. In addition, a maxim of infectious communities or biofilms is their ability to withstand various types of attack, including those from antibiotics.iii Though the discovery was the first of its kind, it still didn't prove that biofilms existed within human disease; nonetheless it suggested a strong case for its likelihood.

Biofilms Make their Debut

After many attempts to publish the biofilm manuscript without success; PLOS ONE finally accepted it in November 2012 titled "In Vitro Biofilms of Borrelia Burgdorferi". Then just two weeks after Dr. MacDonald's publication of the Sapi biofilm study, the Sapi Group at the University of New Haven in West Haven, CT, made the announcement that borrelia biofilms were indeed detected under the microscope in a human skin biopsy from a European patient with cutaneous Borreliosis.

Ironically, the controversy and bureaucracy that plague Lyme disease are, much like the disease, chronic, despite the evidence presented by Dr. McDonald and the Sapi Group, including the patients who continue to suffer. The IDSA (Infectious Diseases Society of America) an organization that designs treatment guidelines for infectious disease, maintain their rejection of a chronic Lyme condition, publishing misinformation to the medical community who use it as a guide to treat their Lyme patients. Despite the IDSA claim that treatment guidelines are only suggestions, doctors who practice outside of these guidelines, by treating chronic Lyme with long-term antibiotics, are scrutinized, leading to a revocation of their license. Consequently, members of the IDSA are present at the hearing to testify against them.

But as the research continues to mount, the truth is inevitable. Whether or not the evidence will end the needless suffering of thousands, maybe millions of ill patients, remains to be seen. Without changes to the diagnostic methods of Lyme, and a greater awareness of its existence among doctors, chronic Lyme disease will continue. The fight for proper treatment is an uphill battle against powerful organizations like the IDSA whose guidelines mandate insurance provisions for treatment length. So if finding a doctor to treat chronic Lyme patients is the first difficult step in getting relief, denial of coverage will soon follow, forcing patients to pay out of pocket. For those who cannot afford it, an opportunity for relief borders on the impossible. Many patients report losing everything they once had in exchange for Lyme disease treatment, while others report losing hope that relief is even possible. Chronic Lyme disease is described by many of those who are suffering as a physical and emotional disease, likely due to the denial and controversy over its very existence.

Written by Jennifer Wing

For Sunridge Medical

Medical Hypotheses Dr. Alan B. MacDonald M.D 10 July 2006 in Volume 67, Issue 4, page 819-832) Article Link

[1] **Hard Science on Lyme:** http://lymedisease.org Trials and Tribulations of Getting Borrelia Biofilms Accepted for Publication: Dr. Alan B. MacDonald 02, August 2013 Article Link

17 INTERESTING LYME DISEASE FACTS

1. Though most people are aware that Lyme disease can be transmitted via the bite of an infected tick, many don't know that it can also be transmitted thru a blood transfusion, and mother to fetus. Biting flies and mosquitos are also known carriers and have documented transmissions of infection to humans. The Lyme disease label as a "tick borne illness" is no longer accurate and could be misleading
2. Approx. 300,000 new cases of Lyme disease are estimated to occur each year. Due to many challenges in diagnosing the disease and in the way the disease mimics others these numbers are likely much higher.
3. Misdiagnosis is common with Lyme disease. Known as "The Great Imitator" it is believed to mimic virtually any disease. It's commonly misdiagnosed for Multiple Sclerosis, ALS, Fibromyalgia, Chronic Fatigue, Parkinson's, Autism, and Rheumatoid Arthritis
4. Two of the most common symptoms of chronic Lyme are profound fatigue and randomized joint pain
5. Borrelia Burgdorferi is the most complex bacteria in scientific history.

6.	Co-infections like bartonella, rickettsia, and babesiosis complicate the illness further. Certain antibiotics that may work for borrelia are ineffective for one or more of these co-infections. Treatment methods with antibiotics have mixed results. In cases of biofilms (intelligent communities of infection-also considered a chronic condition) antibiotics are known to be ineffective.
7.	Besides imitating certain diseases some suspect Lyme is the actual disease. Due to the strikingly similar characteristics of patient symptoms, and the similar areas of white matter visible on the brain, Multiple Sclerosis and Lyme are suspected by some to be the same disease. There is a high probability the same is true for chronic fatigue and fibromyalgia since both are actually symptoms common in other diseases such as Lyme.
8.	While in general, access to medical studies on any topic are available online free of charge and for the public to view, this is not the case for Lyme disease. Besides one or two general studies most information on this topic is not public and can only be accessed after a rather large payment/membership fee or if you are part of the medical community. Why?
9.	Lyme disease symptoms are widespread and many, making accurate diagnosis challenging. Adding to that is the lack of definitive testing requiring a clinical diagnosis

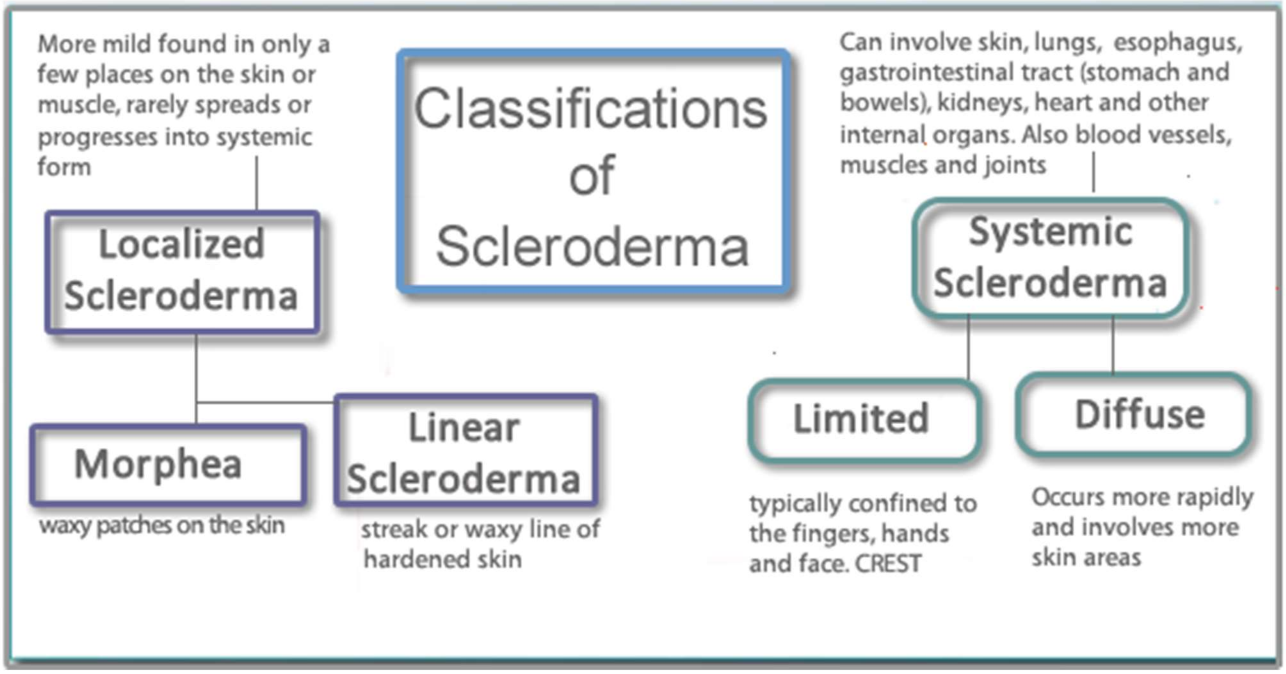
	of the patient's symptoms, history and lifestyle. This suggests that the probability of an accurate diagnosis of Lyme, is higher or lower depending on the doctor and their viewpoints/influence in regards to Lyme disease.
10.	Less than 50% of patient's ever recall being bit by a tick or getting a bull's eye rash, the tell-tall sign of infection.
11.	Inaccurate testing methods have contributed to the common misdiagnosis of Lyme disease, leading to an advanced form of infection known as "chronic Lyme" Chronic Lyme is considerably more challenging to treat with success, and is incurable. Patients can however experience a full recovery from their symptoms, long term, with the right treatment.
12.	Lyme disease is the fasting growing infectious disease in the country.
13.	So far over 300 strains of borrelia have been identified.
14.	Standard testing for Lyme is sensitive to only one strain of borrelia, of the 100 identified, moreover this strain known as B31 has never been found in humans. It has only been identified in the gut of a tick.
15.	Borrelia bacteria can morph into three visually unique shapes allowing them to hide easily from immune attack, and to easily move thru certain areas with denser tissue.

	Their evolution suggests the possibility that they have been around and in our bodies, longer than we think.
16.	The three distinct and interchangeable forms which borrelia are known to exist in are: A. Spherical or round shaped (masking themselves as cells in the body) B. Rod Shaped C. Spirochetes or Spiral forms (when moving thru the body).
17.	Infectious Disease Society of America (IDSA), an organization that designs treatment guidelines for the medical community, still does not recognize chronic Lyme as an existing condition, despite published research of the discovery of biofilms in a human patient, which are an undisputable marker of chronic infection.
By Jennifer Wing	

Scleroderma is a rare chronic connective tissue disease, characterized by a variety of different symptoms that vary from patient to patient both in severity and area of the body affected. It is generally referred to as a rheumatic autoimmune disorder affecting the skin, or in the case of systemic scleroderma, the skin and/or organs. Scleroderma occurs when the body produces and accumulates too much collagen in tissues. Collagen is a fibrous type of protein which makes up the body's connective tissues (including skin). While it is still uncertain, the immune system is suspect of having a role in the abnormal production of collagen. For instance, after an attack from the immune system, the body produces too much collagen and inflammation occurs. It is still unknown what triggers it although Lyme disease is a likely suspect.

Systemic Scleroderma

The systemic form of scleroderma is the most aggressive and widespread throughout the body. In systemic scleroderma multiple areas of the body's connective tissues are affected which are broken down into two types called limited and diffuse. In limited scleroderma, the milder of the two types, the fingers, hands and face are affected. Diffuse on the other hand can involve many different parts of the system such as blood vessels, muscles, joints, including organs like the kidneys, heart, and lungs etc. Sometimes patients with diffuse scleroderma will experience symptoms of limited scleroderma, which blurs the lines, making an exact diagnosis even more challenging.



THE SCHELORODERMA AND LYME DISEASE CONNECTION

Similar to most other autoimmune diseases, the cause of scleroderma is unknown. Treatment as such is aimed at relieving the symptoms or slowing down the disease progression by suppressing the immune activity. Unfortunately the success of these treatments is marginal. More recently, a possible connection to Lyme disease has been discovered. A large number of patients previously diagnosed with Scleroderma have tested positive for borrelia Burgdorferi, the multi-system infection known as Lyme disease. After treatment with antibiotics these patients recovered from active symptoms of Scleroderma.

Considering the elusive nature of Lyme disease and the difficulty of detection using conventional testing methods, a connection seems probable. While some doctors maintain that antibiotics will not successfully treat scleroderma, many patients who were treated with antibiotics have reported success despite the absence of a positive test for borrelia Burgdorferi. This suggests scleroderma, in either case, is the result of some type of infection, despite its classification as an autoimmune disease.

Lyme Disease and Autoimmune Disease

Could an infection classified as scleroderma instead be Lyme disease? Ironically called the great imitator, Lyme's ability to provoke symptoms matching those of many auto immune diseases, begs the question of whether Lyme is an imitator or whether Lyme is the actual disease? With so much unknown about scleroderma and other autoimmune diseases, such as what causes them, Lyme disease seems to fit a missing piece of the puzzle. This suggests a possibility that autoimmune diseases could actually be various expressions of Lyme disease. It doesn't seem so farfetched when you also consider the ability of borrelia bacteria to infiltrate any area or system of the body, accounting for the hundreds of varying symptoms associated with the disease.

Written By Jennifer Wing

For Sunridge Medical

Fibromyalgia or Lyme Disease?

Fibromyalgia has long baffled the medical community and even earned a reputation as a psychosomatic condition. In other words, some, whose mind cannot extend past their own immediate circle of knowledge, must fall back on mental instability when faced with a condition they cannot explain. This is probably due in part to its link to depression where approximately 83% of patients said that their pain gets worse with emotional distress among a long list of other day-to-day physical strains including weather changes, car travel, physical injuries and more. None of the previous has made the condition any less common however as fibromyalgia affects some 5 million Americans or 1 in 50. Shockingly most fibromyalgia sufferers are women - that is 90% female, making it 7 times more common in women than in men.

Fibromyalgia a condition characterized as widespread pain, sometimes severe, within the joints. Up until recently, joint pain was always viewed as a symptom of something else. Why has it now been named an actual condition? Is it because of the large number of people complaining of joint pain? While that seems like a silly reason to give a symptom it’s own name - as a separate condition, it also appears somewhat lazy. A way of putting an obviously growing epidemic on the back burner. An attempt to temporarily satisfy the individuals who are suffering with an answer. Never mind that joint pain is still a symptom. Giving it a fancy name to make it appear otherwise doesn't change that.

Joint Pain Is a Symptom

Joint pain is associated with hundreds of different conditions including Lyme disease for example which can manifest with over 100 different and wide ranging symptoms, three of the most common are joint pain chronic fatigue and brain fog. Brain fog just happens to also be another common symptom associated with Fibromyalgia and is appropriately referred to as fibro-fog.

Fibromyalgia and Lyme Disease

Never mind that the common symptoms of Fibromyalgia and Lyme Disease are identical or that Lyme disease left untreated is known to cause a variety of other chronic disorders like Fibromyalgia and chronic fatigue, or that Lyme disease testing has a below average record of accuracy. The standard test used for Lyme will often result in 3-4 negatives before a patient tests positive for the disease. This means that the actual reported cases of Lyme disease are likely well below the amount of people that have the disease, and have had it for years. Individuals complaining of joint pain who test negative for Lyme due to sub-standard testing in the US are now labeled as Fibromyalgia sufferers and prescribed pain meds to help them manage the pain. Meanwhile Lyme disease continues to ravage their tissue, brain, eye sockets, blood, and every corner of the body that the bacteria can cleverly infiltrate by changing shape to propel movement or to hide out and disguise their existence

Chronic Fatigue Syndrome and Lyme Disease

By looking at the connection between CFS (Chronic Fatigue Syndrome) and Fibromyalgia, which exists by way of the Hypothalamic-pituitary-adrenal axis, Lyme and FMS could very well be connected. The HPA is best described as a reporting station or network of direct influences and feedback interactions between the hypothalamus, the pituitary gland and the adrenal gland. In many cases, abnormal levels of certain chemicals that are regulated by the HPA axis have been proposed as a potential cause of CFS. If you consider that Lyme disease can affect the Hypothalamic-pituitary-adrenal axis, and the HPA axis can lead to chronic fatigue syndrome, which is related to fibromyalgia, then the link between the two diseases is clear.

The Link to Lyme Disease

Though Fibromyalgia and Chronic Fatigue Syndrome have acquired their own separate identities as diseases, the truth is, joint pain and fatigue are symptoms caused from something more serious. Conventional treatment for Fibromyalgia only manages the pain and does not treat the source of the problem. Fibromyalgia sufferers are then bound to a lifetime of pharmaceutical use to get through the day without pain while their condition, left unattended, worsens. Consequently as their condition worsens, their pain meds get stronger to treat the increasingly painful symptoms.

By supporting the immune system to aid the body in attacking these and many other chronic disorders, an alternative treatment or naturopath will treat the source of the disease. This is shown as the most effective way to treat chronic disorders that will continue to wreak havoc on patients who, thru conventional treatment methods, address only the symptoms.

By Jennifer Wing

For Sunridge Medical

The Lyme Disease and HHV6 Link

HHV-6, a human herpes virus discovered in the mid-eighties is active in nearly all Lyme disease patients alongside borrelias Burgdorferi, the infamous bacteria known to cause Lyme. Though often referred to as a co-infection, HHV6 is not transmitted with the Lyme infection. Instead the human herpes virus, HHV6, is opportunistic and lays inactive in hosts waiting for the moment of least environmental resistance to strike. A Lyme infection is one such opportunity HHV6 commonly takes to present itself. There are two variations of the human herpes virus known as HHV-6A and HHV-6B. Nearly identical, the two virus strains differ only in their activation cycles within the host.

HHV-6A

A particular strain of HHV-6 referred to as HHV-6A is commonly found in patients with Lyme disease, Chronic Fatigue Syndrome (CFS), Multiple Sclerosis (MS), AIDS, and cancer. Most often it strikes within an adult host and is associated with neurological symptoms and fatigue.

HHV6B

Affecting nearly 100% of children by the age of 2, it commonly presents with fever and encephalitis in infants. Reactivation of HHV-6B can also occur in patients of all ages who have received a transplant. The B strain of HHV6 is characterized by mild flu-like symptoms and rash in some cases. Progression of this strain is accompanied by high fever, encephalitis and even seizures. In most cases, and after the initial activation, the virus lies dormant or latent. Reactivation of HHV6B occurs in 4% of transplant patients causing complications such as encephalitis, pneumonitis and liver failure.

Differences In The Two Virus Strains

Though nearly identical, there are differences in epidemiology and pathogenicity of the two strains. HHV-6B is acquired in early childhood (often in daycare centers), infecting up to 90% of most populations during infancy, while HHV-6A, is generally not seen until adulthood. Both versions of the virus can be found in saliva and are assumed to be spread this way as well.

Dangers Associated With HHV6

HHV-6 is of greatest concern to immune-compromised patients, especially those who have had organ or bone marrow transplants, those who are HIV positive, and those with chronic Lyme disease complex. By attacking a number of cells in the body which aid its ability to fight off disease and infection, HHV6 is immune suppressive and can activate other viruses in the process.

HHV6 Attacks the Following Healthy Cells in the Human Body

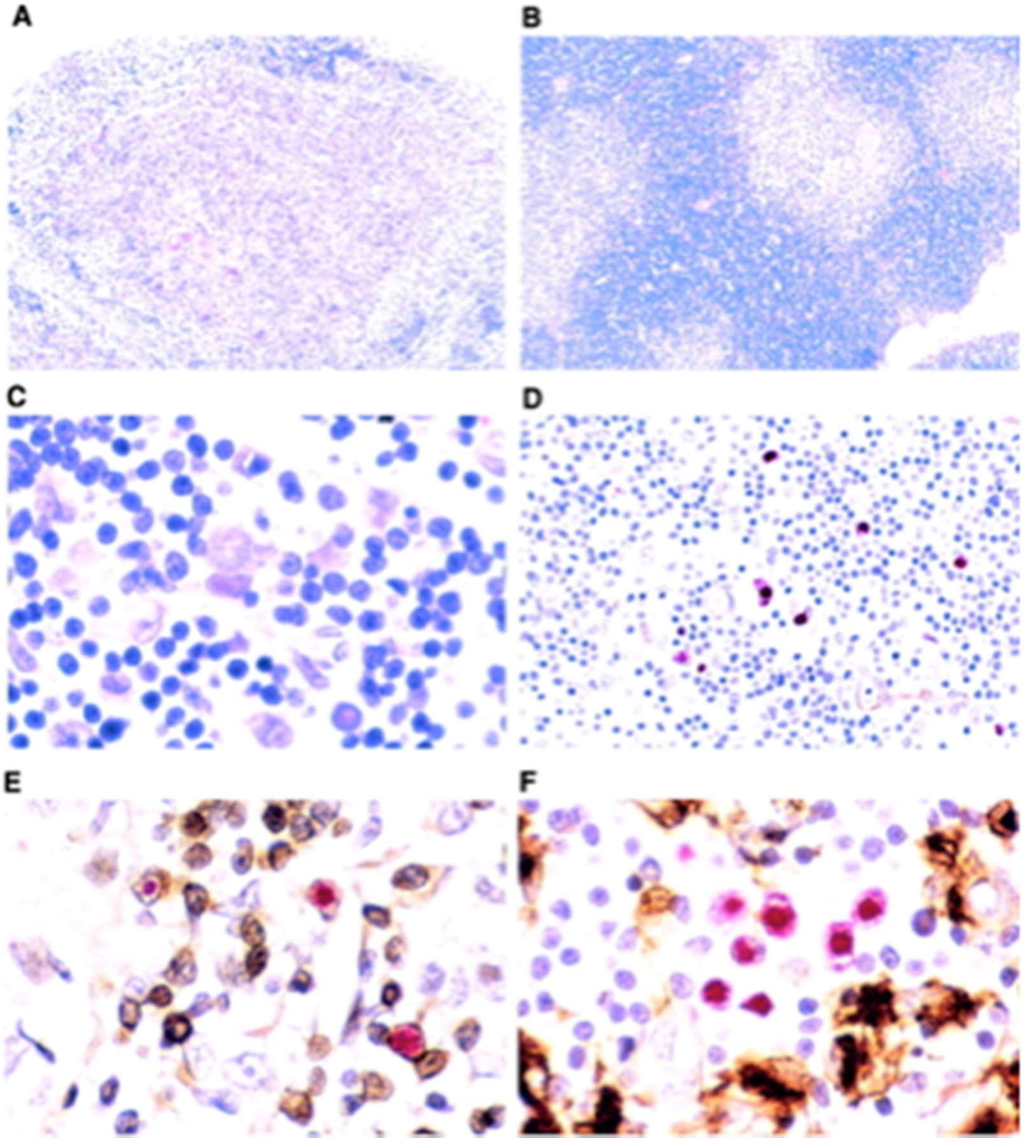
- CD 4 lymphocytes,
- NKTs,
- Oligodendrocytes,
- CD8 cells
- Microglial cells.

Though HHV-6 lies dormant for long periods of time, once reactivated, infection can occur quickly. During its dormancy the virus waits in salivary glands, kidneys or the brain until it is reactivated.

HHV6 LINK TO CHRONIC ILLNESS AND CANCER

Since more and more research continues to uncover a link between viruses and chronic illness including many cancers, HHV6 is at the forefront of continued study. Its link to cancer comes via a protein called P53 which regulates the cell cycle and acts as a tumor suppressor. HHV6 is known to attack this particular protein and is often found active in cancer patients.

Pink areas indicate HHV6 infection thru a staining process



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Early Localized Disease:

Characterized By: Skin Inflammation

Accompanied By: Fever, chills, body aches that range anywhere from a week to 2 weeks and occur soon after transmission of the infection or insect bite.

Prognosis: Full recovery with oral antibiotics for up to 2 weeks

Early Disseminated Disease: (CHRONIC DISEASE)

Characterized By: Heart and nervous system involvement

Accompanied By: Meningitis and facial palsy

Prognosis: Considerably more difficult to treat with longer treatment cycles for up to 1 year. Existence of co-infections can make it harder to achieve successful recovery as different co-infections respond to different antibiotics. A cure does not currently exist however patients can be symptom free and feel well. Permanent damage is not typical at this stage.

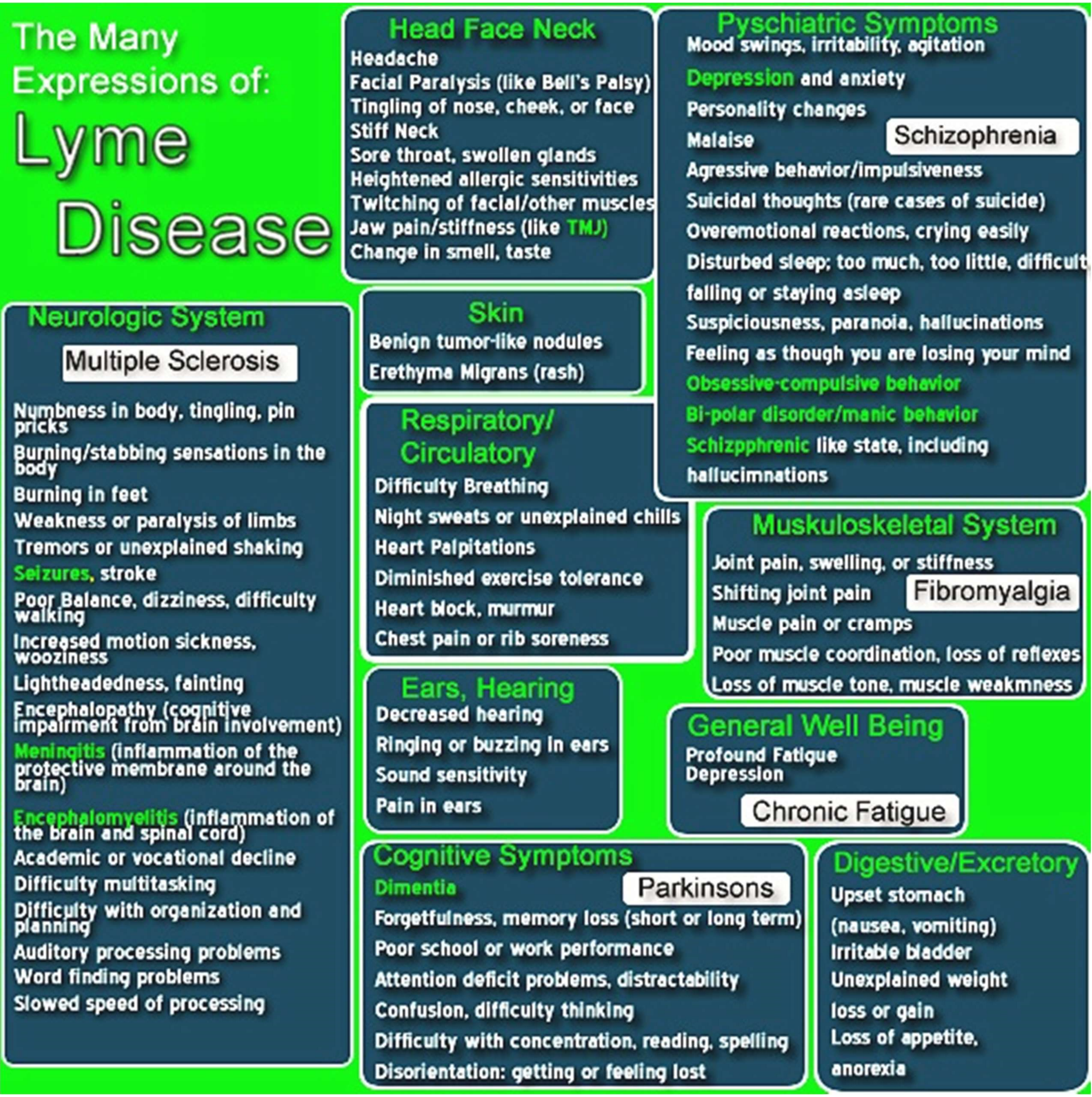
Late Stage Disease: (CHRONIC DISEASE)

Characterized By: Motor and sensory nerve damage

Accompanied By: Brain inflammation and arthritis

Prognosis: Considerably more difficult to treat using conventional methods of antibiotics. Treatment length of up to 2 years is common. Co-infections could extend the length of treatment and present challenges in relieving all symptoms. Though permanent damage is less common, it can and does occur in some. Patients can recover from an ill state however a cure currently does not exist at this stage.

Note: While these stages outline some common internal signs of Lyme disease, the patients may experience any number of over 100 different symptoms. Chronic fatigue and joint pain are 2 of the most common in early disseminated and late stage disease.



The Many Expressions of: Lyme Disease

Head Face Neck

Headache
Facial Paralysis (like Bell's Palsy)
Tingling of nose, cheek, or face
Stiff Neck
Sore throat, swollen glands
Heightened allergic sensitivities
Twitching of facial/other muscles
Jaw pain/stiffness (like TMJ)
Change in smell, taste

Pyschiatric Symptoms

Mood swings, irritability, agitation
Depression and anxiety
Personality changes
Malaise
Schizophrenia
Agressive behavior/impulsiveness
Suicidal thoughts (rare cases of suicide)
Overemotional reactions, crying easily
Disturbed sleep; too much, too little, difficult
falling or staying asleep
Suspiciousness, paranoia, hallucinations
Feeling as though you are losing your mind
Obsessive-compulsive behavior
Bi-polar disorder/manic behavior
Schizpphrenic like state, including
hallucimnations

Neurologic System

Multiple Sclerosis

Numbness in body, tingling, pin pricks
Burning/stabbing sensations in the body
Burning in feet
Weakness or paralysis of limbs
Tremors or unexplained shaking
Seizures, stroke
Poor Balance, dizziness, difficulty walking
Increased motion sickness, wooziness
Lightheadedness, fainting
Encephalopathy (cognitive impairment from brain involvement)
Meningitis (inflammation of the protective membrane around the brain)
Encephalomyelitis (inflammation of the brain and spinal cord)
Academic or vocational decline
Difficulty multitasking
Difficulty with organization and planning
Auditory processing problems
Word finding problems
Slowed speed of processing

Skin

Benign tumor-like nodules
Erethyma Migrans (rash)

Respiratory/ Circulatory

Difficulty Breathing
Night sweats or unexplained chills
Heart Palpitations
Diminished exercise tolerance
Heart block, murmur
Chest pain or rib soreness

Ears, Hearing

Decreased hearing
Ringing or buzzing in ears
Sound sensitivity
Pain in ears

Muskuloskeletal System

Joint pain, swelling, or stiffness
Shifting joint pain
Fibromyalgia
Muscle pain or cramps
Poor muscle coordination, loss of reflexes
Loss of muscle tone, muscle weakmness

General Well Being

Profound Fatigue
Depression
Chronic Fatigue

Cognitive Symptoms

Dimentia
Parkinsons
Forgetfulness, memory loss (short or long term)
Poor school or work performance
Attention deficit problems, distractability
Confusion, difficulty thinking
Difficulty with concentration, reading, spelling
Disorientation: getting or feeling lost

Digestive/Excretory

Upset stomach
(nausea, vomiting)
Irritable bladder
Unexplained weight
loss or gain
Loss of appetite,
anorexia