

Dear Functional Medicine Discussion Group Members:

Once again, we had another incredible Functional Medicine Discussion Group meeting on March 30, 2017 on **Lyme Disease** with **Dr. Melanie Gisler** and **Dr. Aristo Vojdani**. The audio from my video did not work, but thanks to Tracy Garrigan for recording it on her phone. I'm not sure if the audio is good enough to pair with the video to put it online, but at least it helped me to write up this summary. We thank **Metagenics**, once again, for sponsoring the food and the venue, and for having supported our group since we started. Thanks to all our members who participated in the meeting. Our next meeting will be **Thursday, April 20** at 6:30 at the Ocean Park Library at 2601 Main Street (Ocean Park and Main Street) and the brilliant **Nalini Chilkov** will lead a discussion on **Cancer Care**. Please email me if you will be able to attend and place **Cancer RSVP** in the subject line. I will send out the official invite with some papers to read in a week or so. If you are not already a member, please join **our closed Facebook page, Functional Medicine Discussion Group of Santa Monica**. Also, please check out my new weekly podcast, **Rational Wellness**, on Itunes <https://itunes.apple.com/us/podcast/rational-wellness-podcast/id1191232372?mt=2> or Youtube <https://youtu.be/GlqFBDVnawU> .

I introduced the topic, **Lyme Disease**, which is a complicated and confusing disease that starts with an acute infection that can become chronic that goes on for years. It begins with a tick bite that results in an infection with a corkscrew-like bacteria, *Borrelia burgdorferi*. After the initial infection, it may create a chronic condition that is difficult to detect and to treat. Such patients may not have any knowledge about having been bitten by a deer tick and the exposure could have been years ago. The CDC estimates that there are approximately 300,000 new cases of Lyme disease per year in the US and it seems to be increasing.

If you are bitten by a tick that causes an infection, 50% or more will develop a rash at the site of the tick bite. Other early symptoms include fever, headache, and fatigue. Later symptoms may include facial paralysis, joint and/or muscle pain, headaches, chest pain, heart palpitations, shortness of breath, ringing in ears, dizziness, eye pain, tooth pain, disturbed sleep, and gastrointestinal dysfunction, among others. Despite proper treatment, 10-20% of people develop joint pains, memory problems, and fatigue for at least six months. Diagnosis is based upon symptoms, history of tick exposure, and testing of antibodies. If diagnosed and treated in the earliest stages with antibiotics, preferably within days or weeks after infection by a tick, Lyme disease is supposedly easily cured. The problem is that if it is not detected and treated, it can result in chronic Lyme disease, which is very difficult to test for and to treat. And a percentage of patients who were treated with antibiotics still go on to get the symptoms of chronic Lyme disease. Antibiotics are also sometimes given for chronic Lyme and they are generally not effective.

Chronic Lyme disease is difficult to test for because *Borrelia* is a type of low virulence pathogen that only exists in small numbers in the body, which makes it difficult to detect when testing. The symptoms of chronic Lyme come not from the bacteria itself but from inflammatory cytokines that are produced. Chronic Lyme patients often have co-infections, the most common are with *Mycoplasma*, *Chlamydia*, *Bartonella*, and *Babesia*. *Ehrlichia*, *Anaplasma*, and *Rickettsia* occur less commonly as co-infections.

Fortunately, we have **Dr. Aristo Vojdani** with us tonight, whose **Immunosciences Lab** has perhaps the most accurate testing for *Borrelia* and co-infection antibodies. <http://www.immunoscienceslab.com/>

Dr. Bill Rawls in his excellent book *Overcoming Lyme* emphasizes that chronic Lyme disease is not so much a chronic infection, as a **disease of immune dysfunction**. If there is a healthy functioning human immune system, *Borrelia burgdorfi* infection should be a relatively easy problem for your body to handle. *Borrelia* is not a super virulent pathogen that can kill you, like Ebola or AIDS or Malaria. In Dr. Rawl's words, "the human immune system is an equal or better match for *Borrelia*."

I then introduced **Dr. Melanie Gisler**, who is an Integrative Osteopathic Family Physician. She holds a B.S. in Biochemistry from UCLA, a Doctorate of Osteopathy from Kansas City University of Medicine and Biosciences (one of the oldest, most established osteopathic medical schools in the country) and she also trained in family medicine at UCLA. She uses an integrative approach in dealing with chronic illnesses and Lyme disease has become a large part of her practice.

I started the discussion by asking Dr. Gisler how she ended up with a speciality in treating Lyme Disease patients? She said that she came and observed one day at Dr. Hans Gruen's practice at his request and could not believe what she saw and the stories that she heard from the line of patients out the door. She discussed the treatment with Dr. Gruen and agreed to carry on. She realized how many patients were out there with Lyme Disease who had been misdiagnosed. Dr. Gisler said that she signed up to practice medicine to help people and she decided that this would be her mission in medicine to help this group of patients, who do not have a lot of support and most people think that they are crazy. Even cancer patients have a lot of support and research.

I asked Dr. Gisler what are the most common symptoms that makes her suspect Lyme Disease and how do you diagnose it after that? She answered that Lyme Disease is the common mimicker and many patients have already been misdiagnosed with Fibromyalgia, Chronic fatigue syndrome, MS, ALS, seizures, etc. The symptom list is huge: not only fatigue and joint pain [which are the most common symptoms], but brain fog, memory issues, headaches, vision problems, GI problems, heart issues, bladder problems, skin problems, erectile dysfunction, etc. The symptoms are very similar to Epstein Barr, Candida, and mold, so you have to make sure that everything else has been ruled out. Lyme Disease patients present in many different manners and Dr. Gisler talked about one patient whose only symptom was bloody diarrhea. She said that the patient's history is very important for arriving at the diagnosis and she also does testing, though testing is not always that accurate. Dr. Gisler said that if the infection is in the gut, then she will use the 4 R program and treat the gut, which we all do so often in Functional Medicine anyway.

Dr Gisler said that you can have Lyme even if there has not been a tick bite, since it can be transmitted by mosquitos, mites, horse flies, spiders, in urine, in semen, saliva, breast milk, and from mother to fetus? Dr. Vojdani, however, expressed skepticism that *Borrelia* could be carried and transmitted in saliva or semen, since it is such a large bacteria. Dr. Gisler will then rule out mold, Candida, heavy metals, etc. If the patient presents in a very acute situation, Melanie will use antibiotics, but most of her

patients are chronic. She usually treats with a comprehensive herbal, nutritional approach and takes a full functional medicine approach. Dr. Gisler makes sure that they don't have nutritional deficiencies, that they are detoxing and sleeping and pooping, etc..

I asked about testing and Dr. Gisler said that she likes Dr. Vojdani's Immunosciences Lab because his testing not only looks at various species of Borrelia but also more frequently will reveal evidence of co-infections. I then asked Dr. Vojdani to join us as a presenter. Dr. Vojdani then showed us a map of the some of the most common infections as causes of chronic diseases over the last 40 years. In 1985 everything was about Candidiasis until 1995. Then in 1992 we had stealth viruses as a cause of fibromyalgia and chronic fatigue until 2000. Then it was HHV6 (Human Herpes virus 6). Then it was Mycoplasma and Chlamydia 1998-2005. Then Borrelia from 2000 and it is still going on today. And finally, Chemical sensitivities from 1985 until today. All these factors are playing a role in chronic diseases. So every 5 or 6 years Dr. Vojdani was involved with developing new assays for these each of these pathogens.

Dr. Vojdani then explained that the Borrelia that you grow in a culture is different from the Borrelia that you find in a patient's bloodstream, which is why the Lyme Multi-peptide ELISA test that Vojdani's lab offers measures antibodies to Borrelia measured both in vivo and in vitro. It also measures three different subspecies of Borrelia, as well as antibodies to three of the most common co-infections (Babesia, Erlichia, and Bartonella). He said that it should also be confirmed with Western Blot.

Dr. Vojdani brought up the concept of polyreactant antibodies, which are antibodies that will react to nearly everything. The body makes these multi-functional antibodies in order to protect us against many different threats.

Dr. Susanne Bennett asked about pcr testing for Lyme, which essentially is looking for genetic evidence of Borrelia. Dr. Vojdani explained that he looked into this and Borrelia tends to reside in the tissues when Lyme is chronic rather than in the bloodstream, so testing pcr (polymerase chain reaction) in the urine or blood will not pick this up.

Dr. Sherry Fitzgerald said that she works part of the time in Virginia where she sees a lot of cases of acute Lyme Disease that is treated very effectively with antibiotics and she feels that chronic Lyme doesn't really exist. She also said that even if the patient is found to have Lyme Disease 6 months later, it can still be effectively treated with antibiotics. Dr. Vojdani expressed his disagreement with this point of view. Dr. Vojdani did note that when you have patients with chronic disease, it is sometimes very difficult to figure out what is the infectious agent, so he designed a test for 30 different chronic diseases that is now available from Cyrex Labs, Array 12, which includes Borrelia.

Dr. Gisler noted that we know that Lyme disease has been around since the ice age, and the Iceman whose body was found frozen in ice was loaded with spirochetes. So we should not debate about whether Lyme exists and these people are so ill and need our help. We have to make the terrain healthy and inhospitable to these infections.

I then asked Dr. Gisler about some of the more effective treatments for Lyme Disease patients. Dr. Gisler emphasized the importance of tailoring the treatment for what each patient needs. She said she prefers to use herbal formulas and she said she studied with Dr. Dietrich Klinghardt and she tends to use his Biopure products, including Quintessence, which contains Andrographis, RedRoot, Han Fang Ji, (Smilax) sarsaparilla, and Japanese knotweed. She said that she likes to combine the herbs with phosphatidylcholine to make them fat soluble and this helps the herbs get into the brain easier. You have to make sure that they are detoxing and that they are pooping. Dr. Gisler said that when you are using anti-microbials you also want to use a binding agent to clear out toxins, since when you start treating, toxins are produced and the patient will feel worse than before. She prefers chlorella as a binding agent because it also gives the body a protein and it only seems to only bind the bad and not the good minerals.

Dr. Gisler also puts the patients on detoxification and she uses a detox product, Systemic Detox by DesBio that's a homeopathic drainage remedy that targets various organ systems such as the lymph, spleen, liver, and pancreas. You want to make sure that they are sweating and you can do ionic foot baths and saunas. You then want to replace all the nutritional deficiencies and make sure the hormones are balanced and the thyroid is working properly.

A practitioner asked when she will use antibiotics for chronic Lyme? Dr. Gisler said that she generally does not like to use antibiotics for such patients, but some patients come in with a mindset that they need antibiotics. Also, some Lyme patients that come in are broke and antibiotics are covered by insurance and the herbs and nutritional remedies are not. So sometimes if she thinks the patient is healthy enough and they want to take antibiotics, she will try a short course and see if they improve. If they do better, she may use them a little longer.

Dr. Gisler said that she likes to root for the underdog and Lyme patients are the underdogs, so this is one reason she has dedicated herself to helping these patients. A practitioner asked since these patients are often depressed, how will she treat the depression. Dr. Gisler said that she will sometimes use neurotransmitters like 5HTP, Gaba, and Lithium Orotate. She said that she finds Lithium Orotate very helpful and it also helps patients detox. Dr. Gisler said that she may prescribe an anti-depressant.

Dr. Gisler talked about a patient who was diagnosed with ALS at age 40 at UCLA and he was given 18 months to live and told to go travel and get his life in order. His friend was walking behind him and watched his dog walking the same way that he was and told him that he had Lyme not ALS and he got treated and he's fine now. And the white lesions in his brain cleared up as well. Dr. Vojdani explained that there is an overlap between MS and neural Borreliosis and when you treat for Lyme, they get much better.

A practitioner asked the difference between Igenix Lab and Immunosciences Lab of Dr. Vojdani. Igenix only measures antibodies to Borrelia that is grown in culture, but it is important to also test antibodies against the components and peptides and antigens to Borrelia that are expressed in the human system. If you don't do that, you will miss at least 30% of the cases of Lyme. Dr. Vojdani's Immunosciences Lab

measures antibodies to Borrelia grown in culture and the antigens that are expressed in the human system, to 3 different subspecies of Borrelia, and to 3 of the most common co-infections.

I asked Dr. Gisler about her use of ozone therapy for Lyme patients. She said that she finds this treatment to be very effective. Ozone is O<sub>3</sub> whereas Oxygen is O<sub>2</sub>. Ozone is a very strong antimicrobial, it helps to repair mitochondria, it improves oxygen utilization, it helps to detox, and has many other benefits. Some people do direct ozone therapy into the bloodstream or into the rectum or vagina. Dr. Gisler said that she does not inject the ozone directly into the vein. She prefers to draw out the patient's blood and add in the ozone and then the blood goes back into the patient. She usually starts out with 60 cc of ozone and may increase if they tolerate it. She may also do IV nutrients, such as vitamin C, B vitamins, phosphatidylcholine, Leukovorin, and resveratrol.

Someone asked if ozone helps with heavy metals and Dr. Gruen responded saying that ozone was not a good idea for metals. I asked if she uses anti-oxidants, since ozone is a pro-oxidant. Dr. Gisler said that she uses a lot of vitamin C and will often use IV glutathione with the ozone.

Someone asked what can be done to prevent Lyme Disease? Dr. Gisler said that you have to be careful when you go hiking and wear white colored clothing and use essential oils on their skin. You can also get bug free clothing. Dr. Gisler has also found that you don't want the cholesterol levels to get too low and she has started using a supplement to raise cholesterol levels, called Sonic Cholesterol, which is cholesterol from sheep's wool.