**The Health Edge**

**Autoimmunity**

Mark Pettus MD and John Bagnulo PhD, MPH

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| Mark: | Welcome to the Health Edge, translating the science of self care. I am Mark Pettus and I am joined by my friend and colleague, John Bagnulo. John, good morning buddy. |
| John: | Good morning, Mark. Great to be with you today. |
| Mark: | Great to be with you as well. We're in to mid June. Nice time of year. How've you been of late? |
| John: | I've been doing really well. It's hard to complain this time of year. The days are so long. After dinner you can go out and play a game of whiffle ball with the kids and I just really love this time of year, for sure. |
| Mark: | It's fantastic. A lot of the kids are finishing up in school now and there is that, there's a lot more hub bub in the neighborhoods and kids riding their bikes. It brings you back to just how incredible it was this time of year when you could be playing all day, all evening. All that freedom. |
| John: | Yeah, absolutely. |
| Mark: | It's great to see the joy on the kids' faces. My daughter's an elementary school teacher. I don't know who's happier, the kids or the teachers when the school year comes to an end. |
|  | We, John, have an interesting topic in autoimmunity, and it's a huge topic, certainly one that we won't exhaust in one podcast. One of the so many chronic complex diseases, John. I was just reviewing some of the epidemiology of autoimmunity, and though I know many of our listeners know what autoimmunity is, this essentially is the immune system losing it's capacity to distinguish self from non self. In a system normally very elegant and very sophisticated and highly attuned to potential foreign threats, is now being activated in ways that is impacting health across the world. In America right now there are about 25 million people with autoimmune diseases. There's some speculation, John, as I reviewed this, that that maybe a very significant underestimate as many of these diseases are under-reported. Certainly many go undiagnosed, which is one of the challenges for people with autoimmunity. They can feel poorly for many years before diagnoses are finally made. |
|  | Not only is autoimmune really common, about eight percent plus of the general population, the prevalence, the number of people at any one point in time that have this, continues to go up each year. Some of the 2015 epidemiologic data that I reviewed would suggest that if you take all comers with autoimmunity, the numbers are going up almost twelve to fifteen percent per year increase. These are, for the listeners, very dramatic increases year to year. Whether we're talking about obesity or diabetes or Alzheimer's, autoimmunity we add to the list of problems that continues to get worse with each passing year. This is a real problem. |
|  | Many of the issues that form the basis of an autoimmune diagnosis, John, and again, our listeners may be aware of some of this, but these are diagnoses that can range from celiac ... Which interestingly, John, celiac is one of the most rapid growing autoimmune conditions. Celiac being an autoimmune condition related to gluten. That is growing faster than other autoimmune diseases. They're all growing, but celiac is growing faster than other diseases like rheumatoid arthritis, like lupus, type 1 or insulin-dependent diabetes, multiple sclerosis, inflammatory bowel disease, many of these, Hashimoto's thyroid disease. All of these are increasing in their prevalence, John, but celiac interestingly is moving ahead of the pack in its rate of increase. We talk a lot about gluten and we'll come back to celiac in a moment. |
|  | These are diagnoses that are extremely challenging, often hard to pinpoint. Then our conventional approach is, once there is a diagnosis, is generally to suppress the immune system with a whole cadre of tools that practitioners have available to them. These are usually immunosuppressant medications that will take the body's antibody production and attempt to turn it down. That can be critical and crucial for people who have rapid progression of symptoms and disease and organ damage, but like everything we talk about, John, the western approaches really address sort of the smoke, but never ultimately get to the fire, and the same can be said for autoimmunity. |
|  | That's just the brief overview of the scope of this problem and they ways in which these diagnoses begin to emerge. I thought maybe we could discuss some lifestyle approaches for how to down-regulate, dampen, diminish one's immune system without necessarily having to take all that medication or perhaps allowing them to take less. These medicines, not surprisingly, are not without substantial side effects. It's an interesting epidemiology John. Our immune systems have lost their way. |
| John: | Yeah those numbers are staggering. To think there's a twelve to fifteen percent growth rate here, per year with all autoimmune conditions that are lumped together. On one level those numbers are startling. On another level if you paid any attention to peer review journals in this area, you understand that there's a lot of attention looking at this. Unfortunately, Mark, it's quite often looking at more of a genetic component than the environmental or the microbial triggers that we can talk about this morning. Looking for answers in all the wrong places I guess has been a pattern in many areas of medicine. Whether it be in autoimmunity, or cancer, you name it. Certainly heart disease would be a prime example of that as well as we've talked about. |
|  | The numbers are overwhelming and I think a lot of individuals suffer long term with a misdiagnosis, or not being diagnosed at all. Yeah, when you look at the research for those people who have been under the paradigm that this is all genetic, you take a look at the studies done with twins, it's really clear that there's a much, much greater environmental component to most of these autoimmune conditions. Pathogenic component, in the way of some type of microbe infections. Then there is a genetic component. It's certainly not just something that happens to us, which is often the way it it's portrayed. "I'm sorry, Mr. or Mrs. Johnson, just unfortunately you had the genetics for rheumatoid arthritis." That's not the case. We can certainly look at a variety of different papers which have shown that lifestyle, environment, microbes that we're in constant contact with, or maybe that have inhabited our digestive tract, you know, greater number than should be there, are going to be the top three things on the list. |
|  | I think diet is a great starting point, Mark. I know that you and I have repeatedly gone over so many of the downsides of a grain based, or grain centered diet. I think when you take a look at the research on not only the explosion celiac disease as you mentioned, which, look, I think we both agree that's very multi-factorial. You've got a lot of things going on that are contributing to a breakdown of the gut wall, and that's allowing the inflammatory effects of gluten, in particular gliadin. Whether it's turning up our immune system or cause systemic inflammation, there's a lot of things that are going on. There's nutrients that people are deficient in, whether it be zinc or others. There's microbes that people are deficient in, whether it [ifitobac 00:09:21] or other species. Then we have people that are eating so much in the way of heavily processed flour-based products with very, very high carbohydrate density. |
|  | There's really an incredible mix right now of risk factors for celiac disease that can turn up a populations risk of developing that. When you take a look at grains in general, even the gluten free grains, what they tend to do, Mark, is they tend to favor a particular bacteria profile. Certain species of bacteria really love a grain-based or starch-based diet, and when those microbes become a real dominant force within the GI, they produce substances that over time will start to become confused with our own tissue. A great example of that is if we take a look at what are referred to as the B27 diseases. They're called the B27 diseases because they're all on the HLA B27 gene. Basically these are diseases like ankylosing spondolytis, and Crohns disease, ulcerative colitis. All of these have a very, very strong autoimmune component. |
|  | Really the common effect here is you have the immune system misinterpreting our collagen proteins. Collagens one, three, and four ... Misinterpreting those as pathogenic invaders, and so the immune system starts to attack our own collagen and it causes a breakdown of the gut lining. It can cause a breakdown, of course, with collagen and connective tissues, like in the case of ankylosing spondolytis. These are debilitating diseases. For our listeners, who might not be familiar with some of these, these put people in a really, really bad place where hours of their day ... |
|  | When you take a look at the research around these, there's some common culprits when it comes to bacteria that are really fostered by a certain type of diet. Klebsiella is one example of that. There's others, right, whether it's clostridia, klebsiella, the shigella toxin producing E. Coli ... All of these are the usual suspects when it comes to the microbial families that tend to drive some of these autoimmune conditions, but do we blame the bacteria? Possibly, but I think looking at long term population observational studies, certain diets really promote the overgrowth of these bacteria. It really starts to set us up for having that immune system, as you mentioned, that goes from a judicious army that can choose between friend or foe, to the vigilante army that just starts to, because it's so overworked and so over stressed, it starts to lash out against our own tissue. |
| Mark: | Yeah that's such a fundamental point that you're making, John. I would say it touches on the focal point of our discussion. What has been such a radical transformation of understanding of inflammation and autoimmunity being an assertive manifestation of inflammation really does look at the gut and gut permeability, and dysbiosis, and overgrowth, and loss of this sort of commencial balance of our microbiome in the gut. We often reference Alessio, Dr. Alessio Fasano's work at Mass General. His name is almost synonymous now with any discussion of autoimmunity, and his recognition of increased permeability, or leaky gut, being the central feature. |
|  | Again, not to oversimplify autoimmunity, but to emphasize some of the points you made, John. Genetics as they do for so many things, may set the stage, but environment clearly, ultimately determines whether those genes express themselves. Fasano has clearly shown that gluten, a hundred percent of the time when ingested, will up-regulate a protein called zonulin, which we know as you've discussed John prior, will open up these channels in the lining of the gut ... That almost in a purposeful way, it's almost as if to say, "You know, I'm a little worried about this player." I think the immune system needs to take a look at this, and then determine how best to respond. Here we have this system that perhaps was designed to protect us ... Let's open the gut up. Let's expose the immune system to some of what this person is taking in, and then we'll let the innate intelligence of the immune system determine whether it's friend or foe. |
|  | What we're now finding is that permeability has become so prevalent that the immune system, which is poised right in the lining of the gut, can be in perpetual overdrive. For people that do have more significant issues with gluten, which may be more pronounced at one time than another based on the status of their gut microbiome and whether they have overgrowth ... I think this fundamental issue, John, of gut permeability being present and perhaps anyone who's confronting autoimmunity, is so important, because many of the immunosuppressant strategies, though they will certainly take the immune system and turn it off, these can be pretty powerful agents. Anyone who's being treated for Crohn's or rheumatoid arthritis ... I'm not suggesting these aren't really important interventions for people to gain traction in terms of quality of life and symptom reduction and reducing end organ damage, but these interventions, these biologicals by their very nature can worsen the gut microbiome and enhance gut permeability. |
|  | I think that's such a central issue, John, is what's happening in the gut. An important sort of concept that jumps out of me for the listeners is this issue of tolerance. Our immune systems historically and ancestrally have become really good at knowing when to be tolerant. They see lots of ... The generations before us have set us up with an incredible memory of responses that, historically for generations before us, they were just so good at recognizing threat from non threat that our immune systems were tolerant. The more exposure we had to microbes in our environment, in our soil, in our foods, from vaginal deliveries and from breastfeeding ... Our immune systems were trained through very explicit conditions to become tolerant. To just let things go. Now we've lost our tolerance, and you touch on I think really the main category amongst others, namely gut permeability, dysbiosis, bacterial overgrowth. It may be that for people with certain genetic predispositions that then have these factors added on to those predispositions, the immune system loses its tolerance and then overreacts. |
|  | Right John? Conventional wisdom is, in western medicine, that once you're diagnosed with autoimmunity nobody ever talks about reversing it. The best you can hope for is maybe bringing it in to some type of remission. These are considered chronic life-long diseases. I think some of the factors that contribute, like leaky gut, like dysbiosis, or bacterial overgrowth, we know, and as we've talked about are reversible factors. I think we don't know what we don't know as it relates to how we can modify these diseases. |
| John: | Yeah. Absolutely. I think most people look at an autoimmune condition as a prerequisite for methotrexate or remicade, and never is it discussed that these things can be reversed. Yet I've certainly seen it in my clinical practice in the past where people had very high doses of methotrexate and other autoimmune typically treated drugs or immunosuppressants, you see over time as they really cleaned up their diet and they used a strong probiotic and they did everything that they could to restore their gut, and to keep the doors shut within the gut ... I think that's really a central part of this, Mark, is looking at how zonulin production opens up these doors and increases gut permeability. For some people this is happening around the clock, not just because of their exposure to gluten, but because they have a very high carbohydrate-dense diet. Then you get those lipopolysaccharides being generated by certain families of microbes. They can also open up these doors. |
|  | Zonulin responds to so many different facets of our diet and to different microbial populations. It's really amazing, but the most fundamental point that I think we should emphasize is you got to shut those doors within the GI. You've got to try to keep intestinal permeability. You got to keep that tightly regulated, and opening those doors once in awhile in acute moments to recognize potential pathogens. I'm sure it's critical, but if your gut permeability is high for hours and hours of the day eventually the immune system will start to become confused and it will start to confuse your own tissues, whether that's in the thyroid or that's at the gut lining or in your joints, it will start to confuse those with the pathogens that they have been exposed to. There's really no mistake about it. |
|  | The first and most effective point of treatment for most autoimmune conditions within the dietary world is to get the refined carbohydrates, the highly carbohydrate dense foods, and all forms of gliadin out. Whether you have to go completely gluten free and cut out oats and corn and rice, those I think tend to happen more on an individual basis, but certainly getting rid of wheat, spelt, rye, kamut. I would get rid of all grains, and add a very strong probiotic to every meal. That's going to have two good effects. Number one is that you're going to hopefully start to over time ... I know Mark you've really shared some great information about the type of dosage it takes to make long term changes in the microbial profile. You're talking twenty-five billion, right, or more, a couple times a day. I mean we're not just talking about eating yogurt, we are talking about very aggressive introductions here, new armies of bacteria eating lots of fermentable fibers in the way of vegetables so you can support the healthy growth of families of bacteria. |
|  | You do this for two reasons. One is you're trying to change that microbial profile within the microbiome so that you get more anti-inflammatory species, and you're really trying to displace some of the pathogenic ones. You're also doing this because every time you take a probiotic with a meal, any type of inflammation that would have otherwise been generated by that meal starts to become less of a source of inflammation. Taking a probiotic with even the wrong meal, like something that was centered around bread or very very carbohydrate-dense, you're not going to get the same lithopolysaccharide surge, which is a bad thing, you're not going to get that same surge if you're taking a probiotic with a meal because those beneficial bacteria tend to suppress some of the activity of the pathogenic ones. |
|  | I think there's a lot of really good reasons when it comes to autoimmunity to take a probiotic, and they're not all created equally. I think we had a podcast on probiotics in the past. You really want a potent dose, twenty-five billion or more broad-spectrum, multiple species. I like Prescript-Assist. I think it's one of the better ones out there. Coupling that with a grain-free, and absolutely a gluten-free diet, I think are fundamental points to trying to reverse autoimmunity. |
| Mark: | No question John. Most people, I know this has been your experience, and when you talk to clinicians that do a lot of this work, it's really unusual not to see a response, and that is often seen within as little as three to four weeks. Those responses will be symptomatic responses, less pain, more energy, less swelling, less fatigue, all of the many things that can go along with autoimmunity. You may, in the bloodwork, see reductions in these antibodies that provide or may be measuring, in part to make the diagnosis of a particular autoimmune problem, but to follow the progress of that disease we look at markers of inflammation like c-reactive protein and you can see interval drops and decreases in that. |
|  | I think that this is such low-hanging fruit, if you will, John, for anyone struggling with these diagnosis. Though it can take some time to sort these things out, rarely does the effort not pay off in an enormous way. We've talked a lot about dysbiosis John. These can take a while to sort out. By the time someone has an autoimmune diagnosis they've often been symptomatic from months to years. We know from research that's been published in the New England Journal of Medicine that people will often have antibodies in their blood, like ANA, this anti-nuclear antibody, for years before things ultimately manifest in a way that a doctor can say, "Ah, you've got lupus, you've got rheumatoid arthritis, you've got Sjogren's, you've got this," so that the conditions under which this loss of tolerance and these antibodies become more prevalent often have been in place for a long long time. |
|  | We remind folks that this can require some patience and perseverance, but boy it is well worth it. When we look at many of the causes of leaky gut and dysbiosis, and you touched on the main dietary triggers John, we remind folks that it does require a provider who sort of understands this strategy. Being tested, for example, for dysbiosis and overgrowth of yeast and small intestinal bacterial overgrowth, there are tests for this, and it's really important to kind of know for some what you're dealing with as you attempt to eliminate triggers in the diet, as you note, introduce probiotics and fermentable fiber ... Some people may need strategies, right, to eliminate certain small intestinal bacterial overgrowth. May require a course of Xifaxan, some antibiotics. It may require an anti-fungal, but again the emphasis is on that system which ultimately becomes the basis upon which an individual becomes more tolerant, and the immune system becomes more tolerant. Really that's what we're looking for here. Greater tolerance, and identifying those things that interfere with that, and eliminating them, and introducing those things that maybe we need more of to enhance tolerance. |
|  | An example that comes to mind there John, again when you look at the epidemiology, celiac for example. This was really surprising to me, not so much that is becoming more prevalent with each year, but if you look at countries around the world, John, those countries at more northern latitudes are seeing explosions ... Canada has about ten times the rate of prevalence increase compared to countries at more southern latitudes. We often speculate ... We know that autoimmune diseases are often more prevalent at more northern latitudes. That brings the vitamin D story into this John, right. |
| John: | And sulfate, yeah. |
| Mark: | Which we know regulates immune functions. We talk a lot about full-spectrum light exposure, and vitamin D, and sulfation. That's probably another really important area that we still haven't fully understood that probably in some way is also fueling the immune system's inability to remain more tolerant. |
| John: | Absolutely. I think there's two nutrients, Mark, that a lot of people are somewhat familiar with that we have widespread deficiencies in, if not an overt deficiency causing real clear health outcomes like rickets or something like that. We have at least sub-optimal levels that are compromising things like proper immune function and targeting and gut health. Those are vitamin D and zinc. The research on zinc is really clear. If an individual has a sub-optimal level, the gut integrity will not be what it should be. We know zinc is really important for a normal immune function anyways, as well as countless other physiological roles in the body. Testosterone production ... It's a really enormous ball of wax, but zinc is a really difficult nutrient to acquire on a daily basis, especially if a person is largely vegetarian or has a grain and bean-based diet. That's because zinc absorption is so easily influenced by the presence of phytates. These are substances found in the bran of grains particularly, and legumes, that really latch on to particular micronutrients or trace minerals. |
|  | I'll look at zinc deficiency, and as you just noted importantly, vitamin D as well. Those are two nutrients that if you really take a look at those two on a Venn diagram, you look at how many people have one or two of those deficiencies, it's widespread in North America in particular. |
| Mark: | Yeah, and I think that too is again, John, low-hanging fruit in terms of micronutrients that have significant impact on immune function. They impact so many things, but immune function being central to how they impact human biology. |
|  | Then we look at other aspects. These are things we talk about all the time, John. One of the reason the same sort of themes come up is a lot of what we discuss are ultimately metabolic fault lines, right. These are root causes. Whether you're talking about Alzheimer's or autoimmunity you find yourself coming down to similar themes because they do tend to alter the very metabolic root causes that drive so much of chronic complex disease. People with autoimmunity frequently will be insulin resistant, frequently will be dealing with other co-morbidities that might include, you know, osteoporosis and hypertension. People as they begin to look to reduce triggers in their environment, immune triggers, and introduce things like vitamin D or zinc, will not only generally see improvement in their autoimmunity but they'll see improvement in other aspects of their health as well. So much that we discussed John around diets, elimination trials, sort of a paleo approach, I think is so central in its impact on the immune system that it's hard to overstate. |
|  | When I start thinking about, again sort of other contributors to autoimmunity that can be entirely treated and reversed, this might also include disrupted sleep patterns, often that may or may not be accompanied by weight-related issues but often it is, so obstructive sleep apnea, can be an important sort of medical issue that for anyone who's dealing with autoimmunity really needs to have sort of added as part of what we're talking about. If you're having disrupted sleep every night, even as you clean up your diet, you may not realize the potential benefit that you would otherwise ... |
|  | We talk a lot about the stress response, right, this allostatic load, this notion that the environment we are in is creating the perception of threat and instability moreso than it has for generations before us. It would make sense, right John, that our immune systems are going to be more hyper-vigilant in environments that the organism is percieving more potential threat and instabilities. There are so many people who whether it's because of a health issue or dealing with a marital problem or financial stress or all of the things that we know can challenge us, our immune systems will be hypervigilant. If you have PTSD, if you've been traumatized, these become additional dimensions of one's loss of tolerance in terms of their immunity that ultimately need help. We all understand these can be complex issues and can take some time, but they're so important as they relate to this topic of autoimmunity. |
| John: | Yeah, Mark, and I think most of our listeners can relate to the experience at some point in their life when they're under huge amounts of stress. Whether that be in some type of conflict, or they're moving, or the death of a love one, they're under all this stress. Then when they finally get through the actual acute phase of stress and they kind of let down their guard they become very sick. Very ill from something, whether it's a common cold or something more serious. That really I think illustrates how the immune system rallies during stress, and becomes so active as you describe. Then once the stress is removed and our immune system goes back to normal levels, whatever infection we've been fighting, and maybe we've been run down, sleep deprived as well, it takes over. I think it really illustrates how common it is to have a rachetted-up immune response under stress. It can serve to our preservation, it can serve our survival, make no mistake about it, but when that stress is chronic eventually the immune system starts to go rogue. That's really what we're talking about today. |
|  | The other thing that I think is really important to know, Mark, is that infection, not just infections of the gut, but infection with something like Lyme disease, that particular spirochete specifically, has been shown to because of its chronic nature, has been shown to really increase an individual's risk for developing a variety of autoimmune conditions as well. If you think that, especially if you live in an area where deer ticks are very prevalent, Lyme disease is more common, and you have joint pain and you have any symptoms of early signs of an autoimmune condition, I highly recommend that individuals get themselves tested with a Western blot test. I think that's probably the way to go with Lyme disease, trying to really diagnose that. |
|  | Infections range in severity, but living with a chronic infection, whether it's gum disease or something like Lyme disease, it's certainly going to keep the immune system overworked. The potential's there for it to start to work against our own tissues. A lot of this, Mark, I know you're so well versed in this you could probably do a much better job of explaining it than I could, is this concept of molecular mimicry. We mentioned it earlier this morning, where there's certain protein codes in nature that tend to be replicated or become very similar, whether its gliadin's protein sequence, or if the protein sequence in an enzyme produced by something like klebsiella. These protein sequences can start to appear to our immune system like other protein sequences, even though they're different they look the same. Right? Is that how you'd explain that? |
| Mark: | Yeah, I think that's great John. The point that you made about these infections, and infections that tend to be more chronic by nature, Lyme being a good example. Such a hard one to sometimes ... Even the blood test thing and the western blot is considered the gold standard, but I think anyone who does this work understands that Lyme testing is still a very inexact science. Many people who've had Lyme will swear that they've never been the same after that. |
|  | Periodontal disease, John. I think that's such a great point that you brought up. It's so under-recognized. A person may not have much day-to-day attention to what's happening in their mouths, yet we know that these are chronic sources of ongoing infection. These bacteria, in their cell walls some of the proteins that are on the surface of their cell walls, gliadin, these protein structures do often closely mimic protein structures in the human body that are on the surfaces of cells and other tissues. Which might be nerve tissue, and MS for example, or another degenerative neurologic disease being an immunologic response to the nerve tissue that is really confused based on a foreign protein that it was introduced to like gliadin. Klebsiella and rheumatoid arthritis, there's some really good research there. I think that list continues to grow John. |
|  | I do think when you look at periodontal disease, when you look at Lyme, epstein barr, I think that for people confronting autoimmunity these are important areas in addition to what we're talking about to be examining ... Not that they're always easy to reconcile, but ... We'll get Dr. Al back on here at some point. People that have had lots of root canals, just dealing with a lot of periodontal issues often have these low-level infectious bacterial exposure that never allow the immune system to rest. Though again it can take some time, and for some expense, to deal with this stuff, it can pay big time as treatable and remediable sources of overactive immune stimulations. I think that's really important. |
|  | As we wind down here John, the other sort of broad category that jumps out is this whole issue of ... There are actually two. One is sort of environmental toxins, right. You can add that to any discussion of any chronic complex disease, and as we always focus on environment and sort of ancestral gene environment mismatch, we know that many environmental toxins significantly effect the immune response. Whether these are heavy metals or other toxins ... I think the whole glyphosate issue John, which I know you're so savvy in, we're just seeing the tip of the iceberg of not only how a toxin like glyphosate can impact the microbiome, and by extension enhance gut permeability and all the things that we started the podcast focusing on, but toxins that have direct effects on our what we call T-regulatory cells. Part of the immune system that has evolved to say, "Turn on. Turn off." We know that many of these toxins will impact T-regulatory cell functions. |
|  | In my experience adding things like heavy metal testing, and where appropriate managing the burden of heavy metals, reducing environmental toxins, whether it's trying to avoid GMO foods and focusing on organic for the dirty dozen. Things like that I think are ... All of these, right John, become parts of the mosaic. |
|  | The last thing is we know that autoimmunity is much more common in women then men. While I think the understanding is still really evolving, we know that hormones, sex hormones and in particular estrogen dominance, women that may be perhaps producing more estrogen, who may have alterations in their estrogen-progesterone ratios ... There's so many factors from sleep deprivation to stress to carrying more weight around the midsection, to alterations of the microbiome and how women sort of eliminate estrogen, dietary, all these things we know can impact that, but estrogen, particularly when the estrogen-progesterone ratios are not in balance, can significantly tilt immune response towards hyper-vigilance. You lose tolerance. We know that all of our immune cells have estrogen receptors. |
|  | It's another example, John, complex as it is, as an integrated biologic system you start to see how all our immune systems are in touch with every aspect of human biology. From hormonal to the stress response to the gut to microbes that are text messaging our immune system, it's just so fascinating when you start to peel the layers of the onion away and it starts to reveal many things. There's a lot of things that you can do about estrogen dominance, as well as heavy metals. Those were two other lifestyle environmental factors that I think are so important in the discussion of autoimmunity. |
| John: | Yeah that's great. There's a lot of dots that you connected there. You have this concept which is at the center of this universe, right, of the way we look at the world and the presence of microbes or infections and other areas of the body. It's a really really intricate web of influence on these cells that ultimately have to serve us but not be hyper-vigilant or have gone rogue. |
|  | I think Mark, as you mentioned I think for each individual in a different phase of life, with a different set of factors within their lifestyle, whether it's the stress, the sleep, maybe it's a combination of things, or a heavy-metal toxicity, I think for each individual it's really a different mix of possible solutions. Some people have certain aspects of it really down, but there's other aspects that they may have not addressed. I think you point about in particular looking at a women estrogen to progesterone ratio, and we could have a whole podcast on this, but there are a lot of warning signs that there is a major imbalance there. You mentioned insulin resistance and a real difficulty losing weight or maintaining a healthy wait, then there's migraines. There's a lot of warning signs that a woman's body presents in an effort to say, "Hey, we're very estrogen dominant. You gotta really think about a way that you can treat this imbalance." Autoimmunity is just one more long-term consequence to having that imbalance. |
|  | Your point about having heavy metals is awesome, because if someone has significant amount of lead or cadmium or mercury, it all becomes intertwined because then those heavy metals are used by particular pathogens in the gut to form these biofilms, which really borders on science fiction in terms of when you start to try to conceptualize this. Microbes will take these heavy metals and they'll wrap themselves in a very difficult layer for our, basically for our gut other friendly microbes to break down. In many cases individuals with autoimmune conditions that are rooted in this dysbiosis we're talking about, if they've got this heavy metal component as well they need to take some type of digestive enzyme that contains a biofilm disruptor. A lot of different companies make these now. I've recently saw, again we're going back a year or two, but an individual had psoriatic arthritis. It wasn't until he started to use one of these biofilm disruptors that he was able to make great strides and reverse his psoriatic arthritis. |
|  | Sometimes it's that one piece of the puzzle, and that's really where I'm going with this. It's kind of a long winded attempt to summarize this. Whether it's estrogen, heavy metals, needing something like an enzyme formula that can help break down a biofilm, whether it's the western blot test to try to get to the root cause of some of these symptoms that may not be diagnosed as autoimmune yet but they're starting to feel like it, whether that's finding the right clinician that will do, you know, whether it's rheumatoid tests to look at this anti-nuclear antibodies or at least we'll start out with a sed rate, an erythrocyte sedimentation rate or C-reactive protein test to help further the investigation. There's a lot of pieces to the puzzle and I think individuals have to try to if they can account for all of these, right, when they say, "Really what the hell's going on here. Why am I feeling this." |
| Mark: | Yeah. As we bring this home John, that's great. The biggest challenge I know for all of our listeners is just finding a clinician or some clinicians who can help them navigate this sort of complex labyrinth. It's hard to find a one-stop shopping, but often we will recommend folks to the Institute of Functional Medicines, find a practitioner database. All this really tells you is that these are practitioners of various disciplines that have had some functional medicine training, varying degrees of evolution, but ultimately it can at least give you a sense of who might be in your area that can apply the lens that we are talking about. It really does take a partnership and a relationship and a lot of patience and perseverance to work through this stuff. I know this from my personal experience and sort of helping my wife Lianne through some of these issues, and just through other work. |
|  | It's a lot easier said than done we realize, but once you find that practitioner and have the right testing of antibody testing and gut testing and perhaps heavy-metal testing, that provider and you will then be able to establish a more personalized plan of lifestyle and thoughtful supplementation that will address many of these issues. As I said it can be complicated, but there's no reason why anyone confronting an autoimmune diagnosis and whose life is being profoundly impacted by that or the medicines that they have to take for that, there's no reason that they can't find another roadmap to navigate that can bring them to a much better place over time. |
|  | We'll upload a little bit more information on our website John. Really is a fascinating topic and a complex topic. One that I know we can be spending a lot more time talking about, and we will over time. Hopefully we've given some home and perhaps a different lens of how an individual can think about these things called autoimmune diseases, and the fact that they're otherwise perhaps thinking they're stuck where they're at. We're suggesting that it's not at all the case. |
|  | Any parting thoughts John as we bring this home? |
| John: | No, no. I think as you mentioned it's very complex, it can be overwhelming, but I think people should start with the basics and make sure they address things like potential infections. Really clean up the diet, try to get as many of the carbohydrate-dense foods out. Consider taking a good probiotic or at the very least eating a vegetable-based dish like sauerkraut or kimchi with many of their meals. Those are the best starting points, as you always refer to them, low-hanging fruit. |
|  | The testing sometimes is seen as expensive, but I don't think there's a place you can better invest in than your health. Learning that you have whether it's Lyme disease through a western blot test or that you don't have Lyme disease, or learning that you may have heavy metal exposure through testing that is only partially covered by insurance or something along those lines. It's sometimes difficult for people to accept these things in terms of their cost, or the inconvenience of finding the right doctor, but I don't think there's a better investment than their own health. I think people should always consider that. An autoimmune condition will be very debilitating at some point in someone's life, and greatly compromise that quality of health that we all want. |
|  | I know Mark, thanks, it's been great rapping with you this morning. Just want to thank all our listeners. This is a great journey we've been on so far. We must be approaching a year or somewhere along those lines. |
| Mark: | Yeah, we're a little over a year know John. |
| John: | Little over a year now. Great. |
| Mark: | It is a great journey, and we love it. We're at the end of the day, John, as we remind those that listen to the podcast, we're intrepid explorers just like everyone else on this planet. Always looking for a different lens through which we examine our lives and our experience of living. It's always a pleasure. We appreciate people tuning in to The Health Edge. Please, John and I, we're not the most effective self-promoting agents out here, so we appreciate your sharing this content with those you love and care about through social media, through direct contact. We're on iTunes. We get these recordings up on YouTube. We're always uploading our website, thehealthedgepodcast.com with news to use and new content. We also always welcome any question that you might have. We thank you all for listening. John, pleasure as always buddy. |
| John: | Same here bud. Have a great day. |
| Mark: | You too. |