Paleo Solution - 359

[0:00:00]

Robb: Hey, folks. These six listeners can't be wrong. It's the Paleo Solution Podcast. Today's guest is Dr. Ken Brown. He's a practicing physician and clinical researcher who has deep knowledge in everything poo and gut related. Doc, how are you doing?

Ken: I'm doing great, Robb. Thanks for having me on your show.

Robb: Probably the least embellished bio introduction that you've ever had. Again, I told you, we set the standards pretty low around here. But, Doc, that was a very paltry introduction but I like to hear this stuff from the horse's mouth, as it were. Can you give folks a sense of your background and how you found yourself in the gastroenterology field and then also would definitely love to hear how you started exploring this topic of SIBO and some of the novel therapeutics you're using for that?

Ken: Absolutely. So, first of all, I'm a board certified gastroenterologist here in Plano, Texas. It's a suburb of Dallas. And I chose, everybody always asks like why in the world would you choose a field like that? Like you said, everything to do with poop, right? It's really interesting because in the field of medicine you have to make decisions early on whether you're going to go the medical route, let's say, internal medicine or surgical route.

There's a few other specialties like pathology and things like that that are a little bit unique. But the broad strokes are which way are you going to go? And what's really cool about my field is that it has quite a bit of the intellectual component of it because everything, as you know, everything really is affected by the gut. And if your digestion is off then you can manifest a lot of other diseases and things like that.

So, it's got a very intellectual component. And then the other side of it is that I got to play video games in people's intestines. I get to do colonoscopies and endoscopies and I love doing that. So, it's the perfect marriage of the two. Like if you're going to go into something, this is it. It fits me like a glove. I get to think on two days of the week and then I get a scope on three days of the week and I'm a very happy camper.

Robb: Oh, that's interesting because I hear a lot of people, like if they head a surgical route, they're like, "I really love the procedure. I like the kind of focus this brought into that and everything." That's interesting. I've never thought about it

being a mix between that intellectual rigor of the internal medicine but then kind of the cool elements of a procedural medicine.

Ken: Exactly. And so that's what really drew me into that field. And then what kind of got me into this whole world of SIBO and how we actually developed this natural product called Atrantil is that I've been doing clinical research for the last ten years. And during that time I was doing research for a big pharma and I was meeting a lot of different researchers around the country. One of the pioneers in bacterial overgrowth, Dr. Mark Pimentel, him and I were communicating quite a bit and he brought up to me, he said, "The problem is that we're never really going to be able to help these people that have bacterial overgrowth with bloating and constipation."

And he explained to me in a very eloquent model, because he had rat models at that time, where he said the problem is that when you have constipation you're producing methane gas. Methane slows everything down. And our modern day antibiotics, and that's what he was studying, he was using antibiotics to treat this, our modern day antibiotics don't affect the organism that's producing the methane, which is an archaebacter. It's a very, very primitive organism.

That's what I'm sitting there. And it's funny how this kind of things come about where you call it fake, call it whatever you want. But my research manager at that time, her name was Brandi, she has a very unique background. She went to law school and ended up being a policy writer for a senator in Iowa. And I was writing on my dry erase board this whole process of, look, if we can figure out how to stop this methane then we can really help a lot of these people out there. Because currently, they're frustrated, I'm frustrated.

And that's when she went, "Hey." This was like an aha moment for both of us. She goes, "You know, I was a policy writer for a senator in Iowa for a bit after we law school and we were trying to mandate for farmers that they put certain food products in the cattle feed to decrease the methane production in the cattle." Then it was like, "Ha, that's it. Let's start going down that way." So, the beauty is that most of the heavy lifting had already been done in the agricultural industry and we just had to sift through a bunch of stuff and figure out, "Wow, we can do this naturally."

Robb: Doc, could you help walk folks through some of the differences in these GI related pathologies? Because we have all sort of colitis, irritable bowel syndrome. Some people will have constipation. Some people will have loose stools. All of it seems to potentially have like maybe some immunogenic food and also some bacterial overgrowth. But we get some really just massively different responses and I think that that's part of the reason why it's been hard to pin down within the standard scientific method that this is really an issue. It

doesn't fit perfectly into that kind of Koch's postulate kind of deal of reproducibility because it's so variable from person to person.

[0:05:16]

Ken: Yeah, I'm glad you brought that up. So, let's bring up irritable bowel syndrome first or IBS. We're seeing a lot of advertisement from drug companies and things like that. And the reason is that almost 20% of the US population suffers from some form of IBS. That's almost $30 billion a year that's actually being spent. But IBS is kind of what we're going to call or what I would call a trash can diagnosis.

Meaning, if you don't have anything else that we can find, we're just going to label you as having IBS, pat you on the head, because all you have to have is abdominal pain, change in bowel habits and have it for over three months and the most common symptom is bloating. So, for a lot of your listeners out there that had been labeled as IBS, there's some hope because what's happened recently -- And this is where you get into the bacterial overgrowth component.

So, I don't view IBS as one diagnosis. I view it as let's find a reason why this is going on. And you hinted in a bunch of these things, food intolerances and so on. But what we do know is that IBS right now is where we were 30 years ago when we were just discussing ulcer disease, like gastric ulcers. What people don't -- I mean, what a lot of people now realize is that a lot of ulcers are actually caused by a bacteria called H. pylori.

Now, H. pylori is something that we all, medical doctors, we look for now and we say, "Oh, if you have this, we treat you for it." But at that time, the Australian researcher that discovered that, nobody had any idea that you could have a bacteria that could actually cause an ulcer until he took it and then almost died from bleeding out from an ulcer. Well, we're at that same paradigm shift right now. And what we now know is that if you experience stress, get sick, take antibiotics, and we can get into a bunch of other things about diet, because I know that's pretty much, with your books and everything is all diet related, you can have bacteria growing where it shouldn't.

So, we talk about the microbiome. It isn't necessarily that the bacteria are good or bad. It's that now you have bacteria that is just growing where it shouldn't. And that's what causing the symptoms. So now we realize that if you have bacteria in your upper intestine, in the duodenum area which is right past the stomach, that should normally be a relatively sterile area, but a lot of these people that are experiencing all these symptoms, the bacteria growth there, then every time they eat, and very specifically every time they eat starchy type foods, because bacteria love sugars and such, then they blow up, get very sick and have all these frustrating symptoms.

Unfortunately, this concept is very slow to take on and you probably have a lot of guests, a lot of doctors, sometimes the wheels of medicine move a little bit slower than you think they should. So, that is what I would consider IBS. And so when you throw a few other things out there, I almost think of this as like a Venn diagram. So now, let's throw in IBD, which is very confusing to people because the acronyms are similar, but that's inflammatory bowel disease.

That's when we start talking about ulcerative colitis and Crohn's. You're very aware of this. I read our book this week and I love the fact that you're talking about a lot of autoimmunity. We're seeing a ton of autoimmune on the rise and Crohn's and all sort of colitis are autoimmune diseases. That's where your body decides to attack itself. And so your body will actually attack the intestines. That's the autoimmune component of IBD.

Now, most people with IBD also tend to experience some dysbiosis or bacteria growing where it shouldn't. And then to throw in the third little circle of the Venn diagram would be diet. And that's a whole separate discussion on its own but you've done a lot of research on that. But our diets can really cause a lot of these symptoms that we're trying to treat. But if you're feeding these bacteria and you're giving them exactly what they want -- They want that piece of bread. They love that bread. And then they can replicate more and the symptoms keep increasing. So, it's a very, very vicious cycle.

Robb: Right. And, particularly, my understanding with this SIBO, this small intestinal bacterial overgrowth, in particular. So, ideally, the bulk of the bacteria exists deeper in the GI tract but the food needs to get past the small intestine to get there and often one of the proposed mechanisms for the shift is, the refined carbohydrate diet really isn't leaving much for the bacteria later in the digestive process and so they just migrate to where the food is.

[0:10:11]

But then how the heck do you deal with that scenario where we need to get rid of the bacteria early in the digestive process, leave the bacteria intact later and then not starve the person to death and the whole effort of saving them?

Ken: Right. And so, as a clinician, as a gastroenterologist, while I'm treating a lot of these people, I'm getting frustrated, patients are getting frustrated because the pitfalls of the current therapy that we do, these prescription drugs, almost everything is just a laxative. They all focus on the colon. Nothing is really decreasing the bloating. And like I mentioned, these antibiotics do not affect this archaebacter or the organism that makes the methane.

Because the methane, only 20% of it gets absorbed then 80% of it goes to the colon, and now that's what causes a lot of constipation. It's very, very frustrating. So, we were looking at this when we had this aha moment. And if we could think of something that was organic, work in the duodenum where this problem is happening and get rid of the methane, then we knew that we would have this kind of panacea and that's where we were headed with.

So, right now, what's going on is a lot of people are trying to treat this, those that do treat SIBO, those that even recognize it. A lot of the, at least the MDs, gastroenterologists, would treat it with antibiotics. And you know as well as I do that there's a lot of problems with that. We're talking drug resistance cause a lot of things. So, that's how we came up with Atrantil to try and work in the right area and get rid of these bacteria and get them to go back to where they should. That was the plan.

Robb: Got you. Could you describe the individual constituents and then also why they were put together in this synergistic fashion?

Ken: Absolutely. So, what we realize is that we needed to try and get rid of the bacteria and safely try and help the bacteria in the colon. Well, as it turns out Mother Nature ends up being pretty good at all of this. And we realized through these bovine studies that if we put three ingredients together, that they could synergistically work to get the bacteria to go back to where it should. And that's Conker Tree extract. That has a small amount of aescin and polyphenols in it. And then M. balsamea, which is the actual peppermint leaf. And we wanted that there as a leaf, not as the oil that a lot of people use because we like the polyphenol component of the leaf.

And then our really big work horse is this epigallic tannin called Quebracho. What we realized is that if the three can come together, the first ingredient comes in which is the M. balsamea. It just calms down that area. We want the other ingredients to stay in that portion of the intestines as long as possible. Second ingredient, the Quebracho. It's just a very large flavonoid. It's a very large polyphenol. These are the molecules that you'll find on the outside of the skins of fruits and vegetables. That's the thing that kind of goes into the Mediterranean diet that when people -- I know that you do a lot of Paleo. And then your book I was very impressed, that you also recommend a lot of vegetables.

Although we get micronutrients and everything, the thing that we really get a lot of are these polyphenols and they do a ton of benefit for us. It allows our body to use those. So, the Quebracho comes in and what it does is it soaks up all the hydrogen that's being produced by the bacteria and then it weakens the archaebacter. The third ingredient, which is the Conker Tree, has the ability to

kill a few bacteria on its way in but then it actually can shut off the enzyme that is producing the methane.

So, basically, they work together. One calms the area down. The other one takes away the fuel from the archaebacter. And the third one shuts off the methane. And by making it, basically, as un-hospitable as possible for this bacteria then they go back to where they should, which is the colon.

Robb: Got you. Doc, how is this arrived at? Was there any kind of a traditional medical practice, Chinese medicine, ayurveda, anything like that? Or was this just kind of some good reductionist science that arrived at this mechanistically?

Ken: Well, we were looking at all that data and all these different studies that had been done in the bovine world. And then we realized that all these ingredients are actually in our current food right now. So, the FDA recognizes it as a food product. So, it doesn't have to go to any type of FDA, IND or any of these really complex things that really drive up the cost of everything. We thought, wow, they've been able to do this. So, the first thing we did is, I don't know, randomized double blind placebo control trial on it.

[0:15:01]

And we got that published in the Journal Gastroenterology and Hepatology in September 2015, I think. And that's where we looked at this product, the combination of the three against a placebo or a sugar pill. And what we showed was that constipation scores increased almost 32% which is really good. So, 32% increase in bowel movements. But the kicker was this, is that our bloating scores went through the roof. We had almost, say, 91% improvement in bloating.

And that's when we knew that we were on to something really big and good. So, the science made sense and now we did our first small randomized trial. And then I put it in -- Since I'm a practicing gastroenterologist, I kind of call it my worst of the worst trial. And that's where I took people that had failed everything and by failing everything -- I get a lot of second opinions and so I get a lot of people that have already kind of come in with their records. I'm like, "Oh no, this is going to be tough."

And we looked at everything and they've been tried Xifaxan, Neomycin, probiotics, all the usual pharmacologic agents, many of them had been tried on herbal antibiotics and a few other things. And so I put this worst of worst population through it and we saw an overall 88% improvement in quality of life and we saw 78% improvement in bloating and 36% improvement in constipation.

So, those numbers were very, very consistent. The P values, meaning that the likelihood of this being by accident, the P value is just like .005. So, really good in the sense that we have these studies that have shown this. We're actually in the process of working with Texas Tech University right now and I want to do a very large multi center study. I want to do a natural product put through the same rigorous of a lot of our pharmacological agents just to show that, hey, we've got something that is natural, organic, works in the right place and we've got the data that all these other companies also have. But it just takes money and so we're working our way through that.

Robb: Nice, details. Just money.

Ken: Yeah. It's just money, right?

Robb: Doc, what other things can folks do -- I have a bunch of questions. I guess, the first one. So, this is really focusing on that constipation side of this story. Is there any potential efficacy for folks that are on that other spectrum where they're a little on the loose side but there may still be some suspected SIBO going on with the individual?

Ken: That is a great, great question. So, what we now know that when you have this bacteria, the bacteria will produce hydrogen as a byproduct and then depending on the type of bacteria around they can actually produce, they can take that hydrogen and instead of producing methane from it, which is a carbon and four hydrogens, they can produce hydrogen sulfide. And hydrogen sulfide causes diarrhea.

So, pretty much as long as you're bloating -- and this is kind of what I tell all my patients. If you come in to me and you say that after you eat you bloat almost to the point where you look pregnant or you're clothes fit tight, I have a pretty good idea that you've got some bacteria growing where it shouldn't. Because if you're saying 30 minutes after eating especially a high carb meal, then you bloat up like crazy, bacteria is getting there.

And then if you have to use the restroom right away, that tells me that you're producing hydrogen sulfide. And so if you're really backed up, that tells me you're producing more methane. Now, there's actually some tests that you can do to try and determine that and it's called a breath test. Although the breath test is not infallible and the sensitivity and specificity isn't that great, it's kind of the best that we have right now.

You can see it's really interesting because you can see these spikes where people will have hydrogen jump to the roof or they'll have methane. And when they do that, and I say, okay, so this is positive, and you've got constipation, this is what's

going on. You've got some bacteria somewhere that's actually producing the methane.

Robb: Got you.

Ken: So, now we've got a -- Now we have the mechanism of everybody that has IBS or irritable bowel syndrome. It used to be that you have IBSD or you have IBSM which is mixed or IBSC. The FDA forces these drug companies to land on what they're going to make their claim for. For instance, you may have seen a product called Xifaxan because they took an ad out in the Superbowl. That shows the kind of money that these companies are spending and that shows how many people are affected by this kind of thing.

Well, they went for the IBSD category because that was the drug we were working with when I was talking with Dr. Pimentel. That particular antibiotic doesn't get rid of the archaebacter. So, they went for the IBSD. And I still use quite a bit of that if I'm having some trouble helping some people. Sometimes I use it in conjunction with our product.

[0:20:06]

But that is the -- Once I can tell my patients, "Look, now it makes sense why you were perfectly normal four years ago, you went to Mexico, you got sick, you came back and you'd never been right since," well, now, we've got a mechanism to show him that, "Okay, look, you got sick, you ended up possibly affecting your motility, now bacteria is growing there, now you have lots of diarrhea, looks like the bacteria is probably producing hydrogen sulfide. We can fix that."

That's the path we go. At least I'm not patting him on the head and saying, "Oh, why don't you try this antidepressant?" Which is what a lot of people do. They say, "Oh, it's in your head." Which is what we said about ulcers 30 years ago. "Oh, you're stressed." And now we realize, "Oh, no, we need to get rid of that bacteria."

Robb: Right, right. Just as possibly interesting aside, in my new book, I have a little digression talking about the term hypochondria and I'm still trying to dig up where this all popped up from but hypo means below, chondria means joint or cartilage or specially the ribs. And so hypochondria really literally means the area below the ribs or the gut. And so I'm still trying to figure out like did somebody somewhere -- It's become this kind of derogatory term but did somebody somewhere at some point they're like, "Oh, man, when there's a bunch of crazy stuff going on, it's just gut related." Like Socrates said, all diseases start in the gut and all that stuff. I'm still trying to unpack that. But that may be my singular credible contribution to the philosophy of medicine if that ever--

Ken: That's funny. Oh, wow. There's actually, when we divide the abdomen into four quadrants so that when you do a physical exam and you'd say pain in the right upper quadrant, when I was in medical school, the left upper quadrant was considered the hypochondriac area. Because the only thing that's there is the colon and the spleen. Well, it's very funny because a lot of people have issues there. And as it turns out, you can actually trap gas in the splenic flexure of the colon and it's very uncomfortable. And it's very bad and it's really funny because I was taught at medical school if somebody's hurt there they're faking it or they've got issues. No, it's very real. It's very funny, the hypochondria.

Robb: It is kind of funny. I'm still trying to get to the bottom of that but it's, yeah, at least interesting to me and possibly one other person.

Ken: Yeah. Do you know what is also really interesting, as long as we're on the topic of IBS and hypochondria and things, how many people come to me that have been labeled with other, with what we're going to call trash can diagnosis? And this is a lot of things that are going to be very familiar to you because you've helped a lot of people by changing their diet. But when we get things like depression, sleep disturbance, chronic pain, fibromyalgia, rosacea, there's interstitial cystitis, a lot of these things that, oh, it's associated with IBS. Well, now, we realize that if we can treat the underlying bacteria a lot of these other functional problems get better. Very, very interesting.

Robb: Right. Yeah. And, again, it's kind of interesting because within this usual kind of reductionist story within medicine you expect a one disease one pathology kind of deal and it's not quite that simple. Like issues in the gut could manifest in depressive symptoms in one person and elevated pain symptoms in another person and so how do you really get a handle on that? And we're slowly, I think, starting to get to a spot where some of that makes some better sense.

On that maybe diet and lifestyle piece, like if you could wave a magic wand and in addition to the therapeutics that you guys are using, is there any specific diet, lifestyle interventions that you're recommending, is there food screening, elimination diet? Like if you could just say, "I want you, for the maximum benefit, I want you to do these following things," is there anything that you would recommend even if onerous risk and most people aren't going to do it?

Ken: I'm so glad you brought that up. I typically have had much better results if I can get my patients to go some sort of lower carbohydrates. So, there's diets out there. There's the FODMAP diet, which you get rid of these oligosaccharides which are these different sugars. But what I don't like about that is you take away a lot of really good vegetables. Of course, we got the FODMAP diet and the

gluten free diet. Had both been shown to be about 28% effective in studies? But then most people come off of it and then they go back.

[0:25:01]

But there's something very common with that, is that when you do the SED diet, the SCD diet, the FODMAP diet, the gluten free diet, there's one common theme here. You're getting people to back off a lot of their carbohydrates, very specifically their grains. And all three of them, grains are taken out. So, what I at least tell my patients, I try to get as much compliance as possible and I at least start with gluten free.

Now, I'm not saying this because I'm talking to you but I'm a fan of the Paleo diet so I try and get my patients to go that route. I think that that all my autoimmune patients, I'm really, really trying to do that as well because I believe that diet plays a really big role. And there's so much more going on with this diet. Now, whether it's related to bacterial overgrowth or whether it's related to the food itself causing problems, there's, I don't know, in this past month in the journal of cancer, and I'll find the exact journal, they demonstrated that millennials and generated X, people in their 20s and 30s, have a fourfold increase in colon cancer than their parents did. It's crazy.

And that caught everybody off guard because it was the Journal of the National Cancer Institute. That's right. Journal of the National Cancer Institute. And that caught everybody off guard. Just like, whoa, what's going on here? And then when you read these editorials and really kind of sift through the data, there's actually less smoking, less heavy drinking than it was back then and yet we're having this increase. And one of the theories is obesity, the foods and so on, is actually causing it.

So, the diet that I recommend is at least gluten free. I try to get them to go Paleo because I think it's more of a lifestyle. FODMAP map diet and SCD are great diets but very difficult to make that a lifestyle over a period of years.

Robb: Right. And it's interesting because -- Could you make an argument too that given how many great chemical constituents like all these polyphenolics and whatnot, like the goal is to get the person back to a spot where like garlic and leeks and stuff like that can be part of the approach. And granted, maybe not everybody can do that. But it's almost diagnostic of a healthy digestive tract if you can handle some beans a little bit and some garlic and leeks and it doesn't totally cripple you. Would you agree with that?

Ken: Oh, totally agree with that. I think the thing that really gets under discussed amongst MDs and, I think, that naturopaths and people like yourself that are

very dialed in to diet, the thing that you all talk about very openly is this concept of leaky gut. And as a medical doctor, if somebody comes in and says that, most of the time MDs will shut off.

Robb: Right.

Ken: But if you say epithelial permeability then, "Oh, that makes sense." And when we look at this, I gave a lecture to a functional medicine society here and ended up spending a long time talking about this one concept, the tight junction. When we look at the tight junction and we realize there's a lot of really cool research going on here, I've met with a lot of bench researchers, I got a friend in Louisville, Kentucky who just -- He's a gastroenterologist and just got his PhD like a mid-career and you're like, wow, that's a smart guy to get his PhD while he still has a full gastroenterology practice.

So, his PhD or his thesis was on claudin and occludin which is the first gatekeeper in our whole intestinal system. So, I think one of the reasons why at least medical doctors tune off when somebody says leaky gut is because the internet describes it in a certain way. And when I gave the lecture I said this is what's happening with doctors and it was a picture of a guy in a white coat with his head buried in the sand. But then the other flipside is this is what people are reading on the internet and it was this mesmerizing video of just sheep just going through a fence, just tons.

Somewhere in the middle lies the answer. And the next slide is a very, very complex diagram of how eloquent and beautiful the tight junction is. But what we do know is that's being studied right now and we do know that a few things really affect it. One of them is bacterial overgrowth and infections. So, any type of intestinal infection but bacterial overgrowth is like a chronic low level infection. Molecule that you've probably heard of that is produced in response to gluten called zonulin.

[0:29:59]

Alessio Fasano was the first guy to kind of come up with that and did this great paper on that. And then diet. We got all these new evidence that diet can do a lot of things with this. And all these different things play into it so it's that tight junction that I think is going to be the future of everything. So, when we talk about things that can help it, well, there's a lot of reasons why people have done so well when they've come to you and you've put them on a Paleo diet that has a lot of vegetables, I would almost think that it's just not getting rid of the grains and such. But I would think that a lot of those veggies allow your body to use them as almost -- You could call them prebiotics if you want.

But it really allows your body -- Mother Nature, we cannot replicate Mother Nature. These polyphenols are gorgeous and your bacteria there will actually take it and produce good things from it. An example that I was just read a recent article about this, there is a -- So epigallic tannins which is the same thing that Quebracho is, they were looking at how epigallic tannins, when they get into the colon, are converted to urolithin in the colon and urolithin is a very potent anti aging molecule. And now we start making sense of, oh, that Mediterranean diet--

Robb: Resveratrol and all those other stuff, yeah.

Ken: Yeah, exactly. Exactly. It's all tied in. So, you have this Paleo community out here that maybe they're not bloated but you can actually, the diet that you're on could be a very good anti aging diet and that's where something like us -- I think that's why most of my patients that I treat for bacterial overgrowth with Atrantil most of them stay on it on a daily basis. They're like, "I just feel a little better." I take it daily, I feel better, I guess. I don't know if I look all that young but I'm hoping it will kick in sometime.

Robb: Well, I remind my wife that when the lights are off I look just like Brad Pitt so we're good. Doc, that leads into my other question or annex question. What's a good protocol for folks to follow in this story? Let's say that you've had some kind of wonky gut issues, you're wanting to explore the Atrantil, do you recommend like a low-ish carb approach, some Paleo type stuff, introduce and then maintain that?

And, I guess, part of the extension in the office, let's say that you have noticed that you kind of react to like leeks or onions or something. Do you run with that, that the herbal intervention for a week, two weeks, a month, and then slowly start reintroducing these things that maybe we're problematic foods and it's like elimination reintroduction diet with Atrantil going in the background?

Ken: Yes. So, what we have found or what I found in my practice and a lot of my colleagues have found is that a lot of these food intolerances where people say I can't eat that anymore and they start eliminating, they just keep taking things away, once we get rid of that bacteria, they can tolerate a lot more things. Because it's that bacteria that -- You just give them this buffet of food and you're blaming the food when it's really the bacteria.

So, my general protocol is if you bloat I can say that I'm going to have greater than 80% chance of helping you by using Atrantil natural, that's good, people like that. And I prefer some sort of lower carb diet, whatever suits your lifestyle. Since I pretty much in Paleo myself it's easier for me to explain that and say I like. I like to stay in shape and stuff so at least I'm walking the walk, trying to do that.

Now, there's the flipside to that, is that you've got this movement right now that when they're treating bacterial overgrowth and you're going to use antibiotics, even Dr. Pimentel has changed his view on this where he's like, since antibiotics work in a totally different mechanism you want that bacteria running around soaking up the antibiotic? Because the way the antibiotics work is that it actually binds to the bacterial RNA and that's how the bacteria die. And so, in those cases, they're like, no, eat, so we get the bacteria really angry and happy and do that and soak it up. My success has been more by taking our product with a lower carb type situation.

Robb: Interesting. But possibly, not like ketogenic levels because if we starve certain things like some of the clostridia can be spore formers and stuff like that and so you could actually just make them hunker down, you do these round of antibiotics and then the stuff that you really try to pick off have just hunkered in until you reintroduce substrate for them to munch on and then they pop and then you're right back up again.

Ken: Exactly.

Robb: Okay.

Ken: Yeah, exactly. I don't think I could ever get any of my patients to -- I mean, as you know, it's hard enough to, including myself, I mean, I still like bread.

[0:35:05]

I would love to -- There's something to be said about that also, which is really interesting. I didn't even realize, just a quick side note, the original person I described, Brandi, my research manager, what's interesting is that before she was my research manager she was enrolled in one of my studies. And we noticed that she had increased liver test and we couldn't figure out why. And then she was telling me about this weird rash that she would get periodically. And it ended up being dermatitis herpetiformis, which is a manifestation of celiac disease. So, we diagnosed her with celiac disease.

I would go out to lunch with her, and this is after -- I mean, it's almost funny when I think about it. But it became very normal. We would go out to lunch, right go eat lunch at the doctor's lounge and then I would have to run back and use the restroom before I saw my next patient because I was having lots of issues. And so after we diagnosed her, out of support, we would go out to eat and I would eat gluten free and I wasn't having any issues.

And all of a sudden I'm like, "Oh, I'm gluten intolerant." I'll be darned. It never even occurred to me that that's what's happening to me and that's how we kind of started going down this path. What happened to me is a little bit interesting in that I can take Atrantil with my gluten and I don't have issues. I don't have all the science behind it. I think it has something to do with zonulin but that's another avenue we are working on. And so I have a lot of celiac patients that actually take it whenever they go out to eat and they've had mitigated--

Robb: Just like the cross reactivity potential.

Ken: Exactly.

Robb: Got you.

Ken: Exactly, yeah. So, that's kind of interesting. That's a quick little side note. But getting back to the original question which is what is the protocol? My protocol is if you bloat, you don't have any warning symptoms, meaning weight loss, rectal bleeding, things that I really want to make sure that you don't have Crohn's or sort of colitis or cancer, then let's try and treat you. Let's try and treat, and if you respond, then that's our test and treat at the same time.

If you don't respond then I start thinking we had greater than 80% chance of you getting better why aren't you better? And that's when I start finding some unusual things. That's when we go, okay, let's go ahead and do an endoscopy and colonoscopy and, oh, there it is. It's Crohn's. Got it. Getting to the ileum and we see it and now we know. And then if they don't respond to that, there's still 20% of the people, because now it seems that mostly what I get are people that have failed everything else. I show up, I walk into a room and they're already my box of Atrantil and I'm like, "Oh, no." I've got nothing left. What do we do?

Robb: I'm going to earn my paycheck today.

Ken: Yeah, I'm going to earn it. And fortunately, it's extremely rewarding because in the very beginning you ask why I want to do GI and then that becomes the intellectual part where what are we missing, what else is there? And there are still a whole lot more to study. We can fix that 20%. I'm trying and my patients know it. I just sit there and I'm just like we will crack this code here soon at some point. And maybe it's just all diet. Maybe it's -- You wrote that whole chapter on leptins, which I had never really even considered and I'm like, "Wow, that makes sense."

Robb: Yeah. I mean, you put on a little bit of this evolutionary biology perspective and it's like, okay, some of these plants are going to have some really potent anti predation chemicals and there's probably some degree of benefit of getting

exposed to that, these hormetic stress responses and everything. But I think about my own life history. So, vaginal birth, not breastfed, lots of antibiotics throughout my life. Looking back now, I probably wasn't doing well with wheat and dairy.

And then I had really bad acne. And so I was on antibiotics from the age of 13 to 21 for the, yeah, the tetracycline deal. And so it's like what states are my gut's in? And this is part of the reason why I've had to be quite careful in what I do and over the course of time I've gotten better but I may not be ever 100% compared to somebody else that had a different life history but I've been able to chip away at this whole process and continue to get better but I've never tried your product. Before we started rolling, I had the website pulled up and I'm going to be ordering that and give you an update on this whole thing. Because it could be one of these factors that is just kind of the missing link to push this thing back into a good spot.

Ken: Well, certainly, we have a changed a lot of lives. There's no doubt about it. I feel very, very honored that we're able to come up with something that is helping a lot of people that otherwise were pretty desperate. I can't wait until the company itself -- It's still somewhat of a startup. We launched about a year and a half ago.

[0:45:03]

It's done really well. We're keeping up the demands and everything and a lot of people are enjoying it. But I would love for it to go on its own so I can get back to research.

Robb: Right. Shocking.

Ken: Okay, what else? Yeah, exactly. What else are we missing here? My big thing, I really think that that whole autoimmune process really everything starts there. And when we start talking about this leaky gut, gut permeability and autoimmune, you nailed it, where when you have this permeability, it's a very eloquent process where these dendrites which are like security guards grab the antigen or the outside world and then they just hand it off to a B cell.

And then in a genetically susceptible person, which is why we start seeing these people that have multiple autoimmune diseases, they've got, it turns on this inflammatory cascade. And then what was a little tiny drip now becomes a little straight pathway. It's almost we went from a tiny little creek to a river that's just flowing through. This is when I tell my autoimmune patients that like, "Look, you've got hypothyroidism, you've got celiac disease, and you've got liver tests

that are up. This could be autoimmune hepatitis. We've got to start shoring up everything. Otherwise, it's going to be a long road.

That's where I think the -- We could start helping some people from an autoimmune standpoint. I think that would just be amazing to try and get to some of these people, say, don't have to take these big heavy duty drugs all the time.

Robb: Absolutely, yeah. I mean, the autoimmune path doesn't have super fantastic outcomes. It's immunosuppressants and methotrexate and stuff like that. There's really not a great resolution going that path. I think that there's huge power in this kind of integrative diet and lifestyle approach. Doc, one final question before we wrap up, not to pun too much, but gut sense on this is that we're going to learn more in the next five years about the gut, the microbiome, the genetic and epigenetic interface with humans than what we've known in the last 50 years, but I'm curious how much that increased knowledge is really going to change what we do clinically?

Like what do you think about that? Like is there just going to be this really amazing insight gleaned from doing a full gut microbiome sequencing and overlaying that with genetics or is it still just going to be some good clinical medicine asking good questions, making a recommended course of action, see what happens and then tweak variables as we go?

Ken: Well, it's a loaded question to me because I'm a little bit biased. And I'm biased because I'm a medical doctor, gastroenterologist, who's trying to tell my colleagues we should start using a natural product. And I'm being met with quite a bit of resistance on that end. And I'm like, well, this is silly? Why not? I mean, it's safe. It's a food product. And we have been trained since medical school to -- I don't want to throw them too much under the bus.

But there's a whole industry that the pharmaceutical industry, there's a lot that goes into trying to get people to have prescribing habits. And so when you say are we going to learn a lot, is it going to translate to a quick clinical change? I think in certain sectors it does. I really do think that this movement of the functional medicine type doctor, they're very open to change quickly. I think that your traditional specialist medical doctor is like a warship. They turn slowly. But once they're going that way, then they stay on course.

So, as we learn more about the microbiome, the problem right now is the way that we're sampling the microbiome is we're looking at DNA, analysis of the stool, everything is stool because that's where most of it should live. We can't really replicate what that means because that's like sifting through somebody's trash and then making an assumption about how they live their life inside. We

do know that you have a genome within a genome. So, do you exist for the bacteria? Or do the bacteria exist for you?

It can be a very symbiotic relationship or a very contentious relationship. In this case, my research is focused on the bacteria growing where it shouldn't. I'm hoping that colonic bacteria do well but I really believe that if we eat well the colonic bacteria will figure out how to do well. So, we can try in sequence and do different things. I've seen quite a bit of this from some different researchers about gene sequencing in stool.

[0:45:01]

As it turns out, they're like we don't really know what to do with it yet. And that's part of the problem. So, yes, it's a lot of information, what do we do with it, and why do we continue to get sicker as a society?

Robb: Despite increased knowledge about every nuance of this stuff, yeah.

Ken: Exactly. Exactly.

Robb: Cool. Well, Doc, I could chat with you for ages but I want to be respectful of your time. Where can folks track you down and then also where can they find more information about Atrantil?

Ken: Yes. So, you can just go to Atrantil -- It's like, "Ah, my belly is better." Atrantil.com. And you get a lot of information there about Atrantil and order and things like that. And my website kennethbrownmd.com cover a few other issues. I have certain interest in inflammatory bowel disease and IBS so it's pretty heavy on those things.

Robb: Awesome. Well, Doc, it's been a huge honor having you on the show. I'm hoping to get out your direction sometime in the summer so maybe we can get in some food and maybe a workout or something and be glad to meet you in real life.

Ken: I would love that, yeah. I need to get my dead lift up. So, maybe you can help me with that.

Robb: I've been known to have a little bit of knowledge around some decent dead lifting so I'd love to help in that regard.

Ken: You know what we'll do is we'll go ahead and roll with Ricardo Abreu when you come here. I will just meet you in San Antonio if you come down.

Robb: Perfect. Okay. That would amazing. That would be totally amazing. Well, Doc, again, thank you for coming on the show. We'll have all those links in the show notes and look forward to talking to you again soon.

Ken: Awesome, Robb. I appreciate. Hey, good luck with your book also.

Robb: Thank you very much. Thanks. Bye.

Ken: Bye.

[0:46:49] End of Audio