Dr. Jill
Your Functional Medicine Expert®
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#20: Dr. Jill LIVE with Dr. Kenneth Brown on Gut Health

Dr. Jill 0:06
Hey, Dr. Ken Brown, we're live, and I am so excited. I know we've met before, but this is the first time we've actually got to have a good conversation. I often have friends on here, and now hopefully we'll become friends because I really like you already. You know a little bit of my story, and we might talk a little bit about that today, but I have had quite the experience with gastroenterologists. To me, there's this very binary... like the ones that kind of say, "Diet might have something to do with anything" or the ones that are like, "Nope, diet has nothing to do with anything in your gut." So that's how I divide you guys up. We're going to kind of go where things lead us today. I have some ideas, and we have some questions for you.

Dr. Jill 0:49
Just housekeeping, guys. I am so glad that you're here to listen to us. Please feel free to share with your friends. I think this will be a great, relevant topic. If you need any more information about me, you can visit my website, jillcarnahan.com, for the newsletter and all kinds of free resources.

Dr. Jill 1:06
So let's jump in, and I want to introduce you first, Dr. Brown, and then we will get started. So Dr. Ken Brown received his medical degree from the University of Nebraska Medical School and completed his fellowship in gastroenterology in San Antonio, Texas. He's a board-certified gastroenterologist and has been in practice for over 15 years, with a clinical focus on inflammatory bowel disease and irritable bowel syndrome. As many of you know, I am an 18-year survivor now of Crohn's disease, and I have my own story with that. I'm super excited to talk to Dr. Brown today.

Dr. Jill 1:40
He declared that his mission is to bridge the gap between medical and natural science. One of the things we both share and have so much passion for is the science. I love to be on the cutting edge of what's possible with healing and health and use natural methods whenever possible, but we both really agree: We've got to use good science. As we're doing these interventions, we've got to actually track the data because the only way the next

generation of doctors will do anything different is if we use great science. So I love that he's a fellow scientist like me but also open-minded enough to look at what's out there because what we're fed in traditional medical journals is great, but there's so much more. He was talking about a Mendeley account; I've got one too. So we dive into this and look for… Because what's amazing, Dr. Ken—I know you've seen this—is that there's a lot of research out there that we don't get taught in medical school that our colleagues aren't reading. I'd love to hear your take on that just a little bit, because the research is there if we really dig sometimes.

Dr. Kenneth Brown 2:39
Oh, absolutely. First of all, Dr. Jill Carnahan—my goodness, the unicorn doctor that I was supposed to meet for years. Every time I go to a meeting, somebody is like, "How do you and Jill not know each other?" Then there were a couple of times when we met in passing where we had a mutual friend, and they were like, "Oh, Ken, you need to meet Jill." And I was just like, "Yes, I'm doing this also." Here, we finally get to do this across the country on Zoom. So, great! We're finally meeting.

Dr. Jill 3:05
I know; I'm so excited.

Dr. Kenneth Brown 3:10
And you hold a very special place in my heart because you carry two of my favorite diagnoses, Crohn's and celiac disease.

Dr. Jill 3:18
Yes. And [there's something] so interesting about that. Again, you know a little bit about the functional piece. I had cancer at 25—aggressive breast cancer—then three-drug chemotherapy, one of which was cytoxan, about which you probably know how it affects the gut. And there are some studies in mice that I found after the fact that show that perhaps one of the mechanisms by which it actually induces its response to the immune system to the cancer is by creating a more permeable gut. And I was undiagnosed—silent celiac—before all of this. So, can't you just have the wheels turning in your head about how this might have been possible?—to take someone with the NOD2 gene for Crohn's, [I was at a] super high risk for this basically abnormal response to a normal microbiome. Throw in a drug that creates a leaky gut; throw in an undiagnosed celiac on a high-gluten diet. Does that not make perfect sense to you about how it all happened?

Dr. Kennth Brown 4:06
It makes perfect sense. I actually read a little bit of your story; I think I've read some of your blogs and stuff when you were actually describing this. So, I have a couple of quick questions. So, you were raised on a farm; where was the farm?

Dr. Jill 4:15
Central Illinois. Right smack dab in the middle of atrazine exposure, organophosphates, and endocrine disruptors.

Dr. Kennth Brown 4:24
You've got to remember: I'm from Nebraska; we're the lymphoma belt. So, if you draw the incidence of lymphoma right across Nebraska and Iowa, that's exactly what you're talking about. The University of Nebraska was the first institution to start doing autologous stem cell transplants because it had to. So many [members] of the community were actually showing up with these blood-borne disorders. So, there is clearly something about these chemicals. It's undeniable. When I heard 'farm,' I forgot to look where you are—in the Midwest, right there, there it is. And it's shocking that you went to a gastroenterologist as a third-year medical student. I mean, for any of us who have been medical students, that's a stressful time. I mean, that's bad enough right there.

Dr. Kennth Brown 5:06
Then you're having these issues, and you get diagnosed with ovarian cancer?

Dr. Jill 5:10
Breast cancer.

Dr. Kennth Brown 5:11
Breast, I'm sorry. Breast, that's right. Breast cancer. And then, [to add] insult to injury, Crohn's plus celiac. I mean, your epigenetic environment really predisposed you. From what we know now: You need to move from here and go wherever—perhaps Boulder, Colorado.

Dr. Jill 5:31
Totally. And it's funny, Ken, looking back, that I didn't understand this until I learned functional medicine and wanted to dive into solving [things like]: Why did this happen? I

never said: "Why me?" I took it more as a really cool mystery to solve. But I wanted to understand so that I could prevent someone down the line from experiencing what I did. So with my mother in utero, I think there was probably exposure there because, at 25, you're going to have cells that start to divide and rapidly do bad things, probably like five or 10 years old. And I actually had precocious puberty and breastfed development at five years old. The pediatrician told my mom—

Dr. Kennth Brown 6:06
Five?

Dr. Jill 6:08
Yes, five years old. [They] told my mom: "Oh, no big deal. It'll go away." There was no idea that those endocrine disruptors were probably affecting me either in utero through my mother's bloodstream and placenta or early, early in my infancy, [I was] getting that exposure. We had well water, so who knows what kind of stuff was leaking into that?

Jill 6:27
To me, it's like the perfect storm. I'm starting to write my memoir now, and if you look at my dad's journals of the chemicals they used in 1976, the year I was born, it lists an endocrine-disrupting nightmare. It's literally the top [one]; it's atrazine, which is known to cause ambiguous genitalia in frogs that get exposed to it.

Dr. Kenneth Brown 6:49
What do they use atrazine for?

Dr. Jill 6:50
It's for corn. It's an herbicide to control the weeds on corn. It's banned in Europe. It's banned everywhere. If you pick up a map—you talk about Nebraska—if you look at atrazine and where the locations are, the hottest spot of red is exactly where I grew up in central Illinois.

Dr. Kenneth Brown 7:07
Oh my goodness.

Dr. Jill 7:08
Yes, so I totally agree with you.

Dr. Kenneth Brown 7:12
Where did you go to medical school?

Dr. Jill 7:17
Loyola University in Chicago.

Dr. Kenneth Brown 7:19
Oh yes, great school. Were the doctors discussing... When I went to medical school, that was the thing that they actually discussed. It was: "Look! We're getting way more lymphoma and leukemia than any place in the country." And they were pretty open about talking about it.

Dr. Jill 7:32
Yes, so M&M case grand rounds with the surgical residents—they would have morbidity and mortality, and they'd discuss the cases. I was on as a case because I was the youngest woman ever diagnosed at that time in 2001 with breast cancer. Nowadays, it's actually way more common for women in their 20s, even at 16 and 18, which is so sad. But at that time I was 25 and, at Loyola, with this huge university system, I was literally their youngest patient that had ever been diagnosed with breast cancer.

Dr. Kenneth Brown 8:05
A year ago, a whole study came out [showing that] millennials now have a significantly increased risk of colon cancer, more so than their parents. So they're having colon cancer, and their parents are not having it. It's the first generation [where] the increased risk is now more [prevalent] in millennials. As a gastroenterologist, I'm finding more polyps and more precancerous lesions like Barrett's esophagus and such in the millennial population.

Dr. Kenneth Brown 8:31
So when you say that now it's not that uncommon, that's a scary statement you just made. That's super scary!

Dr. Jill 8:39
It's so scary. It was such an anomaly at 25. And I think I've told this in part of my story, but when I was diagnosed, I was in a young woman's group, and it was considered women under 40. There were about half a dozen or a dozen of us, and I was the only one in that

group who survived. Ken, I mean, it's a miracle, but all of those women in that group have passed because of breast cancer.

Dr. Kenneth Brown 9:03
Oh my goodness. That is a tremendous story that you have. I'm so glad that your book is coming out. Is it ready to be published? Any more hurdles to go through?

Dr. Jill 9:13
It is being written, so it'll be like, here till... Yes, we're in the middle of it. Well, you said inflammatory bowel [disease] is one of your favorite things. I'd love to know, from this perspective of etiologies and things, what are some of the things, and what are your thoughts? What have you seen in the literature? Does my story make sense [compared] to what you've seen?

Dr. Kenneth Brown 9:33
It does, totally. When you sit there and say that I took a chemotherapeutic agent that disrupted the intestinal barrier, I have to walk a very fine line with my colleagues because many people have this "aha!" moment where they say, "Wait a minute, do you think diet has any role in this?" And the doctor says, "No, nothing." And you just get up and just walk out and be like, "Well, you're not my doctor."

Dr. Kenneth Brown 10:04
When you become very passionate about something, there is an emotional response that happens with people. And I've seen this in the functional medicine community, where somebody will really change their life. There are people who have become phenomenal spokespeople because they figured something out. I'm a little bit unique in that I didn't really have this health problem. I was doing pharmaceutical research when I saw a health need and went, "I think I can figure that out."

Dr. Kenneth Brown 10:32
So when you look at these guys that are making a big difference, like Chris Kresser and Robb Wolf, they had to find this to help their own health. Then they've taught everybody else about it, which is awesome. But the second you said that this is a cytotoxic agent that disrupts the intestinal barrier, what you've done is broken down your first line of defense for everything else. So I always kind of joke about it—the tight junction.

Dr. Kenneth Brown 11:00
Obviously, I'm a little heavily weighted towards the GI system, but I believe that all health begins and ends in the gut because you take in the outside environment and your body has to figure out: "Is this good, is this bad, is this a nutrient? This looks like a nutrient," but it's cloaked in a pesticide or whatever and all these other things. So what happens is that you take in something that has both bacteria and viruses and so on. In the small bowel, you have these tight junctions, these cells that are very, very tightly held together. When my patients would come to me, they'd be like, "Tell me: What are your thoughts on leaky gut?" They use the term "leaky gut."

Dr. Jill 11:49
A terrible term, right? I mean, from the scientific [perspective].

Dr. Kenneth Brown 11:55
Yes. It's only a terrible term because it's a political thing. And I'm like, "Hmm, let me tell you what I think about it," and then I would say it. Then they'd be like, "Oh, you're the first doctor that didn't just say that's BS; it doesn't exist." Then if I talk to my colleagues about that, "Hey, what are your thoughts on leaky gut?" They're like, "Oh, it's BS; it doesn't exist." Then I'd word it a little bit differently. I'm like, "Hey, what are your thoughts about an inflammatory process leading to intestinal permeability?" Perhaps they're like: "Hmm, that's interesting. What do you mean by that?" I'm like: "Well, think about it. You have a dendrite that reaches up and samples the outside world, brings it to your immune system, and says, 'What do we do with this?'" They're like, "That makes sense." And I'm like: "Now imagine if you grab gliadin and you're a celiac person. Then it hands it to the B cell, and the B cell goes, 'Oh, this is bad; let's fight this,' and then they mobilize it."

Dr. Kenneth Brown 12:44
So it's almost like a political thing where if you just kind of word it in a non-doctor Google way, in a way that seems a little more sciency, then my colleagues accept it. Because there's so much science—so much!—on intestinal permeability/leaky gut. We know that turns on your immune system. And when your immune system gets fired up, then it's revved up, and that's when you set yourself up for autoimmune diseases like celiac disease and Crohn's.

Dr. Jill 13:10

It makes so much sense. And I agree with you. If I'm talking to patients, they like the term leaky gut. It makes sense. But I still like intestinal hyperpermeability. I like to talk about occludin, zonulin, and tight junctions because that's really where the science is, and we have a lot of data to support what we're saying. And again, our immune system is our protective force. It's doing what it's supposed to do. But when we have an absence of tight junctions and things like a corn antigen or a glial antigen leak through, the immune system starts to respond in a way that's inappropriate. Also, there's this internal load, this endotoxemia, that happens.

Dr. Jill 13:44
And again, we can do a whole talk on LPS endotoxemia because that is where so much of the chronic illness that we see—heart disease, diabetes, and the risk for COVID types of things—is happening. And if you look at the cytokine response, it's the exact same mirror image of what we're seeing with COVID-19.

Dr. Kenneth Brown 14:00
All disease is because of inflammation, and you can track it back—some sort of inflammation—[such as] heart disease, dementia, and all this other stuff. So inflammation. One of the coolest quotes ever... I heard Alessio Fasano give a lecture one time. He's the godfather of pediatric celiac disease. He was discussing the tight junction. He said that it is well-known in biology that the more complex something is in our body, the more important it is. Then he did this huge slide about exactly what you're talking about: The occludin, how zonulin affects us, and this, and this, and this.

Dr. Kenneth Brown 14:35
What I tell my patients is that the way that the internet describes leaky gut... And I've done this in lectures. There's like an open fence, and sheep are just running right through it. They're like, "Dr. Oz and company are describing how chunks of meat are flying in." Then on the medical side, it's just a doctor with his head in the sand. It's like they don't want to hear anything. It's cognitive dissonance. Well, the reality is that there are PhDs looking at so many things in this and how it interacts. It's so complex that it's that important, is how I take it.

Dr. Jill 15:08
Yes. On one of my other topics, I talk about environmental toxicity, toxic load, and all these exposures that affect our membranes and our permeability. We can look at mitochondria;

we can look at the brain. So you could, in layman's terms, call it a leaky brain or leaky mitochondria. It's all inflammation, right, Dr. Brown? I mean, really, at the core, it's: How do we describe inflammation and the processes that disrupt the integrity of our cells on all levels? But what's interesting to me is that as we talk about environmental toxicity, people think about maybe mercury fillings in their mouths, if they get too much heavy metal, if they're getting mold in their environment, or some other toxin or chemical from the farm. But the interesting thing is that at the gut level, you can get endotoxemia, basically toxic overload from within, if you have barrier dysfunction and excess bacteria, like small intestinal bacterial overgrowth. And those toxins that are being produced by the bacteria go into the bloodstream and go right to the liver. Enterohepatic recirculation happens. This overload can actually happen within the body. What are your thoughts on that?

Dr. Kenneth Brown 16:16
Oh! I'm just like, "Oh my gosh, this is awesome!" You know your stuff. That's what I'm thinking right now. You said something: Leaky gut, leaky brain. So let's get back to the science really quick on this, where somebody says, "Oh, leaky brain—no." In my Mendeley account, I've got several articles where scientists have taken intestinal tissue and shown the permeability using different-sized molecules. So they can say, "Okay, look, it's impermeable"—they use a radial label. And it's super complex and really cool, but it's all done in a lab.

Dr. Kenneth Brown 16:50
Then they expose the intestinal tissue to LPS—lipopolysaccharides. Or then they do different tissues with different levels of inflammatory cytokines. They were able to show very clearly that you end up with these huge gaps, and then these large dalton molecules fall through. It's like, "Oh, okay, leaky gut, there it is." These guys took it one step further. They took the human blood-brain barrier and put it through the exact same process. The exact same thing happened. So the term 'leaky brain' truly is leaky brain.

Dr. Kenneth Brown 17:23
If your gut is inflamed, then you can have a permeable blood-brain barrier. So the typical patient that I will see... As a functional medicine doctor, you get people who are very frustrated. At least in Texas, people tend to start out with traditional medicine, go to functional medicine, and then eventually find somebody in between where I have to do some procedures and things like that. We can talk, and I have the ability to start certain drugs for things like that.

Dr. Kenneth Brown 17:58
So when people come in, they will have an episode. "Five years ago, I was perfectly fine, doc, and then something happened." "What happened?" "I went through this really bad divorce." Or "I was treated for really bad sinusitis, and I took two weeks of antibiotics, and I've never been right since." Or "I got gastroenteritis when I traveled to another country," and then they came back. That is a very classic story of the motility chains that kind of lead to some sort of SIBO situation, and that's where I did my research 10 years ago before SIBO was even a term. I said that you have two of my top five diseases: One is SIBO, two is IBS because I can read the diagnosis, then it's celiac, then Crohn's. So just know that you're in the top five, Jill.

Dr. Jill 18:46
And I've had SIBO and IBS too. But it makes sense, right? So yes. Oh yes. And SIFO.

Dr. Kenneth Brown 18:54
You need to get some sort of certificate. You know, just check, check, check, and you get a level. You're like a level 10—gastroenterology disease.

Dr. Jill 19:03
Honorary, like...

Dr. Kenneth Brown 19:05
But it's interesting, because you probably had this also, where one of the things is that a patient will come to see me as a gastroenterologist and not expect these questions. And I'll be like: "Oh, okay. Tell me about this; do you feel like you have brain fog?" They'll lean forward and be like, "Yes." "Have you noticed that your mood has changed at all? More anxious, more depressed?" And they're like, "Yes, I thought I was going crazy." Then you start discussing the brain-gut axis, brain-gut permeability, [whether it is] possibly through the lymphatic system, the vagus nerve, or all these other things. But the brain-gut interaction is the key there.

Dr. Kenneth Brown 19:37
So the thing that really gets people bent out of shape is that they're talking about their gut, but they don't feel right in their brain. That's where I think functional medicine got way ahead of traditional medicine, where you started looking at both at the same time.

Dr. Jill 19:55
Yes, gosh, I love that. And I remember—and you probably have read this too, so correct me if I speak wrong—they had mice where they put them under stress, and that was like having them swim in a water container. And they had them cut the vagus nerve in some of the mice but not the vagus nerve in the others. They pretreated the ones with an intact vagus nerve with Lactobacillus rhamnosus, and they had a less high-stress response in that stressful environment by pretreating with a probiotic. So they were proving that there was some action of the probiotic on the vagus nerve in the brain connection. I was like, "Wow, now, this is where it's at!" And with the severed vagus nerve, there was no beneficial effect from pretreating with that specific strain of probiotic. Fascinating, isn't it?

Dr. Kenneth Brown 20:38
No, it's so fascinating! I have a graduate student and a good friend, Angie Cook, who I think is on this Facebook Live right now. She's populating my Mendeley account all the time. I think we're up to close to 17,000 journal articles on very specific topics. This isn't just random. And what we're getting really into right now is the science of motility and vagal nerve innervation.

Dr. Kenneth Brown 21:07
I've developed a relationship with someone in Sweden who, unfortunately, went through a fecal microbial transplant. It turned on certain epigenetic genes, specifically Ehlers-Danlos. She started to have alopecia areata. She started having these issues. And she did it for irritable bowel [syndrome]. So now we're backtracking. Those two have been in contact.

Dr. Kenneth Brown 21:30
So I've got this young woman in Sweden who's clearly very intelligent but is trying to save her life, and my friend here in Dallas, who's super smart and has access to these articles. They're sending me stuff, and I'm like, "I don't have the bandwidth to read this right now, but you two seem like you're killing it." They're about ready to figure out how to mitigate the vagus nerve so that we can change this whole thing because it may come down to acetylcholine and this whole interaction. We may be missing this whole ability to say, "Okay, look, this could be a motility thing." And Angie's going to come on my podcast, and we're just going to do a whole thing on motility because it's super sciency and we're missing that. We're missing the fact that maybe that's what we should be focused on.

Dr. Jill 22:23
I love this, and I will be listening because one of the things I see with the IBS/SIBO that I treat is that... I would love to know your statistics, but I have read that somewhere between 65% and 80% of IBS is [really] underlying SIBO. Is that percentage about right, or is it more or less than that?

Dr. Kenneth Brown 22:41
I'm sorry, 85%?

Dr. Jill 22:43
I'm sorry. Sixty-five to eighty percent of IBS symptoms are due to small intestinal bacterial overgrowth.

Dr. Kenneth Brown 22:50
Oh my, so now you're getting into the argument of data. Let me just tell you a little bit about my background in case somebody doesn't know. When I tell this story, I keep forgetting that I get older because I always say, "Five years ago..." Now I'm like, "Wait a minute, I think it's 15 years ago now." I was doing pharmaceutical research. I have a private clinical practice. I saw that, and I was like, "Wow, wait a minute, these pharmaceutical companies are paying quite a bit of money to do this research."

Dr. Kenneth Brown 23:21
So I started a very small research division in my office. I hired my research manager, Brandy, who moved from Iowa. Keep that in mind. She moved from Iowa. It's kind of an interesting story—something about breaking up with a fiancé and moving down. Regardless, I hired her, and she showed up. She had no training or anything. It was like a friend-of-a-friend kind of thing. It's just weird how fate sort of starts kicking in at some point. She was working for me as a medical assistant, and I saw that there were these research studies. Somebody called me up to be the physician on a research study, and I was like, "Well, I would like to do it. I want to get into research." So I started doing pharmaceutical research for these big companies and typical stuff [like] phase III trials. Then Xifaxan—have you ever heard of that before?

Dr. Jill 24:09
Oh yes.

Dr. Kenneth Brown 24:10
So Mark Pimentel—I went to a dinner, and he came to talk about something else. Then he and I sat down afterward and talked, and he said, "This is nuts." He's like, "I've got a mouse lab," [which] is very similar to what you're talking about. He was like, "If I put them under stress in various ways—putting an animal in front of them, things like that—he was like, 20% of those mice end up with irritable bowel syndrome." So that's where Xifaxan started—with those animal models. And they started a large, nationwide study.

Dr. Kenneth Brown 24:42
I'm brand new to research. My little office—me and Brandy—ended up being the leading enrolling site in the country. So this kind of shows the community level versus Johns Hopkins, Cedar-Sinai, Harvard, and all these other places. Why do I know that I was the leading enrolling site?—because that was one of my first clinical trials, and the FDA audited me. And that was not fun. I found out later that you never want to be the top guy because they will audit that person.

Dr. Jill 25:13
Oh boy.

Dr. Kenneth Brown 25:14
So it was a learning experience. But basically, what we learned was… We're in there; we're doing irritable bowel. And that's when Mark was like: "Look, the belief is that wherever you land, irritable bowel syndrome, in my opinion, is a trash can diagnosis. So if you say, How many people actually have IBS? I'm going to say zero. How many people have SIBO? I don't know a lot. How many people have a gluten intolerance? I don't know a lot. How many people have motility disorders? A lot. To me, it just doesn't exist." So I was the leading enrollment site for an IBS-D study, and yet I never labeled anybody with IBS, because once you do—

Dr. Jill 25:52
Totally, it's just the Rome criteria that it's just [inaudible]. Yes. I think of chronic fatigue or fibromyalgia—all these are similar—[as] just a label that tells us where we're going on the map. It doesn't give us any real information about: What is the root cause?

Dr. Kenneth Brown 26:05

Well, how many people have you treated who had IBS, fibromyalgia, or even rosacea or interstitial cystitis? And you're like, "Oh, that all gets better."

Dr. Jill 26:16
Yes. And the studies prove it, right? Oh, this is great. So motility—I love this topic. I know you've developed a product. I want to hear about that because, motility, when I'm treating SIBO, this is the bane of SIBO—the migrating motor complex. And how do you actually get that to go? What's the deal? Just like we talked about the vagus nerve, whether it's that or some other thing. And I've got all kinds of things that I try, but I feel like that's usually the reason why it recurs. And it's the hardest thing to get reversed. So I'd love to know your thoughts on motility, the migrating motor complex, and even Pimentel's autoimmune hypothesis with the [inaudible] and that. Any thoughts on all of that?

Dr. Kenneth Brown 26:57
Yes, absolutely. The reason why we developed Atrantil is because, while I was doing the research with Dr. Pimentel, he and I got into a long conversation where he was describing how the problem is that we will never be able to help the bloated, constipated person because Xifaxan does not work on the type of bacteria or kingdom now, Archaebacteria. It actually produces the gas that is causing all these problems, which is methane.

Dr. Kenneth Brown 27:27
This was years ago—years ago. Nobody was even thinking [about] SIBO yet or anything. On the whiteboard in my office, I just wrote 'methane.' And Brandy from Iowa, who had this whole other life and just kind of came down—and I just hired her because it was a friend of a friend—she goes, "Oh, that's funny." She was a lawyer. She goes, "When we were doing policy writing for a senator in Iowa, they were trying to mandate that farmers put in certain food products to decrease methane production for the greenhouse effect." And I just went, "What?" I'm like, "I need all that data."

Dr. Kenneth Brown 28:05
I just saw that Burger King is doing a publicity run where they're trying to say that they're going to decrease methane production in cattle by the last four months of feeding the cattle lemongrass leaves to decrease methane production, which of course we know lemongrass has polyphenols in it. So Burger King is now trying to do this high road of ozone protection.

Dr. Kenneth Brown 28:29
Well, that's where this all came from. It was the 'aha!' moment of a bloated cow. And Dr. Pimentel was saying, "Okay, Xifaxan is going to be approved by the FDA for IBS with diarrhea, but it will never help the bloated, constipated person. And now that we know that the bloated, constipated person is producing methane, what can we do to take away the archaebacteria and decrease that?"

Dr. Kenneth Brown 28:46
So we spent the next several years looking at all this literature and figuring out that three polyphenols—peppermint, horse chestnut extract, and quebracho—had been widely studied in various parts of the country. They had never actually realized that if they put all three together, it would probably be the ultimate product. We've been contacted by the cattle society about trying to produce something for feeds, and I'm like, "We kind of took it from you guys, but okay."

Dr. Jill 29:16
Wow! It's interesting because of the corollary. I'm just going to mention really quickly that all the mold studies come from livestock because when the mold affects the feeds, it affects production. There are a lot more studies on the effects on cows and pigs than on humans. So back to you. But I understand this because they take that seriously; it's a financial [issue]. And there's no politics with cows and pigs like there is with humans.

Dr. Kenneth Brown 29:33
Yes, that's exactly it. There are no opinions; there are no politics. It's just: Figure out how to get it fixed—that's it. Then you start realizing that it's food products. And you start realizing, "Wow, we take in polyphenols all the time." So that's how we ended up developing Atrantil, specifically to treat the bloated, constipated person.

Dr. Kenneth Brown 29:55
When you look at the motility aspect of it, we initially thought… Let's use methane as an example. When methane gas is produced by the archaea species, what it does is take in the hydrogen gas produced by other bacteria and use a carbon backbone. That carbon backbone could be CO2 produced by fungi, which is another little side road over here. But basically, the methane—we initially thought that it paralyzed everything. What has now been shown through pig studies and things like that, looking at the ilium, is that it does this discoordinated contraction. It doesn't move like peristalsis; it just goes like this. So that's

why people are like, "I'm uncomfortable; I feel like I have a bowling ball in me." And that's where the motility happens.

Dr. Kenneth Brown 30:49
So what you're describing is, How do we get that migrating motor complex? When you go to bed at night, every 60 to 90 minutes, you need this housekeeping phenomenon where your small intestine moves everything into the colon so that you can keep that whole area clean. And that's the big dilemma.

Dr. Kenneth Brown 31:10
When Dr. Pimentel was doing his original research, he always used Zelnorm—a 5-HT4 agonist—at night; two milligrams. When he went for FDA approval—you can't do that; it's one drug, one indication—you go all in on it. They spent like $50 million to get that indication, then they sold it for $14 billion to Synergy about two years after they got it. That's the scope of what Big Pharma is after.

Dr. Kenneth Brown 31:42
My little trick to doing this [is that] we're looking at more motility. Motility is the new thing because I think that we're missing a few aspects. I think that we need to increase different products, which we can talk about a little bit later: Things that will stimulate acetylcholine and things that will stimulate the vagus nerve. We're looking at butyrate; we're looking at things like that where you can get it so that it's viable and absorbed. But [we're using] little tricks. I'm trying tributyrin out right now because it's a stable form of butyrate.

Dr. Jill 32:19
I just saw that. I thought, "This is going to be big." Have you had any success so far? Is it pretty new?—tributyrin.

Dr. Kenneth Brown 32:24
It's new, and it's funny because this is how sciency we are: If I find something, I'm like, "I'm going to try this version; you try that version." So Angie's trying this version; I'm trying this version. I don't have the issue, so I'm just trying to make sure I don't have any side effects first. I basically try everything on myself. You can go to YouTube and see that I had a colonoscopy on myself [while I was] wide awake just so that I can tell my patients, "Yes, I've done it."

Dr. Jill 32:50
[inaudible]

Dr. Kenneth Brown 32:53
Arithromycin at night. And now Zelnorm is back, so I'm using a little Zelnorm.

Dr. Jill 32:59
Yes. Is that prucalopride, or is that different?

Dr. Kenneth Brown 33:01
No, prucalopride is different. That is Motegrity. So Zelnorm is the one that got pulled off the market. I like that a little bit better just because we've got more experience with it. Prucalopride is Motegrity, which is very similar.

Dr. Jill 33:13
A similar mechanism, though, right?

Dr. Kenneth Brown 33:13
A similar mechanism, correct. So you take that when you go to sleep because the theory is that many people may have an autoimmune process where there are anti-vinculin antibodies. The way that I describe it to my patients is that, if you think about it, you can get sick or you can get infected by a bacteria, and your body recognizes it. If you've got an antibody, which is built to attack an antigen, let's say it looks like this. So in other words, what happens is that a bacteria comes in and your body reaches up and goes: "Oh, this is bad." It goes back. It tells soldiers to find something. "Okay, we're going to go kill this guy." But then we have to remember that adaptive immunity is something that we're going to remember, and we're going to hand this off to a cell. It's going to remember what this looks like. So next time you get salmonella or something like that, hence a vaccine, and hence all the other things that we're talking about right now during the pandemic, if something looks like this, then there's an antibody that can run up and go, "Nope, you're done," and just get rid of it.

Dr. Kenneth Brown 34:26
The problem is that for about 20% of people, this looks a little bit like my finger. The bacterial antigen goes, "Oh, you look a lot like that guy I'm supposed to kill." So it neutralizes it. Well, this is the anti-vinculin antibody, and these vinculin and anti-CdtB

antibodies. The bottom line is this: If you can imagine that if you've got an electrical or cell phone tower where I want to send a message from point A to point B and from point B to point C to point D. That's what happens because that's what happens in our bodies everywhere.

Dr. Kenneth Brown 35:07
Well, in a percentage of people, for some reason, there's an antibody. So it goes from point A and tries to go to point B, but there's an antibody there, and it stops. So it blocks the migrating motor complex by giving it medication that forces it to keep going; that's the goal. Dr. Pimentel is looking at treating it as an autoimmune disease and doing immunosuppressants, which gets back to Crohn's: "Don't use diet, don't do this, just take this biologic" kind of thing. So it may be a little bit more traditional medicine in the way that he's looking at it.

Dr. Jill 35:45
If we can figure out puzzles, I'm all for that too. I have no problem with even immune-modulating drugs in severe Crohn's—I will not touch that—but I still want to look for the root cause. So I love this because we take great medicine and great science, but we push the envelope and say, "What else?" "What else?" "Why?" We ask the questions, right?

Dr. Kenneth Brown 36:05
Yes. And maybe you did this through your traditional training as well, but when we launched Atrantil, I was too close to it—way too close to it. I mean, I spent 10 years working on it. I do this thing, and it's my first business venture. I avoided a few potential disasters when I was launching because you realize that there are a lot of sharks out there who are very good businessmen. I'm like, "We need to get this out here. We need to do this." So you get really close to it. And one of the things that happened was that we did two clinical trials, we were published, and you just ran into doctors saying: "Oh, I haven't heard of it. Whatever." And now you realize why drug companies spend so much money on all this stuff.

Dr. Kenneth Brown 36:52
So I got a little jaded on the whole: "I'm giving you science; can you read it? Can you do this? Can you look it up?" So then the pendulum swung the exact opposite way, where I was like, "I'm not going to just try something because a nice rep is showing up and saying, 'Look at this pretty graph that we did.'"

Dr. Kenneth Brown 37:13
So the science is there; that's the thing. There's science on everything. If your listeners are there going: "Hey, I want to know what your real thoughts are on, 'Oh, CBD is a great one; What are your real thoughts on CBD?'" Holy cow, there are so many studies out there—so many. But because they're not funded…

Dr. Kenneth Brown 37:33
Right now, I'm working with some Argentinian scientists who have discovered… Well, we've all kind of known about this, but they're the first ones to get it passed through their Ministry of Health. They're actually doing a COVID-19 randomized trial on these same molecules, these tannins that we have in Atrantil, because they've got data for it. They got it approved through their Ministry of Health. So he sent me the protocol, and I was like, "Wow!" So I called my hospital, and I was like, "Look, I would like to see what would happen if a healthy gut could protect us from this viral pandemic."

Dr. Kenneth Brown 38:05
My hospital system, which is a for-profit hospital system across the country, was like, "We're fast-tracking stuff like this. We want to do this. Submit this." But here's the kicker: Then we contacted our attorney, and he said, "Oh, no, don't do that because you're going to have to file an IND, which is an investigational new drug. You're going to have to go through the FDA."

Dr. Kenneth Brown 38:32
So all of a sudden, the idea of doing studies has become very cumbersome. Even in the United States, unfortunately, there are many people who make a living by doing studies that are funded by the NIH or pharmaceutical companies. And trying to think outside the box where you can't find any funding because possibly there's a real… There's a motility agent, domperidone, in Canada. But nobody's going to do it here because it's already generic, so nobody's going to do the study on it.

Dr. Jill 39:16
Yet it works. So it's still one of those that I like to get. I still get it compounded from Canada for patients. So, you mentioned the risk of viruses in the gut. I just saw a study in Europe—because, again, it's harder to get it done [here]—on bovine immunoglobulins and COVID. They're studying that because it makes sense. It can potentially bind viruses, H.

pylori, and some of these things. That's a whole other topic, but I'd like to know your take on viral risk and gut SIBO, IBS, or some of these types of labels that our patients might have. What do you think is the connection there?

Dr. Kenneth Brown 39:51
Oh my gosh. When the pandemic first started, the governor shut down the state, which ended up being probably one of the best things that could have happened to me because I had nothing to do. There was no telemedicine; there was nothing because we didn't have the platform to do it yet. I wasn't doing any procedures.

Dr. Kenneth Brown 40:14
We just did a deep dive into the pre-prints and all this other stuff. On our podcast, "Gut Check Project," we did a whole COVID series. And everything that we said back in March is now talked about because you're taking the time to read, but it's hours and hours of reading.

Dr. Kenneth Brown 40:35
[What's] shocking [is] what's happened now: China is now moving from a pharmaceutical aspect to a natural aspect because they're realizing that mother nature actually has a better chance of getting rid of it than an isolated molecule from a drug.

Dr. Kenneth Brown 40:50
And I'll get to the whole concept of your risk after [inaudible] gut health. The way that the virus works is that it attaches to the ACE2 receptor—we're talking about SARS-CoV-2—through a furan protein mechanism as well, which makes it even more bindable. So the first thing it has to do is attach. Once it attaches, it gets into the cell, and once it is in the cell, it hijacks the ribosome and starts producing its own RNA. Then the RNA becomes bigger, and then the cells go and explode, and there you go. Now you've got a full-on infection. So that's the process. So everybody is trying to figure out what part of the process we can stop.

Dr. Kenneth Brown 41:44
So hydroxychloroquine came in and said, "Oh, it's a zinc ionophore." And what stops the process is that once it binds to the cell and tries to get into the cell, it blocks the replication. Then people said, "Okay, we have to block the cytokine storm. So we're going to try to do that with various things." Now the big push is, "Oh, let's do the protease

inhibitor." The protease inhibitor is the very first step. Does the virus attach to the H2 receptor?

Dr. Kenneth Brown 42:12
Once one scientist breaks the barrier, there are all these validation studies by other people trying to disprove or prove it. The bottom line is that they're going to be published. This is their job. They've got labs; they can do this. So they've got all these studies now of M-docking proteins showing the effect and strength that the virus combined to a cell, and they compared it to all different kinds of drugs. So one group out of Egypt looked at this and compared it to 10,000 different products. What they found is that polyphenols, specifically horse chestnut, work as protease inhibitors stronger than even the protease inhibitors that we've been using for AIDS. So then another group came out and said, "Okay, well, you found these molecules. Let's put 26 of these polyphenols up against three different protease inhibitors"—indinavir and remdesivir. They all have the "vir" thing [at the end of the name]. They showed, at least in vitro, that it's more powerful as an anti-protease inhibitor. So it's a little bit frustrating to be looking at the data and going, "Are we really going to charge patients $7,000 a month?" which is why I love that the Argentinians are using the data.

Dr. Kenneth Brown 43:39
We've been meeting with them. They actually supply our quebracho. So we work with their scientists. There's nothing like being on a Zoom call with 30 scientists around the world, and they're all PhDs.

Dr. Jill 43:49
Oh, that's amazing!

Dr. Kenneth Brown 43:50
Oh, so cool. You know the whole thing of you always want to be the stupidest person in the room? Well, you're the stupidest person on a worldwide Zoom. It is intimidating. It was really cool.

Dr. Kenneth Brown 44:08
So the bottom line is that, talking about viral issues, I do believe that there are natural solutions. I do know that we've got science on these large, stable polyphenols because that's what's being studied right now. There may be other things, but the Chinese are

doing it, and the Italians are doing it. And the Spaniards, the Argentinians, and the Germans have all looked extensively at this.

Dr. Kenneth Brown 44:34
So getting back to your question: We're in a pandemic, what happens with the gut if there is SIBO or anything like that? We just got done talking about immunity and the gut. The problem is that when you have a compromised intestine, we know that 50% of people who have COVID-19 can actually have gastrointestinal symptoms. We know that the majority of those people, if they get admitted, tend to have more severe disease. So we know that there is a way that the virus can infect the intestine. It binds to the ACE2 receptor. We also know that now we're seeing other manifestations of the disease, like what people are describing as "COVID brain." We're seeing young people have strokes; we're seeing young people have residual [damage], what they call "COVID brain."

Dr. Kenneth Brown 45:34
There's new data to show exactly what we were just talking about. It makes total sense that if you compromise your intestinal barrier, you're allowing your immune system to kick in. You've got your enteric nervous system, and it can just hand it off to the great highway, the vagus nerve, and you go up. So, with all these people going, "We don't understand why all these organs are being affected," I'm like, "I do."

Dr. Jill 45:58
Me too.

Dr. Kenneth Brown 45:59
It fits. And then part of the problem is, and this is the thing that I worry about for my SIBO, my Crohn's people, or anybody [else], that when your immune system is slightly revved up, you are predisposed to a cytokine storm. And this is not my opinion. I mean, I've got article upon article upon article to actually explain it. If 50% of the cases have GI issues, and those tend to have worse outcomes, we know that the worst outcomes are related to the other issues.

Dr. Kenneth Brown 46:27
We're now seeing the thrombotic effects and all these other issues. I'm going to back it up a little bit and say, Okay, Jill, we know that people who are older have more disease. We know that people who have obesity, hypertension, and diabetes have a greater risk of

having this. Then you can take it back one step further and say, "Hey, wait a minute, what about that article in 2006 where it showed that as we age, we have a higher incidence of dysbiosis, meaning a narrowing of the microbial diversity?" Those with diabetes, obesity, and hypertension all have a change in the microbiome. Which comes first, the chicken or the egg? Are we saying, "Oh, if you have this… " or should we treat the gut And maybe that will help with these other things?

Dr. Jill 47:17
I love that you're talking about this because I've seen and taught a lot about the data with LPS endotoxemia. And the literature—[there are] thousands and thousands of studies on hypertension, diabetes, insulin resistance, and obesity. Like, it's literally the same. Then, if you look at LPS induction, the HLA response, it's the exact same cytokine, the exact same profile.

Dr. Jill 47:39
So, like you said, my thought is that this is priming. Someone has already primed—they're producing those things. It's already ready to go, basically, right? It's like the Happy Meal; it's ready to go. You just give it a little shove with that virus—

Dr. Kenneth Brown 47:54
Exactly. I'm actually writing letters. Now that Texas has reopened, people are like: "I don't really want to go back to work. Am I at risk?" I'm like, "I believe you're at risk." If you have COPD, you're at risk. If you have chronic bronchitis, you're at risk. Nobody thinks anything of that. "Oh, it's a respiratory disease." But if 50% of the cases also have gastrointestinal symptoms, wait a minute; that means it's also a gastrointestinal disease. And we know that you can shed this virus in your stool for weeks after doing all these things.

Dr. Kenneth Brown 48:28
We know that 85% of people will have anosmia, meaning that they're going to lose their [sense] of smell and taste. I had a patient today that I was going to do an endoscopy and a colonoscopy on. And just in small talk, I'm like, "How's it going with COVID?" He's like, "Man, I'm not worried." I'm like, "Why?" He's like, "I'm 100% convinced I had it in January." And I'm meeting so many patients. There are a lot of conventions that were happening, like the electronic show in Vegas. We've got so many IT people here. So many of my patients were like, "Man, I got deathly ill in early February"—fully negative. I asked one question.

"How is your sense of taste and smell?" They're like, "You know, that's weird because I lost like 15 pounds, and it was good; I just didn't want to eat."

Dr. Jill 49:18
I totally agree. Almost even December through there, and I'm like, "Yup, you likely had it." And I don't really trust… I think our antibody response to this RNA is not accurate. I've seen a lot of negative tests that I think are 100% clinical diagnoses of this, so I couldn't agree more.

Dr. Kenneth Brown 49:36
Oh my gosh, yes, I don't want to get this into a whole COVID [inaudible].

Dr. Jill 49:39
I know.

Dr. Kenneth Brown 49:40
But how about this? Okay, so I had a patient that got tested for COVID on Wednesday because they were going to have a procedure on Friday. They had a procedure on Friday. Then I was on call over the weekend—not for my patient but for a colleague's patient. I got a call on Sunday, and they said, "Yeah, a patient of your colleague—you're on call—is here with a fever of 103, and we think that she may have pneumonia or whatever." I was like, "Okay, are you guys worried about COVID?" They're like, "No, she's COVID-negative." Okay, so she gets admitted. She's treated for 24 hours, and they say, "Yes, you're doing better; it's basically community-acquired pneumonia; you're fine." They send her home.

Dr. Kenneth Brown 50:21
She comes back 24 hours later, they test her again, and she's COVID-negative. She gets admitted, but now she's got a CRP of, like, an insane amount. A C-reactive protein, like, insanely high. If a Crohn's patient has a CRP of 12, I'm concerned. This was like 40. "Wait a minute." Lymphocytes were down. Like, everything about this… Infectious disease shows up, tests her again, and she's positive. So she had three negatives and a positive in a span of about four days. So you can't just completely hang your head on these tests.

Dr. Jill 51:02
I couldn't agree more. Oh my gosh, Dr. Brown, this has been so fun. We have to do this again. Maybe we can do it on your podcast. I'll have you on here again. First of all, I'll make

sure links to your podcast are here, on the YouTube channel, and, of course, your website. We'll get all that there for everybody.

Dr. Jill 51:21
So, Atrantil—we briefly talked about this, but what would the indications for using this be? I've used it in my clinical practice. I had great success. I love that you have that product out there. I do want people to know about this. Let's end with a little bit on Atrantil.

Dr. Kenneth Brown 51:35
A little bit with Atrantil. And I think we owe it to your listeners to talk about what you're taking right now, what I'm taking right now, and why. Atrantil—really quick—we developed it for essentially anybody with bloating, abdominal discomfort, or irritable bowel-like symptoms. So if you have bloating, a change of bowel habits, or abdominal discomfort, Atrantil is an all-natural polyphenol supplement that is NSF certified, meaning that if you're an athlete, you can take it. We have shown that four out of five people will get better with this. So we've got clinical data to back it [up]. And we know that the polyphenols in it are probably very good for you overall as anti-aging, anti-inflammatory, and so on.

Dr. Kenneth Brown 52:14
It's my baby. I'm very proud of it. I'm just more proud that maybe we can be part of a solution going forward. So that's kind of cool. That's Atrantil. Just go take a look at it. We could have a whole other podcast on how to start a business doing this. We could bring Michael Lovich on, and he could critique all the potholes that we've stepped on to get to this point. But we're still here, and we're doing well, so it is cool.

Dr. Kenneth Brown 52:39
So let me ask you: What supplements are you on right now? What supplements are you on for your brain-gut health and for your pandemic supplements?

Dr. Jill 52:54
Yes. It's so funny because patients will complain. I really do try to keep their list down, but whenever they complain, I pull out my little packet of 40 pills twice a day. I'm like: "Hey, you know what? I feel great; I perform optimally." And I have a great quote, Ken. I learned this when I would take two bags on a weekend with a blender and an air filter. I said, "It's okay to be high maintenance if you're high performance."

Dr. Kenneth Brown 53:15
There you go.

Dr. Jill 53:16
Right? And I love it. I don't mind. Because I perform at a high level, I don't mind that. But back to pills. So I take all the basic nutrients. And I don't do well on multis, so I tend to take C by itself and zinc by itself. I have hypochlorhydria, as you can imagine, so I need the minerals. I need loads of magnesium, loads of calcium, loads of zinc, and, of course, HCl with my meals. I actually take prescription pancreatic enzymes because I also, as you can imagine, have complete exocrine pancreatic insufficiency. So I take Creon in [such high] doses, you would probably be shocked.

Dr. Kenneth Brown 53:45
Not at all. In fact, just yesterday, me and my partner, who is a pancreas expert... My regular host, Eric, is actually right over with you. He's mountain biking right now in Colorado. So my partner, Stuart Ackerman, who's a pancreas specialist, and I did a whole show on this yesterday, on exocrine pancreatic insufficiency and how it's linked to Crohn's disease and celiac [disease].

Dr. Jill 54:03
Yes. We could keep going, but this is so fun because I think the villous atrophy will send a signal to the pancreas and shut it down. So I almost always see when there's some villous damage. You have this pancreatic response. I don't know the mechanism, and I don't know the studies, but I just see it. Would you say that's true?

Dr. Kenneth Brown 54:26
Oh yes, 100%. Extra-pancreatic issues, believe it or not, are diabetes, celiac [disease], and Crohn's [disease]. You can actually develop type 2 autoimmune pancreatitis with Crohn's. And then I see it with SIBO. They see it. The mechanism for SIBO still eludes me a little bit, other than the fact that we do say that the bacteria could digest things. But I use pancreatic enzymes a lot.

Dr. Kenneth Brown 54:48
[I have] a quick question for you. This is the holy grail for my answer. I've asked the drug companies, and I've asked the natural companies. These drugs cost so much money, or at least they bill them to the pharmaceutical industry. Dr. Ackerman's response to me was: It's

all a dosing issue. But every company has a digestive enzyme. There are really only two or three pharmaceutical companies. And they spend a lot of money, and it costs a lot of money. Those are from pigs or cows, porcine or bovine. So when somebody says, "I want to take natural digestive enzymes," what's your response?

Dr. Jill 55:29
Ooh, okay, and I might be wrong, so I'd love your opinion, but here's what I say. Basically, we have plant-based enzymes. They're made on Aspergillus, so if we have someone with a big mold or fungus issue, those are not the best, and they're very weak. They're kind of like your day-to-day [supplements]. Kids and adults—everybody could take them pretty safely. They're not very strong. I definitely don't use them with a case of pancreatic insufficiency. Then we have pancreatin over the counter. It starts at around 9,000 units per capsule. And most of the ones you find over the counter have 9,000 units of lipase per capsule, but no higher.

Dr. Jill 55:59
The prescription [forms] have two advantages. Number one, they can go as high as 36,000 units of lipase per capsule. So you can get four capsules of the over-the-counter [ones] per capsule. I take five per meal, which means I would need—five times four—20 caps of the over-the-counter pancreatin that we would see from our nutraceutical companies. So I need a lot more. There's no way I'm going to take 20 pills. The other thing is that they're acid resistant, and I will tell you that I find that the prescriptions, Zenpep, Creon, et cetera, actually work better for someone like me. Then I look at pancreatic elastase, and if it's below 100, I start to think more severe and start on the pancreatic prescription. They tend to work better. If they're below 50 like me, they definitely need a prescription because that acid resistance, when you take it with HCl, is going to neutralize it. But the way it's geared to open in the duodenum instead of the stomach, it works better. What are your thoughts? I'd love to know [inaudible].

Dr. Kenneth Brown 56:53
That's exactly it. I'll say that the nutraceutical companies say that it's just as good, but I like the idea that it's built off of Aspergillus. So a mold thing—that's one thing. Dr. Ackerman's response was exactly like yours, which is just a dose thing. Then I'm like, "Well, if it's a dose thing, can't you just concentrate in a natural way?" I only say this because I've had patients who don't have insurance and are looking at [having to spend] $5,000 a month on pancreatic enzymes. So I'm trying to bridge that gap of: Okay, we know that we can do this

over here. We know that they're acid-resistant. Why can't we do it? Is there somebody who can concentrate these in a better way, in a plant-based way? It's just something.

Dr. Jill 57:39
Let's work on that, because I have the same problem. And I just feel like it's maybe 50 to 80% as effective, but you don't get as good of a response for the severe, especially below 100 of pancreatic elastase. It's really hard to get a good response. I know that for me, it was a game-changer. And then you talk about SIBO/SIFO. For me, that was a game changer because if you have undigested food going into the duodenum, you can't get rid of SIBO/SIFO until you fix the digestion. So to me, once I fixed the hypochlorhydria and the pancreatic insufficiency, my SIBO-SIFO was a thing of the past, just for the fact that I was actually digesting and breaking down food in the small bowel.

Dr. Kenneth Brown 58:16
For sure. I think that there are some component of SIBO-SIFO. And I don't actually distinguish the two. I call it the multibiome. So I just think it's a multibiome. They interact in this sometimes beautiful dance, sometimes a mean little mosh pit in your duodenum where they're fighting in there. But if they're in the colon, they're being their multibiome and swimming through.

Dr. Kenneth Brown 58:41
So yes, I think that enzymes, something about that... I met with a pancreatic expert; actually, my physician assistant went to a dinner, and she came back all excited because they flew in some pancreatic expert, and she said that SIBO does something that basically deactivates pancreatic enzymes. She doesn't really understand why, but she gets referred for a lot of steatorrhea—a lot of vitamin B12 deficiency—and they're all sent to her for pancreas stuff. She realizes, "Well, it's SIBO," but then she starts asking why also. So my question is: Why? Does it deactivate it? Do the bacteria... Who knows?

Dr. Jill 59:19
Look at that. I see it too, but I don't know why. I think there's some interaction with the villi even with SIBO, but I don't know the answer to that. One thing you asked about is what I take. I do take chronic doses of low-dose antimicrobial herbs because, with my history, I need that suppressive dose. So I take caprylic acid, olive leaf, [and a] few other very gentle things. I've taken Atrantil, and I love it. I don't really have a methane issue, but I love your product.

Dr. Kenneth Brown 59:47
I've got to send you some of these articles where that whole concept [is explained]. So when you take these other smaller phenolic compounds—meaning everybody is out there and they're purchasing, whatever, quercitin or turmeric and things—I did not realize that, according to the science of polyphenols, these molecules are so big that they have all these other little Lego pieces in them, and your body breaks them down. We have gone through the process of manufacturing these in a more expensive way. So postbiotics—we mentioned that briefly with the whole postbiotics [thing]—now it's become a field of study in the pharmaceutical industry.

Dr. Kenneth Brown 1:00:27
So the pharmaceutical industry goes, "Oh, look, urolithin A works as a mitophagy agent," meaning it tells old, sick, and dying cells—the mitochondria—to go away. So now they're trying to tease out... I've been talking to a couple of scientists, and they're like, "Yeah, the new science is how do we pharmacologically produce these molecules so that we can get the patent." And we see it over and over again. You can't perform better than Mother Nature. Give the whole plant, the whole molecule; let your body figure out what it wants to do. Any other supplements?—because I've got one that you're missing that you've got to get on.

Dr. Jill 1:01:07
Okay, well, there's a lot. I mean, I have fish oil, I have gamma-linoleic acid, and I take B12 injections. Of course, as you can imagine, vitamin D. Then I do NAC, vitamin C, and acetyl-L-carnitine, which is an acetylcholine precursor. I love that.

Dr. Kenneth Brown 1:01:25
Tell me that one again.

Dr. Jill 1:01:26
Acetyl-L-carnitine is a precursor of acetylcholine. Those of us who are very cerebral and analytical—ooh, it's my favorite, because it'll—

Dr. Kenneth Brown 1:01:33

Well, that one I'm curious about, because now we're talking about acetylcholine, we're talking about the vagal nerve, and we're talking about motility. All right, Angie, if you're listening, that's our new thing that we've got to start looking up.

Dr. Jill 1:01:43
Yes. What about you? I mean, there are a few more, but that's the majority of them.

Dr. Kenneth Brown 1:01:46
Basically, all of those except for acetyl-L-carnitine. And you're missing the important one. You've got to be on sulforaphane. You've had a history of breast cancer.

Dr. Jill 1:01:55
Yes, I have a bottle back there from Michael, and I started it a month ago when he sent it. So it's that good stuff—BrocElite.

Dr. Kenneth Brown 1:02:01
Awesome. BrocElite. I was so excited when I got hooked up with those guys. David and company—they are sciency; they're PhDs. It is so awesome that they stick their money where their mouth is. They developed this product. He developed it for his wife, who had breast cancer. You've got to have those two guys on. His Ph.D. is slipping my mind. I'm so embarrassed right now. But it's all science. It is so cool! He actually has a lab where, when they were developing it, he could check his NRF2 level, which is the pathway that gets turned on.

Dr. Kenneth Brown 1:02:40
So the only other thing that I would add is BrocElite. And I do melatonin for the potential cytokine storm. Right now, there are studies going on where they're randomizing healthcare workers to get melatonin or no melatonin during this COVID crisis. So that's kind of a [inaudible] kind of thing. But acetyl-L-carnitine—I'm going to check that out.

Dr. Jill 1:02:59
Awesome! Oh my gosh, Dr. Ken Brown, this has been so fun and such a delight to meet you. It's no wonder people said we'd get along well. Thank you for your time. I'm sorry we went over, but hopefully everybody enjoyed it as much as we did, because I sure enjoyed talking to you. Thank you so much!

Dr. Kenneth Brown 1:03:19
Absolutely, Jill. This is awesome. I have a feeling this will not be the last time we talk.

Dr. Jill 1:03:21
Yes. Me too. Well, have a great afternoon. We'll talk soon.