Paleo Solution - 379

[0:00:00]

Robb: Hey, folks, six listeners can't be wrong. It's another edition of the Paleo Solution Podcast. Today, we have two amazing folks with us, Angela Alt and Dr. Gauree. Doc, can you pronounce your last name for me?

Gauree: Konijeti.

Robb: Konijeti. Okay. I speak a little bit of Spanish and I wanted to Spanishize that terribly and so I apologize. These folks are here today to talk with us about a newly released pilot study that looks at the autoimmune protocol diet for various inflammatory bowel conditions. And as I've mentioned before, some people in health and fitness are known for diamond hard abs or amazing glutes. I'm known for poo. This is right up my alley.

This is basically how I got my start in investigating this whole ancestral health evolutionary medicine topic because I was effectively debilitated from inflammatory bowel issues more than 20 years ago and this autoimmune Paleo protocol, I would argue, has saved my life. I will definitely dig into that. But can you both give a better background and bio than what I gave you all in that very paltry introduction? Doc, can we start with you?

Gauree: Yeah, thank you. Where do you start? I guess, I got my interest in inflammatory bowel diseases as a medical student at the University of Pennsylvania. I knew I wanted to do GI just from various clinical experiences in the US and even in India. And so I had approached the chief of gastroenterology, Dr. Rustgi, at that time and he said, "Well, you're an apprentice in clinical research in GI. Why don't you meet Dr. Jim Lewis? He is a clinical researcher here and I think you guys would work well together."

I met Jim and I was a first year medical student and he said, "Well, I do research in inflammatory disease." I honestly at that point didn't even know what inflammatory bowel disease was. But we talked about it. We came up with some projects looking at the associations of IBD with MS, multiple sclerosis, with herpes zoster and that's where I really learned a lot about the disease itself, how it manifests, some of the associations and how we manage it.

That's really where it started. From there I went to Cedars-Sinai and the UCLA-VA for residency with the continued interest in doing inflammatory bowel disease but this time getting to see patients with it. That experience just affirmed that

desire. While I was there I realized I wanted to see patients but I also wanted to be able to do research. I got my masters in public health at UCLA and then from there went to Mass General Hospital in Boston which is one of the Harvard affiliated hospitals and there I did my GI training focused on inflammatory bowel disease.

Now, I'm at the Scripps Clinic as a head of the inflammatory bowel disease program and I'm also on an NIH grant through the Scripps Research Institute to do a research in inflammatory bowel disease. It's been a great journey.

Robb: Fantastic. Angela, tell folks about your background.

Angela: I'm a certified health coach and a nutritional therapy consultant. I am also a partner at Autoimmune Wellness with Mickley Trescott. Your audience probably knows a lot about Mickey and I and our work at Autoimmune Wellness. I'm also the author of the Alternative Autoimmune Cookbook and the co-author of the Autoimmune Wellness handbook.

We also co-host a podcast, the Autoimmune Wellness Podcast, and I created a group coaching program four years ago called SAD to AIP in SIX that walks people from a standard American diet into the autoimmune protocol over six weeks if they're experiencing autoimmune disease. That program is how I got hooked up with Dr. Konijeti.

Robb: Fantastic. Again, a little bit of the historical part of this story, I guess, for myself is I had what appeared to be ulcerative colitis, Crohn's disease, IBD. I was so sick that my GI docs were not entirely sure exactly what I had going on. Normally, I run about 170-175 pounds, pretty lean, pretty muscular. I'd been an athlete my whole life. I had malabsorption so bad that I was down to 130 pounds at one point.

[0:04:59]

I was eating as much as I possibly could but at this time interestingly it was a largely grain and legume based vegan type diet. For my situation at that time it was not a good fit for me but my docs thought that my diet was impeccable, that clearly couldn't be the issue. We had just discovered that my mother was suffering from a host of interrelated autoimmune conditions, lupus, rheumatoid arthritis, Sjogren's. The list was rather long but the lynch pin in the whole story was that she suffered from celiac disease.

We saw some pretty good progress with her. I could never get her to follow a low carb approach. I could never get her to follow to a full on autoimmune approach. There was still a lot of dairy in the mix for her which I think was quite

pro inflammatory for her but she did make improvements. I was fortunate enough to find one of Loren Cordain's early papers called Cereal Grains: Humanity's Double-Edged Sword.

In that, he really laid out what I look back upon now as one of the earliest contemporary arguments for this idea that the gut may be at root cause for autoimmune issues or maybe a significant player in that whole story. I've got to tell you when I first started talking to folks about this notion, if I had been claiming to be a taro reader or an astrologist or something I couldn't have had more violent negative response from people.

Interestingly, particularly GI docs, they were just really of a mind that there was absolutely nothing that dietary changes could do other than maybe adding some fiber, could do to affect any changes in inflammatory bowel status and it's been kind of a trench warfare process since then of suggesting that maybe 30-60 day intervention could be beneficial for folks and they would get in and try it.

But all this information has rightly been relegated to the realm of anecdote. I guess, part of what I want to dig into on this is this is an interesting case story in the scientific method, in my opinion, and that there's some proposed mechanisms, some clinical interventions, the clinical intervention seem to have enough stickiness and efficacy that it warrants then perhaps some explorations and kind of efficacy studies. Doc, could you maybe speak to that, a little bit of what this process is?

Gauree: The process by which we even did the study or just sort of the process in evaluating nutrition, I'm sorry?

Robb: Sorry. It's a big global picture and I'm trying to ask a leading story or a leading question without it appearing like a leading question. Like the Mediterranean diet, there was a time when the Mediterranean diet was not really a thing. It wasn't on folk's radar. And then when you really dig back into the literature -- It's interesting, you can do this, almost use PubMed as a time machine. You put in Mediterranean diet and you set some search Boolean parameters for time frames and whatnot and you arrive at a couple of review papers where people are suggesting that there's some laudable characteristics around this Mediterranean diet.

There's not much activity then for a couple of years and then we get a few pilot studies and then we ended up eventually with some RCTs. Initially, it was epidemiological in nature. And then we started getting more and more robust in the treatment and now we have a fairly deep bench of literature that characterizes the Mediterranean diet as a pretty laudable intervention for a lot of situations but it didn't hatch that way.

Maybe drawing a parallel with that, because it's been so frustrating for me -- One the one hand, we have to maintain scientific rigor. I think Richard Feynman said the easiest person to fool is our self. You need that academic rigor. But at the same time, it's been pretty painful to see how violently opposed folks are at the suggestion that a simple dietary intervention could actually be quite beneficial for folks.

And they really haven't given the scientific process a fair shake. I feel like we're at the early stages of that. Again, big long leading question. And I usually like my guests to talk a lot more than I do when I'm talking a lot here. But, I guess, maybe painting this current study, efficacy of the autoimmune protocol diet from inflammatory bowel disease in that bigger scientific method process.

[0:10:08]

Gauree: Yeah. It's something that Angie and I were just talking about. The way medicine evolved was sort of the treatment of disease. A lot of that spawned from the identification of medications especially antibiotics, surgery. There was sort of like a treatment based approach. I think that the emphasis on health and wellness was really not there at the beginning but has evolved as we've really understood that a healthier diet, especially one that's Mediterranean style, physical activity, sleep, all of these things are actually also very important to health.

As you can imagine, these types of studies are much more complicated. The scientific rigor that goes into studying one drug versus placebo, for example, or one drug versus another is in some ways a bit more straightforward because of what the experiment is focused on. Whereas when you're looking at something that's maybe patient driven or harder to control for, it is harder to analyze. I'm sure you can think about sort of the funding and where the support for those kinds of studies might come from.

We've learned largely from, I would say, population based studies that are prospective or even retrospective as well as randomized controlled trials that dietary change, physical activity, all make a difference with respect to very important outcomes like cardiovascular disease, health, longevity, things like that. In training, and I'll tell you even up to fellowship, diet as a form of therapy or as an adjunct to therapy particularly for inflammatory bowel disease wasn't really emphasized much less taught.

I think some of the reaction that you might have received and granted that was also -- It sounds like a long time ago.

Robb: It still happens daily but it's becoming a bit less.

Gauree: Yeah. Sadly because we don't know what we don't know. We tend to act on what we do know. There are probably assumptions or the lack of information that make us work on the evidence that we have, like you said. I guess, in some ways, you could call it ignorance but I don't think it's intentional. I think doctors are trying to do the best for their patients and they're trying to do it based on guidelines.

Sadly, as you point out, we're only now getting a lot more people who are actually studying this in a rigorous and methodological way. Hopefully, that will also become incorporated in the guidelines which will then definitely penetrate the larger GI and medical community so that not only will they understand the data behind it but perhaps they'll also have guidelines on ways to incorporate them.

Robb: Absolutely. It's interesting for me that in the last ten years this understanding of the gut microbiome, the immune activity within the gut appears to have knock on effects in every system imaginable. There appears to be some sort of link between gut health and various neurodegenerative diseases like Parkinson's and Alzheimer's. I've been of the opinion that there's a strong link or possibly even an over need for some sort of intestinal permeability to precipitate the basic autoimmune response that we see ranging from Hashimoto's thyroiditis to rheumatoid arthritis or lupus.

And so it's a really, really important element to the medical story. It's interesting like traditional Chinese medicine, ayurvedic medicine, a lot of traditional medical practices have looked at the gut and digestion as the first stop for trying to address most of these issues and we're only now, as sophisticated as our scientific process is, we're only now circling back and really looking at that in a rigorous way.

Gauree: Yeah. I totally agree. I mean, I'm glad we're looking at it and I think it takes thinking outside the box, really listening to your patients and their experiences to start looking at other things that could be influencing inflammation, disease activity and so on.

[0:15:14]

Robb: Exactly. Doc, if you don't mind, can we get in and actually unpack what this study is and what it's not? It's not a randomized controlled trial. Some folks online really started jumping up and down on this thing talking about small sample size and whatnot. Could you describe what this study was? And again, I guess, I'm trying to paint a picture of if we were -- Let's assume that there might be something to this autoimmune approach, that it may have efficacy in a wide

variety of GI related issues. And similar to that Mediterranean diet story, ten years from now, 20 years from now, we're going to have a significantly larger body of work to look back on. But this paper is going to play a really pivotal role in that story. What is this paper and what is it establishing? What are we looking at here?

Gauree: Yeah. I'll tell you, first of all, this was inspired by a patient who had tried this himself. He had very severe ulcerative colitis, was looking at surgery. I had tried biologics. He was definitely on the high risk category as well. Anyways, he was doing better after trying this diet and I looked at the inside of his colon and I was amazed to see how much better his colon looked than I would have expected for someone with that degree of severe ulcerative colitis.

That's what really formed the basis. He was the one that told me about this diet, and that's when I started looking it up and Googling around and he had referenced to Angie Alt and Mickey Trescott which is how I got connected with them. We have a dietician at Scripps. He's part of integrative medicine. But I don't have anyone in the system who actually knows how to run these types of dietary protocols. That's why I reached out to Angie because she had this beautiful program already set up, had a dietician that she could partner with, and together we actually designed a study really just saying does this diet work?

And so we conducted it as just a single center pilot study. It was uncontrolled so it was not a randomized controlled trial. We were specifically looking at one population of patients with active Crohn's or colitis and putting them through a staged elimination and then a five-week maintenance and that was it. We did not look at longer maintenance. We did not look at reintroduction.

The reason we did that is because we just wanted to do sort of a proof of concept of does it even work? Now, a study like this is small but it definitely serves as the foundation and of a source for future larger studies and certainly a randomized controlled trial would be the ultimate test. The patients we enrolled with active Crohn's and colitis had to have active disease in two realms. They had to have clinically active disease that we defined by standard scores and then they also had to have objective evidence of active disease. So, by endoscopy, imaging and elevated stool inflammatory markers.

The reason we did that is because there can also be a discord between how people are feeling and the inflammation going on on the inside. We really wanted to confirm that these are patients who are symptomatic but likely symptomatic from their ongoing active erosive or ulcerative disease. What we did is they had to have endoscopy or imaging within a defined period of starting the study as well as a whole set of labs and we took them through this staged

six-week elimination using Angie's program which we modified slightly for the study, and then a five-week maintenance.

At the end of the study we reassessed. Well, during and then at the end of the study we reassessed their clinical disease activity but at the end we also reassessed their endoscopic disease activity. Now, tell you throughout, just because it will come up in the future publications, we did do quality of life surveys. We have looked at their microbiome throughout the dietary change. We did tissue biopsies before and after. We're actually either submitting or analyzing that kind of data right now.

[0:20:04]

And that was it. That was the study designed. We asked patients to stay on the medications that they were already on for their inflammatory bowel disease but if they were on steroids they could certainly start tapering those off.

Robb: Doc, what were the overall effects of this intervention as far as disease state and quality of life for these individuals?

Gauree: Yeah. Overall, we were really surprised and happily surprised by the results. I'll just tell you that overall 73% of the patients who did the study achieved clinical remission which is like the holy grail, the end goal of treatment.

Robb: Doc, say that number again? 73%?

Gauree: 73%, yeah. Let me just tell you a little bit about the patients and then we'll go over the results. But basically, we did end up enrolling 15 patients. It was a pilot study. We had good fortune of getting funding through the Scripps Clinic Medical Group. They have a research and educational work that they supported us with. But the average age of the patients was in their 40s, about 70% were female. The average disease duration was close to 20 years.

These are not patients who have been newly diagnosed. The majority have been dealing with this condition for a long time and at that time of enrolment were still or at least then having active disease. A wide variety of IBD location, some had small intestine, some had colon. For those with colitis, some just had proctitis, others had full involvement of their colon.

And then the only other thing I want to mention is that half of our patients in the study were on biologics and then the other half were on mesalamine, kind of what's used to treat milder disease. We really had the full range of severity of IBD. If you look now at the results, basically, for patients with Crohn's disease, by week six they achieved clinical remission based on something called the Harvey

Bradshaw Index which is just a measure of clinical disease activity. Their average score decreased from about seven to three. That was sustained through week 11.

For patients with ulcerative colitis, we saw similar reduction. Their partial Mayo score at the beginning was close to six and then as early as week six it went down to one. And then that was also sustained. Now, for partial Mayo score for ulcerative colitis, the score of two or less is considered clinical remission. For Crohn's disease, a Harvey Bradshaw index of less than five is considered remission.

I will say I don't expect patients to monitor these scores on their own and certainly in practice I don't get into the habit of writing down these scores every time I see a patient. But the components of those scores, the symptoms like abdominal pain frequency, bleeding, those are certainly all things that we assess. That's where the clinical relevance comes in.

Robb: Got you. Doc, is there anything like this that exists in the literature with a similar efficacy?

Gauree: Yes. Not specifically with the autoimmune protocol but people around the world are studying different types of essentially elimination diets to look at their effect on patients with active inflammatory bowel disease. The other few that have been studied include Crohn's disease exclusion diet with or without what's called partial enteral nutrition. It's where patients would supplement with a protein nutrient style rich drink to make up for about 50% of their calories.

There's also an anti-inflammatory style diet with slight texture modifications. There's the specific carbohydrate diet and then there's the low FODMAP diet. Those are the only ones that have been formally studied and published. But we only have maybe one or two studies of each at best up to this point.

Robb: Within each of these protocols, there's a not insignificant amount of overlap in what their including and excluding.

Gauree: Yes. I mean, they're all so similar in the conclusions. I think the themes are all the same.

Robb: Right. And hopefully we reach some point where, I guess, maybe a clinical screening situation would occur and we would be able to get more granular about, okay, the specific carbohydrate diet is probably more efficacious than this scenario versus the full on autoimmune protocol maybe more efficacious in these other areas.

[0:25:16]

Gauree: Right. Exactly. For some people, maybe just eating even a cleaner diet, not processed, they're not having NSAIDs, they're not drinking a ton of coffee or ton of beer, just an overall cleaner diet could make a big difference. Some people could benefit even from single eliminations. I think what I've learned by doing this study with Angie is really just also emphasizing what to eat, focusing on that nutrient density. Because if you think about that, that makes thinking about what you're eating so much simpler.

Robb: Absolutely. Angela, how did you -- I think for so many folks that end up in this ancestral health scene, it's usually a personal health crisis that led them there. Is that largely your story in getting involved with this whole process?

Angela: Yeah, for sure. I started experiencing the first symptoms of what I now know were celiac disease back in about 2000, shortly after the birth of my daughter.

Robb: Were you largely asymptomatic before that?

Angela: To my knowledge. I did have some chronic diseases or possibly autoimmune disease type symptoms popping up prior to that but following her birth, and she was a C-section birth so I think that that is part of the trigger for my autoimmune disease, but following her birth things seem to pick up. It took 11 more years from that point until I was finally so severely ill and so malnourished that I finally got a diagnosis of celiac disease.

I also have two other autoimmune disease and those diagnoses came during that long journey too. But the celiac disease was really the straw that broke the camel's back. I think probably by the point that I was diagnosed, there was just a lot of small intestinal damage and I just couldn't absorb my nutrients and without all those important vitamins and minerals I started to experience a lot of other symptoms and problems that are related to malnutrition.

Robb: It's really devilishly hard to get healthy when you can't absorb the basic nutrients of life.

Angela: Right. I really related to what you were saying earlier about a point in your journey trying to eat as much as you could to keep weight on. I definitely had that same experience and I was seeing doctor after doctor. One of them told me that I was just too stressed out and causing myself to lose weight and if I would just eat as much pizza, pasta and milkshakes as I could that I would put weight on.

I said to him, I actually cried in that appointment and I said to him, "You're right. I am very stressed but I'm stressed because something is wrong with me. There is something physically wrong and I can't get help." If I had followed his advice, I could very well almost killed myself. I was ending up in the ER quite regularly with really distressing symptoms. By the time I was diagnosed I had numbness down the center of my face. I had nerve problems with my hands and feet and leg. Just a crazy vast array of problems.

And actually a lot of mental health struggle by that point too. All of that nutrition is important to the stability of our mental and emotional health too. It was just a really devastating low point and I was 94 pounds when I got diagnosed. It was awful. I started on a gluten free diet, just a typical gluten free diet but I didn't really improve. I started reaching out to friends for ideas about what I could do and a friend of mine pointed me to you, Robb.

I went and bought your book, your first book. I started to use a Paleo diet and about a week into that I came across Sarah Balantyne's early information on her Paleo Mom site about the autoimmune protocol. Of course, you had a reference in your book. But in those days, it was just lightly sketched details. There wasn't whole programs and websites and help around it. But I thought I've got three diagnosed autoimmune diseases now. I better try this.

[0:30:01]

And so I dove right into AIP within that same week. Six weeks later, my gluten antibodies had dropped by half and they had previously actually been climbing despite a gluten free diet. Six months later, it was like I had a whole new body. And a year later, I decided to change every aspect of my life including my career to help other people.

Robb: How amazing. It's interesting because, again, there can be a lot of hokum in the world and people can sell all kinds of dreams and whatnot but, I think, that this is just a really fascinating example of social media, the ability to rapidly share information and to invest about as much effort as is necessary to try on a sweater or a pair of pants, maybe a little bit more.

Let's say you buy a new wardrobe for about a month, that's about the level of challenge in re-jiggering one's diet to see if it could potentially save your life. It's so fascinating to me that there was this kind of process of I wrote a book, Sarah wrote a book, we had some blogs, you found some amazing benefit and efficacy in what was there but you found clearly the systems and the programmatic to be lacking and you developed that and then that was powerful enough and you ended up vetting that sufficiently over time that it provided the backbone for then this pilot study.

That's a pretty interesting process. It could be a really powerful way of looking at a lot of these chronic degenerative diseases if we're able to open things up a little bit.

Angela: Yeah. I think that the motivation on the patient side is very, very high, in my case anyway, by the time I decided to adopt AIP and go for it.

Robb: Man, when you're that sick you're willing to do anything.

Angela: Yeah. I literally thought it was a matter of life or death for me by that point. I was really motivated. I think, yeah, I was ready to scream from every street corner if I could about how to do it.

Robb: Angela, how have you done over time? Where are you currently in the gut health, the overall inflammatory state of the autoimmune conditions and what does your nutrition look like now?

Angela: Yeah. I'm in a really good spot. I'm still probably considered a little bit underweight for my height but I'm nowhere near the range that I was in when I was at my sickest. All that has repaired. Almost all of the daily symptoms that I was dealing with have completely gone away. If I have a stomachache or experience body aches or nerve pain or something like that now, I think it's very unusual.

It really gets my attention because I almost never experience it now. When you're at that point of illness, a lot of people are almost inured to the pain of it because you're just dealing with it day in and day out. It never leaves you. So, I almost never experience any of that stuff. All of my inflammatory markers are great. My antibodies stay at zero in terms of the celiac disease.

One of my conditions is endemetriosis and that's been a little bit tougher to manage and nail down but as compared to how I was dealing with the pain of that prior to starting AIP, that's a world of difference too. I used to have to basically take NSAIDs like candy at the start of my cycle, and now I need very little to control any pain that's left. It's like night and day. I'm a totally different person. As far as nutrition goes, I mean, it's my job now. And not only is it my job but I stay really dedicated because the payoff was so high.

Robb: Have you increased your latitude in what you eat outside of the basic autoimmune protocol? What degree of latitude do you have in that?

Angela: Yeah, that's a good question, Robb. I'm closing in on about six years since I started AIP. What my diet looks like as compared to somebody who's just

starting the transition and just starting to try to heal and help manage their autoimmune disease, my diet is a lot different. If you like labels, it might be a little more comparable to what some folks call primal.

For instance, I have incorporated back in white rice so I do have a little bit of grain. I eat a little bit of dairy, high quality dairy, as unprocessed as I can get my hands on. And I don't seem to have any trouble with that, no symptoms from it.

[0:35:08]

I have been able to bring in white potato in terms of the nightshades but I've had pretty clear signs from my body that other nightshades won't work. Two years ago, I tried to reintroduce bell peppers and within a few days I came down with mono. My immune system definitely said, "No way, that is not going to work for us."

But, yeah, a lot of the seed spices, nuts, coffee, chocolates, a little bit of alcohol. All of those things are I wouldn't say daily parts of my diet but I can regularly include them in moderation and do just fine now. I think there's lots of hope for reintroduction for folks. It's not like you'll live in that elimination phase forever.

Robb: Right. That's fantastic. We did a survey of my list and one of the most common problems that folks face is that they -- It varies from person to person but autoimmune protocol is rigorous. It's no joke. It's a pretty good ask to your point, and this was my experience, it was definitely worth it. But when you're five, six years in and you're like, man, what type of latitude do I have?

Even just if you're traveling or something like that, it's nice to be able to get a little bit more variety and not to be so necessarily on point with everything. Angela, have you noticed at all -- I have noticed personally that if I get anywhere closer to the equator and I get lots of sun, lots of ocean water, basically this is called vacation, but I've just noticed if I have a tan, if I'm swimming, I feel like I could eat a tin can and digest it? Have you noticed anything like that? Like sun exposure, vacation, equatorial living being better for you?

Angela: That's really interesting, Robb, because when I was at my sickest point with autoimmune disease we were living overseas in West Africa for my husband's work in international development. We were about six degrees north of the equator. I actually wasn't in very good shape but I had an undiagnosed disease so nothing was being done dietarily to help me with the celiac disease.

And we were also living in a jungle. I also stayed inside a lot because it was so humid. I think as far as the stress management part of what you're saying, living in the warm sun, enjoying a lower pace of life, those kinds of things, yes, for

sure. I can have a lot more freedom with my diet when that's kind of handled. If my vitamin D levels are in good shape I have a dramatic difference in my health. When I got diagnosed with celiac disease, my vitamin D was on an 11. Getting it up there in a higher zone made a really huge difference for me.

Robb: Got you. Dr. Konijeti, do you know or do you have some thoughts around how we could integrate things like fecal transplant plus a dietary intervention like this? I just read not dissimilar paper. It was an intervention study in children with celiac disease but they did a fecal transplant on these kids. About 70% of the kids were no longer celiac reactive even upon gluten exposure.

What type of opportunities do you think we have with things like customized probiotics, prebiotics, fecal transplants? It seems like it could become a heck of a calculus problem trying to figure out do you do the fecal transplant or do you do the dietary protocol? What are your thoughts on this kind of integrated approach?

Gauree: All good questions. I think, for now, just so you know, stool transplants are obviously not FDA approved for the treatment of ulcerative colitis or Crohn's. There's an incredible amount of interest in it. There are a lot of interesting studies with fecal transplant in various forms whether liquid, whether capsule. The data looks promising.

I think what we're trying to understand as a field is which patients do we do this in? Because we also want to avoid the paradoxical triggering of a flare, actually making things worse. We know that when patients with recurrent C. difficile infection get a stool transplant -- and this is, obviously, right now we're speaking independent of IBD -- they do really well.

[0:40:11]

The cure rates are 90%-92% plus. It really restores the microbiome. Right now, we don't have standardized stool. A lot of us either use either donor specimen form a patient's relative, assuming they don't have any other transmissible conditions, or we source it from companies that basically get and screen stool donors and then ship it out frozen and then we can use it in patients.

With respect to probiotics, the evidence supports the use of probiotics in patients with mild to moderate ulcerative colitis as well as those with pouchitis and even in the prevention of pouchitis, when you first get a pouch. These are patients who've had their whole colon removed and then they get what's usually called the J-pouch creation after that.

In practice, it's so difficult to know which probiotic to recommend. The reality is that when you're eating a good diet rich in fiber and antioxidant and polyphenols and all these good nutrients you're really feeding the good bacteria, the anti-inflammatory bacteria in your gut. You may also be getting fermented foods as well which also supports good gut health from a microbiome perspective.

Whether or not you need probiotics is hard to say. For those who are interested in trying probiotics, I usually just recommend a nice diversity of strains, not a probiotic with necessarily just one strain. And I just advise patients to try it for a month and see how they feel. Probiotics are yet another pill and another thing to pay for and so I don't think you should just blindly take it. But if it's really making a difference then great.

The last point I'll make is that there seems to be some, and I'll just say mostly anecdotal, information that suggests that higher strengths of probiotics, where you're getting more than 25 billion colony forming units per dose or 50 billion, can somehow result in better symptom resolution. I don't know if that's true and I haven't seen a whole lot of data to support that. But the probiotics that have been studied in pouchitis and UC tend to have those higher doses.

I think if patients aren't necessarily responding to that lower dose over the counter one, they might want to try the higher dose over the counter one or the prescription grade probiotics to see if that helps. I don't know. Robb, we have, as a species, lived for thousands and thousands and thousands of years without probiotics. I mean, maybe if we really feed our guts, resolve some of the dysbiosis or negative impacts of altered microbiome in our guts then maybe we would do just fine.

Robb: Right. And definitely, our experience -- I sit on the board of directors of a medical clinic here in Reno and we have, very observational, not particularly scientific, but we've seen about a coin toss on the probiotics. It seems to help some people. Some people seems to make them worse. And so we've been reticent to really -- It's like, yeah, if you want to give it a shot, give it a shot. And if it seems to make you feel better and stools improve and whatnot then that's great. But if not, then we'll just shift gears and try something else. That definitely makes sense. Doc, where do you see this pilot study? What will come next? What should we be keeping our eyes open for next?

Gauree: I think, like I said, these smaller studies form the foundation for larger ones, well designed ones. I think we have to start asking ourselves questions. What specific components of this type of protocol are making a difference? Like you said, in which patient do you need to recommend the full protocol and in which patients can you maybe just recommend elimination of one or two food groups? After we

did the study and we saw this dramatic response, I think the bigger question in my mind is how are these patients going to do with reintroduction?

[0:45:05]

Because that's actually going to be where it may be more relevant from a practice standpoint. But at that point too, it becomes very individual. Studying that methodologically becomes more difficult and it's hard to say, "Well, why don't we force gluten on you and see what happens to your gut?" Do you know what I mean? Ethically, I don't want to do that. But scientifically, it would be very useful to know what happens.

I mean, I would love to do this at a larger scale. There are a lot of people who've approached me wanting to look at this in various ways too. They're already on therapy and in remission. If they modify their diets, could they potentially come off? I don't think we know the answer to that question. Or if they're in remission and doing well and they change their diet, will it potentially help reduce the chance of relapse down the road?

For example, I had another woman who came in and said, "Well, what if I change my diet? Can I come off? Because I want to have kids." That's another discussion. My dream would be to, obviously, study this at a larger scale but I think more importantly find better ways to educate patients on how to do this and work with them within their own sort of social, economic, environmental circumstance to help them get better.

I think that's where these programs, your podcast, the educational component, these programs like Angie has built are so invaluable because our health system right now unfortunately are just not arranged to provide that level of support.

Robb: Right. I'm so happy you mentioned that. That was one of my next questions. Some practicing physicians are pretty nervous about folks participating in programs like you could find at autoimmunewellness.com and other folks are very open to it. It seems to me -- And again, I guess, the challenge is, is this stuff, has it been vetted? If it hasn't, then what are the risk rewards?

I see a lot of people eat incredibly poorly and we don't -- Somebody could go into a 7-Eleven and come out with a giant Big Gulp, bag of chips, pack of cigarettes and nobody is tackling that person and saying, "Good god, man, that's not scientifically tested." But yet some people like Angela and Mickey are recommending that we eat unprocessed whole foods diet with certain inclusions and exclusions.

I've seen people react as if they were suggesting that folks design furniture out of depleted uranium or something. It is just crazy that the response, and to me, if -- And again, there's liability and insurance and all these different things but it seems like this is an amazing way to offload the coaching element of this intervention in a way that effectively the patient themselves are picking it up and they're highly incentivized and motivated to pay for this process. And then if they get well, what type of knock on benefits does the medical system, society, that individual's family experience?

It seems like a really huge win. Also I understand that there can be some really screwball recommendations made but the even crazier recommendations seem safe compared to what people do to themselves on a day to day basis. Doc, what are your thoughts on that? I don't want to put you on the hot seat too much but what do you think about that?

Gauree: No, no. I think that's all true and incredibly relevant. What I would say is, yeah, until our health systems get better at providing these types of support programs and resources, absolutely, I would love to be able to partner with dieticians and health coaches and nutritional therapists to help get patients on a track of wellness. I'll say Angie's program really does look at not just nutrition. I mean, that's the main focus but also physical activity, sleep, stress and so on. The patients should no matter what remain in touch with their physician.

[0:50:02]

A couple of things we learned from the study. One is we tested all the patients before they started the study for micronutrient deficiencies and these are things like B12, iron, vitamin D, zinc and so on. We actually found a fair amount of micronutrient deficiencies that we needed to replete at the beginning of the study. Dietary change alone is usually not sufficient to correct an actual deficiency. I think that's where it's important.

The other things that we learned are patients with certain phenotypes of disease, so specifically in ours, we found that patients who have Crohn's with strictures, so these are fibrotic sort of scars that result in narrowing usually in the small intestine, can be an area of prior surgery, can also happen in the colon were more prone to flare or develop worsening symptoms with dietary change.

That's probably because of the consistency of having more meat and vegetables and fruits. Those patients, while I think they could benefit from a protocol like this probably also need to think very carefully about the consistency of the food, the texture. Obviously, it probably just needs to be cooked rather than raw and so on. That can make a huge difference.

I think for patients who are taking the incentive to seek out these programs and changes, I mean, it would still be really ideal for them to partner with their doctor to make sure that they're still on the path towards wellness, that they're not getting worse. Maybe we could work with the dietician and health coach to find a better way to make sure that they're getting these nutrients or these vitamins.

Angela: Robb, I'll just add to this. Over the last four years, now I actually need to look at numbers again, but the last time I looked about 1500 people have been through my program. Anecdotally, in the beginning, I almost always had a majority of the participants saying, "My doctor isn't supportive of this," or, "My doctor basically doesn't care one way or the other, is agnostic about this."

But now, I especially noticed in the last year, a huge number of the participants are saying either their doctor supports it or their doctors outright told them to go get support and pursue the protocol. That is a dramatic change from when I started only four years ago. I think the shift happening. Now, if we could find a way to make the relationship between like myself, the registered dieticians, and the doctors be even more collaborative like Dr. Konijeti is saying, I think that that is just an amazing combination that takes away some of the stress for the doctor to be everything to everybody and it helps the patient be much more empowered.

Robb: Absolutely. I just had a Chris Kresser on the podcast earlier this morning. That one's going up on October 31st. We've been at multiple different events completely unrelated. One was an evolutionary medicine conference. Another one was this interesting investment meeting. Both of these events in a really interesting way folks suggested that the future of healthcare was going to be this collaborative endeavor between physicians, allied healthcare providers and then health coaches.

The health coaches are really going to be the social glue that provides that high touch supportive interaction to help people keep moving through this process because we've tried gamifying things, we've tried making apps. We're just not going to create a Facebook platform that will scale and solve all these healthcare issues. We need community, in my opinion, to make that happen. I think this era for the health coach to become a legit interface in the healthcare process is going to happen. It's pretty exciting times.

Angela: Yeah. I absolutely am hoping that I contribute to that revolutionary shift. I think that Mickey and I's book, the Autoimmune Wellness Handbook, one whole chapter was about teaching people how to be the facilitator of that collaboration between their doctors and any other healthcare providers and really take on that

full responsibility and that role in advocating and making sure that communication happen.

[0:55:05]

But it would be even better if all the providers were in on that so that the patient didn't have too much of a burden to do that. I'm totally excited for that future.

Robb: Me too. Well, I can't thank you both enough for the hard work that you've done. Again, it would be neat to keep track of where this goes and what a pivotal role both of you all's work will play in the future of this autoimmune intervention story. Just really tickled to see this stuff gaining more traction and more acceptance. Again, I felt like the crazy guy.

This year is year 20 of me beating some of these drums. There were some dark times in the beginning. You really sounded like a crazy person suggesting that nutritional and lifestyle changes could dramatically influence things like gut health and whatnot. So, it's really exciting times. But before we wrap up, could you both share where folks can track you down on the interweb, social media, all that type of thing?

Gauree: Yeah. I mean, for me, I'm very trackable just because I'm not much on social media as I really should be and as much as my husband tells me I should be. I'm at the Scripps Clinic. I'm happy to give out our office number. I am seeing patients and, honestly, I'm just happy to help anyone who really wants to talk about their inflammatory bowel disease or autoimmune gut diseases and very open, obviously, to incorporating dietary change as part of that.

Yeah, I'm at Scripps Clinic. The office number there is 858-554-8880. I just want to continue doing this and hope to eventually build a program that makes it easier for patients much in the way you guys are doing too.

Robb: Awesome. Angie, where can we track you down?

Angela: Yeah. They can find me at autoimmunewellness.com. That's the hub for everything. You can find all the social media there too.

Robb: Fantastic. Well, again, thank you both so much for coming on the show. Maybe if we get some follow up papers maybe we can circle back each time we get some peripheral publications that were maybe spawned or inspired from this initial piece and we can track this over time. I think that would be really fun and cool to document this process.

Gauree: Yeah, that would be great.

Robb: Awesome. Well, thank you both again so much for coming on the show and looking forward to seeing you both in real life at some point.

Angela: Thanks, Robb.

Robb: Okay, take care.

Gauree: Thank you so much and thank you for all your hard work and bringing us on the podcast.

Robb: Huge honor. Thank you, again, take care and thank you so much.

[0:57:57] End of Audio