An Affordable And Clinically Proven Alternative To GLP-1 Transcript

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Introduction to Dr. Walker and Amarasate

For this DrTalks, I am joined by Dr. Edward Walker, who is a scientist lecturer and who believes in developing a healthy relationship with food as the key for long term wellness.

He can pleted his PhD at the University of Auckland on antioxidant effect of berry fruits, and has continued research on how dietary plant compounds can improve health and wellness.

He works at the New Zealand Institute for Plant and Food Research, undertaking commercially focused research of nutraceutical products for human health applications.

And he is also a guest lecturer at the University of Auckland on the topic of nutraceuticals and functional foods. Over the last 13 years, Dr. Walker's primary research focus has been the investigation of plant based appetite suppressants that may reduce hunger and support healthy food choices.

And so he is joining us today to talk about the development of Amarasate, which is a novel New Zealand hop based appetite suppressant that shares an overlapping mode of action with our new class of GLP one based anti-obesity medications.

So, Dr. Walker, thank you so much for joining us to talk about this. This really cool nutraceutical. Oh, thank you for having me. Any opportunity to talk about science I'll take.

So let's talk a little bit about that science. So how does that Amarasate the active ingredient in herb work to stimulate GLP one and other appetite suppressing hormones.

Right. So, so when, when you have when you have a meal, what essentially happens is that the food goes through your gastrointestinal tract and it's detected by a series of sensors in the gut.

And those sensors tell you, well, basically what to do with the food and whether the food is good or not. So even all meal and all these appetite suppressing hormones early.

How Bitter Gut Signaling Suppresses Appetite

So primarily we think about GLP one, but also hormones like and why why now if we dive a little bit deeper and we start looking at what cells are doing the detection, it's a series of cells called inter endocrine cells.

And they have little sensors for nutrients. And they'll tell you yes there's some nutrients there. But they also have sensors for business. So essentially for taste.

And so you can trick these cells into basically releasing appetite suppressing hormones by delivering various taste to the gastrointestinal tract. And the most responsive to a form of very intense and prolonged bitterness that we were able to essentially develop through hoppy extract.

And so Amarasate works by being a concentrated, exceedingly bitter pill that releases just where the appetite suppressing worms are in your gut. It triggers the cells sense what's in the gut to go.

Hold on. I don't like that bitterness. I'm going to release CDK. I'm going to release GOP one. I'm going to release pee and tell you to stop eating. Very cool.

Yeah, I think this is like a new idea to most of us. When I first met your team, I never heard of this idea of these sort of taste receptors in our gut.

And the effect of bitter bitterness and bitter foods. So really interesting to apply this, but it's not bitter when you take it. You guys have sent me some.

I've tried it. So if anyone doesn't like bitter tasting things, you don't actually have to taste the bitterness. It doesn't hit that it's. Only between two the capsules.

Yeah, and if you. Don't do the. Capsules. Okay. So, so it stimulates the effect of some of these hormones. And so what do you see in the studies you've done.

Like what is the effect that the herb has on on hunger. Yeah. Yeah. So we've we've done a series of, so we've done three clinical trials looking at essentially different things.

So the first clinical trial that was run was a mode of action study. So this was really to say, are we getting these gastrointestinal, these gut hormones released.

And are we seeing a change in food intake. And so what we did was we got, 20 healthy guys and we gave them we can you plated them and we took we gave them, essentially the Amarasate extract or placebo.

And we looked at what their hormone response to a meal was, how much they ate at the meal, and how long the hormones were elevated for. So we took, 16 blood samples over the course of the day.

Yeah. So I gave I think it was a total of 480 moles of with blood. So I feel sorry for the guys. But what we were able to show was that with, with the placebo treatment, you had a meal and you, your hormones went up, and then they went down again, and then they went up, and then they went down again to each of the meals.

When Amarasate was given, the hormone response was essentially doubled and prolonged. So it lasted longer. And that was true for all of the, all of the hormones.

So whether it was K, GLP one or p y. And now this is, I think, really important because when you're when you're looking at changes in these hormones and you've probably seen people say, oh, here's a supplement and it's a natural version of or, you know, a natural version of those or triggers GLP one, there's a lot of things that can trigger GLP one, but they tend to trigger maybe a 10% increase, right?

And a 10% increase won't have a biological change. So it won't make someone act on them. You need to get at least what they say, at least about a four fold increase from baseline to have an effect solely on one of only one of these hormones.

Now we got a six fold change in CC and GLP one, and we got a smaller change in p, y y, but it was still significantly elevated.

Clinical Trials on Hunger, Hormones, and Food Intake

And so we're right into the biological range of these hormones saying here's here's a hormone. It's suppressing appetite. Of course we also are amazed at how much people food people are eating.

So the hormones are up. That's great. Other eating lists and they were eating 18% less food. So that's almost like a I guess I'd use the word a double whammy because we're getting more hormones despite the fact people were eating less food.

So not only they're eating less food and they're feeling, you know, Fuller for longer from that. From that food. And so that was the first basically mode of action study.

That was done in, 2014. So it was quite a long time ago. And as a research scientist, you sort of you get this result. And it was, really quite impressive.

So, you know, like, there's nothing else out there that has even slightly similar, efficacy. And we didn't really know what to do with it. So, you know, it was it was.

Well, not until, you know, we had sort of the idea that this might actually make a product which is useful for people that we sort of keep going with the research.

So then in 2018, we started again with some appetite research. So this was instead of looking at the hormones, we were looking at how people were reacting to taking it.

So were they having an actual subjective change. So do you change your how hungry you're feeling, how full you're feeling, whether you're craving for food?

Because all of these should be altered by the appetite suppressing hormones. So we ran two studies, one in about 2018, 19 and one just more recently using a 24 hour fasting model.

So what that was, is it was, basically getting 30 males and one study, 30 females and the other study and telling them not to eat for 24 hours. Right.

And the point of that was to basically make them hungry. So as hungry, I would definitely be hungry, very quickly into that 24 hour fast. Yeah. And so the first study was done on on guys, and we looked at them on the last, we monitor them for the last eight hours, so, well, 16 through 24 and that 24 hour fast.

And we gave them the Amarasate capsule or placebo. And what we were able to show was that we were able to reduce how much hunger they were experiencing by about 20 to 30%.

Now, 2,030% is what they call, highly biologically significant change. So anything over 10% is likely to be felt by the participant. And it also takes people from being in a I'm absolutely starving to, I'm hungry.

But it's not overwhelming and shifting people, from those to, you know, into the from starving to being hungry allows them to make better food choices.

So it allows them to say, okay, you know, you know, I want food, but I'm not. I can eat, I can make a healthy food choice. So we did then that was really great.

And, and then we got a lot of feedback, to be honest, with like, well, what about what about females? You haven't tested on females. And, the reason you don't test on females is because of the menstrual cycle.

So it's, when you're doing appetite trials, if you test in, killer or luteal phase, it makes a huge difference. So we said, well, you know, we'll, we'll do some about that.

We will run a trial on females, and we will sync them to the same day of the week for fasting, which is what what you meant to do, and the same day of the month for menstrual cycle.

So that was a huge amount of work. The study on guys took goodness like four weeks to run and the study on females took like and it was like ten months to run for. And right.

Because we that's a problem we keep having in science is that a lot of our data is just for men. And we want to know is women does this work for us too?

So I think it's important that you did that. Yeah. Oh yeah. It was it was really worthwhile. And it was very interesting too, because what we found was one the so same.

Exactly the same model we use. But what we found is the females are a lot more sensitive. So their reduction in hunger was closer to 40%. So it was really, really profound.

So they had a huge to the point where in 24 hours, into the FA. So at the end of the class, they were no more hungry than they were 16 hours into the fast.

So the hunger basically flatlined. So, so yeah, I'm a bit hungry, but I'm not too bad. But more important than that, we got some amazing results on food cravings.

So we didn't ask the guys about food cravings, but we thought we'll ask the females about food cravings because there's a lot of, I guess, reports of food cravings in females and difficulty, particularly in various menstrual cycle stages.

And so what we found with that was we actually had the participants craving less for food at 24 hours than they were 16 hours into the fast. So we actually reduced the food cravings so that they, you know, they were and they weren't. They were really craving food much at all.

We then gave them an eat till their full meal to see if they'd act on that reduced hunger and food craving. And it went. The food intake went down by about 15%.

So there's a, you know, by an action, biological action based on a subjective feeling. So that's excellent. And we also found that after that meal there was a reduction in their craving for sweet food.

All right. And so and I think that was particularly powerful because one of the areas where you really struggle is not so much, you know, I'm having my my main meal, but it's I'm having my dessert afterwards.

So we knocked down that craving for dessert afterwards. And so that was those are sort of the, I guess, the three studies we've done to date. And they've got really excellent results.

And it shows the potent ness of the, this, approach we're taking and that it can really make a difference for people's both sort of hunger levels, but also the sort of action when it comes to eating food.

Yeah. I think what you said and what's also in your bio about it lets you have a healthy relationship with food. It lets you eat those healthy foods. Right.

And so what I see from my patients is we have this intention, most people who come to see me have a pretty good idea of what they should eat, right? Or what they know they shouldn't eat what they're trying to avoid, but they, lack the ability to do that.

And for years, like, willpower was blamed. And then I think, you know, people are all starting to come around to the knowledge that it's really regulated by these hormones. Right?

We can't really control our hunger that much. And some people are hungrier than other people, and some people are less full and less satiated than other people.

And that makes it even harder. Right? If you're one of those people. And so when we have tools that let us have less hunger, now we can follow the plan, right?

It doesn't mean we're not eating, we're still going to eat. But now we can eat less and we can eat healthier foods. We can avoid, like you said, that dessert or that sweet treat after we've eaten.

And now we can actually follow that plan that we have been trying to make work for us. Yeah. And I also think that for for anyone who's never been overweight before, never been like long term overweight, it's hard to imagine the amount of hunger and food cravings that someone gets when they're trying to lose weight.

It's really profound, and your body or your body really does say, you know, this is the weight I want you to be. I will change all your hormones so that your hunger goes up and your food cravings go up, and that, you know, I'll try and make you eat the food you don't want to eat to drive your weight back.

So anything that can help that is really useful for patients.

Why Bitter Compounds Work in the Gut

So I always find like, how did you figure this out? How was this MRSA like, discovered? Like, how did you know to even look for this? Yeah. So we did, we did a program called foods for Appetite Control.

Back in 2020 ten. It kicked off 2009 with the grant application with the New Zealand government. And it was looking at, a few different things, but the area I was in charge of was called the Butter Break, and it was formed on the idea that, well, a couple of ideas, but primarily the, the bitterness was used to regulate appetite in numerous different cultures.

Right. And so there was, suppression of appetite. So, the Vedic medicine does that. Chinese medicine does it to a certain degree. But a couple of examples.

One from the Kalahari, where they used to put a cactus called powder to suppress appetite and thirst during during hunting trips. And in the Highlands of Scotland, they'd use a butter heat pea to suppress, to basically suppress hunger during times of famine.

And so there was this indication that business was really good at suppressing appetite. And there was also a couple of examples where taking gluttonous immediately before a meal would actually stimulate appetite.

Right now, that's where we got this sort of idea. It's like, well, if it was bitterness on the tongue, it would really only go one way. So what about if it was better tasting in the gut?

Because if you take something, if you think about where your hormones in your gut are in the stomach, you've got a pro appetite hormone, then all the way down the gut you have long lasting anti appetite hormones.

And so the historical usage, you know lined up much better with these gut hormones than it did with an oral taste. So we said okay we think it's the we think the gut is detecting the business.

And if you get it past the stomach, it'll be a really good appetite suppressant. So we went. That's where it basically came from. And we did a series of, and lab studies, looking at, gut cells to see if they have bitter taste buds and the receptors.

And we did a biopsy study in the hospital where we got, 30 people to give samples along their intestinal tract. And we actually looked to see if the bitter taste receptors were present.

And so we could find them all down there. Impressive. What a long journey it is. You know, to to find something like this and turn it into something people can actually use.

Yeah. And it's, I think it's really almost a case study of how you should do nutraceutical development, because what we have, what we did is we basically said, look, we've got a bunch of government money, so we're really lucky.

Six years of funding. We had, let's do a proper job. Let's say, proper idea. Look at the mechanism, see what's in the gut, see if we can do it in the lab.

If we can get all those ticked off, then we'll put it into people. And we tried, a thousand different compounds and plant extracts to see what would activate these cells.

And to be honest, we didn't get a lot. So we had, four hits out of all. All of the thousand we screened, two of them were unstable, so they were unsuitable for usage of small proteins.

One was a potato extract. And when we looked at what the active component was, it was alpha softening, which is, sort of a toxic alkaloid which can sometimes occur in potatoes.

So obviously that was no good. And then we really just had the side hop left as that clinical lead. And so why does MRSA work when instead of just eating bitter foods like, could someone just eat a lot of bitter foods and get a similar effect or no, because it needs to hit just the gut and not be sort of tasted in the mouth?

Yeah. So I mean, they are. So that's a little bit complicated. But generally speaking, if you, if you have a bit of food on the tongue, obviously it's not very pleasant.

So that would make you not want to eat it. But if you were to eat orally, eat a bit of food, there's two reasons why it doesn't really work. The first one is because there's a, a pro appetite response that can trigger in the stomach.

Right? So if you get it directly into the stomach, you can get a pro appetite response. Then as it progresses through you get an antibody response. You end up getting both. You don't really want that.

So you really need a capsule that will deliver to pass the stomach into the small intestine. The second point is that your body's actually pretty, pretty resistant to sending that signal.

That anti appetite signal to your brain. You really have to hit it with potent and prolonged bitterness. And so if you if you just had a bit of food that was not very nice tasting, but you know, you could still eat it.

That signal not strong enough. So it has to be really quite unpleasant. If you were to get one of the MRSA capsules. And I've done this for and you were to break it open and put it on your tongue, the bitterness would be unbearable and it would last for hours.

Even sometimes it lasts through to the next day. So the level of bitterness you require is simply not tolerable orally. So whatever you do, don't chew the capsules.

Do not to the capsule. Have a rough day. But but you probably won't eat anything the rest of the day because your your mouth on your skin is getting. It's certainly another approach you can take. Yep.

So tell me about you just had this article published in Obesity Pillars. Can you tell us about the science that was found in that? Yeah. So that's the one that we just got published.

That's the female fasting trial. Right.

Clinical Use with GLP-1s and Weight Management

And so that was the one where we showed the, the reduction and, hunger and food cravings in females. And I think it was a it was an interesting journey.

And we decided to publish on obesity pillars because I think that it's one because the, the audience who, you know, clinicians a B, a c clinicians are really a we're one with the well, the need for something that can work to suppress appetite, but also the, the lack of research that is done on females and to, to put it there in a journal where you can see, yes, we've done the work in females.

Yes, we've done the work in a group that suffers from food cravings and appetites and needs. Appetite suppression is is really powerful. Yeah. So you're, you know, the scientist, the one who finds this research, it makes sure it's it's safe and that it works.

What are you hearing from the doctors? Sort of in the office that are maybe using this with their patients. What are they seeing? What sort of success are you hearing from the clinicians using the medication, the supplement.

Yeah. So I've been, I'm actually I've been amazingly impressed with the, the clinicians that have used it. So I, so I come from New Zealand and there is a huge barrier to get a clinician to try anything in New Zealand.

They simply won't do it. But, through America and through going to the, I guess, the obesity medicine conference,

we've had, exposure to a whole lot of medical practitioners who have been willing to essentially give it a go and say, okay, we've seen the science, we've read the papers, we think there might be something to it.

We're willing to try it in clinic. And we've had some amazingly great feedback. So we've been Gonzalez has been excellent at, he's a, medical specialist who who focuses on obesity treatment.

And he's really, really spearheaded a lot of, a lot of the work we've done and what he's found is really three ways of using it. So the way that, I like to think of it as a scientist is use use it instead of using, GLP one injectable.

So before someone goes on a GLP one injectable, why don't you try a natural way of stimulating this person's GLP one, along with some other hormones, and see if you can keep them off of that? So.

So if they don't need the injectable medication, don't give it to them. The other way which is being used, which, which again, I'm a big fan of is post GLP one injectables.

So one of the I guess, white elephant in the room when it comes to GLP one injectables is what happens when you go off it, right? The studies say, you know, over the course of about a year afterwards, two thirds of white regains but still tracking upwards.

So, you know, after four years probably can complete weight regain. And also what's happened to your endogenous hormones. So no one's testing to say, all right, you're injecting a whole bunch of GLP one into yourself.

What's happening to your natural GLP one? Is it still there or is it going down? You know, if you were to look at, say, anabolic steroid abuse, all of your endogenous steroid hormones go down when you inject externally.

If that is happening, when people are taking these GLP ones, then when you remove them, they're just going to get an even bigger increase in hunger than you expect.

And so by using this afterwards, what you can potentially do is re sort of sensitize your system. So you're putting something into your gut which is triggering these cells.

And there's indications that when you expose the cells to bitterness, you actually increase their ability to produce to GLP one. So not just released to GLP one, but fundamentally increase the amount they have available for release in the future time.

So using it post GLP one treatment, they've been doing this and what they're finding is that it's helping maintain that weight loss. So you know, so you can take someone also you can type of them off the GOP ones onto the site.

And it's maintaining the weight that the weight loss they've achieved, which is really powerful really. That's really hopeful because people have to go off the medication for all sorts of different reasons.

Sometimes it's cost or available. Sometimes it's, you know, for a health reason. And so having a tool will probably need multiple tools that can really help ease that transition.

Is it really exciting to hear about. Yeah, I think I mean, it's it's an interesting world we live in because the GLP one medications are so effective.

You know, they are just orders of magnitude better than the previous generations of weight loss drugs. They really and the amount of weight loss they're inducing is, is huge.

So so the amount of rebound you see is pretty huge too. Now the third way that that is being used, and I'll just specify that I'm not a, I'm not a medical doctor here, but some of the medical doctors are using it in combination.

So they're putting people on the injectable and they're putting them on the side to extract as well. And they're

looking to see if they can either reduce the amount of injectable that's required, or they can improve the overall efficacy of the combined treatment.

And the rationale behind that is that the injectable or so if you're talking about is empiric anyway, it's just GLP one, right. But if you're looking at the MRSA, it's GLP one and it's also p y y and it's also cc k.

So you're adding in two extra hormones to the equation there that you wouldn't have got if you were just on the injectable. The other reason why they're looking at doing it is for this keeping your body active.

So keeping those cells in your body, the produce GLP one keep them producing GLP one. So if you're stimulating them, if you're putting that side into the gut and stimulating those cells, they're very unlikely to shut down.

And so what that's what that's possibly going to mean is that when you come off the injectable and sale the MRA site, you're almost hitting the ground running.

You're getting those hormones produced all the time. You're not having that that down period where your body suppressed hormones and you're having to, you know, wait for it to kick back into action.

Very exciting stuff. I had another guest on this Doctor Talks Summit, Doctor Con, and he's also a big fan of the curve. And he uses it a fourth way, which is he combines it with, the line fast mimicking program.

And so it helps people who maybe are struggling with hunger or cravings while doing the fast mimicking diet to be able to stick with that. And so, you know, he was talking with me about how that was, a way that he's been using it.

So I thought that was, a really helpful thing because I tried the five day fasting, and by day four, I was like, going out of my mind. So I definitely could have used something to help support me through that.

And it's a great application. Yeah. So great application there. And I think and. I think, you know, one other thing I'll say too, is the indications for people who might take a GLP, you know, your weight has to reach a certain threshold to, be clinically indicated to take that.

But there are people who may want or need to lose weight at lower BMI. And they don't qualify for those medications either. Right. And so we need tools for people who are like, well, maybe they've gained 10 pounds and they're trying to lose that.

So they don't continue to continue to gain weight. But maybe they don't need as big of a medication as ozempic.

Future Research Directions and Where to Learn More

I mean, I'm a huge fan of those, but not everyone needs that powerful or that expensive of a medication. And so we really need a variety of tools which is what we're really trying to highlight in this, this summit, that there are so many tools that people can use, to have a good relationship with their weight and their food.

So, so it's interesting that so I take Amarasate, and I don't but I don't need to lose weight. So so I'm one of these people who has a, I guess, weight gain resistant, but I'm not the health negative effects from, from poor diet resistance.

So if my diet is poor, blood pressure goes up, cholesterol goes up. And so I take Amarasate not to lose weight, but to enable me to have dietary change or, you know, like, make the healthy food choices that keep me healthy.

So I use it almost as a preventative medication. Yeah. It just helps you make those choices if you're not hungry. And especially in this world where we have so much ultra processed food, things that are really, really tasty to us makes it easier to make sort of the better choices for our bodies.

Absolutely. Well, what's next for you and your research team? You know, I sounds like we have some pretty solid

data for this. What can we potentially see from you in the future?

Yeah. So it's, it's almost, what is it what do they call it when you've got so many options that you can't make a choice? So when I think about, Amarasate, it's at a fundamental level, what it really does.

And yes, it suppresses appetite and it reduces, you know, how much people eat. But what it fundamentally does is really restore gut brain signaling that's been suppressed and through modern day life.

And the result of restoring that signaling is, is really powerful. And there's a lot of options for for me, I'm probably going to focus on the, more of the weight loss and targeted towards particular group area.

So we're right now running a weight loss trial. So I've got a six month weight loss trial, a three month follow up period with 150 individuals looking for for with adding, our site to a, to a weight loss program can enhance the amount of weight that's lost.

We've got, plans to do studies on postmenopausal women as well. So one of the advantages that we gained from triggering, I guess multiple hormones is that we've got more opportunities to to, target appetite suppressing and target, beneficial secondary effects that relate to these hormones.

So things like, you know, additional targeting of direct fat burning and things. And so we're going to look at focusing on postmenopausal women and weight gain on the abdomen, on the abdominal region to see if we can target that directly.

And also probably treatment for prediabetes as well. Those are the sort of main targets on top of that. And we're open to if anyone is an expert and I want to do collaborations on these things like anti addiction research.

So when you're talking about, you know, GLP one, GLP one agonists, there's this relation to be a protection from addictive behavior. And we, we are likely to get that with the, Amarasate as well.

So things like, you know prevention of smoking and or you know, alcoholism. And we're also possibly going to be looking at some of maybe some of the, effects directly onto the brain. And, how it can affect neurotransmitter levels as well. Wow.

That's a lot. So just a few things that you guys have up your sleeves over there. Yeah, yeah. So it's all all funding dependent, but there's, yeah, there's a lot of options.

And, I think when you, it's not, it's not frequent in a scientific area that you managed to find something that really works. And when you get something that really works is just a whole bunch of directions you can go.

And so the struggle, I think, is not going to be, finding ways to get it to work. But, to be focused enough to really, you know, target in on the, on the studies that we need to do right now.

Perfect. Well, if people want more information, where can they go? Yeah. So, I mean, there's, you can go to Plant and Food Research, to look at the Research studies.

But also if you go to, calocurb.com, they're the commercial partner, and they're the people who, basically sell the product to people, and they've got a whole wealth of information there as well.

Wonderful. Well, thank you so much for joining me. Very exciting stuff. It was my pleasure. Thank you for having me.