How To Make Your Cancer Treatment Work Better With Food Transcript

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Introduction and Speaker Credentials

Hello, everybody. And welcome back to our plant based Cancer Solutions Summit. I hope you're enjoying this so far, because we are putting out a lot of very important information that people need to know.

And today, we're very excited to have with us a renowned guest. It's very important, the very important part of the summit. His name is Walter Longo. He's an internationally recognized leader in the field of longevity and age related diseases.

He's pioneered the studies on periodic fasting and fasting, mimicking mimicking diets to describe their effects on multiple system stem cell activation, regeneration.

Many has been involved in many clinical trials, with regard to fasting in regard to Alzheimer's disease, cancer, diabetes, cardiovascular disease, and autoimmune disease.

So he's a professor of gerontology and biological science and director and director of the Longevity Institute at the School of Gerontology of the University of Southern California.

He's also the director of oncology and Longevity Laboratory at the Institute of Molecular Oncology in Milan, Italy, too. So it goes back and forth, right.

And his book, The Longevity Diet, is an international bestseller, translated into over 20 languages and sold in more than 25 countries around the world.

And in 2018, he was even included in one of the in the among the 50 most influential influential people in Health Care by time magazine. But in any case, we'll have some fun.

We're glad he's here. Joining us for talking them today for next 20 30 minutes when we get some pearls of wisdom from Doctor Longo. Thanks for joining us.

Well, thanks for having me. Really appreciate that. All right, so let's get started. So you've really been studying, fasting for, for decades, like I have, you know, maybe a little older than you, but it's very rare to see that, you know, researchers, scientists and longevity specialists utilizing fasting and studying it and then incorporating it into the care of people, of people and seeing the results, really human clinical trials. Right.

Fasting Research and Cancer Biology

And so can you give a like overview, a couple of paragraphs, overview of what the, what kind of science you've done over the last 20 years and what your findings have been?

Yeah, yeah. So I actually I was a student of Roy Walford and you probably you may have known me we and in Roy at the time, you know, in the early 90s was one of the, the sort of pioneers of calorie restriction studies and at UCLA and so and since then I've been working on and, you know, you going more extreme than, than Roy and sort of starving bacteria in the early 90s.

And I was starving yeast and and so I was starving mice. And so yeah. So I started a very early working on fasting and then, you know, eventually we turned it into, we, we were noticing that, cancer cells did not respond to fasting.

Fasting, treatment in normal cells, of course, doing a coordinated way. And then we started thinking about how can we exploit this very, these differential effects.

Right. So the cancer cells, refused to respond to fasting and the normal cells, they, they respond very effectively. And then, we were noticing that the normal cells become more protected from, from, let's say, chemotherapy, radiotherapy, a lot of toxic at that apiece.

But the cancer cells became more sensitive. Right. So then then we started, looking at, how do we use this in the clinic and eventually then combined, well, then eventually went from water only fasting to fasting, making diet because patients struggle with the with the concept of what I mean, at least cancer patients struggle and and so then, we, we started combining with immuno therapy kinase inhibitors, hormone therapy.

Yeah. So they we're now we and in many laboratories have now combined the water only fasting cycles or fasting mimicking diet cycles with lots of therapies for cancer.

You know, and of course, we we've been using now with diabetes, prediabetes. Rose. Are you still there? Yes. Okay. Oh, I just lost you for a minute. Could you repeat that?

You were saying that, now you're using, obviously with, recurrent episodes of fasting and fasting, then we can diets ongoing with people with chronic illnesses like diabetes and high blood pressure to correct.

Yeah. So diabetes, high blood pressure, how to immunity. And now we're studying we just published, for example, a clinical trial. Randomized crossover with 100 patients on a plasma.

So chemo sensory function in patient that, are overweight or obese and, and showed the, the ability of factory, and taste, function being restored after six cycles of the fasting making diet, I see.

Okay. So we know that and I know that your work has demonstrated that fasting around the time of chemotherapy can enhance the, chemotherapy working better and to prevent chemotherapy for being toxic to normal cells.

So it doesn't it. So it makes it so that you have less side effects in the chemo when you actually fast. Because that's counterintuitive. You would think that not having food around is going to make you more sensitive to chemo.

But actually when you go to cut your calories back, you do a fasting mimicking diet where you cut back on calories and do all fasting. It makes the chemo safer.

And that's one of your major findings, correct? Yes. It makes the the chemo, more toxic to cancer cells and less toxic to normal cells. And but this is something conserved.

Even bacteria, when they are starved, they become more resilient, more resistant. So yeast. Oh, my poor organisms, become more resistant when when fasted or starved.

So this is, an expected property of normal cells. But it's, it doesn't happen in cancer cells. So cancer cells don't like fasting conditions. And, because they don't like to, to slow down and they don't like to, undergo or enter a starvation response mode.

They continue in their proliferative modality. Right. And so when, when a cell's proliferating, it kind of unravels its DNA and it becomes more sensitized to poison when the cell is not proliferating, the DNA was wound up.

It's not going to be damaged by chemo is by poisons as much.

Fasting With Chemotherapy and Other Treatments

So it's like a protective it's putting on its protective coating when it's going into a fast and the normal cells going into a fasting state and the chemo cells can't put on a this protective cloak like a normal cell can.

So how how many days prior, let's say a person is going to get chemo with three cycles of chemo. And their those three cycles are a month apart or so.

How many days prior to the chemo? Should they start that fast? Because I think that we're talking about usually 4 to 5 days with 2 or 3 days before they start chemo and one the day of chemo, and one day after just confirming that.

Yeah, well, first of all, we say if somebody is early stage and they have a say a 98% chance of being cured, or five years survival. We usually don't like to recommend fasting.

Unless there is major side effects. And then, you know, there is a real reason for doing it. And this is just because we don't have enough trials to say, yes, we know that, you know, if you're a stage one patient, you're going to do much better with, with, fasting that with that.

So but with so many stage three, stage four, especially metastatic, and, and and the oncologist is running out of options. Now we have data, clinical data suggesting that the, before chemo.

But not just chemo, lots of different therapies. And we chemotherapy is usually four days before, if it's a bolus treatment, four days before one after of the fasting, mimicking diet.

And that's, that's, trials. And also a lot of patients have been, have been doing this year. Right. I also I, you know, split up cancers into more moderately aggressive to more aggressive cancers, in which you're saying that the cancers that are more aggressive, more life threatening, replicating more rapidly, more invasive.

Those are the ones where the fasting is recommended in conjunction with chemo. And that's the ones you have more data on. Yeah, not just chemo. Now once we get so for example, in the paper were near this group, the National Cancer Institute in Milan published the where they did that looked at 100 patients, lots of different, therapies.

And one of the subjects that went from stage four, lung cancer to, remission, which is very unusual. Was doing immunotherapy. So immunotherapy plus plus fasting, making diet and that, led the patient back, back into remission.

So, you know, of course we need trials in randomized trials to, to demonstrate that. But. Right. Certainly we're starting to see that a lot a lot of a patients, they may be in an advanced stage, going into remission or doing it responding very well, combining whatever standard of care therapy with, yeah, yeah, some people are better with immunotherapy than chemotherapy.

Yes. So it's more appropriate. It's more effective. So would you use the fasting not just when you're getting around their therapies, when they're getting their treatment, but also at other times, would you intersperse it or utilize fasting?

For cancer patients that are not undergoing chemotherapy or immunotherapy. Would you. And so two of the two more questions and do you think water fasting has any role to play in the treatment of cancer outside of its effect during when people get using it to enhance the effectiveness of chemo?

In other words, should people just if they have, if there's water, fasting, any benefit or even or even fasting mimicking diets, any benefit for just cancer in general who aren't going through these therapies?

Well, I think if you think about, prevention. Right. And just longevity, that's the idea behind the fasting making diet. Is to, is to slow down the aging process, you know, reducing some of these, pro aging pro growth factors like IGF one, insulin, tau, etc..

So, yeah. So then in the in our mouse study, that we did a number of years ago, we showed 45% reduction in two more, in tumor incidents in the, in the mice that were receiving the FMD the first year, making it twice a month.

So that's that's prevention. Now, if somebody has cancer, we usually don't like to, to recommend fasting unless they're also getting the, the standard of care drug.

Right. Because we don't want cancer cells to become resistant to the fasting. We we we like to do, the, the therapies together. Right. So, so let's say this, for example, in one of the studies that we did in mice and women was, estrogen receptor blocker like fulvestrant, then Cdk4 six blocker palbociclib and then the fasting making diet.

Right. So that's in that in the mice. Whereas the two drugs alone, eventually the cancer became resistant to the drugs or the cancer never became resistant in mice to the two drugs plus the fasting meaning that this is why we don't like to just do the fasting making diet allow the cancer to become resistant to the fasting.

And then, you know, risk that it does. It no longer works, even when you try the three interventions together. Right. So, yeah, that's why we stick with, you know, plus immunotherapy plus kinase inhibitor plus chemotherapy plus radiation.

But, we try not to do it alone, right? Unless it's for prevention in a, in a otherwise healthy person, a healthy person.

Fasting, Ketosis, and Metastasis Concerns

And got it because I was thinking, and I don't know if this is correct, that some researchers, some people are advocating high animal protein based keto diets to get a person in ketosis when they have cancer because they think that glucose, the start, the lowering of glucose is going to starve the cancer cells from replicating.

And we're finding in studies that the initial tumor now, which starts to look for ways of escaping the, the, the this type of environment will have more metastases and have more scattering of the cells in the primary tumor that actually that could actually make the spread of cancer worse.

And the question is so number one, I'm we're seeing some of that data in the preliminary. So why we're not recommending animal based keto diet. So people with cancer because it actually could lead to more cancer spread.

But also that what about with water fasting which then induces ketosis for people with cancer thinking water fasting is going to be a treatment for the cancer, not who are not going through chemo or just using water fasting when they have cancer.

Thinking is going to take their cancer. Could that potentially lead to more promotion of metastatic of cells, leaving the nest and promoting more metastases?

Because of the ketosis and and the lack of nutrients to the cancer cells. Now, so we've been worried about the ketogenic diet for a long time. We've been saying it, you know, a lot of cancer is actually a lot of ketone bodies.

Right. And this is why we've always said, you know, the our recommendation for ketogenic diet is being for glioblastoma, mostly for glioblastoma. Yeah. That's right.

Yeah. I was I was the same thing for the only way we should have good evidence is the brain tumors, glioblastoma when we do a plant based ketones. All right. Go ahead. Sorry. Interrupt you.

I was thinking that just saying I was thinking the same thing. Yeah, but even for glioblastoma, and I think the Siegfried and other, labs have done the same.

We alternated with fasting. Right. So we do ketogenic diet, then fasting, mimicking diet, then a regular diet. So we make it very difficult for the cancer to adapt to all three.

Right. Yeah. But but I think there's a major difference between and this is why if you so far, we've never seen we in I mean, 20 laboratories so far, we never seen a cancer doing better during fasting or the fasting week in that.

Right. We now the, the illness lab, MIT published that if you do fasting and then you induce the APC mutation at a specific point, the the re feeding, you have an increase in two more incidence in colorectal cancer.

But that's a very specific genetically high penetrance induced model. Right. But so the major difference, which is the major difference between the ketogenic diet and the effect that it says to me that you have a lot of things that are lacking now. Right?

A lot of things that are lacking and low sugar, low growth factor, low insulin. And so probably because there are so many things that are missing in the cancer as a difficult time using the ketone bodies, whatever ketone bodies, they may be generated to fuel its growth.

Right. The ketogenic diet is, is very different because you have a high ketone bodies, but you have a lot of proteins, a lot of amino acids, and yes, sugar, glucose, depending on what you use may be a little bit lower.

So it's a I think it's a lot more caloric, equally permissive. And, you know, if you look at nutrient availability, much more likely to give the cancer what it needs, let's say a lot of cancer like glutamine or the like, leucine or.

Yeah. So planning, you know, a lot of those are abundant. And, you know, the growth factors are probably going to be relatively abundant. And that's why, you see a lot more cancers like in the ketogenic diet.

But so far very, very few cases, almost no cases of animal studies where you see the fasting cycles or fasting vegan diets that goes making the cancer go faster.

Sometimes it doesn't work, right. Yeah. Some cancers don't care, right? You do all the cycle because you want to. I always say we never cured any cancer with fasting.

We have always, even in mice. Right? We we've always been very effective in treating cancer when we include it. We combine fasting or fasting, making diet with, you know, one of the many therapies that are specifically very good for that for a particular cancer.

Yes, I am, yes. I think that's good points you're making that we're not utilizing really fasting as a primary treatment for cancer. We're using it as a treat as we doing to make the whatever treatment they are getting become more effective when we utilize fasting in conjunction with that.

That's mostly. Yeah. So and sometimes or many times in a synergistic way. So the, the tools, the tool interventions are bigger than the sum of each. Right. So or much bigger.

So once you combine it you now you see something that it's really surprising. Like for example, the several studies we did and a Swiss group did in mice, you do the fasting, mimicking diet or fasting.

Nothing happens. No mice become cancer free. And then you do the chemo and normally do become cancer free. And then you combine it. And 40 to 60% of the mice become cancer free.

Right? So right is just making a little bit better. I think it's giving it an opportunity to become much better. And in part because the two, as we and the Kromer lab have shown maybe ten years ago, are attracting also the T-cell infiltration in the cancer.

So not only there is a cell autonomous burst of, of, of reactive oxygen species. When you combine that to say chemo plus 70, but now that's signaling to the immune system attacking me.

Right. So somehow is making the cancer cell much more visible to the T cells here. But you put I was, I did ask a question, but I maybe you don't know the answer.

Maybe it wants to. Maybe nobody knows the answer. But I'm suggesting that should we be careful or be would would having a cancer different types of cancer?

Dietary Patterns and Cancer Support

Would some cancers be would actually prolong water fasting like a warm water fast be actually contraindicated or not advisable because it could, because like the keto diet could lead to shedding of cancer cells off the primary, the next off the primary next, could it potentially induce metastasis?

In other words, would you think that prolonged water fasting this the cancer is too bizarre response and we don't see a predictably good response. And it could potentially have a negative response with prolonged water fasting for for many types of cancers.

Again, we never see it seen it with prolonged water fasting. We never seen it with, fasting, mimicking diets. Is it possible? Yes. Well, you've never seen it. You've never seen the it's spread.

It caused the spread of cancer. You're saying you've never seen a we in a number of other labs we see metastases being reduced or greatly reduced. Right.

So right now, if we look at a circulating cancer stem cells and we published on that actually a few years ago, my much reduced. Right. So that fasting mimicking disciples are causing a reduction in circulating cancer stem cells.

And they're making it more difficult for metastasis to occur. That's usually what we see. That doesn't mean that somebody couldn't possibly shun and eventually one cancer or multiple.

But I would say after 100, probably 100 different papers that have looked at this, nobody's published thus far. And a clear effect, either one only fasting or fasting, mimicking diet in that no other wise, say standard cancer model, increasing metastasis.

Now, the only exception is what I was saying earlier, the Elmas lab, if you combine, they're refilling after water, only fasting. If you combine the refining with the induction of an genic, like, gene expression.

Yes. And that's, that's seems to be increasing. So the fasting in that particular very specific case is increasing in cancer, progression. Okay. Good diet. Sounds good. Okay.

Well, you're getting it clear. All right. Any, do you, do you specify yourself or your people who read your books and things? Specific foods that you recommend that either have more power to protect cancer or a helpful to people to utilize when they have cancer.

Now, I'm not talking about the fasting or I'm talking about utilizing the Pacific Foods with with a high level of protective micronutrients. Yeah. I, I don't usually because I haven't seen, enough data.

I mean, based on lots of studies we do with cancer, I think one cancer could be sensitive to one of those ingredients. And the next one or, you know, the next ten, Matt.

Or or the cancer, it could be sensitive. For example, we just publish, vitamin C plus fasting, making that right. And so when we added the vitamin C to lots of different cancers, you know, in some cases increase the toxicity, increase a little bit in a lot of cases nothing happened.

But then we combine the vitamin C with the fasting making diet. And now you see a synergistic effect. Right. So then I would say most of these ingredients alone, are probably not going to do much to the cancer.

But, but it is possible that a cocktail of the right ingredients that are personalized for a specific cancer could have devastating effects. You just got to know which one they are.

And I think fasting and fasting, making that, and that's what we publish, makes what we call escape starvation, escape pathways, makes them much more, much more easy to target these escape pathways with, let's say, vitamin C or some other, drugs, like for example, we use rapamycin, we use PI3 kinase inhibitor, we use aked individuals.

Yeah. So but always in combination with first we look at the cancer metabolic metabolically rewires and then we go after these escape pathways. You okay.

Yeah I understand your point and I agree. But I was making a different point that with a, that when we put together a dietary portfolio that includes a wide variety of, nutrient rich phytonutrients like we're talking here about cruciferous vegetables, the lignans and flaxseeds, the organic sulfide compounds in onions, the protective, polysaccharides and, and, and, and mushrooms.

Let's say that we're putting together a dietary portfolio of lots of foods that have anti-cancer phytonutrients. It's just a it's what I'm saying is the same dietary portfolio that prevents cancer has been shown to extend lifespan.

And in people and prevent recurrence in people who have cancer. So we're putting together the ideal dietary portfolio with anti-cancer effect. And I was just wondering if you yourself are eating healthily, picking out, eating a lot of those healthy foods, or in the cohort of people that you work with advising, putting together a dietary portfolio that's much healthier than the stool diets.

People that are presently eating. Yeah. So, I mean, we the the main foundation is, is a number of clinics and, and so the lots of cancer patients, and so we usually recommend what I call the longevity diet, in between cycles or of, whatever cancer therapy, the receiving end and fasting making diet.

So yeah. So usually our it is is like a mix of, let's say the Okinawa diet and the Mediterranean diet and but it's very healthy pescatarian, diets or fish plus vegan diets.

So that's, that's what we recommend. That's what you're doing, right? Yeah. Yeah. I mean, other than the rest of the things that we recommend, but but yeah.

So the in between diet is, is a low but sufficient protein, mostly plant based plus fish. Diet. There's a lot of, let's say, greens and, and phytochemicals.

Yeah. Yeah, sure. Okay. All right. Well, terrific. I really appreciate you being part of the program here. And your contribution and also your Constitution, your contribution to the work and research in this field.

So appreciate you joining us. And, and we and everybody in this summit listening, I'm sure appreciate you being here and being part of this. So again, to okay.

Thank you for having me. Oh you're welcome. All right. Good luck and good luck on your listeners. Thank you. Thank you. Take care everybody.