Introduction and Research Update

Well, I have the absolute honor of having Doctor Neil McKinney with me here on, the summit. He is, somebody that I highly respect. I consider him a thought leader in integrative oncology field.

I don't know how many editions I have of his book, naturopathic oncology. I keep. Forever. Yeah. Well, thank you, doctor McKinney, for for being with me here today.

Well, it's a pleasure. Glad to be with you. Since last year, a lot has happened, and we've been involved some research, and we've got some, tantalizing new ideas.

So I'd like to share some of that with you today. Yeah, I would love to. So I know you and Doctor Buser know, have done a lot of research, and and I would love to see kind of.

What? Where are you at now? I mean, what what have you discovered? What what do you feel is is, kind of a new insight that, people need to learn about?

Yeah. Well, I, I retired from practice about five years ago, and Joe, Fasano recruited me shortly thereafter. In the context of being on the board of several foundations that give out money for alternative cancer research.

But none of them ever do, because the proposals they get are not adequately researched or they're not sensible, they're not doable, and they're not fundable.

So we've tried we have got some funding. We put together some pro, projects with a lot of student assistance in research. We brought up some files up to date, and, then we've had some immunologists, some other people involved, PhDs of various sorts, including, one of the leaders in conventional cancer research in British Columbia, who I used to work with at the BC Cancer Research Foundation in the 1970s.

He's, an old team member, and he's, come back to help me, get some of the bench work done. So what? I retired with the idea that, you know, well, I had learned quite a bit and put it into my various books.

There were some really big gaps, of course, we hadn't solved the cancer problem yet. So to me, the some the things that needed the most emphasis, I lectured on one of these at on camp.

Several years ago. And I'm, I'm probably going back, I think, in February to lecture again on something similar about stem cells. I felt that the stem cell issue hadn't been properly addressed.

There's been a few lectures and, you know, writings about it, but I think it really seemed to me that cancer doesn't really become deadly until they start developing stem cell like properties, being able to go dormant and survive radiation, chemo and other therapies.

The ability to, the motility, the ability to metastasize, a lot of influence there of the microenvironment course and the immune system, but that the stem properties stem the stem, this like properties.

So the cancer cells were important to those cells surviving and colonizing somewhere else because cancer cells can be loose in the blood, as we all know, you can test circulating tumor cells, and they don't necessarily mean you're going to have metastasis and vital organ to die from it.

But if those are tumor genic, if they have stem cell properties, they can recruit, the assistance they need to form a new colony somewhere. So that was a big issue that I wanted to get to.

But I also had been working for years on the metabolic problem. Certainly when the leaders in in Canada, at least in metabolic theory of cancer. And I found that the metabolic approach to using alpha lipoic acid, berberine, and so forth was very useful in some cancers.

For example, prostate cancer was a real puzzle for 25 years. And then metabolic therapies helped me improve some cases more, dramatically than I've ever had before.

So the metabolism was interesting, but I also felt that the mutations were not really the key to cancer in in the major genome, but mutations in the mitochondria, happened very early because the mitochondria DNA is bacteria like and more sensitive to chemicals and, disruption than the DNA from our parents in the nucleus of the cell.

And that actually, I felt the cancer started in the mitochondria. And I've lecture on this extensively. It's in my books. And, that the mitochondria were really is where it starts.

But what what I've learned in the meantime is the that the this altered metabolism as the cancer shift more and more to glycolysis fermentation you know, burning fuel without sugar, it gives them the ability to produce the material to make new cells with absolutely essential.

You can't have, strong immune response or any fast tissue growth without glycolysis. And but it turns out that this creates onco metabolites that reprogram the nuclear DNA.

Cancer Stemness, Metabolism, and Immune Modulation

And I felt that it was always odd to me that the idea that cancer started from random mutations. First thing I learned in biology 101 University is most mutations are fatal, that they disrupt things and destroy the cell.

So how come several growth stimulating genes turn on all at once, while a whole bunch of growth regulating genes turn off all at once? A big cluster clusterfuck of gene change?

Well, it's not not random at all. It's happening because the changes in metabolism are driving onco metabolites, particularly succinate. But many others and reprograming the cell.

And then of course, the immune system, the immune therapies like LDA and mistletoe were always some of my best therapies. But I felt that there's much more we could do with the immune system to prevent it from being corrupted and used by the cancer to grow and spread.

So I told you, look, I want to look into Stem this and metabolism, genetic reprograming and the immune issue problem. And that's what the team did for about three years.

We brought all those files up to date and learned all kinds of new details and mechanisms. So, like for, one thing that's probably not news to a lot of the doctors in the field, but was to me is that the immune system really needs to be kept in one status, and that two status is more permissive of cancer growth and spread, in fact, can be corrupted to actually support the cancer's growth.

So, but this is a dynamic process. You know, it's like if you've got, an orange light and a blue light blinking in the blue light blinks 85 times a second, and the other 15, well, you're going to see it as blue light, but the fact is there's always some of the one going on the other.

And there rapidly interchanging back and forth. But, you know, just speaking in general terms that the th one state is what we want. So we start asking the question, okay, then how can we get it from TH2 in a fairly advanced cancer?

Because obviously the cancer's advanced because the immune system supporting it. How can we get it back to teach one? Well, that a lot of stuff came up there.

That's very interesting. So one of the things, that came up is by Lane from School area, and there's bike lane I ending in iron and bike lane in and they're both very, very robust in, anti-cancer properties.

So, but it turns out the bike lane strongly, strongly skewed our most of our system back from 2 to 1. Really, really strongly. Now, so did quercetin. One of my favorite remedies that I've always felt is an essential.

So, but. And do you mind just kind of explaining what th one and two is, you know, for, and. Yeah, well, the macrophages are big players, of course, natural killer cells as many cell neutrophils involved in in tumor growth.

But the macrophages and particularly can be in one state where they produce certain cytokines interleukin one, interleukin six etc.. If they start producing it, a lot of interleukin four, they move into what's called a two state and they produce H.

A whole bunch of different cytokines and inflammatory molecules and signaling molecules. So they can, this one state is very strong against bacterial infections, for example, acute infections.

So we our bodies is all the time to fight infections. TH2 is more of a chronic immune state. And what you see developing in chronic inflammatory diseases like colitis and rheumatoid arthritis is it's shifted into this chronic state.

And it becomes deeply entrenched in that. So, the initial response is always going to be one. In fact, in early stages of cancer, the H one immune cells are quite capable of getting in there and knocking out the cancer cells and inhibiting the growth in the spread of tumors.

And so cancer runs along at a very low key fighting the immune system, the immune system. But at some point it can gain dominance and make chemicals and adjust the reprogram the DNA and turn some of these cells into H2, producing, interleukin four, interleukin 17.

But, you know, I it's really complicated, but a whole bunch of other chemicals that produce a chronic inflammatory state. So the cancer actually reprograms the immune system for its own benefit is I'm right. It does. Yeah.

So so a lot of the therapies when we're saying, you know, we just get to support the immune system, support the immune system, it's not really just to support the immune system.

You actually have to adjust the function of the immune system to move them to, you know, a place where it's not helping the cancer. Yeah. If you want to, you want to see angry old geezer, just start talking about boosting the immune system for cancer.

Oh, no, you got it. You got to modulate it in the right direction. And it's really multi-layered. So, that so that was one of the key things we found.

Now, something else I learned is that TH1 cells, used to be thought to be, involved in autoimmune disease, but no, it's a two state in generally in, in chronic autoimmune inflammation.

But what's hap what is happening is there's a whole bunch of cells that look very much like one. So they have the same markers on their surface and they're producing the same cytokines, but they're drifting into a slightly more distinct type of cell called THC 17 that's producing interleukin 17.

And these are critical for sustaining autoimmune reactions. You cannot have an autoimmune disease without a lot of THC 17 cells, which are TH1 cells that are morphed into T 17.

So it turns out that that's really important. Now, one of, you know, one of the applications we have in cancer of this is when people taking these immunotherapy drugs like ipilimumab, bloody miracle drugs in some cases curing stage for cancers, but killing a lot of people by autoimmune targeting of the kidneys.

You know they die of kidney failure, lung failure, heart failure. Liver failure. They got autoimmune reactions that that

actually can make either make them come off the therapy and they die of the cancer or the the actual autoimmune reactions kill them.

So I've been saying for years, give low dose, no truck zone with it. It's not a lot of evidence for it, but it turns out why that works and why it's so, LDL is good for autoimmune diseases like colitis and autoimmune tirade itis and so forth, as well as cancer is it suppresses t h 17.

So turns out if you want to support the Pd-l1 drugs like ipilimumab, we know that there's evidence for curcumin and omega three and mistletoe very robust evidence for mistletoe supporting it.

But I believe LDN and now have a strong mechanistic argument why that should be so even though the science has not stepped in to prove it. And, so I really think if someone's taking these drugs, for God's sake, take some astragalus takes take some omega three curcumin, but, low dose, no truck.

So it can actually be a lifesaver and make that therapy really work for you. And that's the I think that's a missing piece that that people I think people are waking up somewhat but to understand the, the marriage between in, traditional oncology and then also more of a holistic, you know, natural, based type, you know, like, using things like curcumin, mistletoe, low dose, not tracks on, you know, they become very powerful allies alongside with traditional oncology to optimize the result of it.

We're not interfering. We're actually making those drugs more effective and safer. Absolutely. There's no reason to use the best of everything. And I really believe that, you know, LDL by itself is a great drug for people not taking immune, those immune drugs.

It's, you know, in itself it's a powerful immune therapy. But if you're offered those drugs and you're really late stage disease, it's a good you know, it's sometimes a little bit difficult for people to go with that.

But if you can say, well, we can support that and make it more likely to work and less likely to harm, then they'll go for it. And that's that saves lives in itself.

But there's so much more we've done with, I've learned, of course, from Doctor Anderson's changed my idea about hyperbaric oxygen. Used to believe I was trained as at the physician level in hyperbaric oxygen down in the States.

The undersea hyperbaric Medical Society of the American Medical Association puts on courses, and I took them and, the conventional wisdom was that it's useless for cancer.

Well, it turns out Paul has been able to show that even very low dose, hyperbaric oxygen. I was skeptical, even compressed air without pure oxygen and even just one and a half atmospheres, which very little pressure can actually make a difference, that it's quite linear, that the dose of oxygen helps to cancer, even at very low doses.

It helps overcome so we've learned a lot about, this why that works is interfering with a hypoxia inducible factor. One. And that's a real driver of cancer.

And it turns out there's lots of natural medicines that, act on that as well. So we're, I'm really much more open to people using, you know, just even airbag kind of, rather than full chambers of hyper oxygen.

So I've, I've certainly changed my position on that. One of the things that we, one of the things that I found really interesting, I went, I got accepted directly medical school in 1971.

I guess it was no, 80, 81, 1981. And, I decided that wasn't the place for me. Dropped out, and I put my finger on a globe. I put my finger on the other side of the globe and said, I'm getting far away from these medical twits as I can.

And I went overland all the way to South India, and I took the magic bus from Amsterdam to India. So, it was quite an adventure. And when I was there, I met a fellow, a Hindu, but he had, family history going back into Persia and Islamic culture.

And he told me that in the Koran, the Prophet Muhammad had stated that black seed, a black, cumin seeds. What is cures everything but death. And it's. I should look at it. It's a book for a cancer remedy.

Well, we've been testing it, and it's really interesting. There's not as much published on it as you would think. It's something that's been used for many, many centuries.

And God knows, millions of people around the world take it daily as a tonic before going to prayers, that there be more on this, but it's been shown to reduce, metastasis, increase keep up ptosis, stop the progression of certain cancers strongly, sensitized to chemotherapy and radiation while still moderating some of the side effects.

So lots of interest in it over the years. But I really wasn't satisfied with the amount of evidence I was seeing to make much of a conclusion. And and there wasn't any standardized products out there.

So it appeared that thymic quinone was the active principal in the black seed. But what how to dose it, when to use it, what to use it with was still a big mystery to me.

So, but something that's been bugging me since 1981. So I we finally got some research on it with mouse macrophage model. And what do you know. It strongly skews one cells to two.

So it has lots of proven, anti-cancer properties. But until we can disprove this or, you know, do some more work with it, I would not want people to take it unless they're taking something that does skew towards one, to balance that effect.

So guess what? We found something novel that people aren't really using much that really strongly skews back. The other way. And that's beclin from school area Chinese skullcap.

And and I had the and I had the thesis and told you about five years ago. I think that these things are all interconnected. I think there's a small set of remedies that works on metabolism, works on reprograming, and I'll call metabolites that that go from the cytoplasm, nucleus to reprogram and, the immune system and the stem ness issue.

And sure enough, there are, you know, it turns out that some of our favorites, we knew really well, like, grape seed and curcumin and quercetin and berberine cut across all these lines.

But there's a few new ones. The beclin, strongly influences metabolism, steadiness and, the immune system. But a crescent is a new one. No crisis in. Is it actually quite popular in Europe among the alternative cancer community, but it's not much recognized here, and we think it's going to be a big, big addition to the to the whole plan.

Key Natural Therapies and Immune Support

So, right now I would use flaxseed with some caution that while it's doing some good things, you need to support the immune system going that balance, pushing back towards t one with when you're taking that.

Another thing that came up to me that was really good to know. I had a really strong belief in green tea, curcumin and grapeseed, and that was one of my favorite formulas and produced some strong remissions, some very durable remissions.

I don't know if it cured people, but it it would shrink tumors and, and hold people for sometimes years and that were previously in a very bad place. But it turns out if you're going to mess with the metabolism using berberine, using curcumin and some of that and some of these things that I believed in strongly, I did shine through as being robust and realistic that so you yeah, you will always be using green tea because if you suppress glycolysis then you, you, you actually get a ramp up of glutamine or lysis, burning of glutamine, a protein as an alternative.

So as soon as you start suppressing glycolysis, ups comes glutamine, a lysis. And the one thing that really, really strongly inhibits that is green tea, EGCg.

It stops the glutamine from getting into the TCA cycle. So that proves to me every patient, every patient should be on some green tea formula. And, and I know you're also a proponent when you do green tea, to also bring in a little bit of vitamin E alongside with it.

Yeah. Thanks to mentioning that because that is important if people aren't familiar with my writings in that, that, high dose green tea can damage the liver, can damage the kidneys, and all it takes is a little gamma tocopherol, not just the alpha cheap, synthetic or, poor quality vitamin D, but the, the true multi, tocopherol forms that include at least 10% gamma tocopherol.

The gamma tocopherol will you can give really high dose to green tea without any risk to the organs. It's it's Yeah. So there's certain things that need to be used together here and that's but the green tea and with the vitamin D, I think should be part of every program from the get go.

And there's been very few bad reactions to it. I think it's something that really should be used. But yeah, some of my favorite says, I say green tea. Is needs to be emphasized more robustly than I used to emphasize it.

But the, the things like curcumin and grapeseed, berberine, these are really strong remedies for stamina for the immune system. But add a little crisis and probably and maybe a few other things, and we should have something.

Now, one thing that's interesting, too is that the, the gut biome, the bacteria there talk to the mitochondria. They have the same kind of DNA. They have a lot of the same systems.

Mitochondria are bacteria like. It turns out that they speak to the mitochondria. And so, you know, we always says naturopathic doctor is very interested in gut health.

Well, it's something that cancer patients it's not something to put off till later. Should be working on that high plant fiber diet and so forth to get a good, strong biome that will help support the mitochondria in your body, to behave themselves and to replace them, shut themselves off and replace themselves if they get to damage.

Because certainly the more the number of the mitochondria and the functionality mitochondria go down, the more aggressive the cancers become. You got to support those. My mitochondria.

And do you have certain strategies in regards to, you know, what you'd like to do to support the gut biome? I mean, some people say, you know, cancer patient is low and bifida and then other people says Mycin necromancy.

What what is strong bacteria really shine through as being the most important. So a strongly, based probiotic is usually an order as well as a plant based diet, you know, lots of plant fiber.

And people won't, won't eat that. Well, at least some psyllium or some other fiber, so. Yeah. Of course you don't want to give glutamine that except, during chemo because that actually feeds the cancer pretty strongly.

So, but yeah, everyone has I know so many different doctors who have different approaches to the gut, but I think the food and fiber are the the foundation and then also the, the different polyphenols that you talked about, like curcumin and berberine.

And, you know, they bring value in feeding the gut biome as well. So that's it. That's very interesting. You brought that up because it's so true and I think underappreciated.

Joe Pisano put a little seed in my brain that I'm still mulling over and looking for evidence for. But he said, are people are trying to create liposomal curcumin, a liposome or, Christ in.

And because the absorption of a lot of the both bio flavonoids is 1 to 2% of what you swallow gets into the system any. And so people want to boost that by liposomal preparations, nanoparticles, all kinds of fancy technologies, delivery technologies.

But it turns out what if the major effect of these bile flavonoids is on the gut bacteria, and you just leave it in the gut, let it be there? Maybe that's where it's doing the most good, because certainly clinically quercetin, these things are very bioactive, gets allergies against cancer and so forth.

So if you're only absorbing 1 or 2%, it's working. Do we really need to go to expensive liposomal forms. And I don't know that there's really evidence that they're more effective.

There's evidence they're better absorbed. Absolutely. But clinically against cancer nobody's looked at it. And I honestly I don't know if I can predict that it would be a bit more benefit.

So some may maybe essential like you're talking about the bacteria in the gut. You know, the impact that it has on your mitochondria and mitochondria play such a vital role.

And and cancer progression and cancer regression. So by essentially feeding it with the polyphenols and, that will then create the shift, the cellular shifts that we're looking for by adjusting the gut biome.

Yeah, I think there's going to be some very inexpensive, fairly crude combinations that are going to be really workable. So we're trying to get money to advance our research into mice and human studies.

Of course, it really it really is difficult for us because most of what we do or our work is based on preclinical studies. It's based on cell and rodent studies, because the human studies just don't get done.

And, you know, this is something Joe recognized that we've been fighting for to try and get to some human trials with some of these things. We're trying to we're doing the cell studies and getting into most trials to narrow down the list and look at some, you know, find the best three for glycolysis, the best 3 or 4 for the immune system.

That's 3 or 4 stem and make some combinations and see how they turn out. So that's where we're heading in the future. And so do you mind going back a little bit to, you know, people understand that cancer stem cells, the stem ness and then also how some, some cancer cells can kind of shift from being, you know, exhibiting Stem ness and then going back to normal.

How and also they kind of the, the, the tumor microenvironment, how that controls a lot of that activity. Right on. It certainly does. And that brings me to think about ivermectin.

We'll get back to that in a minute. But, yeah, the. There's there's so many layers to these things. But it turns out, that, I think I've lost the thread there.

Let me say again. Yeah, that that's okay. So as I got on the ivermectin thing, that's okay. Well I really want to talk about ivermectin. But yeah the a kind of explaining it a little bit, you know the the stem this aspect. Oh yeah. Yeah.

So there's really four mechanisms by which cancer cells acquire stem. This they can actually cannibalize stem cells and take parts. The stem cells can become acquire the properties of the cancer cells.

And then there's two sort of halfway states halfway between where they exchanged information in different ways with different chemicals. So there's really there's different ways that stem this develops in the tumor.

But I think that's the point where metastases occur. And that's the point where cancers become deadly and potentially fatal, that I think without the stem properties, I think tumors are a local disease that can be managed.

But yeah, it there's several different mechanisms that we discovered to the class. Our pathway class, oh 14 is I forget the detail, but there's there's various signaling pathways.

MTOR pathways involve a lot of different pathways involved in, this gradual transition to stem properties. So it's a survival mechanism, of cells, when they're under threat, obviously, you know, I've always had a little sympathy for cancer cells ever since I worked in research starting the 1975, that these little buggers are crowded and they have

trouble getting rid of their waste.

And they the the blood flow is poor. The blood vessels in the tumors are leaky. The pressure builds up. They live in a very difficult environment. And in order to sustain rapid growth when they, they have trouble getting, blood flow to them.

So. And as the oxygen level drops because of these things, they become more and more hypoxic and hypoxia inducible factor drives a whole bunch of, the stem pathways.

So there's just a gradual buildup of toxicity. But the as they switch to glycolysis, this of course, they produce more acid and have to up regulate acid reflux pumps.

Now it turns out quercetin curcumin a couple of things we've been using for a long time. Arrest these pumps and trap that acid and make it even more difficult for the cancer cells to survive in those tumors.

But they, you know, they get pressed, they get pressed by the the acid, they get, pressed by lack of oxygen, the lack of blood flow and buildup of waste.

So they this is an adaptive strategy. They try and stay alive by going dormant and they acquire this dormancy ability. But then when they wake up, they have motility.

And, how do, chemo and radiation. Yeah. How does that impact these, you know, dormant cells, I mean, do they are they able to kill them?

Hyperbaric Oxygen, Black Seed, and Beclin

Because a lot of times, you know, you have an oncologist, you know, you go to that no evidence of disease. There's no visible tumor. But then they say, well, we got to do chemo after to kill whatever cells that we're not seeing.

How effective is that against these? You know, stem cells, dormant cells. Well, cells that have already developed stem cells can go dormant and survive those therapies as if they didn't happen.

And so I my work in the 70s into the 80s with doctor Crystal and others, there was on the hypoxic cell problem that there's a rim of cells that are barely there's a dead zone off, and in the tumor necrosis in the middle, where things have just gotten horrific for the cells.

But then there's a rim of dying cancer cells, and then there's the rim of, living ones. And so healthy. Well, radiation or chemo gets at those ones easily.

It doesn't it's hard to penetrate deeper in and certainly in the hypoxic zone where there's very little oxygen, the radiation doesn't do anything. So you can't push the chemo into it because the blood vessels so messed up.

The radiation doesn't affect the hypoxic zone. But this thin rim of slightly hypoxic cells that are about to die, they survive because you haven't hit them with chemo and the radiation can't touch them.

So it turns out that, you know, those are caused the relapse of from radiation therapy. Is this hypoxic rim of cells. So we work on radio sensitizing drugs, and nothing ever found, is better than niacinamide, by the way, as a radio sensitized for hypoxia.

Yeah, it's it's become hyperbaric oxygen. Yeah. It's become my standard since reading your book. You know, if you if you're doing radiation, you're on niacinamide and then.

Yeah. Yeah. And then also like you're saying, in order to be able to oxidize something you need oxygen. Yeah. So and hyperbaric oxygen therapy alongside with, you know, obviously will drive oxygen deep into tissue.

Yeah. And now I'm cool with low low pressure hot as being bonafide. Whereas before I was quite skeptical. I mean certainly in if you look at hyperbaric oxygen therapy for diabetic ulcers is this sort of thing one and a half atmospheres is considered placebo.

That's what's used in and as a control in studies on hyperbaric oxygen. And that that kind of disease break down a tissue break down. Sorry. So, yeah.

You know, this this we used to think it has to be well over that. Better to go to two, two and a half to even three atmospheres of pressure. And that requires sophisticated, expensive equipment and 100% oxygen.

Hyperbaric oxygen definition is 100% oxygen under pressure. So that was where I was stuck for 30 years. But now it's no small amount of oxygen, small amount of pressures.

Good. Little more oxygen, little more pressure's better. Sure. Yeah I know, I know Doctor Anderson and Doctor Harsh. You know they they've done, you know, a number of research studies and I kind of are showing research studies, you know, showing that even low pressure is really beneficial and even with or without oxygen is still still really beneficial.

Yeah. Even compressed air. So, yeah, I'm really glad to learn that. And, you know, any scientists should be willing to change their mind in face of evidence.

And I certainly had learned a lesson. And Paul very generously shared all these files with me on that. Yeah. So, yeah, one thing I want to talk about too, then, is that oh.

So yeah. So this, this, you know, there are the cells that are stem like, well, resist the therapy, but the therapy can induce stem ness as well. And, you know, if the chemo or the radiation isn't strong enough to kill that last stem cell, then there's always a chance of relapse.

That that cell will come out with stem properties as an added survival adaptation, and it will come back and defeat you. And and is there any is there any chemo that's going to kill all the cancers and cancer cells?

I mean, you you said unless you kill that last, you know, bang cell. But Israeli chemo that can do that. No, it's it's scientifically impossible. It takes an infinite number of doses to kill the last cancer.

So. But, you know, for what? What is important is that the chemo or radiation can really knock the cancer down to a small amount. And then if the immune system's in one state, for example, probably the most important single factor, it could wipe out those.

So, you know, this is why they get put out the door saying, you know, we we've done you've done the chemo. We're radiation. Good luck. See later. This now is the time to work on stem this to take berberine and to take, any we've identified dozens of things, but I think pricing is going to be a big one there.

And yes, deal with those stem cells. I found that if I gave curcumin and quercetin long term, that those were the people who did the best, they may still die of the cancer ten years later.

But, you know, they were they were given a prognosis of six months or a year. And, you know, eight, nine, ten years later, the cancer's back. Okay. But, you know, at the time with what I knew that those kind of results came from people who are on quercetin, curcumin long term.

Well, it turns out they're major stem cell inhibitors. So is metformin. Although the research on that is mixed. And I think berberine is probably better.

Although they haven't been tested head to head. And so, you know, after surgery, it is a time when Stem develops because of hypoxia in areas that where the blood supply has been severed and has to be rebuilt.

So, around the time of surgery after chemo, radiation focusing on Stem, this was something that at the end of my career realized that's something I need to really, really impress upon people.

But then I want to know, well, you know, what other remedies are there? And turns out there's a lot. And what what how to combine them into a formula that I like forms with three or more agents.

It has to do with my I did work in particle physics, particle beam therapy for radiation, for cancer with pi mason beam, subatomic particles. And in my work there, I tried to understand quantum mechanics as everyone else tries, and but I was introduced to chaos theory, and chaos theory came, came up with the idea that when there's three or more forces acting upon a system, you can either get very regular behavior regularly.

Irregular patterns, patterns. Irregularity. But repeating or completely chaotic. Irregular irregularity. So I'm looking at the cancer thing. Say, well, the cancer cell is definitely cellular chaos, and maybe you need what if.

And oh, by the way, one of the first things they asked me to do when I joined Cancer Research was to test out a report in a paper that when you washed laboratory glassware with distilled water and such that it only takes three rinses with a small amount of water to get it clean, and that 4 or 5 or larger aliquot lots of water as you're mixing up, say, an early myo flask and draining it out.

That, doesn't do any better than three small amounts of a water, would rinse it as thoroughly, and you'd have to do 30 to get much improvement. So you know this number three, it's not like numerology or astrology or anything, but, you know, there's there's something there biologically, when you get three forces acting on a system, maybe you can turn chaos back into order if you have the right three grades.

So I've always tried to look for triplets rather than single remedies or doublets. Just a little bias I have. And you you mentioned ivermectin a little bit as well.

Yeah, yeah. Talk to me because that that's such a a hot topic. I would say, you know, a lot of people are recognizing that there's some studies coming out that the, the benefit.

Well, when I wrote my last edition of the book, The Pelican Ecology, its fourth edition, I had a section on repurposed drugs. I'd been interested in the Koc group in, England, MDS and FCS, and they published some papers, particularly one showing that their combination with them have been dis all, and I forget all.

What else? Help people during chemo, and it's easier to get studies for things that support chemo radiation than something that's alternative to them.

So that's why, you know, I think that's why they started there. But they were advocating and a lot of people throughout Europe and well, guess the world started taking up some of their formulas.

Ivermectin, Mistletoe, and Integrative Oncology

And I started prescribing the band is all people were taking Feb bands us all. And I think that's really out. I think dustbin of history for that one.

But, I've, I could prescribe a band dissolve because it's listed for human use, and it was under my pharmacy license, and I saw some possible responses to it, but, nothing really great.

Nothing better than green tea, curcumin, grape seed, for example. Consistency of and robustness of response. So, I've been keeping an eye on that file and building up some papers, but I've been tuning into a group run by Linda Sinclair in the United Kingdom.

And she's a layperson who's made herself very knowledgeable. Her husband, I think, first husband, died of pancreatic cancer. And, she's a smart cookie, and she's done a lot of research working with the PhD I know very well in Holland.

Runs mixed formulas. And, I've got a very good, dear friend. I've gone over lecture there in Switzerland with him. Doctor Lucy in Zurich. Who does a lot of work with cancer.

So I keep in touch with what's going on in Europe and particularly to Linda's forum. And everybody there is, taking ivermectin. And so, she sent me some information.

I've done my own PubMed searches. And yeah, there's some really interesting things going on there. Regulating the tumor microenvironment, robustly. Something you mentioned before is really important.

Autophagy, apoptosis, mTOR important pathway from the start of cancer through to the finish. One of the most important things to target, so it, it looks to be quite promising, very nontoxic in moderate doses, and, looks to be very promising.

So without there's not the big human clinical trials to prove it as a cancer remedy. There's still lots of preclinical studies coming out which are very positive.

But, you know, just this in this forum, you hear people who are really getting responses to it fairly consistently. I mean, it just today there was someone who's been on it is progressing.

It just didn't help him. Well, of course we all see that. But I think it's got real potential. But band is all its main function is against stem stemless.

And I think we've got Christ in and some other and green tea. I'm sorry. Curcumin, quercetin are probably better remedies because they're multitaskers.

They work on the metabolism, the reprograming and the immune system at the same time. So I'm not that keen on the band is all really as a key, but I think ivermectin is the one to watch, repurpose drugs that really should be used more in practice.

Yeah. But yeah, I love that. And then another, another supplement or another herb that that I know that you, you talked a lot about. This is, Solomon's seal.

Is that something that you're still passionate about right now or what? What are your thoughts? Well, yeah. I'm going to be doing a lecture. Oh, it hasn't been finalized, but I've been invited to lecture on, prostate cancer.

Prostate cancer was a tough one, and I realized that one of the things I wanted to do with prostate cancer was control. The matrix, some of the mitochondria signaling pathways.

And it turns out that that was something that was able to do that. It was, so I, I've quite interested in still in using it, but, while the results were better than I had before, there's still some fundamentals to remember.

I think indole three cardinal is much under-appreciated for prostate cancer as a testosterone blocker. And, so, you know, so, so little puzzle. So I'm preparing a lecture.

And I think if we focus a lot on Pgy two, that's probably going to be a bit more productive. So Solomon's seal is is still in the mix, part of a good program, but it's still in development.

And, another one that we, touched about a little bit, that I want to make sure that we cover a little bit more is mistletoe, because I know that mistletoe is is something that you.

I've lectured a lot about, and you used a lot. And so what what is your your thought about that? Is that something that should almost be standard of care for people dealing with cancer?

Yes. Yes. Unfortunately it's for example, in UK, Linda's group there, they can't access it. It's not legal in, in England for some reason. Of course, you can go to Germany.

Everybody uses it. There is Switzerland and so forth. But, anyway, I started using it. I, a nurse who was a pediatric oncology nurse in Switzerland, came to work for me many, many years ago, very, quite early in my career, probably in the late 1980s.

And, she got me on to using mistletoe. And so I use it for at least 30 years in practice. And usually the very best results in as I got you stage three and four cancers coming in, it really was imperative that they get on.

The ones who were on it did a lot better than ones who didn't and help with chemo. Now, they would still often die of the cancer. Someone would come in with pancreatic cancer diagnosis of six months to a year, and with mistletoe five, six, seven, eight years.

So I knew was a great life standard help with chemo and but if people's disease was progressing, they'd often bail out of it. And I think that was wrong.

I think the people who stayed on it had better quality life and a longer run. So that was I was very firmly for it. And, I found a way to make it quite inexpensive for people.

I broke some rules. I won't I won't admit them in public, but I bent the rules a little bit, and I made it, a lot cheaper for them. So, I would buy. I buy the highest strength, put it into an Ampule.

Molly, those files and take out just the amount that's needed. You know, instead of starting with a vial that a box of vials, it contains three milligrams, a whole box for 100 bucks.

I could give them a vial with 400mg for the same price, you know. So anyway, so that was, it was able to get a lot of people on it and see that. Yeah, the majority people got some real benefit from it.

But when I got down to LDN, LDN was better. It really, really reduced the death rate of my patients dramatically. I've been known to burst in tears talking about this because it was so mind bogglingly good thing to see.

And, so I've always felt that there was a great synergy there. But I think now if we could get, say, beclin in the mix, I'd love to test it. Maybe we can do a lot more.

So, but I think LDN is probably a little bit more important than mistletoe and easier because it's not a needle. But if they can do both. Yes. And, you know, watch this space for news about Beclin being, a part of a trilogy that I'm looking for.

Yeah. And I think it's it's so exciting in the integrative oncology space. There, there, there's so many new, you know, potential and possibilities that we, we're looking at.

And I feel we're understanding so much more now than we did 20 years ago. And I feel the field is, is just accelerating. And and you know, being more effective.

Obviously, we have been yeah, we haven't solved it, but I think we are, making a stronger impact. Yeah.

Diet, Metabolic Strategies, and Closing Remarks

Now, I'd like to ask you, one of the things that that I got interested in and wrote a little clinical handbook for and for the doctors is the ketogenic diet.

And, of course, the doctor winters is very strong with that many others. And I think, I know Doctor Anderson will use it too, but there is, there's been some concern that it might not be good with the fat driven cancers like melanoma and prostate.

In fact, there's some, research evidence that is also not particularly favorable, some forms of kidney cancer and a few others. So, I think the ketogenic diet is something that is a must with brain cancer.

If it's progressing that that's that can arrest it. But, yeah, I'm not sure it's, it's anyone. See, do you know anyone seeing poor results or abstaining from using it with certain types of cancer that so the different thoughts I mean, like like you mentioned, we have the plant based camp, we have the ketogenic camp, and then we have, you know, the camp where, you know, we we match the cancer with the diet.

And I'm, I'm kind of more matching that the cancer with the diet. Yeah. Because they're, they're different different types of cancers that respond to different types of diets.

And yeah. So I'm, I'm, I'm more on that. Obviously. Yes. If it's anything in the had a glioblastoma or astrocytoma or something like that. And then I would definitely go ketogenic.

And yeah, the question becomes, you know, like breast cancer, prostate cancer, melanoma, you know, those type of things. So, yeah, it's still at we're we're still navigating that to really fully understand, I think.

Yeah. Well, and there's certain cancers are really glutamine driven. Pancreatic melanoma. Lymphoma. So, melanoma for high fat diet, it might not be good, but, certainly that those are possible cancers where a vegan diet might be useful, or at least again, it's going and I think sometimes also kind of mixing it up a little bit, you know, can I keep keeping it interesting.

May be running one diet for a bit and then shifting over to another. Yeah. To create that metabolic flexibility a little bit. Yeah. So yeah. So I think very definitely that if people find it hard to stay on the ketogenic diet, you know, do it for a little bit, starve the cancer somewhat.

But then, you know, then, Mediterranean diet, then the vegan diet, then, whatever plant based diet, whatever, whatever the event is. Yeah. Well, I think there's different diets for different cancers, different remedies.

I've always said there's different remedies for different cancers. You can't treat prostate cancer like brain cancer, like melanoma are different. I mean, you can still, like you're saying, still kind of work on the mitochondrial aspect.

You know, the the Warburg effect, that we're talking about and how that mitochondria, you know, the impact that has on the, you know, turning on. Yeah.

Shifting the orchestra, your, your genome, your DNA. Yeah. Towards, yeah. You know, away from cancer, you know, supporting signaling. Yes. Well, what my when I started working was the mitochondria idea.

One of the keys was, alpha lipoic acid, Ralph. Lipoic acid. And a lot of people have adopted using it as IV is, affiliated with IV vitamin C or instead of, for example.

But and I also advocated, nebula using it because unlike vitamin C, you can nebula alpha. My book acid. And people could do that at home twice a day instead of going twice a week for IVs.

A lot of people didn't have access diabetes up in the north, and you know, out in the rural areas that didn't have a doctor anywhere in Alberta, Quebec, whatever, they would do an IV vitamin C for them, but they could nebulizer a DCA and alpha lipoic acid at home.

So of course, DCA is the most potent anti metabolite anti metabolic cancer drug. It really works. It's really dangerous as well. It's a it's a harsh drug.

It can cause liver failure and different things and severe neuropathy. So you know I worked with that. And alpha lipoic acid seemed to balance that out.

Reduce some of the neuropathy and so forth. So that was all good. But our our cell studies with lung and breast cancer cells, is has shown up that curcumin is very very important.

Anti metab anti glycolysis remedy. And Grayson so I and alpha lipoic acid down the list in this cell model that we've

been working with. So you know I definitely think that we may be altering our metabolic approach.

There in the near future. A little less emphasis on alpha and more on curcumin, berberine, resveratrol, Christ. And especially yeah, I love it. Well, doctor McKinney, thank you so much for for spending this time.

Thank you so much for all the hard work for the, the decades, hard work and and bringing, you know, invaluable information out, you know, that is actionable for us, like practitioners, to be able to help people and I, I do want to, kind of build a plug for your for your newer book.

Yeah. It's a cancer unraveled. Phenomenal new book. Along with, your, obviously your naturopathic oncology book. Yeah. So to me, these are our standards.

Should be on everyone's bookshelf. And, Thank you. Yeah. Thank you so much, doctor McKinney. Well, I I've earned a good rest, and I'm getting a good rest in retirement.

Gardening and playing music and being with my dog and on my property and stuff. But, Yeah, yeah, I want to keep my hand in. I don't want all this to fade away to nothing.

I want to make sure that what I've learned is passed on. And, thank you for helping do that. My book is available as a PDF as well. Save the shipping.

And it's a, I'm able to update it regularly. Where's the print book? You know, kind of gets frozen in time, but it's still it's still very pertinent. It's quite new.

But I'm saying there is a PDF as well. Wonderful. Well, thank you so much, McKinney. Thank you. My pleasure. Thanks, Michael.