Chronic Disease & Alzheimer's Reversal with Plasma Exchange Transcript

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Introduction and Speaker Background

Hi everyone. I'm Doctor Sanjeev Goyal, and you're listening to the advanced Anti-Aging and Technology Summit. Today I'm really excited to be talking with Doctor Dobry Kiprop.

Doctor Doby Kiprop has worked in the field of Therapeutic Aphorisms for more than 30 years, and has published extensively on this subject. Doctor Kiprop has served two terms on the American Society for aid for Research Board of Directors, and create the first ASA for Educational Video program.

He's also the first physician to take and pass the Hemodialysis Practitioner exam. He is the recipient of the Asaph Presidential Award for his pioneering work and numerous contributions to the field of AP research and the Society.

He is also recipient of the SFA Lectures Award and the Francis Morrison Memorial Award. I'm sure you're going to enjoy today's talk with Doctor Kip Roth as we talk all about arthritis and its effect on aging.

How are you, Doctor Kiprop? Very good. Nice to be here. Thank you. Thank you so much for your time today. I wanted to first begin by just getting some background, about, how you entered this whole field of, looking at, you know, very innovative therapies for aging.

So if you could maybe just take us a little bit into your background of how you got into this type of science and, and what drew you to it? I'm trained as an immunologist and, therapeutic forensic specialist.

Actually, I've been dealing with immunology and therapeutic for disease for the last 30 years. Exclusively. So this is, important in terms of the anti-aging, interventions because we treat a variety of, autoimmune diseases, over 100 autoimmune diseases.

The majority of those are very serious conditions. We treat them in hospitals, in ICU setting. Some are deadly. So we are able to help people. With this intervention who are very, very sick.

But it's occurred to me that, they really don't have to wait to get that sick, to be healthy, because to get to the point that we need to treat them. So, I believe about 20 years ago, I developed a program called Lifestyle in Motion, which, basically uses, uses, you know, conventional approaches to anti-aging, and that is, and health as well.

From Immunology to Anti-Aging Research

So this is diet and, exercise, you know, so forth. So, with this program, I made some progress. And, I was always thinking of how to get plasma for races into these, because plasma, for instance, is a very, strong immunomodulatory.

And, all these diseases that we treat are basically a failure of the immune system to function properly. In 2005, I came across the, brilliant article by the husband and wife Irene and Michael Conboy, published in nature, where they used experimental purposes to show that, it is possible to, to influence the aging process using the, the, connection of the circulation of two identical animals.

So I started working on a translational model. And as you well know, it's very difficult to translate an animal model into human. I wrote a book. Both.

This is, I believe, about 10 or 9 years ago of how to how to do that. And, I think the combo is gone. Read my article. And we got together and we discussed what we can do, and, they accepted my proposal to start doing experiments with, therapeutic plasma exchange.

Because, as you well know, bar biology is impossible in humans. So we started doing that. And in addition to that, what they did is they created a small a for easiest machine to do that in in animals as well.

So we were able to show that plasmapheresis, per se with albumin can accomplish exactly the same results as they have seen with the power of the Osiris in mice.

And we were able to also demonstrate almost exactly the same thing in humans. Right. So maybe just for the viewers to just understand here. So the Para Biosystems, experiment was two mice, young and old, connected to each other.

Their blood systems were connected. And I believe the old mouse became young right there. Is that correct? Their future. Their future together. The skin of the animal.

Thank you. And this way, the circulation becomes one. And yes, the young animal became old. And the old animal became young. Right? And then you were saying that the, What?

You're what you're saying plasmapheresis is about taking out the plasma and replacing with albumin. Is that is that a fair way to describe that procedure?

That's correct. Right. And so there's no none of this, using young blood or anything like that is that is the reason why that hasn't been done. Because it wasn't going to work.

Or why did why did we why did you make that protocol change from that experiment of the, of the actual, you know, mouse young blood to the to the older mouse's blood.

Like, for those mixing the actual blood, the the initial experiment of the convoy's suggested that there may be something to do with young blood. I don't think.

I don't think that they believe this. The two of them, and, I think that a lot of people just assumed that. Look, this is what's happening. We've been looking for for young blood for the last 15 centuries.

And all of a sudden, it's here. Everything's okay. So, I discussed this approach with, some of the top leading scientists in the field early. Early after their publication.

And, they suggested that we do plasmapheresis with with FFP, with fresh frozen plasma taken from young people. And, I didn't dispute the notion at the time, but I was very much against it because.

Parabiosis, Plasma Exchange, and Albumin

Because, people who have experience with therapeutic plasma exchange know that if you use plasma as a, as a replacement fluids, your side effects go exponentially higher.

That. So every person who gets plasma will have some sort of a side effect. Some are mild, some are serious, some are death. So I was very much opposed to that because, you know, usually, you know, the people that come in us to be younger, they're healthy for the most part.

They're healthy people. And to expose them to something that may be deadly was very much against what, I do for as a physician. So so this for me, this was out of out of the question.

There are other legitimate issues that, they didn't take under consideration because most of these people have, you know, no idea about blood banking and plasma freezes and so forth.

It's just imagine how you can recruit only, you know, five, 15, 17, 18 year old kids to donate and how much plasma can you get? So logistically, plus plus, this is regulated by the blood banking community, which is very, very difficult and bureaucratic, you know, rightfully so.

So I was very much against that idea. And, I proposed and published that the idea is to replace with albumin because I'll be a man is the majority of the plasma.

So maybe something in the abdomen, who knows? But later on we, we really, Proved that the, this idea that we're infusing something that contributes to to the transformation towards a young mouse are human is wrong.

And, as I said, the the combo is designed this little gadget that basically transfused his blood. Only blood without without being, you know, without comments.

Circulation. He diffuses blood from one animal to another without the. So if if you took old blood. Old blood. And infuse it in a young animal. Not through this. Yeah.

Then the young animal becomes old God. And if you take blood from a young animal and infuse it into an old animal, now they happens. Interesting. Okay.

In addition to that, I think that this, idea of looking for, magic bullet in, in plasma or blood took very serious turns and raised millions of dollars in different companies, as you might have heard that the grifols, conducted the study, you know, sky image disease with with young plasma.

And of course, nothing happened. There was no result. And other experiments have failed to have failed as well. And in the meantime, while this, craziness has been going on, a lot of people have gotten injured.

And I know some of them personally and some have actually died. So the idea of infusing blood into other people is not a good one. And, you know, we and others have proven that it really has no good aging doesn't work.

So it sounds like there's something about the older blood or as people get older, something that then I guess causes some marker for aging or, contributes to the aging process.

It sounds like that's the actual issue. And so by removing it through plasmapheresis makes the difference is that is that is that a right? Yeah. Interpretation. Exactly.

The con guys have shown that dilution of old of old plasma leads to rejuvenation. And, as we have already published and there are many other articles coming out this year.

We have identified the different proteins that contribute to the aging process. Because it is basically a balance between between toxic substances and substances that the produce during the, metabolism of, of different proteins.

And as we the age, these balance is, interrupted in one way or another and, and some of the radical particles that, accumulate with the aging, can slow the whole process and basically impair the systemic medium.

It impairs them. You know, where cells proliferate and and grow and function. And because of that, a lot of, a lot of the organs. So, I mean, probably every organ in the, in the system ages.

And does not function as well as it did when you were 20. At the same time, at the same time, proteins that contribute to the regulation of the whole process and the growth of certain, of certain tissues is inadequate.

Alzheimer's Study Results and Patient Factors

There isn't enough of that. So there is, there is a growing number of bad stuff and diminishing number of good stuff. So it's basically the balance is impaired.

And what, what this procedure does, it's recalculates the whole system. So it's similar if your computer, does not function properly in your absence, not working.

If you turn it off, wait 17 seconds and turn it on again. Boom. They come back. So it appears that what we do, both in animals and in humans, does this recalibration, this reset that you're talking about, is this reset back to like the start or just to reset back, you know, like a certain time period, like of, of the of the health of this, usefulness of this plasma.

Like, what is the research done on that? Like how, how, how much of a risk that happens? A lot of reset happens. And, we, we the, the paper that we published last year shows very much the proteomics of, of, this, this whole process.

But we have new data that is coming out, later this year, maybe even next month. That actually shows this process. Now, how much exactly is, is difficult to say because we have not run proper controls.

So the proper controls would be to take the young people between 16 and 20, let's say, something like that and compare with what we find here. We have not done this yet.

So I understand there was a landmark study, looking at Alzheimer's patients with plasma exchange that showed, pretty big benefit. Do you want to just talk about that?

I think you were involved in that study. You know. Yeah. I think that was these experiments that we just discussed. Were out there and published. People said, well, so what?

Yeah, it's a big deal. And the answer to that could come only from clinical trials in certain age related disease, age related conditions. And, there isn't any more, age related condition that then, sky disease.

So Greenhills, sponsor, very generously, a study today actually could not as a company benefit that much of it which most studies that are that expensive are usually usually sponsored by a company that will benefit from the results.

And, generously, Griffiths didn't do that. They sponsored the study because they wanted to help people with Alzheimer's disease. And, you know, the original idea was that they will use albumin in the manufacture of the albumin, but people can buy albumin from anybody else, not just from them.

So they both they thought that I'll be me and has this capacity to bind different proteins. And by infusing large quantities of albumin using plasma exchange, you can, infuse enough albumin so that these receptors will bind that to amyloid.

And by removing beta amyloid, which is the the main prevailing hypothesis for Alzheimer's disease, that's a physiology you would, arrest the progression of the disease.

And while this is correct, I'll be mean is a very, very strong antioxidant and also can bind a variety of proteins. We know now that without the actual plasma exchange, this study would not have given the results.

It did. So basically, the results were very encouraging. There were two groups of patients. So one group was, moderately severe disease, and the other group was mild.

And in the importantly, severe disease, we were able to arrest the progression of the disease in 67% of the patients and in mild in the mild disease in 100% of the patients, which is very, very impressive because it means it means that that we may be able to actually prevent the disease if we intervene early.

Certainly that's progression of the disease. So this was originally published, and there is a new article that talks about the actual improvement of the patients, both, neuropsychological and otherwise, during the treatment.

And, I cannot discuss that because it's not published yet, but it's very encouraging. Oh, wow. Okay. And is there some gene is there some characteristics of those patients?

Let's say for example, that make them a better candidate to have a better result. Like was there any, genetic factors or, you know, ethnicity? I'm not sure if there's any other factors that could make one a better candidate.

Right. To start with, I would say that we really didn't look into this, in this particular study. I think that you're right there there are different people with with different predisposing genes to a variety of diseases, including, skybridge disease.

There is, if we can call it a genetic variant, which fortunately is very rare. We did not, concentrate on that. At the moment, I am treating patients with this form of the disease because our study shows that we may be able to stop the progression of the disease.

These people have an abnormality that makes the liver production of amyloid constant. So they constantly produce this thing.

Inflammation, Aging Mechanisms, and Future Directions

And, many of them get the disease much earlier that and can conventional Alzheimer's. So, conventional Alzheimer's disease in older people, 80, 90, these people are in their 30s, 40s, 50s, and some die very young.

They die in their 50s. So if we can, kind of arrest the disease in these patients will be great. And, we started this study recently. We don't know the answer yet.

Obviously, we'll take it will take some time. In terms of in terms of ethnicity, we didn't look into this, and I don't know the answer. What about the AP, variant?

ApoE4 variant? To what impact, do you think that this type of treatment would have of those types of, individuals that have that. Yes. Again, I don't think that we know enough about that.

I think that our new studies are aiming to figure out whether we can affect that. I think we can, you know, or to to the constant, production of, that that amyloid.

This is very similar. So there is a hope. Our initial studies provide hope, but not proof. And what about, do you think that the mechanism is on reducing inflammation because that has been a common theme with almost every speaker that I've interviewed, that inflammation is at the center of, of aging.

So I do think that this type of plasmapheresis is having impact on reducing inflammatory, agents in the in the plasma. Yes, definitely. Our our comic paper, talks extensively about this.

I'm giving a talk this Sunday. That I'm going to discuss that it will make it available. On the internet, probably within a week from, from Sunday. So he'll be able to get that.

But, there are three main processes that affect the, very, very complex biology of aging. And to the bottom the bottom line is, is inflammation, aging.

It's inflammation. It's chronic inflammation. There's no doubt. And these are combined with, cellular senescence as well as immuno senescence. And all three produce very, very serious chronic inflammation.

And if we look at proteomics and cellular markers, this is very clear that as the case, so addressing this issue is, is critical, addressing this issue early in the disease or prior to the disease is essential.

The later stage you hit it, the less chance you have of succeeding. So, we tried to catch people in early stage of developing the symptoms and the markers of aging and treat them.

And, interestingly enough, as we described in our paper, plasmapheresis affects all these three areas. So with a single molecule or medication, you cannot do that.

And here we are able with one procedure to, to affect the the whole process of aging, which is extremely complex. Now is this and are we not going to move forward and rely on that. No.

We continue to to make progress and add other things to the plasmapheresis. We already have a proprietary proprietary battery fluid that we use that has been shown in controlled clinical trials.

That works even better than the plasmapheresis. Plasmapheresis with albumin works. But what we do works better, even better. So we will continue to to develop new strategies.

But at the at the moment, plasma exchange appears to be the only proven strategy to work. It works. What's your what's your feeling about the use of, exosomes.

To add to this type of treatment. Do you think it has any value. It might we, we don't know. I think until it's properly researched and proven in clinical trials, we we wouldn't know.

There are many. And not just the exosomes. There are many other candidates that maybe in combination with what we do, can either, either, shorten the the number of procedures that we need to use to, to create an anti-aging environment.

Or enhance what we do with the plasmapheresis. So there are many opportunities, but as you well know, it takes takes a lot of effort, takes a lot of money to to create a clinical trial that's, that it will appropriately well address these issues and be believable to other scientists and physicians.

And what about, the, use of hyperbaric oxygen therapy? I know there's this, researchers in Israel that showed that at length and telomere length, significantly.

Do you have any thoughts about that type of treatment in conjunction with plasmapheresis? This, I have thoughts, but, I don't have experience, when I don't have experience.

And I don't like to comment, so. That's good. Thank you. So where is what is the challenges right now that you see foresee with plasmapheresis and what do you think is happening in the next year that you're working on to kind of to understand more and, bring this technology further?

At the moment, are we're trying to to organize a controlled clinical trial to show that we can affect not only Alzheimer's disease, but other age related conditions.

So, I think that, without chamfer is this we cannot accomplish the, to reach the respect that we need to to reach in the medical community, in the scientific community.

So we need to continue to fight for funding for controlled clinical trials. And I think this is the crux of the matter, because right now, the treatment is expensive.

It can be afforded only by, wealthy individuals. My my idea is to bring this to so everybody who needs it and eventually to use it as a preventive measure.

So if we don't reach the stages of diseases that we have to really treat very intensely with a variety of dangerous medications and so forth. So if we can convince the convince the insurance companies that investing in a preventive measure such as plasmapheresis at a, at a given stage of of, human age can prevent diseases such as cancer, infections, Alzheimer's and so forth.

That will be there will be a tremendous accomplishment. And in order to do that again, we need placebo controlled clinical trials. Okay. Thank you. That's that's amazing.

I really thank you for your time today. I think our viewers really learned a lot. And and it's, pretty exciting time right now. So I, thank you for being a leader and, taking this whole, science forward.

My pleasure.