How To Power Up Your Heart With Stem Cells Transcript

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Introduction to Stem Cell Therapy for the Heart

This is Doctor Talks, real talk from real doctors on the issues that matter to you most. All right, everybody. Welcome. This is really exciting. Don't go anywhere.

We're getting to talk to a world expert on a topic most of us don't know a lot about. We're talking about stem cell therapy and the heart. And we have and we could take the whole time just reading a biography here.

But let me formally introduce Dr. Leonardo Gonzalez. He is streaming into us right now from Sarasota, Florida, but he is the founder and medical director of the International Stem Cell Institute in Bogota, Colombia.

Hopefully I pronounced that right. I've not been there. It's celebrated for groundbreaking approaches with stem cells and advanced medical treatment. He's board certified in anti-aging and regenerative medicine, certified by the same organization I am, the American Academy of Anti-Aging Medicine, Also a diplomat in integrative cancer therapy.

Expertise extends all the way to the metabolic medicine program at George Washington University. Of course, that's in Washington DC. He's a respected educator, teacher, and a clinician.

And a lot of you that have heart disease or have relatives with heart disease or know friends and family that have heart disease don't know that stem cell therapy might be a option.

We've talked a lot in this summit about nutrition and fitness and sleep and stress, but we are presenting the cutting edge 2024 and we have to talk about stem cells.

So Dr. Gonzalez, thank you for making the time to talk to us today. Thank you. That was a very kind introduction. I really appreciate it. And, you know, I'm very happy to be here and to be able to explain to, you know, everybody what the stem cells do for heart failure and other cardiac conditions.

Yeah. So let's clear summing up right now. The terminology of stem cell therapy can be quite overwhelming to those that aren't doing it day to day. We're definitely not talking about embryonic stem cells that bring up a whole host of ethical and sometimes even legal topics.

So if anybody's listening right now and saying, I hope Dr. Gonzalez isn't talking about embryonic We're not going to talk about that, right doc? That's right.

Yeah. Okay. Bionic stem cells, you know, are very controversial and, and actually they're very hard to use. And just as they're being used just in research purposes, they haven't been able to actually being used in human beings.

And I think so far it's, it hasn't proven to be very helpful.

What Mesenchymal Stem Cells Are

We using, yeah. So we're not going to offend anybody or take on anybody's sensibilities. That's not the topic tonight. But we are going to introduce some tough words and the abbreviation is MSC.

It stands for mesenchymal stem cell. Not a word we say every day. M-E-S-E-N-C-H-Y-M-A-L stem cell. Why don't you just give us a short explanation? What is a mesenchymal stem cell that you're using?

Okay, so we have different types of stem cells. Like you mentioned, we have embryonic, we have fetal, and we also have mesenchymal stem cells. The mesenchymal stem cells are those that basically we have in our body.

They're considered adult stem cells. and their insight of our bodies to basically regenerate and to create new tissues, mostly from the connective tissue kind, like, you know, muscles, tendons, cartilage, things like that.

But they actually have this very potent quality, which basically let them become other types of tissues, like neurons or cardiomyocytes, different types of cells and different organs.

All right, so maybe some people listening have had a heart attack. Maybe they have a spouse, a family member, a friend, a coworker that's had a heart attack.

That's a damaged heart. And what we're talking about right now and reversing your heart disease naturally summit is the possibility that stem cells may help repair.

I don't want to say necessarily renew, but repair the heart. And we're going to focus on mesenchymal, MSC, mesenchymal stem cells. And you get mesenchymal stem cells from something nobody's ever heard of.

It's called Wharton's Jelly, W-H-A-R-T-O-N Jelly, And I thought, of course, we're going to talk about something made with fruits like strawberry jelly.

But tell us what, what is Wharton's jelly and how do we get stem cells out of it? Okay. So the Wharton's jelly is basically a jelly material that we find on the umbilical cords.

Basically, you know, the umbilical cord has like, you know, three blood vessels and we have this jelly material around the blood vessels. protecting and giving support like nutrition and giving different, you know, systems that the blood vessels are going to need to, you know, be healthy in a way.

So that's where we find the mesenchymal stem cells. And basically we get a piece of the umbilical cord and then we take the Wharton's jelly and that's where we get the stem cells from.

All right. So of course, every birth, there's an umbilical cord. You know, after the baby's born, there's no real use to the umbilical cord. So you're using that aspect of nature that there happens to be mesenchymal stem cells in the umbilical cord that otherwise has no purpose at that point.

So nobody gets hurt. by extracting stem cells from the umbilical cord after the birth of a baby, right? Right. And the beautiful thing, and this is something that nature made it this way, is that everything that is on the umbilical cord basically doesn't belong to the mom or to the baby.

They have very specific characteristics and qualities that made this tissue like the connective you know, organ that it is between the mother and the baby.

Wharton's Jelly and Umbilical Cord Stem Cells

And that way, actually, the stem cells on the umbilical cord, they have the same quality. And that's how we are able to use those cells in anybody. After we get the cells out of the umbilical cord, we can use those cells in any other person.

That's the interesting thing I was going to ask about because we're not using these mesenchymal stem cells in the umbilical cord. We're not using them on the baby or the mother.

We're taking them or we're going to use them on a 55-year-old truck driver who had a big heart attack and has a damaged heart, and you're going to use your institute to help them.

How come? our immune system doesn't react and reject these stem cells that are coming from another person. Okay, so these cells are basically immunoprivileged.

And what that means is that they don't express something that we call… I'm sorry, histocompatibly complex. And

that's something that, you know, our bodies use to reject like different organs or things.

So basically, you know, the cells don't express the histocompatibility complex. And that's how we can use those. You gave us a fancy scientific answer, but the bottom line is our immune system doesn't recognize these as foreign and won't really destroy the materials.

So there's a chance they're going to help a person long-term in their tissues. Yeah. How does, maybe not how, but do we know that a stem cell from an umbilical cord put into a human with a damaged heart can become a heart cell?

Cause you know, most people don't need to grow an umbilical cord. We know we need to grow heart cells. We know that that happens. Okay, so, you know, many, many years ago, you know, when all this started, we used to think that the stem cells that we were injecting in different parts of the body, they were actually differentiating or becoming, you know, a different type of cell.

Now we know that basically the most important part of the action of stem cells is by producing different substances like cytokines and anti-inflammatory factors and growth factors.

And that's what, you know, produce regeneration and actually stimulates our own body regeneration process, healing process. And that's like probably 60, 70% of what the stem cells do.

Of course, we have a few of those cells that are going to be able to implant, stay on that tissue, and they're going to be able to differentiate into whatever cell we need to.

but it's a small percentage. All right. So you're telling us a secret here of stem cell doctors like you that some of the benefits of introducing stem cells to the body is not just that they might become a heart cell, which is possible, but that they secrete chemicals and all kinds of fancy words, cytokines and exosomes, but that these stem cells secrete growth factors that may help a damaged organ.

In this case, we're talking a damaged heart, right? Yeah. And like, for example, you know, when we talk about heart failure, when we talk, you know, myocardial infarction, we know that the inflammatory process is going to be there for, for for all the time, pretty much, right?

And that's what the stem cells are gonna control. They're gonna actually decrease the inflammation. And that's how we're gonna prevent more damage. We're gonna actually make the scaring process to be less.

And that's one of the most important things that the stem cells do in the heart.

How Stem Cells Help Repair Heart Damage

Okay. Interesting. So it's now something that the audience knows that stem cells can cause the secretion, the release of a whole family of chemicals that can help heal injured tissue and repair wound healing and all.

So fascinating. So let's take that person with a condition we call congestive heart failure. Maybe they had a heart attack. They've got an area of the heart that's weak and probably involves scar tissue and the rest.

How are you at your Institute in Columbia? And I think you want us to learn also that you're going to be expanding soon. to Bahamas and we're going to have to talk for a minute why this isn't available yet in the United States, but how are we going to get the stem cells to the person and to the area of the person that's damaged like the heart?

Okay, so that's a very important question because for us, that's one of the things that are the more important aspects of the treatment. We want to deliver the cells exactly and to the place where the cells are needed.

And how do we do that is by the process called catheterization, which is basically like inserting a needle first and then like a wire inside the arteries that goes into the heart and we're going to find the coronary arteries and then if

we want to, you know, inject the whole heart, we're going to inject the cells into the coronary arteries and that way the blood supply is going to bring the cells to the whole heart.

If, for example, we need to inject the cells directly into the heart muscle, we use a different type of catheter and we are actually able to inject the cells directly into the heart muscle.

Okay. So at this point, we can't just drink these stem cells. We can't take a capsule of these stem cells. We can't rub them on our skin. We have to have a cardiac catheterization and have them placed into the heart arteries through a catheter.

And so you must be working with cardiologists in Columbia. Correct. In my team, I have interventional cardiologists working with me and, and basically, you know, they're very experienced.

They have done thousands of days, you know, they do, you know, many, many catheterization today. And, you know, it's, it's, it's a procedure that basically, you know, when everything goes smoothly, it takes between 20 and 25 minutes.

And it's outpatient procedure and very often you can do it now through a little artery in the wrist. So you just get a bandaid at the end of the procedure.

They go home. Do they usually have the stem cells from the umbilical cord, the Wharton's jelly in, do they have that introduced just once or are they going to have to potentially have more than one treatment?

So that varies, and that depends on the type of patient that we're treating, how long they've been suffering from the condition, how advanced is, for example, the heart failure.

But I will say that about 60-70% of patients, they only need one treatment. we have, you know, about 30, 40% of those patients that may need two treatments.

What's your, or give me an example of your ideal patient. You know, the one you would predict is going to respond the best and how are we going to measure if they benefit it?

Okay. So, you know, like, like probably a lot of things in medicine, you know, the sooner the better. So if we can treat the patients, you know, When they're being just diagnosed with heart failure and probably that heart failure is not that advanced or, you know, stage one or two, you know, we can definitely predict that they're going to benefit right away.

And those are the patients that basically for sure are going to need just one treatment. If we have, you know, patients with, you know, more advanced heart failure, we're probably going to need two treatments.

But basically, we measure, we do a whole lab work before we do echocardiograms to measure the ejection fraction. We do all the testing necessary for us to be able to prove that the treatment actually worked after.

and you know the patients basically improve their ejection fraction at least by 50-60 percent after the first treatment.

Catheter Delivery and Treatment Process

All right so there'll be lab work before and after and echocardiogram before and after to measure the heart strength and obviously you're taking careful histories from the patients to see walks better, if they walk better, if their breathing's better, if their ankle swelling's better, all the things that make up congestive heart failure.

Oh yeah. I mean, those, all those symptoms, you start seeing improvement within a couple of weeks. It is, it is amazing because you know, all these anti-inflammatory factors that stem cells release, you know, they bring the inflammation down and we start seeing, you know, the improvements on, on all those symptoms.

And if they improve, what do you tell them is the chance they're going to stay better for a year or five years? What's the duration of the benefit? So basically, like, for example, if we see the change on the ejection fraction, that's basically that is going to last for years because that's, that's a definite change.

It's not temporary. you know, the symptoms, the change in symptoms and all that. Most of the time, we actually see that they improve within time. You know, they get better and better.

So basically, you know, I think probably the very first patient that we did a cardiac authorization was nine years ago. And he's just like, you know, he's fine right now and he just like probably got back to before he started having heart failure symptoms.

wow so it's really quite durable that's yeah that's exciting yeah but but of course that's where like for example you dr can and you know all the other colleagues that practice functional medicine because of course it's very important to you know do an integrative approach that we can you know handle if the patient is overweight you know we have to helping to eat healthy, you know, to exercise too, you know, because if the patient is going to continue in this, you know, cycle of, you know, bad habits or things, you know, of course the heart is going to get damaged again.

Sure. That makes total sense. And I would hope that people would be so excited about their improvement that they were finally serious about managing their lifestyle and all the factors you just mentioned.

Everybody wants to know why am I interviewing somebody from Columbia who's also going to open in the Bahamas? Why is this not available at this time in the United States?

Unfortunately, I just want to say that the FDA hasn't approved these type of treatments. There's got to be a lot of reasons, not because they don't work, not because they're not safe, and not because they don't help patients.

So there are going to be other reasons why they don't want to approve that here in the US. You know, cause you're not exactly competing with bypass surgery.

You're not exactly competing with stent procedures, the big money procedures. Maybe you'll make people healthy and they'll stay out of the hospital. So there'll be empty hospitals.

I guess you're competing. You know, you think it's the pharmaceutical industry that's not happy with what you're doing? Of course. Yes. That's the main reason.

Yeah, isn't that terrible. But we know that the FDA is largely run by people that, you know, have been in the pharmaceutical industry or going to end up in the pharmaceutical industry.

And that's not a conspiracy theory. That's just pure, pure, pure fact. That's a really disappointing Yeah. Yeah. So we've talked about, you know, Wharton's jelly and umbilical cords producing or providing us mesenchymal stem cells that you can put down the coronary arteries or even inject directly in the heart.

Does the direct injection in the heart require surgery or can you directly inject the stem cells into the heart muscle through a catheter? We can actually do it through a catheter.

We don't need to do a heart surgery. All right. That's pretty fascinating. And do those people go home the same day or they're going to stay? Yep. Really?

Actually, you know, they have the same post-operative observation period. You know, they stay in the hospital two hours after the procedure, and after that, they go back to the hotel, in this case, you know.

Okay. An American patient, you know, could travel to Colombia, and next year or sometime later in 2024 to the Bahamas, but could travel, could become a patient of yours, could stay in a hotel and could get this treatment, right?

Measuring Results and Durability

That's what's happening. Exactly. Yes. That's how we've been doing it for all these years. Okay. I'm sure you've probably taken care of some people that are from Colombia.

Is that right? Yes, of course. Yeah. We also treat, you know, Colombian patients. Yeah. How many people in a month do you think you get to treat like this?

Of course, it's quite an undertaking, but a dozen people in a month at your center? For like cardiac issues? Yeah. Yeah. So like, of course, we could spend hours talking about all the other applications, but just cardiac.

Yeah, I think that's about right. Between eight and 12 patients a month. Right. Yeah. You know, it takes a motivated patient. Obviously your blue cross in your Medicare is not going to cover this.

This is something that you're going to be paying for out of pocket on your own. So that's excellent. And, you know, the fact that you're being so kind with your time that I get to interview you means more people will know about it and spread the word.

Cause I don't even think most cardiologists in the United States have too much direct, you know, experience with all this. So this is great. Well, I'll tell you what, Dr.

Campos, don't go anywhere. We're going to come back and answer a few more questions. We're going to say goodbye for a moment to our general audience and come back and spend a few more minutes with our premium audience and we'll cover a couple more topics.

Thank you so much. Thank you, Dr. Han. All right, we're back with Dr. Leonardo Gonzalez, who is kind enough to spend time with us from the International Stem Cell Institute in Bogota, Colombia, and soon to be the Bahamas.

So give us a little idea. Somebody's actually interested in this. Tell us about the economics, the possible costs, but also what would be the costs if they don't get this therapy and they go downhill?

Yeah, so I think that's something very important for, you know, patients and for the public to know that, you know, the cost of, for example, heart failure for a US patient, you know, it could go between, you know, probably 6,000 to 10,000 a month.

you know, and we're talking about medication, you know, co-payments, you know, all the different things that they have to pay just to get treated here, you know, in the U. S.

And the same thing, you know, annually they're spending between 30 and $200,000, you know, if they require surgery or different procedures or diagnostic testing, you know, different things.

So basically, the cost of managing, treating heart failure here in the U. S. is quite expensive, right? On the other hand, when we do the stem cell treatment, We basically, the cost varies depending on the amount of cells that we use and the type of procedure that we're going to perform.

But basically we're talking between $25,000 and $35,000. Okay. Is the supply of the mesenchymal stem cells pretty good? You know, if you have a patient lined up, you're not going to have too much trouble getting them?

Oh no. Yeah. I mean, basically, you know, the lab that we have in Columbia, they already have years of experience and I actually need like a couple of weeks prior to the treatment to, to, you know, tell the lab how many cells do I need and and they will have it ready, you know, two weeks later.

Access, Cost, and Future Expansion

Right. OK, so that's not a limitation. And tell us about the future. Why are you expanding the Bahamas? So

basically, you know, the main reason is because we would like to be able to offer this to more patients, to more people.

We want to make, make them, you know, easy for them to, to travel. You know, Columbia is actually like three, three hours and a half from, you know, Florida, which is not bad, but, but of course, if we, if we are in the Bahamas, it's going to be, you know, like a half hour flight.

So we want to make that easy for everybody. And, and we know that for that same reason, we're going to be able to help more people. Okay. What about the technique itself?

Is there anything, do you think the technique is now mature and this is what you're going to do for the next three, four, five years? I mean, it's obviously hard to talk beyond that, or is there something on the horizon?

Yeah, we are actually starting to work in different research projects. What I want to do is basically be able to have different types of cells. We want to be able to find probably cells that are already differentiated.

So basically, if we want to treat the heart, we would like to have some heart cells available. that we can use in the heart and the same thing in the brain.

So that's, that's, you know, that's for the future. Okay. And what, what's an, just give us one, two, three other conditions outside of the heart that tend to respond well to your stem cell therapies.

What are some of the other conditions just for people listening? Okay. So basically, you know, the most common conditions and things that we treat pretty much every day And that's where the evidence and the studies and everything has proven how effective stem cells are, is everything related to bone, muscles, pain muscle, trauma, ligaments, cartilage.

That's basically like the main thing. If you have a knee problem, we can fix it. If you have a shoulder, Same thing, you know, we fix necks, backs, hips, you know, that's the easy thing.

Other conditions is like, you know, I focus a lot of degenerative diseases, like, you know, neurodegenerative, you know, conditions that affect the brain, like Parkinson's, Alzheimer's.

We've been treating a lot of autism with excellent results. And that's another niche of patients that we're very happy with the results. Lately, I will say probably for the last three, four years, we've been treating a lot of Crohn's disease patients.

We actually do direct factorizations into this superior mesenteric artery and we inject the cells there and the results are just amazing. So, I mean, those, those are probably just, just a few to, to mention that, you know, for me, the results that we've been getting lately are very good.

Okay, very, very exciting. So we're now very educated in what you're doing and where do people find you? What's the best place for somebody listening to this or they have a family member and they want to tell them that there's an expert in Columbia on their way to the Bahamas.

How do they find you? Okay, so I think probably the easiest probably would be the website, the International Stem Cell Institute.

Other Conditions Treated and Patient Eligibility

And also, you know, I don't know if we have any other way to like share my email or my phone number, you know, I wouldn't mind to share with you. I think it's easy enough to find International Stem Cell Institute, Dr.

Gonzalez. And I don't think there's any problem with that. That's very kind of you. So thank you again for your time. I found this interesting. Is there any patient that you turned down?

Is they have autoimmune or deficiency or somebody that isn't a candidate? So unfortunately, the only type of patient that I have to, you know, not upset to be treated is when they have an active tumor, when they have cancer present.

And, you know, there is not a study or anything that has shown that the stem cells and especially the type of stem cells that I use that they can, you know, increase the tumor or they can produce new tumors, anything.

There is nothing that have shown that this type of cells can do that. But it's just as a preventive measure because we think that if unfortunately something happened and the disease goes out of control or the tumor start growing, they're probably going to blame the stem cells.

And we don't want that. So basically, we ask for at least one year of remission for me to be able to treat them. Okay. Good. All right. This has been a fascinating conversation.

Everybody learned a lot. You're really reversing heart disease, no doubt about it. And it's exciting what the future is going to be. And hopefully one day there'll be an International Stem Cell Institute in Sarasota, Florida, and people will be able to come right to you in the United States.

That'd be great. Yeah, that'd be fantastic. All right. Well, thank you again, doctor. Thank you, Dr. Khan. Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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