Introduction to Inflammation and the Guest

Welcome to the Conquering Chronic Inflammation Summit. I'm your host, Dr. David Jockers. Today we are talking about inflammation. We're talking about viruses.

We're talking about stem cells and something unique called separatism. In exosome stem cell products. My guest is Dr. Rafael Gonzalez, and he is a leader in regenerative medicine.

He's been in the field for over 20 years. He has several scientific publications. He also teaches worldwide for the American Academy of Anti-Aging on age related disorders, the role of the immune system, and cell therapeutics to aid in maintaining health and nutrition for longevity.

His present focus has been on maintaining a healthy immune system and ways to slow down the biological clock, both inside and out. He has several patents in the cell therapeutics based field, and he's worked extensively on scrotum and exosome stem cell products.

He's taught, spoken, and led many conferences nationwide in the cell therapy and longevity sector. You can find his websites at re stem.com to really learn more about stem cell therapy and also his rehab regenerative therapies, and his clinic in Cancun, Mexico that people come from all over the world for these cell therapies.

So without further ado, let us go into the interview. Well, Dr. Rafael Gonzalez, great to connect here.

How Chronic Inflammation Drives Aging

You're doing amazing work, with cell therapies and really excited about this and learning more about it. And so let's start with just the idea of inflammation.

What's happening there. We know that chronic inflammation obviously is, you know, at the root of all chronic illness in our society. And this this term of inflammation has come out there.

And most people don't really fully understand what that is, what's happening at the cell level. So if you can break that down for us. Yeah, absolutely. First and foremost, thank you very much.

It's an honor, Dr. Jockers to actually be on your show. you know, if you if you look at with aging, the amount of pain that happens in the body, and if you look at pain in itself, it's essentially, you know, you look at do you have a mechanical or you have a structural issue that's causing pain or is that something internally causing pain?

But ultimately, what you think of is the immune system and you think of the immune system causing the pain because it is inflammation is essentially an immune system, basically causing a response to try to resolve something.

But with the context of aging, it doesn't resolve it the correct way. It doesn't mount that appropriate response. And actually what it does. And I talked about this I've talked about this before.

Is it mounts a dull response. You know, if you if you take a step back and you think of when you were a kid, you remember when you were a kid, you fell down and you cried like a baby and you cried because the pain was excruciating and then you healed like that.

And it's because not only was that inflammation was so strong, but that healing, that anti-inflammatory response, which is the healing response is so strong, so you get this robust response that you need to heal quickly.

But what ends up happening with time, with aging is you get that melted response, you fall down. Now, I bet you you got to get up. I mean, I probably wiped out on a scooter with my kids.

I think it was like two years ago wiped out. They're like, oh, my God, are you okay? And I'm like, yeah, I'm fine here I am full of blood on the side.

And it's not that big. A because the pain is not as bad as it was when you were a kid. And that same dull pain response which is you laboratory response that's transpiring is not that strong.

So it's old and you don't now get that response of the basically the healing response at the same. So what ends up happening is that same dull response ends up being chronic meaning long term.

And as we age, the immune system becomes sort of like a in a perpetual state of a dulled chronic response which causes secondary effects, which is part of what's called inflammation.

And in specific we look at specific markers, one of them being the tumor necrosis factor alpha. If you look at all the centenarian studies there, you'll actually read there's a lot of them thousands of patients, those that are ill, those that have cardiovascular issues, those that actually have dementia, Alzheimer's, neurodegenerative disorders, all of those have basically somewhat of a dulled distal old inflammation response.

So it's one of the issues that actually has the the causes, this issue of what we call inflamed aging is because you age due to this response and you get these cardiovascular diseases, you get these neurodegenerative diseases.

You know, there's two other markers that are known, too. If you look at the literature, interleukin six, IL six. Also when that's in a in inflamed or slightly elevated response, it's an issue with aging.

And then the other one is high sensitivity CRP, C-reactive protein simple things actually you can actually look at a lot of these things are a lot more common, to actually look at them when they're elevated slightly, you are at risk of, heart disease, neurodegenerative diseases.

Yeah, for sure. And you can get bloodwork like CRP is a common one. We always want to see that under one, ideally. And, you know, it's common for people to have it up to three, four or even higher.

And, you know, obviously it's a marker for chronic inflammation. Also, you can look at things like, erythrocyte sedimentation rate. And if the blood is kind of clumping together as the blood cells lose their charge, that sign of chronic inflammation, there's a lot of different markers that that we can be looking at there.

Let's talk about. I mean, I know your research has been on cell therapies. And so with with inflammation, aging, a big thing that we talk about is senescent or senescent cells age dysfunctional cells.

What's happening there with these cells. Yeah. It's actually I mean, what you basically look at is every single cell in your body has a finite amount of divisions.

And essentially with time, they no longer divide. It was originally thought of that, you know, the concept of the way we as humans evolved is senescence is basically a stop checkpoint for cancer that cells can no longer divide so they can't go away.

But now, in the context of science, what we've been seeing is that that's not the case.

Senescent Cells and Immune Dysfunction

These cells actually, they stop dividing the occupy space and then they release these communication signals to the neighboring cells and cause more havoc that can cause mutations that cause cancer, that can cause inflammatory response, that's actually chronic, that can cause a bunch of other issues that cause, you know, complete dysfunction in the body.

that's why it's important to get rid of these, mitigate these, or find a way to remove them, find a way to keep those in check, whether it's done through.

I like that that book that you have in your background, fasting is, you know, a simple method of of, you know, working with the system and helping it.

But it's, it's, it's, it's a problem that they just occupy space and they cause havoc. You know, if you think of fibrosis of the lung, it's actually a senescence cell.

It's no longer going to divide, not going to function correctly. Cirrhosis of the liver is very, very similarly. And you know what we look at is how do I cause your own body in the context of your own immune system, to basically target, attack and remove those age old cells that are dysfunctional and not working correctly?

Yeah. So these cells are just kind of taking up space. They're releasing like when it comes to immune cells, they're actually releasing inflammatory molecules.

and they're they're taking energy. Right. So they're taking kind of diverting energy and stealing energy. And that takes energy away from our body's ability to heal and function.

Right. And more of these senescent cells we have building up, the less functioning our organs or our organs are not going to be able to function the way that they should.

So really important stuff. And obviously you've done a lot of research when it comes to cell therapies. and that's what you really focus in on are secretaries and exosome stem cell products.

So let's talk about some of these cell therapies that you're doing research on and utilizing clinically. Yeah. So first and foremost we'll start off with the one that we just talked about right now, which is basically senescence.

And one of the most important one because the field is actually evolving significantly where that term senescence or these zombie cells, you know, I've spoken about this, we've been studying these dating to 2011, and many people didn't even know what what what that was, you know, what it was.

And essentially it's you know, your cells in your body have three fates. One of them is natural cell turnover, which is basically apoptosis occurs on a daily basis.

It's crazy. People don't even understand that. We lose on a daily basis over 300 billion cells and their turnover. It's crazy. And the other one is necrosis which is basically trauma, blunt trauma.

And a cell just explodes and it has to be eliminated by the immune system. And the third thing is actually this senescence cell that the cell no longer divides occupies space in our body.

Our immune system has a natural mechanism. As we are children all the way through adulthood of removing this. And then the natural system is a particular cell called the natural killer cell.

The natural killer cells in your body is the first. It's part of the innate immune response or the immediate immune response, the way we call it. And it's in charge of basically doing three things.

So one of them is removal of it basically sees a mutated cell. It removes it. So cancer cell number two, it sees a viral load itself. It takes it and it removes it and mounts an attack against it.

And number three is actually the aging process of, of senescence, of removal of that particular thing. But the problem is as we age, the reason why you're more prone to get cancer is because, believe it or not, these natural killer cells are no longer natural killers.

They're basically just like signalers. They try to control the immune system and they don't do it efficiently. They

don't work efficiently, they don't do it right.

So if we can take those cells, which is what we do, is we take blood from you, we isolate these natural killer cells, and then we actually expand them, grow them up.

So we will grow billions of these. We will activate them to a younger state. So they now become killers and then actually put them back into you. And we published a paper in 2022 that suggests that we can remove immuno senescence.

Basically these zombie cells that are floating around your immune system that are not doing what they're supposed to be doing, and making your immune system work correctly.

So it's the concept behind, you know, number one is our target is every single disease has an immune component. How do I revert the immune system to a younger state, make it younger.

And that's our clear focus. And our companies actually doing that. Number one is we look at removal of senescence. Number two is we work at particularly with a particular type of stem cell that we develop, dating back from 2009.

We published a paper in 2010 on it's an bill. We call it an umbilical cord lining stem cell. And that particular stem cell. We actually grow it the the way we grow.

It is different than anybody else. It basically makes the cell work stronger, be a better cell, or to say like a super stem cell in the way it controls the inflammatory and the immune system.

We have some evidence in clinical studies that we've actually done in the United States that we can regulate the immune system with it. And the way it does it is, you know, for instance, somebody we grow up these cells, we expand them.

Three clinical studies here in the United States. And you actually take those and you actually basically do a simple IV. And what it does is it actually takes your normal T cells.

So the T cells are part of the secondary immune response. And they're the biggest monitors of anything of, you know, any form of, you know, if you think of diseases, if you think of cancer, if you think of it's the biggest target because they're the ones can clone all the expand, they produce the full military to do, to target and kill.

And what we look at is that there's different types of T cells. And the problem as we age, that's why you're seeing so much autoimmune disease two out there is that the regulatory T cell is not as efficient as it used to be, as one to is we're lacking these regulatory T cells.

They're not regulating the system. When we put ourselves in. What we're seeing is actually we're seeing an increase in the regulatory T cell response.

Stem Cell Therapies and Immune Support

So basically these guys are now out there regulating the immune system and telling the immune system, I need a stronger response, or I need a dollar response because we don't want to be, you know, we talk about and I've talked about this before too, as we talk about inflammation, and you don't want to have that chronic, dull inflammatory response.

But at the same time you have to have an immune response, because if you don't, what ends up happening is you end up getting cancer. So the majority of cancer patients have an exhausted immune system.

They don't have an immune response, any form of immune response. And it's got to be completely regulated. If you look at all the centenarian studies, there's a complete regulatory component to it.

That pro-inflammatory response and anti inflammatory response are completely balanced. That's what allows them to live into the hundreds. Yeah exactly.

You need a really potent but balanced immune system I always say it's kind of like playing darts right. So you know it doesn't matter how hard you can throw the dart.

It's all about your, your your accuracy, your effectiveness at getting it as close to the bullseye as possible. And when the immune system is, you know, basically dysfunctional.

It's like playing darts with a blindfold on. You're just kind of throwing it anywhere and it's hitting all over the place, right? As opposed to, hey, if you can get one dart and just hit that bullseye, boom, you got it right.

Lowest amount of energy release and the most potent and effective approach. And that's really you know, what you want with your immune system. And so, you know, with stem cells obviously, you know, it's just kind of a new thing, obviously.

And a lot of people have been utilizing stem cells for, you know, for regenerative therapy for let's say they have, you know, damaged joints, right? For, for knee replace, you know, cartilage that's been damaged in their knees or in their hips and things like that.

And a lot of people have seen really good results. And you're talking about obviously utilizing stem cells for supporting the immune system here. Is that correct?

Correct. Yep. Supporting the immune system. And also I mean, if you look at support of the immune system, if you don't take care of what a lot of people don't understand is your joints hurt.

So I'm, you know, I'm 58 years old, you blow out and and it's happened to me, blow out a knee if you don't deal. The majority of us are over 40. Has some form of osteoarthritis transpiring.

It's the entire system. It's not just the joint and inflammatory response that's trying to surveil and trying to target, try to kill. If you don't deal with the system, you're not going to get as good of a response to that localized area.

You have to deal with that. You know, we're looking at dealing with that and then also targeting that area too. So going with a dual, you know, prong approach where I basically don't have to just say, okay, I double the response in a joint in a knee.

And then I'm still dealing with the systemic issue. Then the systemic also is going to come in there and destroy it again and cause some issues again.

It's ultimately keeping both different things under control and dealing with more, like we said, the direct, the whole entire immune system. Yeah. And so you're doing umbilical, stem cells.

Right. Obviously there's ethical questions people have about like embryonic stem cells. You're not doing that. You're doing the umbilical stem cell. Lining stem cells.

You have post-birth. Yep, yep. And you know, I've heard of people, for example, keeping their umbilical cord, you know, like, like parents keeping the umbilical cord and kind of freezing it and stuff like that for their child.

Does it have to be is there, is it more effective? It's if it's your own umbilical cord or it can be any, you know, it can just be, you know, any umbilical cord that you're using.

It can't be any because, unfortunately, every single one of us is completely different genetically. And all of it, you know, the difference with us is, you know, people that store.

So it's a completely different animal storing the cord blood. the concept behind that is for cancer. God forbid your

child has cancer or any form of blood disorder you now have the opportunity to give them.

But unfortunately, the child through a chemo or put them through some form of removal, removal of immune system and then rebuild that immune system again with the cord blood that only works until a certain amount of age.

That only works until a certain amount of pounds. Actually, there's a there's a direct formula with, you know, that stuff lasts maybe about four years of age, that you can use one cord blood unit.

In that context, you have to have a direct match because you're rebuilding the entire immune system in the context of what we're talking about, which is a different type of stem cell.

It's not a blood stem cell. It's called a mesenchymal stem cell. that cell lacks the proteins on the outside that your own system can actually recognize as being foreign.

So if you put them, for instance, we can take an umbilical cord of an individual that's healthy, that we do a ton of bio testing on that. We make sure, most importantly, there's no chromosomal or genetic issues where this is probably the most important aspect that people don't understand is somebody can donate a cord and they can use them, and they use them regularly with a bunch of different just, you know, maybe ground up tissue or whatever it may be.

It's not a true stem cell is number one. Number two is you got to look at the genetics behind of what you're actually getting, because there's many instances.

For instance, we've got donations from what we deemed as healthy donors based on the screening techniques. But then when we grow up these cells, we will find aberrations in chromosomes.

So genetic deficiencies. And then we'll go back to mom and dad and say, hey, we found a chromosomal aberration, 100% of the time when we find these chromosomal aberrations, they'll go back and test baby, and one of the mom or dad will be a carrier.

So it's an issue where we have to. We spent time researching and trying to build this, you know, this, this, this pure mesenchymal stem cell bank. But we have to basically toss it because it's not usable, because we don't want to introduce any of those forms of deficiencies to anybody.

So it's a difficult find. You know, for instance, when we got we have three lines that we use, the three lines that we actually use, they were tested through all these operations.

we are fortunate to find these are pre-COVID. We were fortunate to actually find, you know, out of 53 of them, three parents that are actually free of all viruses, which is pretty neat because 85% of us walk around with Epstein-Barr virus.

Right? That's a difficult one, one of the one of the hardest ones that causes issues. And then cytomegalovirus is, you know, anywhere from 78% of the world population also suffers from that.

So we got three donors that were free of that qualified the lines to be ideal specific ages on on the donations, all that and then grew those up. It's not that straightforward.

Not that easy. you know, I see all these people producing just donation, donation, donation, donation with not a full understanding of, you know, essentially you're putting a drug or something into your body without not understanding where you're getting it from.

That's it. You know, the difference with us is where it comes from. Yeah. Just like the food that we eat, we want to make sure it's as pure as possible.

Just like the supplements we take. We want to make sure that they're tested to be free of heavy metals, contaminants, things like that. So yeah, I would certainly make sense.

Anything you're going to put in your blood, you want to be as clean and free of, of, impurities as possible. So that's key. Now, you mentioned a couple of those viruses.

Epstein-Barr. Cytomegalovirus is what, you know, we obviously you just went through Covid. A lot of people got a, got got some education in viruses and how they impact us.

But that's one of the big factors driving inflammation as well are these kind of subtle viral infections. Is that correct? 100%. You're spot on.

Umbilical Cord Stem Cells and Donor Screening

And one of the biggest issues that we we just went through is the system somewhat goes into. And I've spoken about this into an overload, unfortunately, because you're tapped with, for instance, those that have that 80% of the population that has that Epstein-Barr and that cytomegalovirus, now gets tapped and targeted with another wicked virus, for instance, this is, you know, Covid and the immune system goes, where do I start?

Where am I going to go? How do I kill? How do I target? Which one of these do I try to attack? And the immune system doesn't know how to recognize which one because they're all opportunistic.

Every single virus in your body is an opportunistic one, except for the ones that live in synergy with us. But the vast majority of them are complete opportunistic, you know, viruses that people don't understand is that compared to a bacteria, the virus requires a host, and you or the host bacteria doesn't require can live, doesn't require you as a host, but the virus does.

And the virus is one of the smartest things in the world where it just basically hides, surveilled. And then when it has the opportunity to cause havoc, it does.

Now if one of them is causing havoc, and then you're also challenged with another, where is the immune system going to go? And that's where your immune system has to be.

You know, diet is key. The supplementation is key because your system needs to be ready to target, kill and senescence need to be in check. All of it needs to be in checked in the immune system.

So you maintain health. Yeah, absolutely. So these viruses are obviously playing a really big role now with your stem cell products. Can you break down these terms secreto and eggs.

Assume I know people have heard about that, especially my listeners. They may have heard of that. but it's kind of an esoteric term. So help us understand that better.

Yeah. So the what's called the exosome space has been growing exponentially out of control because we now know I mean, we've known it for years now that every single cell in your body communicates with another cell.

if you think of the context of hormones, you know, the pituitary can produce testosterone and can actually get it, you know, lay down direct communication with the testes in a man, and then the testes can produce testosterone also.

And these are basically bioactive molecules that are in your body, their natural particles that are about 1/1000 the size of a cell. And a cell talks to his neighbor and wants to be friendly with its neighbor.

And the neighbor, let's say, is sick. And the one that's next door to it says, I want to help you maintain your health because the cells in your body don't want to turn over.

They don't want to die. And actually they want to maintain their ability basically to work, to function correctly. They want to live in what's called homeostasis in the body, so that one cell that's healthy will then say, hey, you're you're unhealthy.

What can I produce and what can I help you with to make you healthy again? And the cells are pretty neat because even in Petri dishes and what we call flask, we can actually coerce a cell to secrete out something that's missing from its neighbor, which is pretty.

It's pretty neat. I mean, you could basically feed a cell specific thing, a specific type of protein, a specific type of growth factor, and the cell will start producing what is needed to take care of unhealthy cells.

And similarly, the way our body works. So these exosomes are communication vesicles from one cell to another cell. Now that's an exosome. And the neat thing about an exosome is that it can travel long distance and it can directly interact.

It binds to another cell. Simple method is lock and key system. Our body actually works somewhat on a lock and key system, and they're just complementary sequences where one thing is a lock, one thing is the key.

What's actually called in the context of science is a like an and a receptor. The ligand is the key, the receptor is actually the lock. And they bind.

And then they can cause an action to another cell or to multiple cell types. Now these exosomes are protected just like a cell with a lipid bilayer that the contents of it, whether it be a message like RNA or whether it actually be a protein that has direct function, it can actually travel now and it's protected without being degraded to another cell.

So it can get what it needs to get to that place. And it can travel for a good period of time in the circulatory system. It can travel for quite a bit of time until it finds where it needs to go.

And as long as it finds where it needs to go so they could travel their produce on a daily basis. Actually exo meaning outside before they're in exosome, they're actually in endosome.

The factory inside the cell produces this thing and then it actually excretes it out. And it keeps part of your lipid bilayer out and it actually protects it that way.

So it can travel, you know, whether it be locally or whether it be long distance systemically. Now, the concept that too many people, people have heard the term exosomes a lot, but the concept that people don't really know is the secret.

Them, and the secret to them is essentially secrete out basically what the cell also secretes out. So this 3D matrix that we live in, which is predominantly collagen halo, chronic acid elastin is another one that's actually is basically done through a secret tunnel where the cells can actually secrete out a 3D, and the formation of a 3D.

Not only that, the cell can secrete out if it has its neighbor. So the neighbor, when there's a cell, binds to another cell and it's a direct neighbor, it just basically cross communicates with what we call we call it a secret tone because the exosome has not formed.

What you will see an abundance of is majority of everything that you'll hear out there product wise, are actually secret tone based product, because it's what the cell has secreted out.

It's all the communication skills of what it's secreted out. And in the context of what we've actually done is, you know, we have a product that we've produced that has spent a significant amount of focus on the second most abundant thing we have in our bodies, hyaluronic acid.

And it's actually what is predominant in our skin besides collagen, and it's predominant in our joints, the lubrication that we talk about moving the shoulder, the knee, it's hyaluronic acid in nature.

We've coerced these umbilical cord cells to secrete out an abundance of gas in an abundance of collagen that helps support the 3D system that we actually live in.

And those are what we call a secret tunnel versus an exosome. The exosome is a direct communication from one to another. So interesting. So exosomes, do we have a way of measuring that at all, or is it and is it like more the more exosomes your body is producing, the healthier you are?

Or is there kind of like a unique, I guess you could say, is there, you know, healthy exosomes versus unhealthy exosomes? How does that work? Yeah. So so taking a step back with the measurement of it, the measurement of it is really difficult in the system right now in science.

I'm a scientist. is is is not it's not it's not right the way it's working right now that the measurement is basically done through a nano tracker.

Viruses, Immune Overload, and Chronic Fatigue

So a nanoparticle, the problem is, for instance, if I take which we've done this before, if I take a simple salt solution and I run it through a nano tracker, it's going to register particles, nanoparticles in there and it's not going to register correctly.

So it's not going to give you the correct count. The correct way you can actually do it is you measure, like I said, it has a lipid bilayer. You measure those lipids or you measure specific proteins.

There's about a 3 or 4 different known ones on the outside of these exosomes that you can measure. But the problem is it doesn't give you the full picture because you'd have to measure everything that's on the outside of that exosome.

Or you could just go with the integration of the lipid bilayer and then do a count that way. It's a little bit of a flawed system. It's not a great system.

And we haven't had standardized yet in science. Really. Well, that makes it difficult. going to are there good exosomes? Bad exosomes? Absolutely. Just like I told you, every single cell in your body has an exosome that's produced, a cancer cell.

So cancer cells can produce cancerous exosomes that are going to cause more communication to sort of ignite the fire and cause that kind of turn the live more, there's contract systems, there's stem cell exosome, there's skin exosomes.

You could produce exosomes from skin. Skin cells can actually produce exosomes. And they're more directed towards, you know, skin depending on what you want to do.

Ultimately it boils down to one big key factor. What do you feed this? You know, what is the supplementation? the most important thing I was discussing, you know, people about in the context of aging, what's the most important thing you can think of is what you put in your mouth, whether it's food or whether it's supplementation.

There's nothing more important. And the same thing transpires with cells in your body. it's a basic function, a unit of life. You have to feed it appropriately to get that correct.

Signaling so that, you know, there could be bad exosomes, it could be good exosomes. It just depends on what you're going after. Yeah. Makes sense. And these umbilical cord, stem cells that you're producing, they are obviously we talked about, you know, they're free.

They're they're from carriers that were free of viruses. So they're pure and then they're impacting the T regulatory cells that the killer cells as well.

So is that what you said. And then also they're they're releasing what was it. Secretaries. Secret tomes that that stimulate hydrogen. hyaluronic acid. Right.

And and collagen lactate and Alaskan right to help kind of rebuild new, new new joints, skin. Right. Like you mentioned, all of our connective tissue is made up of those those compounds.

Correct. Yeah. Yeah. And if you think of, you know, the importance of people, you know, now everybody's going to the space of a lot of them to cell therapies.

What transpires with communication of cells. And yes that is really important. But we live in a 3D matrix and the 3D is mostly extracellular matrix, you know, in context of what it is.

And it's the building blocks of actually the formation of a battery. This what's really important. Even exosomes themselves cannot travel from one location to the other location.

If that 3D in that matrix is not correct. so these are important things that are, you know, that we have it's from a completely clean product that we actually produce, and it's done actually wonders, believe it or not, in the in the topical space, in the skin space.

And you guys are doing a lot of research on various disorders, autoimmune conditions, different things like that. Can you talk more about that? Yeah, absolutely.

We we, we have a clinical study and a specific autoimmune disease right now that we're going into phase two. it's called poliomyelitis. From out of my sight is it's an actual it's, you know, it's an autoimmune disease that essentially your own immune system decides to target and attack, skin, which is, dramatic myositis and poliomyelitis is actually multiple different areas, but mostly muscle.

And then eventually these type of patients that have no standard of care now except steroids, what ends up happening with them is now the immune system eventually starts to target and attack the lung, and it causes pulmonary fibrosis in these patients will be that will succumb to pulmonary fibrosis due from the autoimmune disease.

We have some evidence that we can actually get individuals off these steroids. using the particular cell that we actually have, in the context of that study.

So that's what we're actually trying to fast forward. this is a small indication. But the neat thing about it is the approaches. How do we get this to that small population of autoimmune disease.

And this way they can actually see the benefit of the cells and get it out there to get an approval on it. we have a heart failure study, which we published a paper two and a half months ago.

on the nine patients that we actually did a little bit different of a heart failure approach is we looked at individuals, a lot of people that have heart failure on a transplant list to get a new heart.

a lot of them. What? They end up having to do it because that transplant list is so long, and many of them actually die because they won't get a heart transplant or they can't sustain the heart transplant.

What ends up happening is they'll get what's called a left ventricular assist, a device. It's a device that pumps the hardest, the biggest part of the muscle in the heart.

The pump that consistently. But a lot of times the device actually causes a secondary issue, just like secondary only drugs that you're actually taking that it can cause gastrointestinal bleeding.

And those is because there's a pressure differential of the way the heart normally works, pumps that can actually modified versus a mechanical device that actually causes the pumping of it.

So what we looked at is we saw a significant amount of less gastrointestinal bleeding in the patients.

Exosomes, Secretomes, and Cellular Communication

We actually did going with that approach. And also looked at specific proteins in the vasculature that that were help control, with the cells. And then the other one, we did a, you know, a Covid study that was sort of we were the Hail Mary individuals that were on respirators on, you know, they were ventilators on ventilators.

we were the Hail Mary. And try to revive them, get them out. We had some pretty good results in the context of that survival rate. But now transferring more into the long term effects and actually the long term effects actually go back down to what we started off with, is talking about viruses, because it's now known that it's virally mediated.

The immune system becomes tapped. And even now there's articles that describe what everybody thought was a false disease years ago. Chronic fatigue syndrome. No it's not.

It's a virally mediated disease that causes exhaustion of the immune system, that causes brain fog, lung issues, vasculature issues. So what's really like a.

Post like a post viral syndrome? Yep. Exactly. That's what you can probably book all of the both of those long Covid and this into into that. And we're going to approach a phase two study going with that approach.

you know, in the long Covid slash chronic fatigue syndrome field. Yeah. Yeah, yeah. Really interesting. And and so how does how does these, cell therapies work?

Are they, they're injections. you know, people go to a clinic and get this done. How many treatments do they get to get these kind of clinical results?

they're they're normally IVs. So simple. IB you'll actually get done last maybe a couple hours maximum. to get the. So just. Just, like, getting, like a vitamin C, IV or glutathione on IV would be similar, similar setup.

You're sitting there, right? Just kind of. Yeah. And. Yep. Similar type of setup with of course some differences where, you know, for safety purposes, you normally premeditate a patient to make sure there's no allergic reaction, because even on a vitamin C, you can get allergic reaction.

and cells are different a different animal in the context of the way it's done. But these are, you know, in, in a clinical study, they're actually done that way where they're, you know, patients fully monitored.

they have to, of course, meet the exclusion inclusion criteria of it. You know, here we have a study, University of Florida study at Baptist Hospital now going on with Nova Institution also to to do the chronic fatigue syndrome, a long haulers study.

going with that and it's you know, it's it's processing of cells that, you know, a scientific medical team will actually do and then prep the patient with some of these, different medications to get the process actually into the, into the body.

So there's medications that are used on the front end. And then people basically are sitting in a seat just getting an IV. They're not you know, they're not uncommon conscious.

They're they're fully conscious. Right, right. And they're just kind of sitting there for a few hours as the IV bag, basically puts all the, all the stem cells into the body, and they just go systemically and they go around systemically impacting the immune system, like we talked about with the T regulatory T killer cells.

And then releasing those sacred tomes, in areas that are needed. In the correct. Yeah, yeah. It's more of if, you know, a lot of the literature, for instance, we did pre-clinical animal studies and what we saw was and everybody a lot of people have done these two also is, you know, you do an IV and the first right is actually the lungs.

Now the microvascular turn the lungs is actually relatively small where the cells are actually larger. And the cells will be housed and maintained in the lung.

And then this is where the exosomes and secret come into place, where they notice that they can't actually it's called extra vision. They can't extra weight that vasculature.

But sometimes they do a small percentage of them, probably in the range of anywhere from 5 to 10% of them can leave the lungs. They extra they will smash, go through and then become large again and go through the rest of the system and go to where they need to go.

But in the context of while they're in the lung, the system, the vasculature is telling them this particular body is lacking X, Y, and Z. The cells then say we need to survive.

We need to survive with the localized, that niche, the area we need to start producing this so we can survive. They'll then start producing this simultaneously.

At some point. The cells do not survive. Everybody thinks that stem cells is going to regenerate. You know they're going to regenerate. They're going to build more tissue.

And they don't do that. They force your own system to correct that problem, to regenerate, to heal. Once those cells die, which it depends on the individual, how healthy that individual is, how strong of the inflammatory responses, the ones those cells die in your lungs.

You have these cells of your immune system that are part of the immediate immune response, called the macrophage and the macrophages predominant in the lung.

The macrophage will pick up those stem cells because it sees it as something that's dead. It has to clean it up. And then that macrophage which is normally a pro-inflammatory macrophages actually changes into what's called an M2 anti inflammatory macrophage.

And it secretes out regenerative effects throughout the body too. So you get sort of like a two fold effect of you get the stem cells doing their work with releasing their exosome in secret.

and then the macrophage also does similarly by changing its phenotype into an anti inflammatory healing one. Yeah really fascinating. And so basically is it is there treatment protocols like a number of treatments that people are getting that you're finding in the research.

Is it you know is it one treatment. Like if people were going to go and get a clinical dose, you know, they were going to go down to one of your clinics, for example, in Cancun.

are is each particular health condition, is there like a different protocol or is there a standard protocol. How does that work? There's there's a different protocol for each individual.

just depends on whether it's an autoimmune disease, whether we're looking at the context of, of aging. Are we looking at pulmonary issue? Are we looking at a central nervous system, a disorder. It's a different protocol for each individual personalized to that individual.

one two rarely ever is it a if you're sick, is it a one and done for instance, the clinical studies that we have here in the United States for our phase two is going to look at dosing at four month intervals, because what we saw was the effect lasted in these sick individuals about six months.

And then all of a sudden the effect drops off. So targeting, you know, for instance, in this, just like it's a therapy every four months, we're going to see how long this can last.

You know, we've had success with individuals where we've done what's called compassionate use, investigational

new drug applications, where we've actually look at ulcerative colitis.

And we notice that we'll give somebody has an alternative colitis. We'll give them an IV. Their gut gets better, but then the effect dies off after three months.

And we'll have to go back and do another treatment. Another treatment. We've actually done this where we've successfully done several treatments. And then this system somewhat becomes regulated and then it last a lot longer.

We don't know how long yet. Yeah. So really interesting. So based on the person's underlying health condition their labs. Yeah they're obviously that whatever their their diagnosis was coming in.

You're setting up a personal protocol and plan. Now can people also do this. Perhaps they don't have any you know, any sort of diagnosis. And they're just thinking, hey, I want overall wellness, longevity, optimal health.

Is this something they can do as well? Absolutely. This is something that's that's you know, if you look at everything in the context of aging, if you're trying to if you're aging, you're trying to control that immune system, it's probably one of the easiest things that I think can help you significantly by regulating, you know, the T-cell response.

One, two, we all have a senescent load in our body, especially as we age. besides environmental factors, besides your food, your supplementation, even stress, these all of these things can actually cause, you know, cells to multiply can cause issues and havoc.

If you can remove and eliminate that senescent burden that you actually have in your body, you now have you have for the bone marrow, the signal to actually now secrete up the correct immune system to maintain your health and your longevity.

Yeah. Really good. Now, I know there's risks as well.

Clinical Research and Treatment Protocols

just like any, any anything that you're going to do, there's always some level of risk. I know, I personally, I, I know two of my friends that have had pretty serious infections from getting stem cells, and I don't know what particular stem cells are getting. I don't believe it was, the ones that you were using, but they're pretty, pretty serious infections.

What are the what's the risk percentage and what do you guys do to do your best to ensure that something like that doesn't happen? We knock on wood, have not had any issues with that.

And ultimately it boils down to testing, first and foremost, which what we describe is what you do is you do not only in-process testing, but you also do an out processing and final product testing where you produce, for instance, you know, where where we can produce 5 billion cells in one lot in one production, and you take about 10% of that out, unfortunately for testing parameters.

And then you actually take that 10% out that while you're actually producing the product, you make sure that there's nothing there that can be, you know, any form of, of, of red flag.

And then after you do all the testing of that, all that percentage of cells to make sure that there's no red flags or no issues there, then you release the product.

So the release criteria is critical. you know, unfortunately there's there's individuals out there that don't work in clean environments. they say they have a clean area.

They don't have a clean area. Have been to many of these labs before. I've seen many of these labs before that they say have clean area. They don't have an appropriate clean area, simple things.

I'll, you know, look up in the sky and look at the ceiling tiles that are in these places, you know, are they nano particulate because that can cause havoc, that can cause issue is the correct biosafety cabinet where they're processing cells.

Is it the correct one that's being used to where the airflow is done? The correct, you know, the correct way? Do you have individuals that are going into this clean rooms when people are working there and registering the workers to make sure that they're not getting hits on them, their own bacterial hits, you know, anything like that.

Fungal hits, fungal issues with that clean room is that clean room. Maintain the specs according to the way it was built. And that's key. Anybody can say this room is built.

It's a clean room. But maintaining that integrity of the way it's supposed to be built is a different animal and a different story. And it's very, very costly. Believe it or not.

I mean, if I go back and look at the amount, the thousands of dollars we spend on a monthly basis in between cleaning and maintaining our clean room, it's pretty crazy.

It's really expensive. Yeah, absolutely. So what I'm hearing is that because I'm, I'm really new to, I kind of, coming into this more about, like a baseline understanding of stem cells, but certainly, definitely not an expertise in it at all.

And not knowing kind of the unique specialties of different stem cells. What I'm hearing you say is what's differentiating your stem cells is, you know, number one, purity, high level of purity, high level of testing, making sure obviously there's no no contaminated, no contamination, no.

You know, all the samples are taken from, people that didn't have a viral loads in them. you know, obviously you're you're you're going above and beyond to make sure that there's no contamination from bacterial perspective.

And then you've got kind of this unique perspective of the, the, the sacred tome element that is impacting and improving the hyaluronic acid, collagen, elastin, as well as impacting T cell.

T helper cell T regulatory cell T cell activity in the immune system, is that correct? Yeah. Correct. Yeah. You got to spot on. Yeah. It's it's a big difference.

I mean we're a company that basically started off in the cell therapy space. We've been at it for over 16 years now and did an abundance of model research before we actually put anything forward on making sure that we're following everything appropriately, doing everything appropriately to try to mitigate any one of these problems.

You know, it's funny, one of our colleagues is one of those individuals that had an infection that we both know, but he got helped at the same time with our samples.

Yeah, yeah, yeah. He went in mine. yeah. Got it. My, my my friend doctor Josh ax. Yeah. He, he had a spinal infection getting stem cells. He had been getting stem cells from, you know, from other people for, for years he had been doing different, you know, different different therapies.

And, you know, he's the one that endorsed you, right? Because, you know, clearly after that smile infection, he wasn't going to go back and get stem cells until he knew a lot more.

And, you know, he found you guys as far as, you know, being, the most pure and potent and effective stem cells. And that's why he, he let me know. He was like, you got to talk to Doctor Gonzalez here.

Yeah. So, yeah, it was a it was a journey with him and helping him. You know, me, granted, having spinal issues myself, for many years back, we had a fusion done over 30 years ago.

And understanding that hole of solar. Hey, buddy, you got to get ready for this long journey. That's right. It's not easy. Let's get you healthy, and then we can get you stronger with using actually cells to get him stronger, which is

something that we did and worked out. And, you know, God willing and prayers and everything.

It worked out well for him. Yeah. Praise God for sure. He's doing a lot better. And so your main clinic where you're you're giving these you have clinics in America, right, that are utilizing these.

We just just in clinical. Okay. Yeah. Just in clinical studies. So you're doing studies clinical studies and people care. Are you looking for participants in those clinical studies or people.

Can we we will soon once we start I start on our phase two is we will be looking for heart failure. patients with actually our plan is to actually do it's a multicenter study that will be a lot of California based on based out of California and then also Florida based with University of Florida, and then also our poly myositis traumatic myositis, which is a Florida based study.

that's going to be 80 participants, is our plan for that study. Those should be starting within the next 3 to 6 months. We will be recruiting. We'll be putting on our website, recruitment of such.

And that would be the restem, the restem.com website. And that's where people can really learn a lot of the science of these stem cells. And you can also obviously learn about the studies.

You got all the studies there. and also you know, learn about new clinical trials if you're interested in taking part in those. And then if people actually want to get therapeutic care or, they can go to rehealth.com and that's where you have your regenerative therapy clinic, the, your primary one in Cancun.

And then you're opening another one in Cabo is our correct Cabo. That's correct. Yeah. Yep. Yep. Yeah. And so in Cancun, I, you know, here I am in Atlanta.

So there's a short flight for me down there. I'm going to I'm going to check it out next time I'm down there. I love going to Cancun. great place to vacation.

And while you're there, you know, you can check out ReHealth. you know, and obviously the stem cells that they're doing there when people come down there and I know people coming are coming from all over the world.

how long are they typically staying or are they just going down to get their one initial treatment?

Safety, Testing, and Closing Thoughts

to get maybe testing things like that, and then they come, come back at every particular, you know, period of time based on their protocol, every two months, three months or four months, whatever it is.

They're normally just there about, minimum three days. Yeah. You know, minimum three days are down there for, very few of them will come, you know, every three months it's normally more like, six months to a year if needed.

It just depends if some individuals, you know, once you embark on this, for instance, we have the individual that has, chronic obstructive pulmonary disease, COPD, and that's the individual that most likely got it from chronic smoking or something like that, or exposure to some other toxin.

that was in the air work environment, whatever. And if that individual doesn't, we're more of the approach of let's remove the stimulus first and foremost, if you're not going to quit smoking, don't bother to come.

If you're not quit, if you're not going to understand that this is not a panacea. This is not a cure all. This is not a you need to make functional changes in your life to help what you're going to invest in your health into, you got to be able to do that.

Those that follow that regimen and do it really well, this can last really long. You know, it could last really long time where some of them will come maybe two years later and say, hey, I like to do this again.

I've done really well. It's changed my life. You know, this kind of thing. It just depends on the individual, what what they have going on and and how diligent they are in actually taking care of themselves.

Yeah for sure. And when they come, it's just basically it's one IV that lasts a few hours. Right. That's kind of yeah. Yeah, that's what they're getting.

and then, you know, they come back at you know, every, every so period, like you're saying a lot of times it's six months to a year. Yeah. yeah. People are coming on a regular basis to get that done.

Well. And people can learn more about that again at Rehealth.com. If you want to get this, this unique cell therapy, real powerful stuff. Dr. Gonzalez has been a great interview.

I've learned a lot about Stem cells, a lot of things I didn't know about exorcisms, about sacred tomes. And you're just a wealth of knowledge. Any last words?

Inspiration here for our audience. And? And what are you excited about with the research that you're looking at going forward in the future? first and foremost, I mean, we've talked about this.

There's nothing more important than even taking the baby steps of what you put in your mouth or what you supplement yourself and maintaining immune health.

There's so many little different things that people say, oh, this stuff is cost a lot of money, but just I can take a step back. And are you taking care of yourself by, you know, getting the right exposure of sun grounding?

There's so many different little things that you can actually do to help your little baby, things that are completely free that you can do, that's, you know, one two is for me on the research front, is, you know, living my life dream of my passion, of what I've looked at as when I started studying.

This is the immune system is key to all health and longevity. And when I actually touch one life, you know, I've seen individuals that we've actually helped.

It just makes my day and it just drives me to actually do more, to research more, to find better ways that we can help individuals. And this is an evolving field.

it does take an abundance of research and, and time, you know, to get it right. So our focus is, is allowing that time, getting it right so we can help the masses as much as possible.

Awesome. Thanks so much Dr. Gonzalez. Again guys check out Restem.com to learn more about the research he's doing and about these type, these unique types of stem cells.

And then also rehealth.com. If you're interested in getting the therapy for yourself. Thanks again, Dr. Gonzalez, and we'll see you all in a future interview.

Be blessed everybody.