Pelacarsen, Olpasiran & Gene Editing: What's Coming Next For Lp(a) Therapies Transcript

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Introduction to Lp(a) and Why It Matters

Hello, everybody. Welcome. This is the host of Reversing Heart Disease naturally 4.0 Joel Kahn 2026 data to help you guide your heart and your health long term.

So we're going to talk about exciting data about upcoming therapies for a particular inherited cholesterol that I've had a great interest in. And about it, up to a third of you have a great interest in, because you may know your blood level of light bulb protein, little A or LP, little A, and you know that it's elevated and you know that it's inherited.

You know that even an optimal diet and exercise might not take care of it. And you've heard that there may be new drugs coming down the pipeline from pharmaceutical companies that may deal with this problem in the meantime.

And we deal with it quite effectively at the center for Cardiac Longevity with various, vitamins, adjustment of prescription medications and lifestyle.

But we still need better approaches. So let me share with you a brief presentation on what we are looking forward in 2026 and beyond for the therapy of up to 30% of people around the world that inherit from mom, dad, or both.

The ability to make OP little a a light bulb protein, little light. If you look to the right, what's the big deal. Because light bulb protein little aid can cause heart attacks.

Current and Emerging Lp(a) Therapies

That's called an MI, a stroke, aortic stenosis, a valve problem, and abdominal aortic aneurysm a serious problem and blockages in the legs. Around the world, 10 to 30% of people inherit lipoprotein little.

The highest is in Africa, and it's estimated it's about 1.5 billion people. We might need a therapy for those and inherit the ability to make lipoprotein little and are developing atherosclerosis.

Not all people develop atherosclerosis, but we have the ability to detect who is. So although this, cholesterol particle was discovered in 1963, it took about 50 years.

2015 the pharmaceutical company called Novartis created a drug, an antibody to lipoprotein, little AA that lowers lipoprotein little, and that is called pellet Carson.

And that began a series of investigations on this drug. But there are as listed here are four other injectable drugs. And then ultimately something called gene editing.

Maybe if you make lipoprotein little eight, we can shut off the gene on chromosome six and you stop making it. So these drugs that have been developed are very powerful at lowering lipoprotein little AA up to 95% reduction in the blood level of elevated lipoprotein.

They lie through a variety of mechanisms. But the FDA requires not just proof that it lowers lipoproteins, but that it actually reduces heart attack, stroke, death bypass, and stents.

So pellet cars, and ultimately through a very complex and fascinating pathway, reduces the production of lipoprotein level eight. If you look to the left, what's called a phase two trial, I had patients in the phase two trial, 286 patients with heart disease, elevated lipoprotein little.

I got a variety of doses of, pellet Carson over the course of about 12 to 24 weeks. This was published in 2020.

Pelacarsen and the Horizon Outcomes Trial

And they showed the average. Lowering the lipoprotein level was a dramatic and powerful 80%. So the FDA gave a green light. Go do a study. Novartis and Switzerland go spend $1 billion and find out if your drug prevents strokes and heart attack.

So 8323 people are enrolled. They have an elevated lipoprotein little a significantly mean age of 6,027% female, 78% are white. Why did you have to have to get in the study a very high lipoprotein, a genetic cholesterol level and this important a previous heart attack called an Am, a previous stroke, symptomatic blockage in your legs.

So it wasn't just your blood test is abnormal. You had already have an event of course, this means you're a high risk patient. They got injected with either placebo or pellet.

Carson once a month. And there's an end point. And if you notice the slide says in the top right expected results February 2026. We actually thought this was going to be announced in May of 2025, but the company delayed everything a year.

We don't know why, and we're eagerly awaiting these results. Could be any day. Could even be by the time, reversing heart disease. Naturally, summit is released because I'm recording this very soon before the release of the summit.

If you look in the lower right box, there are people that have a condition called aortic stenosis because they have elevated lipoprotein little like. So there's a separate study to see if Pellet Carson will protect the aortic valve in people with high lipoprotein level and some degree already of calcification of their aortic valve.

All right. What about a second drug? You don't have to remember every one of these pellet. Carson is a one we're interested in.

Olpasiran, Lepodisiran, and Other Injectable Drugs

All person has a different mechanism of shutting down lipoprotein production. In a phase two trial on the left, 281 patients mean age is 62. It was greater than a 95% reduction in lipoprotein level A with the injection of this drug every 12 weeks.

So the FDA said go for it. This is, a company called Amgen. See if you can prove to us that you can prevent strokes and heart attacks. So this study got off two years after the pellet Carson study.

We're hoping by the end of this year we'll have the results 7297 patients, a high rate of protein little a similar to the pellet Carson horizon study.

Previous heart attack, previous stent or other risk factors like diabetes and smoking. The hypertension I require. We'll see what happens with this. And it may be by the end of this year we'll have the results.

It's a different chemical. It's a powerful chemical. But we have to prove the clinical value. Many people are excited about this drug called lipid decisions made by Lilly in Indianapolis.

It lowers lipoprotein A and volunteers 320 volunteers who took it for a number of weeks by 94%. So Lilly has designed a trial with almost 17,000 people, a high lipoprotein, little a they either already had an event like a heart attack, or they were over age 55 and they had a high cholesterol and other risk factors, and they only get injected every 6 to 12 months.

And it's not just about lowering label protein. A, it's about events. So we don't have those results yet. You can get into that study the LA Pedestrian Lilly study I've enrolled many people in it.

There's a preliminary lipoprotein level, a small inhibitory RNA molecule called sterilizer. In another drug. They've done their phase two trial, a 95% lowering of lipoprotein level with the injections usually about every 12.

So they will probably move on to these phase three massive trials, this drugs further down the pipeline.

Oral Lp(a) Inhibitors and Gene Editing

And some people don't like to inject themselves. So there is an oral version of a light protein little AA inhibitor drug called mobile app. When it went into trials a few years ago, it binds to a component of lipoprotein that lead to prevent the full formation of lipoprotein like. So.

This is what the future looks like. It's in a phase three study. Now there are around 450 people. They had a high lipoprotein level. They either had a prior event, like a stroke or a heart attack, or they had a high calcium score and other risk factors.

They'd take their pill daily or the placebo. And maybe by 2031 we'll have the results. Now remember, when these drugs, if they get approved, they're all patented, going to be very expensive.

And the average person doesn't meet all these criteria. The average person, a lipoprotein, that little lady hasn't had a heart attack or a stent or a bypass.

So I think it's going to be quite a while to see these drugs used widely and very long time to see a generic version, because I'll be patent protected, of course.

So the final potential is that gene editing we make a lipoprotein little a and up to 30% of people, because we have a gene we inherited that allows us to reproduce.

What if you can edit the gene and turn it off? So there's very early human studies really ongoing that with an infusion that alters our DNA and there's great concern about that.

We can shut off lipoprotein production and it will be shut off at least for a year, but probably permanently. There have been issues with, liver enzyme elevation with this approach.

So we have to be very cautious. So just an overview of the landscape. If you look at the top, the pellet in Carson Horizon trial we hope will be announced very soon.

What Comes Next for Lp(a) Treatment

And then there are the other studies coming. The ocean a study we reviewed all these I didn't give you the name of every one of them. The Moffitt Lapland study is called the move LPA study.

And now there's good tolerability major lipoprotein reduction. But will these drugs prevent events. And that's what this said. Looking ahead to the future will lipoprotein a lowering reduce the risk of cardiovascular disease death aortic valve calcification and other manifestations.

We have to find out soon. Many people need this. In the meantime, find somebody who's expert in managing lipoprotein little life and certainly manage your lifestyle optimally with nutrition and fitness and sleep and stress management and all the other protective mechanisms that we talk about.

So I'm going to say thank you very much for joining me on this talk. And I hope by next year, reversing heart disease. Naturally, summer 5.0, we actually can celebrate the release of 1 or 2 of these medications that will help people significantly.

That's the help.