L-Carnosine: A Promising Approach for Kidney Health Transcript

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Introduction to L-Carnosine and Kidney Health

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According to research published in Medical Science Monitor, L-Carnicin helps neutralize harmful free radicals that damage kidney cells. Here's what's really interesting.

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This is Doctor Talks. Real talk from real doctors on the issues that matter to you most. Hello and welcome back to another episode of Wellness Focus with Dr.

Vismai Phan's podcast. Today we are diving into a fascinating topic that could potentially change how we approach chronic kidney disease, L-Carnasine.

I'm excited to share with you the research behind this powerful dipeptide and how it might benefit those struggling with kidney issues. Now, many of you know that I'm passionate about exploring functional medicine approaches to kidney health, looking beyond symptom management to address the underlying causes of kidney dysfunction.

L-Carnasine is one such compound that's caught my attention because of its multiple beneficial properties. So what exactly is L-Carnasine? Let's start there.

L-Carnasine is a naturally occurring dipeptide, meaning it is made of two amino acids. beta-alanine and L-histidine. It's found in high concentrations in muscle tissue and other tissues with high energy demands like the brain.

What L-Carnosine Is and Why It Matters

The fascinating thing about carnosine is that it performs multiple functions in the body, many of which are particularly relevant to kidney health. Recent research has been shedding light on how L-carnosine might help protect and potentially improve kidney function.

I've been reviewing some fascinating studies and today I want to break down what the science is telling us about L-Carnicine and chronic kidney disease.

Before we dive into L-Carnicine specifically, let's talk briefly about what happens in chronic kidney disease. As a kidney specialist, I see firsthand how this condition progressively damages the kidneys filtering units leading to waste buildup in the blood and a cascade of health problems.

At its core, kidney disease involves several damaging processes. Oxidative stress, where harmful free radicals damage kidney cells. Inflammation, which further harms kidney tissue.

Fibrosis, the scarring of kidney tissue. And glycation, where sugars abnormally attach to proteins, damaging their function. What makes L-Carnicin so interesting is that it appears to counteract all of these processes.

Let's explore how. One of the most well-established benefits of L-Carnicin is that it's antioxidant capacity. According to research published in Medical Science Monitor, L-Carnicin helps neutralize harmful free radicals that damage kidney cells.

Here's what's really interesting.

Kidney Disease Damage: Oxidative Stress and Inflammation

Researchers did a study where they created a kidney disease model and lab animals by removing part of their kidneys. When they gave these animals L-Carnasine, something remarkable happened.

The animals showed significantly lower levels of what we call oxidative damage markers. Think of these as the fingerprints that free radicals leave behind when they damage cells.

The L-Carnicine also helped their red blood cells become more flexible and improved blood flow to the kidneys. In simple terms, it was like L-Carnicine provided a shield against the damage that typically happens in kidney disease.

What's the practical implication here? Oxidative stress is a major driver of kidney disease progression. So having a compound that directly combats this process is potentially very significant.

Chronic inflammation is another key player in kidney disease progression. L-Carnicine has been shown to have anti-inflammatory properties, helping to reduce the production of inflammatory molecules that can damage kidney tissue.

Let me make this real with another fascinating discovery. Your kidneys contain special cells called podocytes. I like to think them as gatekeepers of your kidney filters.

These gatekeepers are like living filters themselves with tiny finger-like projections that carefully control what stays in your blood and what gets filtered out into your urine.

In diabetes, these crucial gatekeepers start to deteriorate which compromises the entire filtering system. Suddenly, important proteins that should stay in your blood leak into your urine.

Protecting Podocytes and Reducing Fibrosis

A groundbreaking study showed that L-Carnasine actually helped protect these gatekeeper cells in diabetic conditions. This is huge because once these specialized cells are damaged or lost, your body can't easily replace them.

Perhaps one of the most promising aspects of L-Carnicine for kidney health is its ability to reduce fibrosis, the scarring process that ultimately leads to kidney failure.

Let me share something really exciting from a gold standard clinical trial published in 2021. Researchers gave real kidney patients with diabetes either L-Carnicine or a placebo pill.

What they found was eye-opening. The patients taking L-carnasine had much lower levels of a substance in the urine called TGF-beta. Now, how does this matter?

Think of TGF-beta as the foreman on a construction site that's building scar tissue in your kidneys. When there's too much of it around, it tells your body to lay down more and more scar tissue, which eventually chokes off kidney.

L-carnasine essentially helped dial down this harmful process. In this study, patients received 1 gram of carnosine daily for 12 weeks and the results showed a meaningful reduction in this fibrosis marker compared to the placebo group.

This suggests that L-carnosine might help slow down the scarring process that eventually leads to kidney failure. Let me tell you about another superpower of L-Carnasine is that literally sounds like something from a sci-fi movie.

Imagine your bloodstream is like a busy highway when you have high blood sugar. It's like having too much sugar molecules zooming around and sometimes they crash into important proteins and stick to them.

We call this process glycation and it's like caramelizing your proteins and not in a good way. These sugar-coated proteins called AGE, advanced glycation end products, are like causing damage to your kidneys.

Blocking Glycation and Advanced Sugar Damage

In fact, this process is one of the main ways diabetes destroys kidney function over time. L-carnasine acts like a traffic cop, preventing these dangerous sugar protein collisions from happening in the first place.

Research suggests that L-Carnasine can actually prevent the formation of these AGEs, prevent the formation of these advanced glycation end products and may even help break down some that have already formed.

This is particularly relevant for patients with diabetes who are at high risk for kidney disease as well. Hot of the press, research published just last year discovered yet another way L-Carnicine protects your kidneys and this one is truly cutting edge science.

Scientists have recently discovered a new way that cells can die called ferroptosis, literally death by iron. Think of it like your kidney cells rusting from the inside out because of too much iron buildup.

This process is now thought to play a major role in kidney damage, especially in diabetes. What's amazing is that L-Carnicin activates your body's internal antioxidant defense system, specifically a pathway called NRF2, which acts like a cellular bodyguard.

When this bodyguard is on duty, it helps your kidney cells resist this rusting process. It's like L-Carnasine is giving your kidney cells their own personal shield against one of the newest discovered forms of cellular damage.

On the same note, I remember a male patient of mine in early 50s with stage 4 kidney disease, he was also dealing with poorly controlled diabetes.

Ferroptosis, NRF2, and a Patient Case Study

His kidney function had been steadily declining over several years and he was experiencing more fatigue, swelling around his ankles, frequent urination, some hip pain, waking up frequently in the night.

As part of a comprehensive approach, we incorporated L-Carnasine supplementation, 1 gram daily, alongside dietary changes, improved blood sugar control, and other targeted supplementation based on his specific deficiencies and needs.

After 4 months, we saw several positive changes. His oxidative stress markers had improved, inflammation was reduced, his high-sensitive CRP came down, and most importantly, the rate of decline in his kidney function had slowed significantly.

Not only that, he actually improved his kidney function by 6 points. He also reported improvement in his energy levels and reduced leg swelling. Now I want to emphasize that this wasn't solely due to L-Carnicine.

It was part of a personalized multi-faceted approach. Every person is different and has different root causes for the kidney issues. What worked for this patient may not be the right treatment for someone else.

If you are considering L-Carnistine for kidney health, here are some important points to keep in mind. In most clinical studies, the effective dose ranges from 500mg to 2g daily, often divided into two doses.

The study showing reduction in fibrosis markers used 1g daily, With kidney disease, you have to be particularly careful about the supplement and the quality of the L-Carnicine.

As we know, many supplements contain unnecessary fillers or even contaminants like heavy metals that could potentially harm kidney function. So always choose pharmaceutical, physician-grade supplements.

That means that they are third-party tested for any heavy metals or any toxins. While L-Carnesine shows promise, it's important to view it as just one tool in a comprehensive approach to kidney health.

Here are other essential strategies that work synergistically with antioxidant support.

Dosage, Supplement Quality, and Lifestyle Support

If you have diabetes, tight glucose control is absolutely essential for kidney protection. Keeping blood sugar in a healthy range is crucial for preserving kidney function.

Focus on a plant-rich diet with plenty of colorful vegetables, berries, olive oil, and spices like turmeric and ginger. Proper water intake helps the kidneys filter waste more efficiently.

However, don't overdo the water. Minimize exposure to environmental toxins that can burden the kidneys. Chronic stress contributes to inflammation and oxidative stress, potentially worsening kidney function, appropriate physical activity, improves circulation to the kidneys and helps control blood sugar and blood pressure.

The research on L-Carnicine and kidney disease is still evolving. Current research suggests that L-Carnicine works through multiple mechanisms to protect kidney function, addressing oxidative stress, inflammation, fibrosis, glycation and cell death.

This multifaceted approach is exactly what we look for in functional medicine. compounds that address multiple underlying causes rather than just masking symptoms.

L-Carnasine represents an exciting potential addition to our toolkit for supporting kidney health. I hope this information helps you have a more informed conversation with your physician about potential options for supporting your health.

Bye now.

Closing Thoughts and Final Takeaways

Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices that empower your well-being.

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