Ozempic Is Secretly Healing Kidneys—Here's How (Kidney Doctor Explains) Transcript

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Semaglutideu2019s Kidney Gene Effects

The researchers found that semaglutide was reprogramming the genes in kidney cells. Specifically, it was targeting the endothelial cells, which line the blood vessels in the glomeruli, those tiny filtering units I mentioned.

These cells were the most responsive to the medications. Genes related to metabolic stress were downregulated by 63%. Genes driving fibrosis and inflammation were reduced by 60%. What does that actually mean?

I'm Dr. Vismair Phan, a physician on a mission to help you break free from symptom management and step into a life of thriving health.

Introduction to GLP-1 Drugs and Kidney Protection

Together, we will uncover simple, powerful ways to prevent disease, restore energy and take control of your health naturally. If you're ready to stop managing illness and start building vitality, you are in the right place.

Your prescription for vitality starts now. You've probably heard about Azempec, Begovi and Manjaro medications that have taken the world by storm for weight loss.

But what if I told you these same medications are quietly becoming one of the most powerful tools we have for protecting and even improving kidney function?

and the mechanisms behind how they work are absolutely fascinating. I'm talking about GLP-1 receptor agonist medications like semaglutide and terzipetide.

And before you tune out thinking this is just another weight loss conversation, stick with me. Because what we are learning about how these medications protect kidneys is changing how we think about treating kidney disease, especially in people with diabetes.

Let me start with something that might surprise you. For years, we have known these medications help with blood sugar control and weight loss.

The Remodel Trial and Biopsy Findings

But recently, a groundbreaking study called Remodel Trial used kidney biopsies, advanced imaging and molecular analysis to actually show us what's happening inside the kidneys when people take these medications.

And the results are remarkable. The remodeled trial followed 106 people with type 2 diabetes and stage 2 or 3 chronic kidney disease for an entire year.

Half of them received semaglutide, which is the active ingredient in ozempic or bigovy, and half of them received placebo. But here's what made this study different.

Instead of just measuring lab values, researchers actually performed kidney biopsies and used specialized MRI technology to see what was changing at the cellular level.

What they found was unexpected. The primary thing they were looking for improved oxygen levels in the kidney tissue, didn't really change. But everything else, that's where the magic happened.

People taking semaglutide saw their protein leakage in the urine, what we call albuminuria, drop by 40%. That's huge. When your kidneys are leaking protein, it's a sign that the filtering units called glomeruli are damaged.

A 40% reduction means the kidneys are actually getting better, not just stabilizing. Their kidney function measured by eGFR improved by 2-3 points. Now you might think that doesn't sound like much, but in kidney disease we are usually trying to slow decline, not see improvement, and any increase in kidney function is significant and can mean years longer before someone might need dialysis.

Reduced Albuminuria and Improved Kidney Function

But here's where it gets really interesting. The researchers discovered that semaglutide was doing something we hadn't fully appreciated before. It was dramatically reducing fat around and inside the kidneys.

Peri-renal fat, that's the fat around the kidneys decreased by 25%. Sinus fat, which is a fat that infiltrates into the kidney structure itself, dropped by 13%. Why does it matter?

Because fat tissue isn't just sitting there passively, it's metabolically active, releasing inflammatory signals and stress hormones that damage the delicate filtering structures in your kidneys.

When you reduce that fat, you're essentially turning down a chronic inflammatory fire that's been burning in the kidney tissue. The study also showed that semaglutide reduced resistance in the blood vessels feeding the kidneys by 4%. Think about it like this.

If you have a garden hose that's kinked, water has hard time flowing through. When you unkink it, water flows smoothly. That's essentially what's happening in the kidneys' blood vessels.

Fat Reduction and Better Kidney Blood Flow

Better blood flow means better kidney function. at the molecular level and this is where I get really excited. The researchers found that semaglutide was reprogramming the genes in kidney cells.

Specifically, it was targeting the endothelial cells which line the blood vessels in the glomeruli, those tiny filtering units I mentioned. These cells were the most responsive to the medications.

Genes related to metabolic stress were downregulated by 63%. Genes driving fibrosis and inflammation were reduced by 60%. What does that actually mean?

It means the kidneys were literally being told at the genetic level to stop the processes that lead to scarring and damage. Their medication was hitting the pause button on kidney disease progression.

Now, in my practice at the kidney institute, I have been using both semaglutite and tercipitite, the medication in Monjaro and ZebBound, for my patients with kidney disease.

And I can tell you the results I'm seeing align perfectly with what this study showed. I've had patients whose urine protein levels have dropped significantly within just a few months.

Their kidney function has stabilized or even improved slightly. But beyond the numbers, they tell me they feel different, more energy, less swelling, better appetite regulation.

And many of them are losing weight, which has its own cascade of benefits for kidney health.

Gene Reprogramming in Kidney Cells

Here's something I find particularly interesting. I sometimes use these medications at lower doses than what's

typically prescribed for diabetes or weight loss.

What we call that is microdosing. And even at these lower doses, I'm seeing positive effects on inflammation markers, kidney function tests, and those protein to creatine ratios.

We monitor so closely. Why would lower doses work? We're still learning, but it appears that the anti-inflammatory and vascular protective effects of these medications may not require the maximum dose.

For some patients, especially those who are more sensitive or who don't need significant weight loss, starting lower can minimize side effects while still providing kidney protection.

There's also emerging evidence that these medications may help with blood pressure control by improving insulin sensitivity and reducing inflammation in blood vessel walls.

And since hypertension is one of the leading cause of kidney disease, this creates a beautiful synergy of protective effects. But let me be clear about something.

These medications aren't magic pills.

Clinical Experience and Microdosing

And they're not right for everyone. They work best as part of a comprehensive approach that includes dietary changes, stress management, addressing gut health, identifying individual root causes of kidney disease.

Some people experience side effects like nausea, especially when starting. Others may not be good candidates due to other health conditions. And the cost can be prohibitive for some patients, though that's gradually improving as insurance coverage expands and generic versions become available.

What excites me most about the remodel study is that it shows us exactly how these medications are protecting kidneys. It's not just through weight loss or blood sugar control, though those help.

It's through direct effects on the kidney tissue itself, reducing fat infiltration, improving blood flow, calming inflammation and literally changing gene expression in the cells that form the filtering barrier.

This is personalized medicine in action. When I'm working with a patient who has both diabetes and kidney disease, or even just kidney disease with metabolic dysfunction or insulin resistance, these medications give us a powerful tool that works on multiple levels simultaneously.

And here's something to consider.

Who Benefits and Treatment Considerations

If you have diabetes or pre-diabetes and your kidney function is starting to decline, early intervention with medications like these might prevent years of progression.

The earlier you start protecting your kidneys, the better the outcomes tend to be. The remodel trial also sets a new standard for how we should be studying kidney disease treatments.

Instead of just looking at lab values, they used imaging, biopsies, molecular analysis to understand mechanisms. This is the kind of research that moves medicine forward because it helps us understand not just what works, but why it works.

As we learn more about these medications, I expect we will discover even more benefits. There's already research suggesting they might help with cardiovascular disease, fatty liver, and even certain autoimmune conditions, all of which can be connected to kidney health.

If you're dealing with kidney disease, especially if you have diabetes or metabolic syndrome, this is definitely something worth discussing with your physician.

At the Kidney Institute, we evaluate whether GLP-1 medications might be appropriate as part of a comprehensive personalized treatment plan that addresses your unique root causes and health goals.

Visit DrBesma.

Future of Kidney Disease Treatment

com to learn more about how we approach kidney disease differently, looking beyond just managing symptoms to actually supporting your kidney's ability to heal.

The future of kidney disease treatment isn't just about dialysis and transplants. It's about understanding and addressing the molecular mechanisms driving kidney damage and using every tool we have, medications, nutrition, lifestyle changes, peptides, bioregulators, and more to protect and restore kidney function for as long as possible.

Thanks for tuning into the Wellness Focus with Dr. Bisma, where we are rewriting the rules of health and giving you the tools to thrive. If this episode spoke to you, please subscribe and share it with someone who's ready to take control of their well-being.

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