The Protein Paradox: How High-Protein Diets Impact Your Kidney Health. Transcript

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Introduction to Kidney Health and Protein

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That's a dramatic difference from a relatively small dietary change. Why might animal protein be more problematic for kidney health? So several mechanisms have been proposed.

Worst is first is acid load. Animal proteins create a higher acid load in the body compared to the plant protein. Welcome to Doctor Talks, the podcast where every episode leads to a healthier you.

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This is Doctor Talks real talk for real doctors on the issues that matter to you most. Today we are tackling a topic that's incredibly relevant. High protein diets and their impact on kidney health.

What Counts as a High-Protein Diet

With the massive popularity of Quito paleo and other high protein approaches for weight loss and diabetes, it's critical to understand how these diets might affect your kidneys over time.

Let me start. That in us, over 60% of the population meets the criteria for being obese or orbit. This has led to growing interest in low carb diet high protein diets over recent decades.

The popularity of these diets have exploded across social media as an effective means for rapid weight loss and better blood sugar control. But as a kidney specialist, I need to share an important perspective that often gets overlooked in these conversations.

For people with kidney disease or at risk of kidney problems, high intake of dietary protein, particularly animal protein, may have detrimental effects on kidney function and long term kidney health.

What exactly is high protein diet? Before we dive deeper, let's clarify what we mean by high protein. The recommended daily allowance for protein intake is about 2.8g/kg of body weight per day.

This is designed to meet the requirements of most of the population. Most definitions of high protein diets set the threshold between 1.2 and 2g/kg per day.

Within this range, protein consumption exceeding 1.5g/kg per day is generally considered a high protein diet. To put this in perspective, the current average consumption of protein in the United States is approximately 1.2 to 1 point 5g/kg per day, which is already higher than the recommended amount.

Popular weight loss diets encourage even higher amounts of protein, while restricting carbs.

How High Protein Affects the Kidneys

These diets typically recommend that 25 to 35% of calories consumed should come from protein, and less than

45% of calories should come from carbohydrates.

In extreme cases, such as a ketogenic diet and 5 to 10% of calories comes from carbs. Now here's where things get interesting from a kidney perspective.

When you consume high amounts of protein, especially animal protein, your kidneys respond with what we call hypo filtration. Research dating back to 1928 first noted that amino acids and peptides could increase blood flow to the kidneys.

Human studies have shown that high protein diet, where protein comprises 25% of calories, increased the estimated GFR by 3.8 and ML per minute after just six weeks, compared with a lower protein diet.

This high filtration might initially sound beneficial. After all, your kidneys are filtering more efficiently, right? Not exactly. In the early stages, GFR appears as a rise in filtration rate or increased protein in the urine, but may result in a loss of kidney function over time, particularly in those with underlying kidney disease or risk factors.

Think of it like constantly reviving your car engine at maximum capacity. It might perform well initially, but over time this strain can lead to mechanical breakdown.

Several long term observational studies in humans have shown an association between high protein diets and kidney function decline, especially in individuals with preexisting kidney disease.

In the Nurses Health Study, an 11 year observational study of women with mild kidney insufficiency showed that every ten grams increase in protein intake was significantly associated with a decline in kidney function.

Similarly, in another population study of over 1500 participants, higher protein intake was associated with a lower GFR after 12 years, including among participants both with kidney disease and without kidney disease.

This reminds me of a patient who came to me in mid 50s, and he was doing a strict keto diet for weight loss.

Animal Protein and Kidney Disease Risk

His kidney function was at borderline when he started, but after a year of high protein diet, his kidney function had declined significantly. What made this case particularly striking was that he had no other risk factors.

So no diabetes, no hypertension, just the sustained high protein intake. Now, an important thing that is often overlooked in these discussions is a source of protein.

The research shows a strong association between intake of animal protein, specially processed red meat, and the incidence and progression of kidney disease.

In the Aric study, the interest to assess risk in communities should an increased risk of kidney disease amongst participants consuming the highest amount of red and processed meat compared to those consuming the least.

Similarly, in the Singapore Chinese, held steady. Consuming red meat was strongly associated with end stage kidney disease risk in a dose dependent manner that means starting dialysis.

What's fascinating is that substituting just one serving of red meat with a plant based protein source, like legumes or tofu was associated with a 31 to 62% reduced risk of kidney disease.

That's a dramatic difference from a relatively small dietary change. Why might animal protein be more problematic for kidney health? So several mechanisms have been proposed.

Worst is first is acid load. Animal proteins create a higher acid load in the body compared to the plant proteins. This metabolic acidosis can stimulate the production of hormones and compounds that promote inflammation and

fibrosis that mean scarring in the kidneys.

The second is the dietary protein intake is strongly correlated with phosphorus, and higher phosphorus levels, even within the normal range, have been associated with increased risk of cardio vascular disease and mortality, even in the individuals with normal kidney function.

Why Animal Protein May Be Harder on Kidneys

Third, studies have demonstrated that compared with plant protein, animal protein causes an imbalance in the gut microbiome by producing more ammonia and sulfur based materials, creating a pro-inflammatory profile.

So high red meat intake has also been associated with increased inflammation and oxidative stress, including upregulated inflammatory mediators. I also recall this female patient, around 60 years old with early stage kidney disease, who was struggling with her protein choices.

She was convinced that she needed animal protein to maintain her strength and energy. We worked together to gradually shift her protein intake to plant sources, maybe half of it, and she was doing more of beans, lentils, tofu, quinoa, and within three months.

Not only had her kidney function stabilized, but her inflammatory markers had decreased significantly, and she reported feeling more energetic than she had in years.

Now, let's talk specifically about the ketogenic diet, which has received a lot of attention for helping people with obesity and type two diabetes. Evidence for these benefits in long term studies is actually quite limited, and the diet may be reduced.

Concerning effects on kidney health. The ketogenic diet emphasizes an intake of 1.2 to 2g of protein per kilogram per day, which falls within the high protein range for patients with existing kidney disease.

This high protein intake may accelerate the kidney decline. Of equal concern is the high amount of fat in the ketogenic diet. Research has shown a higher risk of protein in the urine among people consuming the highest levels of animal fat.

Additionally, diet high in saturated fat have been associated with increased risk of kidney damage and decline in function.

Ketogenic Diet Concerns for Kidney Health

Perhaps most concerning is what the ketogenic diet often excludes fruits, vegetables, legumes, and whole grain foods that have demonstrated protective effects for kidney health.

The diet also can contribute to kidney stone formation, which has been well documented in pediatric epilepsy studies where the ketogenic diet has been used therapeutically.

The acid load consumed and generated by those following a ketogenic diet could also lead to metabolic acidosis and related complications, particularly in those with existing kidney issues.

So what does all this mean for you? Here are some practical action steps based on the research. Know your protein needs. Most adults need about 0.8g of protein per kilogram of body weight per day.

Athlete and very active individuals may need slightly more, but rarely more than 1.2 to 1 point 5g/kg per day. Try to get at least half of your protein from plant sources like legumes, whole grains, nuts, seeds, beans.

This single change can significantly reduce your risk of kidney problems. Instead of centering meals around meat, build them around vegetables with moderate amounts of protein and healthy fats.

Also, if you have risk factors for kidney disease, diabetes, hypertension, family history, you have to be careful about following a high protein diet.

And if you are, you have to get your kidneys tested regularly. Also important is proper hydration helps your kidneys filter waste. Aim for at least 2 to 3l of water daily.

More if you are active or in hot weather. However, if you have kidney disease, then maybe 1.5 to 2l is best for you. Be especially cautious if you have a single kidney.

For those with one kidney or solitary kidney. Whether it could be from birth or from donation or surgery. Protein intake should not generally exceed 1g/kg per day.

Also remember, your optimal intake depends on factors like your age, existing health conditions, genetics.

Practical Protein and Hydration Guidance

So working with a physician to find out what are your specific needs is very important. Remember the keys. Personalization. What works for one person may not work for another, and every person has different root causes.

So if you are interested in finding out what is your root cause or how much protein do you need based on your kidney function, give us a call or visit our website.

This is why at the Kidney Institute, we create individualized protocols based on comprehensive testing and assessment. So as we wrap up today's episode, I want to emphasize that the relationship between dietary protein and kidney health is not that of good.

The evidence suggests that both the quantity and the quality of protein matters for those with existing kidney disease, the evidence is clear. High protein diets, especially those rich in animal protein, may decline kidney function.

For those with healthy kidneys, moderate protein intake from diverse sources with an emphasis on plant protein appears to be most kidney friendly approach, and for everyone, the quality of your protein sources matters tremendously.

Shifting even a portion of your protein intake from animal to plant sources can have significant benefits for kidney health. I hope this episode has given you the valuable insight into this important aspect of nutrition and kidney health.

Remember that while diet is powerful, it is just one piece of the puzzle. Sleep, stress management, physical activity, environmental factors, toxins, inflammation all play a crucial roles in your overall health and kidney function.

I hope this episode has helped you by now. Thank you for tuning in to Doctor Talks.

Closing Thoughts on Personalized Nutrition

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