The Cystatin C Revolution: Beyond Creatinine for Better Kidney Assessment Transcript

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Introduction to MTHFR and Kidney Health

Did you know that nearly 60% of the population carries a genetic variation that could be silently influencing their kidney health, autoimmune risk and detoxification abilities?

It's called MTHFR and understanding it could transform your approach to chronic health conditions. This is Doctor Talks. Real talk from real doctors on the issues that matter to you most.

Today on Wellness Focus with Dr. Bisma Irfan's podcast, we are diving into one of the most overlooked genetic factors in health. Something that conventional kidney doctors rarely discuss with their patients, yet it could be a missing piece in your health puzzle.

The MTHFR gene and how supporting proper methylation could be key to your recovery. MTHFR stands for Methylene Tetrahydrofolate Reductase, quite a mouthful.

I know, this enzyme plays a crucial role in how your body processes folate and manages homocysteine levels which directly impacts your kidney health, autoimmune function, detoxification and so much more.

What fascinates me about MTHFR is how it connects so many dots that often remain disconnected in conventional medicine. This enzyme doesn't just affect folate metabolism, it influences your body's methylation processes which are essential for DNA repair, detoxification, neurotransmitter production and importantly for our discussion today, kidney function and autoimmune regulation.

The relationship between MTHFR and chronic disease is primarily seen through genetic variations or what we call polymorphisms in the MTHFR gene.

How MTHFR Affects Methylation and Homocysteine

When you have these variations, your body's ability to process folate and manage homocysteine can be reduced sometimes by up to 70 to 90% if you have two copies of certain mutations.

This matters tremendously for your health because elevated homocysteine levels can damage the endothelial cells that lines your blood vessels, including those in your kidneys.

This damage can lead to inflammation, oxidative stress and impaired blood flow, all factors that contribute to kidney disease progression and autoimmune triggers.

I remember working with a 37-year-old female patient who had been diagnosed with both Hashimoto's thyroiditis and early stage kidney disease. Despite following conventional treatments diligently, her symptoms persisted.

Crushing fatigue, brain fog, unexplained weight gain, and slowly declining kidney function. When we did comprehensive functional medicine testing, we discovered she had two MTHFR mutations C6770 and one A1298C.

These mutations were significantly impairing her ability to methylate properly. Her homocysteine levels were elevated at 15, normal is 6 to 9, creating a state of chronic inflammation that was affecting both her thyroid and kidneys.

What was particularly interesting in her case was that she had been taking high doses of synthetic folic acid

through a multivitamin. thinking she was supporting her health.

In reality, with her MTHFR mutation, her body couldn't properly convert this synthetic form and was actually blocking the receptors needed for proper folate utilization, essentially making her deficiency worse.

Patient Case Study and Treatment Results

By addressing her specific MTHFR issues with a personalized protocol, including the active methylated forms of B vitamins, supportive nutrients for detoxification, and dietary changes to support methylation, we saw dramatic improvements.

Within 4 months, her homocysteine levels normalized to 7.5, her thyroid antibodies decreased by over 40% and her kidney function actually improved with her GFR increasing by 8 points.

Her energy returned, rain fog lifted and for the first time in years, she told me she felt alive again, rather than just getting by. This case perfectly illustrates how addressing the methylation cycle can have ripple effects throughout the body's systems.

Now of course everyone's body is different and what worked for her might not be the exact solution for someone else with different MTHFR variations or different health challenges.

That's why personalization is so crucial in functional medicine. So how exactly does MTHFR affect our health? Let me break it down into 5 key pathways.

First, impaired MTHFR mutation leads to elevated homocysteine which directly damages blood vessels throughout the body including the kidneys, heart and brain.

This vascular damage promotes inflammation and oxidative stress. Second, reduced methylation capacity affects your body's ability to produce glutathione, your master antioxidant and detoxifier.

This increases the toxic burden on your kidneys and liver which are already major detoxification organs. Third, proper methylation is essential for neurotransmitter production and balance.

NTHFR issues can affect levels of serotonin, dopamine, and norepinephrine, which may explain the connection to mood disorders often seen alongside chronic physical conditions.

Fourth, methylation directly impacts your DNA expression through epigenetics, essentially turning genes on and off. Poor methylation can activate genes associated with autoimmunity and inflammation.

MTHFR polymorphisms can alter how your body handles environmental toxins, especially heavy metals like mercury. This is particularly relevant for kidney patients as heavy metals can be directly nephrotoxic, damaging to kidney tissues.

Research has confirmed these relationships. Studies published in Journal of Human Genetics found that C6-7C polymorphism is associated with an increased risk of diabetic nephropathy in both type 1 and type 2 diabetic patients.

Another study in BMC Medical Genetics showed that the same polymorphism is associated with decreased GFR in hypertensive patients.

Five Ways MTHFR Impacts Health

For autoimmune conditions, the connection is equally strong. Research has linked MTHFR mutations to increase risk and severity of conditions like Hashimoto's thyroiditis, rheumatoid arthritis, and lupus, likely through the impact on detoxification, inflammation, and immune system regulation.

So how do you know if MTHFR might be affecting your health? Here are some key warning signs to look for Family history of kidney disease Cardiovascular disease Autoimmune conditions or stroke Elevated homocysteine levels on blood test Unexplained fatigue, brain fog or concentration issues Poor response to conventional treatments for chronic conditions History of recurrent miscarriages or blood clotting disorders Unexplained neurological symptoms or mood disorders multiple chemical sensitivities or poor tolerance to medication, slow detoxification or strong reactions to environmental toxins.

So if you're experiencing these signs, it may be worth investigating your MTHFR status as a potential contributing factor to your health issues. Now let's talk about the practical steps you can take if you discover you have MTHFR polymorphism.

Based on both clinical experience and research, here are seven evidence-based strategies. First, consider appropriate testing. Besides testing for the MTHFR gene variants themselves, measuring homocysteine levels is crucial.

Optimal levels are between 6 to 9. Levels above 10 suggest one mutation while levels around 15 or higher often indicate two mutations. You can also test for inflammatory markers and methylation metabolites to provide a more complete picture.

Second, optimize your B vitamin intake with active forms. If you have MTHFR polymorphisms, you need methylated forms of B vitamins. This means choosing methylfolate instead of folic acid, methylcobalamin instead of cyanocobalamin, and the active form of B6, which is pyridoxal 5-phosphate.

These forms bypass the genetic impairment and support proper methylation. Third, prioritize folate-rich foods in your diet.

Research Links to Kidney and Autoimmune Disease

The highest folate-rich foods include asparagus, romaine lettuce, broccoli, avocado and dark leafy greens like spinach and kale. However, if you have two MTHFR mutations, diet alone may not deliver enough active folate to methylate optimally.

Fourth, absolutely avoid synthetic folic acid if you have MTHFR mutations. This is crucial. Folic acid is a synthetic form found in fortified foods and many supplements.

Your body can't convert it properly with MTHFR mutation and it can actually block folate receptors, making your situation worse. Check labels carefully.

Folic acid hides in many processed foods, breakfast cereals and even some medications. Fifth, support your body's natural detoxification pathways. This includes consuming sulfur-rich foods like cruciferous vegetables, broccoli, cabbage, brussels sprouts, staying well hydrated, ensuring adequate protein intake and supporting liver function.

Activities that promote sweating like exercise or sauna use can also help eliminate toxins. Sixth, reduce your toxin burden. This is especially important if you have MTHFR mutation since your deoxification capacity is compromised.

Filter your air and water, choose clean personal care products, minimize plastic use, opt for organic foods when possible, and be cautious about fish consumption due to mercury concerns.

If you have dental amalgams, silver fillings, consult with a biological dentist about safe removal. 7. Address other factors that impact methylation. These include stress management because chronic stress depletes methyl donors, gut health, your microbiome influences folate levels, and reducing inflammation, which increases demand for methylation.

Warning Signs and When to Investigate

A holistic approach that addresses these factors alongside direct methylation support typically yields the best results. When considering supplements to support methylation, quality is paramount.

Many supplements contain unnecessary fillers or even harmful ingredients that can be problematic for those with detoxification challenges. Always choose professional or physician-grade supplements from reputable companies that test for purity and potency.

What makes addressing MTHFR and methylation so powerful is that it often improves not just one condition but multiple aspects of health simultaneously.

Many patients report better energy, improved mental clarity, reduced inflammation, better mood and improved detoxification when we optimize their methylation cycles.

This integrated approach exemplifies functional medicine's power. Rather than just treating individual symptoms or conditions separately, we look at fundamental processes like methylation that influence multiple body systems.

This allows us to address two root causes of dysfunction, not just manage symptoms. One crucial point I want to emphasize, your genes are not your destiny.

Testing and Nutritional Support Strategies

Even if you have MTHFR polymorphism that affects your health, epigenetics, the science of how genes are expressed, shows us that lifestyle factors have a tremendous influence on how these genes actually impact you.

In fact, research on twins with autoimmune conditions found that genetics only accounted for about 25% of disease risk. The other 75% came down to environmental factors, diet, lifestyle, toxic exposures and other modifiable elements.

This is incredibly empowering because it means you have significant control over your health outcomes despite your genetic code. I've seen remarkable improvements in patients with MTHFR issues who were told their condition was permanent or progressive.

Understanding and addressing your unique genetic makeup and methylation needs can open new pathways to healing that conventional approaches often miss.

Your body has an incredible capacity for balance and healing when you remove the barriers and provide the right support. The MTHFR connection is just one example of how understanding your biochemical individuality can transform your health journey.

Remember, this isn't about trying to fix your genes. They are an intrinsic part of who you are. It's about working with your unique genetic makeup to create optimal health.

Often, those of us with genetic variations like MTHFR mutations simply need different nutritional support than what's typically recommended for the general population.

Lifestyle, Detox, and Personalized Healing

By understanding these needs and addressing them appropriately, you can turn what might seem like a genetic disadvantage into an opportunity for deeper healing and personalized care that truly honors your body's unique requirements.

I hope this has been insightful for you and has provided the needed information to help you with your kidney health. Bye now. 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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