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Press release
For immediate release

World Kidney Day: Med Uni Graz researches chronic kidney disease and explains how to keep your kidneys healthy throughout your life

Graz, 11 March 2026: 12 March is World Kidney Day, the day when the spotlight is on these important filtering organs in the body. The key role of the kidneys goes far beyond "just" producing urine. On this action day, Med Uni Graz draws attention to its research in this field and provides tips for how to keep the kidneys as healthy as possible for as long as possible. Kathrin Eller of the Division of Nephrology provides insight into this critical organ.

The multi-talented kidney

Together the two kidneys consist of around two million filtering units, or glomeruli. They filter blood coming from the heart and reabsorb important substances such as electrolytes or water into the bloodstream as needed, while toxic substances and metabolic end products are excreted via the urine. In this way, the kidney is not only important for detoxification but also significantly helps to maintain water and electrolyte balance in the body. One function of the kidney that is often overlooked is hormone production. The kidney produces renin, which can raise blood pressure, or erythropoietin, which plays a role in the formation of red blood cells.

Chronic kidney disease—a widespread disease

Chronic kidney disease (CKD) is common. One in every ten people suffers from impaired kidney function; more than 840 million people are affected worldwide. The causes of impaired kidney function are varied. Common causes are long-standing high blood pressure, diabetes or pre-existing cardiovascular disease. In addition to these classic risk factors, other diseases and factors can favor the development of CKD, for example, immune-mediated kidney disease. Ethnicity can also be a risk factor for developing CKD. The rate of CKD in people of West African ancestry is distinctly higher than in people of European descent.

Research on immune-mediated kidney disease

Kathrin Eller and Katharina Artinger of Med Uni Graz have conducted intensive research on immune-mediated kidney disease for years. This is a type of disease in which the body's immune system attacks, damages or irreversibly destroys tissue in the kidneys for different reasons. The focus of a recent Med Uni Graz publication was the ACKR1 gene. A mutation of this gene occurs much more frequently in patients of West African ancestry. This mutation has developed out of a natural advantage as *Plasmodium vivax*, the malaria pathogen, enters the red blood cells through a protein. People with this mutation are protected against infection.

However, it has been shown that these patients develop other problems related to the immune system. They become infected with COVID-19 more often, they die of sepsis more frequently and their risk of cancer is greater. Thus Med Uni Graz researchers wanted to find out what impact a lack of this gene has on the kidneys in particular and whether this mutation might explain why people of West African ancestry are more likely to develop CKD. They found that ACKR1 deficiency leads to more drastic inflammation of the kidneys and worse kidney function. Studies of CKD patients of West African ancestry are now underway to confirm the results.

How to keep your kidneys fit—#HealthyAging

If you want your kidneys to remain healthy as long as possible, here are a few important tips to follow so these filtering organs perform as they should. One key aspect of kidney health is blood pressure: Permanently high blood pressure can cause damage to these organs and lead to chronic kidney disease—if other risk factors such as high cholesterol, diabetes or other cardiovascular disease are present, the kidneys may be detrimentally affected. Sports and physical activity can help lower blood pressure and diabetes risk, which is beneficial for the kidneys in the long term.

A balanced diet can reduce the risks mentioned above. Salt consumption should be limited to no more than five to six grams (roughly a teaspoon). In addition, it is important to drink enough—daily consumption of 1.5 to 2 L is sufficient. Excessive consumption of liquids can also damage the kidneys and lead to electrolyte imbalance. Uncontrolled and long-term use of painkillers such as ibuprofen or diclofenac can have as negative an impact on the kidneys as smoking.

The kidney suffers "in silence"—for the most part, patients don't develop symptoms like water retention in the legs or nausea until kidney function is already severely impaired. Regular monitoring of kidney values and urinary protein excretion (urine albumin-to-creatinine ratio) is recommended especially for patients with risk factors such as hypertension, diabetes or cardiovascular disease.

To the publication:

Erythroid Atypical Chemokine Receptor 1 Deficiency Aggravates Immune-Mediated Kidney Disease

<https://pubmed.ncbi.nlm.nih.gov/40960880/>

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